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## **A new genus and three new species of Paranthrenini from tropical Africa (Lepidoptera: Sesiidae)**

Authors: Bartsch, Daniel, Sáfián, Szabolcs, and Wanke, Dominic

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## RESEARCH ARTICLE

# A new genus and three new species of Paranthrenini from tropical Africa (Lepidoptera: Sesiidae)

DANIEL BARTSCH<sup>1</sup>, SZABOLCS SÁFIÁN<sup>2</sup> & DOMINIC WANKE<sup>1,3</sup>

## Abstract

In this study, a new genus of African Paranthrenini, *Fortikona* Bartsch & Sáfián, **gen. n.** and three new species, *Fortikona rhynchiformis* Sáfián & Bartsch, **sp. n.** from Liberia, *Fortikona aethiopica* Bartsch & Sáfián, **sp. n.** from Guinea and *Fortikona dalaba* Sáfián & Bartsch, **sp. n.** from Ethiopia, are described and depicted. The type species *Fortikona xanthosoma* (Hampson, 1910), **comb. n.**, as well as *Fortikona callipleura* (Meyrick, 1932), **comb. n.** and *Fortikona porphyra* (Meyrick, 1937), **comb. n.**, are transferred from the genus *Paranthrene* Hübner, [1819]; *Fortikona xanthopyga* (Hampson, 1919), **comb. n.** and *Fortikona lampadura* (Meyrick, 1935), **comb. n.** are transferred from the genus *Sura* Walker, 1856. A redescription of the type species, *Fortikona xanthosoma* **comb. n.**, is provided. The life histories and hostplants of the included species are unknown.

Key words: *Adixoa*-group, Ethiopia, Guinea, Liberia, new species, *Paranthrene*-group.

## Zusammenfassung

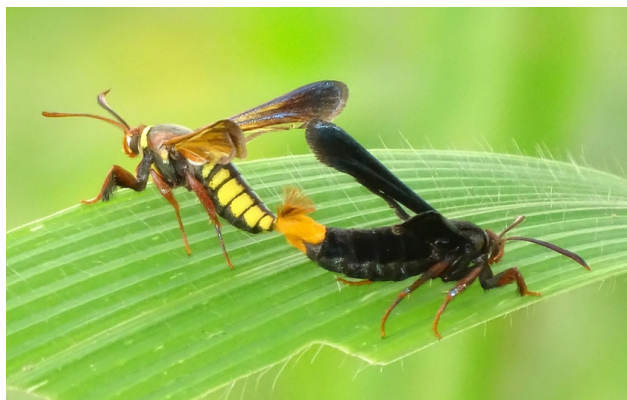
In dieser Arbeit wird eine neue Gattung afrikanischer Paranthrenini, *Fortikona* Bartsch & Sáfián, **gen. n.**, und drei neue Arten, *Fortikona rhynchiformis* Sáfián & Bartsch, **sp. n.** aus Liberia, *Fortikona aethiopica* Bartsch & Sáfián, **sp. n.** aus Guinea und *Fortikona dalaba* Sáfián & Bartsch, **sp. n.** aus Äthiopien, beschrieben und abgebildet. Die Typusart, *Fortikona xanthosoma* (Hampson, 1910), **comb. n.**, sowie *Fortikona callipleura* (Meyrick, 1932), **comb. n.** und *Fortikona porphyra* (Meyrick, 1937), **comb. n.** werden aus der Gattung *Paranthrene* Hübner, [1819] transferiert; *Fortikona xanthopyga* (Hampson, 1919), **comb. n.** und *Fortikona lampadura* (Meyrick, 1935), **comb. n.** werden aus der Gattung *Sura* Walker, 1856 transferiert. Eine Wiederbeschreibung der Typusart, *Fortikona xanthosoma* **comb. n.**, wird vorgelegt. Die Lebensweisen und Wirtspflanzen der zugehörigen Arten sind unbekannt.

## Introduction

Clearwing moths of the tribe Paranthrenini occur on all continents apart from Antarctica, with the greatest diversity in Southeast Asia (PÜHRINGER & KALLIES 2004; updated 2023). In sub-Saharan Africa, 26 species in four genera are listed (BARTSCH 2008; DE PRINS & DE PRINS 2011–2023). Many of these African species are only known from a few specimens of the same sex or even only from the type specimen(s). The genitalia structures, COI-barcodes, larvae and hostplants of most species are still unknown. A reliable statement about the correct assignment of numerous species or species-groups was therefore hardly possible. Based on the structure of the setae on the male uncus and valva, Paranthrenini can easily be divided into two, well-separated, apparently monophyletic groups, both of which are present in the Afrotropical Region. In the “*Paranthrene*-group”, with the genera *Paranthrene* Hübner, [1819] and *Sura* Walker, 1856, the distal lobes of the uncus are well developed and densely covered with simple setae ventro-laterally, and the inner surface of the valva has simple, partially multifurcate setae dorsally;

in the “*Adixoa*-group” (here named after the Asian genus *Adixoa* Hampson, [1893]), with the genera *Rubukona* Fischer, 2007 and *Thyranthrene* Hampson, 1919, the uncus is often dorsally more or less densely covered with scales, its distal lobes are more or less reduced and lack ventro-lateral setae, and the valva has highly-specialized, distally strongly broadened multi-furcate setae.

In a review of the Paranthrenini of the Afrotropical region, BARTSCH (2008) alluded to three, apparently closely-related species of *Paranthrene*, which possibly represent a distinct subgenus or genus. All of these species were at that time represented only by the male holotypes, but the genitalia structures were unknown. Common features are the opaque, reddish-brown forewings, the predominantly hyaline hindwings, the silver-grey patagia which are in distinct contrast with the blackish to reddish-brown rest of the thorax and the strong, distally tapered abdomen with bright yellow bars laterally on the tergites and yellow sternites, making these species striking mimics of wasps of the genus *Rhynchium* Spinola, 1896 (Hymenoptera: Vespidae). Recently, JÜRGEN LENZ (Harare) collected an extensive series of males of one of these species in Zimbabwe



**Fig. 1.** *Fortikona* Bartsch & Sáfián, **gen. n.** Undescribed species from Benin (Zone Cynégétique de la Pendjari), 17 July 2022. (Photo: KOUAGOUN NOËL IDANI GNARGO)

using synthetic pheromones. Furthermore, two yet undescribed species were discovered, the first with two males from Ethiopia by DIRK STADIE and RALF FIEBIG, the second with one male from Liberia by the second author of the present paper. Examination of these specimens showed that all these species belong to a yet undescribed genus within the *Adixoa*-group. The new genus differs clearly from the related genera *Rubukona* and *Thyranthrene* by morphological characters and genetic data. Another, completely differently coloured species with almost black males in an extensive series collected in Guinea also turned out to belong here. Females remained unknown until the amazing in-nature documentation of the mating pair of another, yet undescribed species in Benin by KOUAGOUN NOËL IDANI GNARGO (Fig. 1) [<https://www.inaturalist.org/observations/126676899>]. Although this pair was not collected and is therefore not available for description, the photo allows a reliable assignment to the same genus of two other species, described from single females and previously placed in the genus *Sura* Walker, 1856.

#### Material and methods

Type material and the original descriptions were used for the identification and comparison of specimens. Label data of type specimens are cited verbatim in quotation marks, with a slash at the end of each line. Specimens were photographed using a Nikon Coolpix and a Visionary Digital photography system (LK Imaging System, Dun. Inc.) equipped with a Canon EOS 5DSR camera and Canon MP-E 65mm macro lens. Genitalia were prepared by maceration in 5–10% potassium hydroxide solution, without staining. Before embedding, genitalia were photographed floating in a 70% ethanol solution with opened valvae and the phallus removed (except for *rhynchiformis*), using a Leica Z-Series Macroscope with a Z16 APO Zoom-system, DFC 490 camera and Helicon Focus v. 8.1.0 for stacking. Morphological terminology follows ŠPATENKA et al. (1999), terminology of the wing venation

follows HEPPNER & DUCKWORTH (1981). Sex pheromones used in the field were produced by Pherobank, Wijk bij Duurstede, The Netherlands.

The examined specimens are deposited in the following collections:

ANHRT: African Natural History Research Trust, Leominster, Herefordshire, United Kingdom

NHMZ: Natural History Museum of Zimbabwe, Bulawayo, Zimbabwe

NHMUK: Natural History Museum, London, United Kingdom

SMNS: Staatliches Museum für Naturkunde Stuttgart, Stuttgart, Germany

#### DNA barcoding

DNA extraction and amplification of the barcode fragment (658 base pairs of the 5' terminus) of the mitochondrial gene Cytochrome-C Oxidase I were performed using standard protocols (e.g., IVANOVA et al. 2006). PCR amplification products were sent to Macrogen for sequencing. Further COI sequences used in this study were downloaded from BOLD (<http://www.boldsystems.org/index.php/>), University of Guelph, Ontario, Canada within the 'Global Sesiidae-Clearwing Moths of the World' project. Genetic distances were calculated using MEGA X (KUMAR et al. 2018; STECHER et al. 2020), based on the K2P model by KIMURA (1980). A complete list of specimens used for the analysis is presented in Appendix 1 along with sampling sites and Process ID numbers.

#### Taxonomy

##### *Fortikona* Bartsch & Sáfián, **gen. n.**

Type species: *Sciapteron xanthosoma* Hampson, 1910.

#### Description

Medium to relatively large-sized clearwing moths with alar expanses of 25–35 mm. Males usually colourful, with bright yellow markings on the thorax and abdomen, females predominantly black with an orange-red tip of the abdomen, both sexes with head, thorax and legs occasionally more or less reddish-brightened. Head: haustellum reduced, most likely without function; labial palpus rather short and strong, upward-curved, with tip reaching base of antenna; dorsally smooth, laterally and ventrally rough, laterally with some bristle-like scales; frons smooth, slightly roughened only in middle part, glossy; scales of vertex and pericephalic scales hair-like, glossy; antenna clavate, ciliate in male, ciliae somewhat longer at flagellum base, tapering and slightly curved backwards distally. Thorax: strong, covered with smooth, broad, glossy scales and short, hair-like scales. Legs: strong, predominantly smoothly scaled; femur and tibia of foreleg with tufts of long, rough, hair-like scales, femur and tibia of other legs with long hair-like scales ventrally; hindleg somewhat shorter than abdomen. Wings: forewing almost opaque, brown to black in male, pure black in female, costal area and distal portion darker, with anterior and posterior transparent areas poorly devel-

oped, external transparent area absent; discal spot not visible; hindwing hyaline with very narrow discal spot in male, predominantly opaque with small transparent areas at anal and distal margins in female; wing venation typical for the tribe with forewing veins R4 and R5 with long common stalk; hindwing vein CuA2 arising proximal of CuA1, sometimes both veins arising nearly together from cell angle. Abdomen: strong, tapered distally, somewhat shorter than hindlegs, anal tuft well developed in male, reduced in female.

Genitalia. Tegumen with strong, two-parted, distally slightly enlarged gnathos, tips laterally with several short thorns; uncus distally bilobed, without setae; valva elongate, dorsal and distal margins separated by an obtuse angle, dorsal portion with numerous specialized setae which become smaller distally and are increasingly interspersed with simple setae, ventral margin densely covered with simple setae and a small, dense patch of short, thorn-like setae basally; phallus simple, without thorns or spines. Female genitalia not examined.

#### Diagnosis

*Fortikona* **gen. n.** belongs to the *Adixoa*-group. African genera of this group, except for *Rubukona*, differ from Asian and Australian genera, like *Adixoa* Hampson, [1893], *Nokona* Matsumura, 1931 or *Scoliokona* Kallies & Arita, 1998, by the lack of a functional proboscis. Externally, most males of *Fortikona* **gen. n.** are easily separated from all other males of the tribe by the silver-grey or yellow patagia and the distinct, bright yellow lateral bars and yellow sternites of the abdomen. Superficially similar males of *Rubukona* have a different yellow pattern of the abdomen with yellow spots dorso-laterally on tergite 2 (almost always black in *Fortikona* **gen. n.**) and some yellow lateral spots on the medial tergites, as well as abdomen narrowed in middle part, lateral scale tufts on the terminal tergites and a much larger anal tuft. More important is the structure of the genitalia, particularly of the valva, which is shorter than or of the same length as the phallus, only slightly longer than broad, distally rounded, with dorsal margin nearly semi-circular, ventral margin almost straight, and inner surface almost exclusively covered with specialized setae (valva longer than phallus, distally more or less pointed, inner surface with additional simple and/or bristle-like setae in other genera). Two species, *F. lampadura* **comb. n.** and *F. xanthopyga* **comb. n.**, are currently only known from females. These are almost entirely black with red tip of the abdomen. Very similar coloured females also occur in other genera of Paranthrenini: *Sura xylocopiformis* Walker, 1856 differs by two small transparent areas at the hindwing base; *S. ruficauda* (Rothschild, 1911) and *S. rufitibia* Hampson, 1919 have the hindwings more extensively transparent in the basal and middle parts and abdomen shorter with a developed anal tuft; *Paranthrene anthrax* Le Cerf, 1916 is entirely black

and has a very different and much more clearly defined shape of the transparent areas of the hindwings.

#### Genus composition and distribution

We include the following eight species in *Fortikona* **gen. n.**: the type species *F. xanthosoma* (Hampson, 1910), **comb. n.**, *F. aethiopica* **sp. n.**, *F. callipleura* (Meyrick, 1932), **comb. n.**, *F. dalaba* **sp. n.**, *F. lampadura* (Meyrick, 1935), **comb. n.**, *F. porphyractis* (Meyrick, 1937), **comb. n.**, *F. rhynchiformis* **sp. n.** and *F. xanthopyga* (Hampson, 1919), **comb. n.** The genus is restricted to sub-Saharan Africa (Fig. 18).

#### Etymology

The name refers to the strong (Latin: fortis) shape of the body, with -kona a commonly-used ending in genera of Paranthrenini. The gender is feminine.

#### *Fortikona rhynchiformis* Sáfián & Bartsch, sp. n.

(Figs. 2, 15, 18)

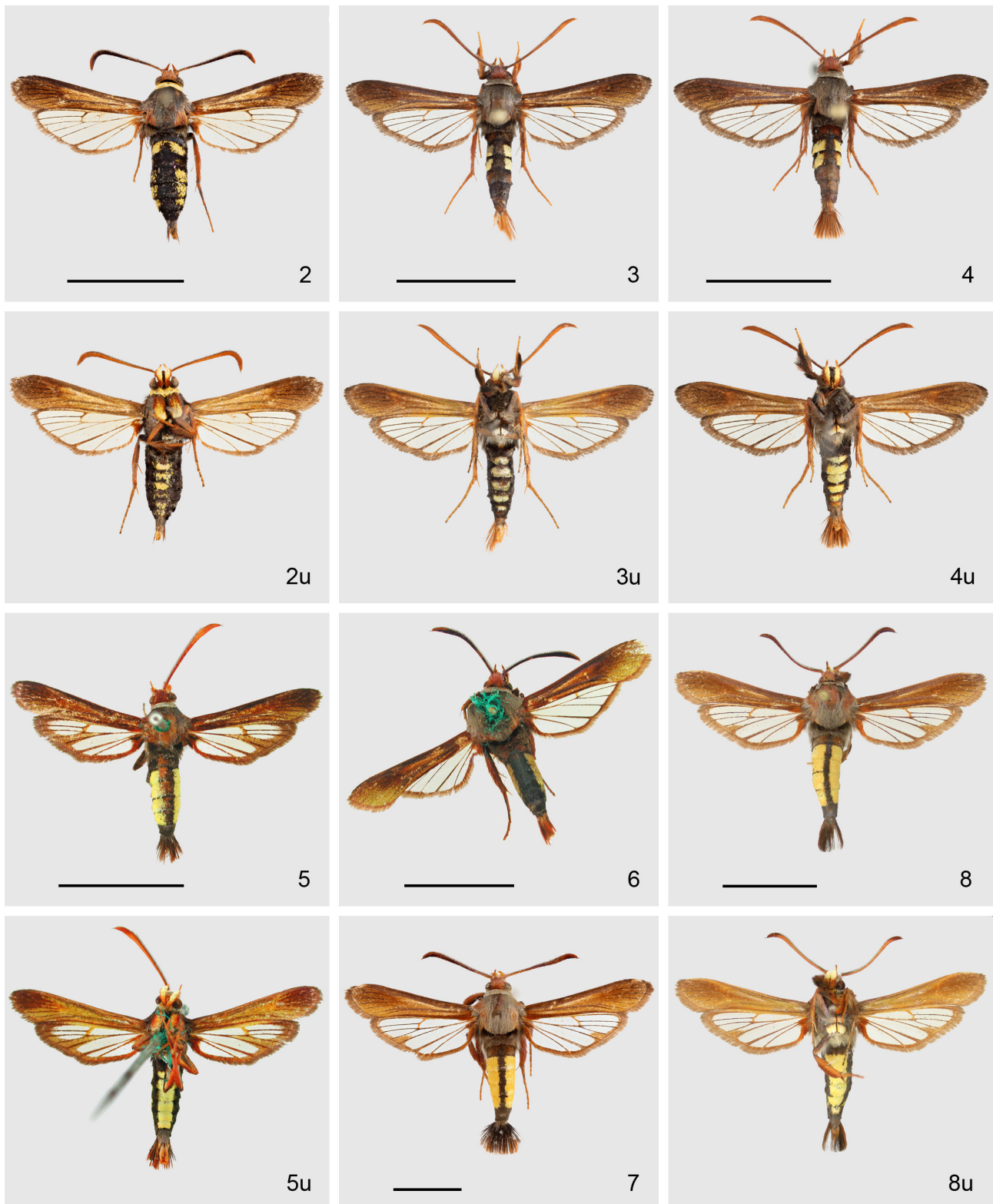
#### Type material

Holotype ♂ (Fig. 2), with labels “Liberia, Nimba Mountains, / Gbarpa-Grassfield, CMC / office for ENNR, 494 m, / 7°29'32.45"N 8°34'54.05"W, / on Solanaceae flower bud. / 11. May 2021, Sz. Sáfián leg.”; “SMNS-Lep-002350”; “Holotypus ♂ / *Fortikona rhynchiformis* / Sáfián & Bartsch 2023” (SMNS).

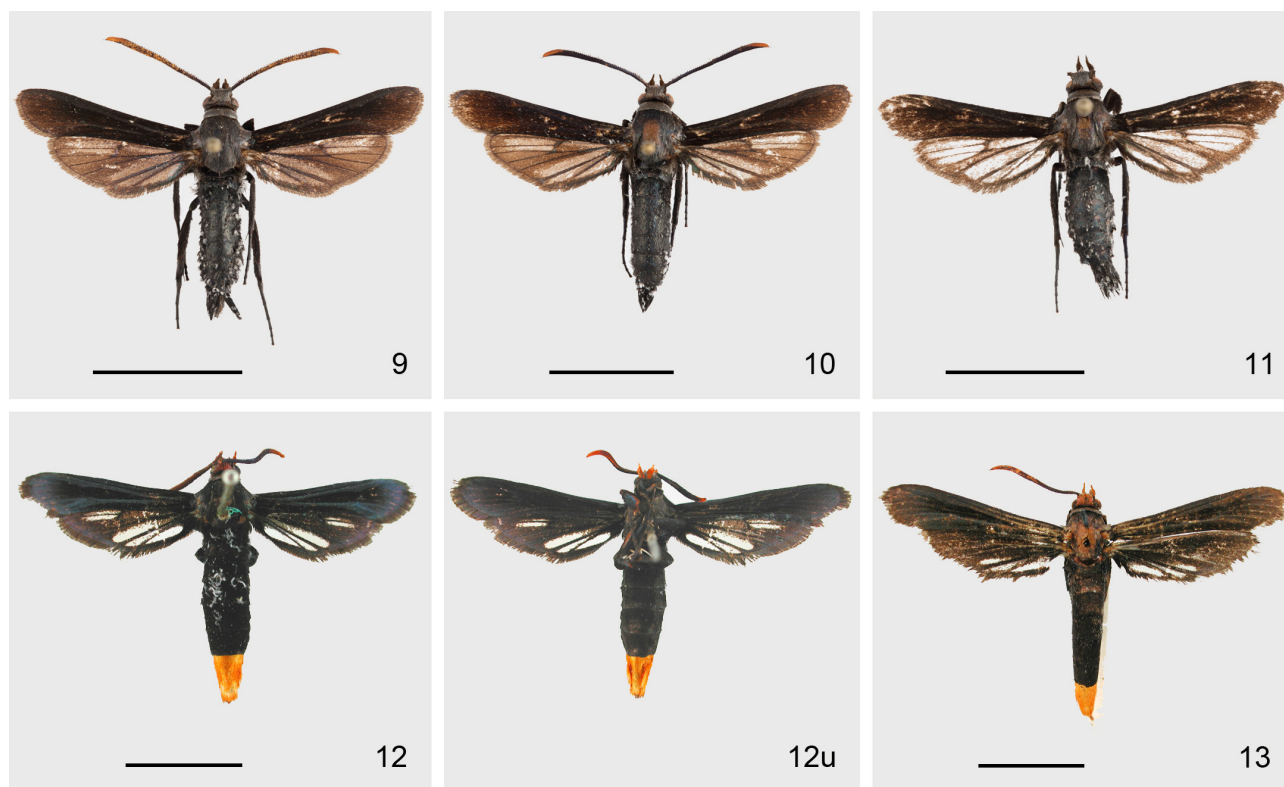
#### Description

Alar expanse 29.5 mm, forewing 12.5 mm, antenna 9.0 mm, body length 17.0 mm. Head: proboscis very short, barely visible; labial palpus with first palpomere fox-red, dorsally yellow, second palpomere pale yellow, laterally fox-red, third palpomere fox-red, ventrally yellow; frons pale grey, laterally white, with pearly gloss; vertex orange-brown; pericephalic scales dorsally orange-brown, laterally and ventrally yellow; antenna reddish-brown, dorsally black, scapus ventrally grey. Thorax: dark anthracite grey, patagia bright yellow, mesothorax dorsally with reddish-brown spot at hindwing base; dorso-lateral scale tufts of metathorax mixed grey and black. Legs: reddish brown; foreleg with coxa distally yellow; femur and tibia ventrolaterally with dense tufts of ventrally black, dorsally reddish-brown, hair-like scales; mid- and hindleg with coxa yellow and femur dark anthracite grey. Wings: forewing opaque, brown, distal portion between radius and medial veins somewhat darker; veins and costal area blackish; hindwing largely hyaline, a small reddish brown area basally at anal veins; discal spot, veins and margins dark brownish grey, fringes of all wings dark grey. Abdomen: caudally tapering, dark anthracite grey, tergite 2 sub-dorsally with large yellow patches, which are posteriorly connected by some yellow scales; tergite 3 with a few yellow scales laterally; middle part of sternites 2–4 yellow, of sternites 5–7 with several yellow scales; anal tuft reddish brown, laterally brownish grey.





**Figs. 2–8.** Males of *Fortikona* Bartsch & Sáfián, **gen. n.**; u = underside. – 2. *F. rhynchiformis* Sáfián & Bartsch, **sp. n.**; holotype. 3, 4. *F. aethiopica* Bartsch & Sáfián, **sp. n.**; paratype (3) and holotype (4). 5. *F. callipleura* (Meyrick, 1932), **comb. n.**, holotype. 6. *F. porphyractis* (Meyrick, 1937), **comb. n.**; holotype. 7, 8. *F. xanthosoma* (Hampson, 1910), **comb. n.**; specimens from Zimbabwe, Harare. Scale bars: 10 mm.



**Figs. 9–13.** Specimens of *Fortikona* Bartsch & Sáfián, **gen. n.**; u = underside. **9–11.** *F. dalaba* Sáfián & Bartsch, **sp. n.**, males. – **9.** Holotype. **10–11.** Paratypes. **12.** *F. lampadura* (Meyrick, 1935), **comb. n.**; holotype, female. **13.** *F. xanthopyga* (Hampson, 1919), **comb. n.**; holotype, female. Scale bars: 10 mm.

Genitalia (Fig. 15). Valva distinctly narrower than in *F. dalaba* **sp. n.** and *F. xanthosoma*, slightly broader than in *F. aethiopica* **sp. n.**; distally less strongly pointed than in *F. aethiopica* **sp. n.** and *F. xanthosoma*; distal margin shortest of all congeners.

#### Diagnosis

Similar males of other species of *Fortikona* **gen. n.** are distinguished by the colouration of the patagia and the abdomen: *F. rhynchiformis* **sp. n.** is the only species which has the patagia yellow, not silver-grey, and yellow markings on abdominal tergites 2, 4–6; *F. aethiopica* **sp. n.** has yellow only on abdominal tergites 3–4; *F. callipleura* **comb. n.**, *F. porphyractis* **comb. n.** and *F. xanthosoma* **comb. n.** on abdominal tergites 3–6. The last three species are distinguished by the width of the dark dorsal midline of the abdomen and the scaling of the hindwings: *F. porphyractis* has the midline broad and the hindwings almost completely hyaline except for hindwing base between the anal veins and narrow margins; *F. xanthosoma* has the midline narrow, the hindwing margins narrow with a more or less distinct, basad-pointing protrusion between CuA1 and CuA2;

*F. callipleura* has the width of the midline intermediate between the previous two species, hindwing margins broad and a basad-pointing protrusion between CuA1 and CuA2; *F. dalaba* **sp. n.** differs from all congeners in its almost black colouration.

#### DNA barcoding

*Fortikona rhynchiformis* **sp. n.** differs from other available *Fortikona* species by more than 9% and over 14% from other species of Paranthrenini and *Cicinnoscelis longipes* Holland, 1894 (Table 1).

#### Etymology

Masculine qualifying adjective. Along with its congeners, the new species is an excellent mimic of potter wasps in the genus *Rhynchium* Spinola, 1896 (Hymenoptera: Vespidae), which are widespread in savannah areas of tropical and subtropical Africa.

#### *Fortikona aethiopica* Bartsch & Sáfián, **sp. n.** (Figs. 3, 4, 16, 18)

##### Type material

Holotype ♂ (Fig. 4a, b): Ethiopia, Region of South Nations, vic. Bonga, 1800 m, 7°14'15"N, 36°15'52"E, at pheromone, 23.



**Figs. 14–17.** Male genitalia structures of *Fortikona* Bartsch & Sáfián, **gen. n.** – **14.** *F. xanthosoma* (Hampson, 1910), **comb. n.** **15.** *F. rhynchiformis* Sáfián & Bartsch, **sp. n.**; holotype. **16.** *F. aethiopica* Bartsch & Sáfián, **sp. n.**; paratype. **17.** *F. dalaba* Sáfián & Bartsch, **sp. n.**; paratype. Scale bar: 1 mm.

May 2015, D. Stadie & R. Fiebig leg. With labels: “Ethiopia Region of South Nations / Bonga vic., 7°14'15”N, / 36°15'52”E 1800 m ü. NN, / 23. May 2015 Ph / leg. D. Stadie & R. Fiebig”; “SMNS\_Lep\_002356”; “Holotypus ♂ / *Fortikona aethiopica* / Bartsch & Sáfián 2023” (SMNS).

Paratype: 1♂, same data as holotype (Bartsch gen. prep. 2023-06) (SMNS).

#### Description

Holotype. Alar expanse 25.0 mm, forewing 11.0 mm, antenna 7.0 mm, body length 14.5 mm. Head: proboscis weak and short, probably without function; labial palpus bright yellow, first and second palpomeres laterally fox-red, third palpomere fox-red, ventrally somewhat paler; frons grey, with strong pearly gloss; vertex fox-red; pericephalic scales dorsally fox-red, laterally white, ventrally

yellow; antenna reddish brown, dorsally suffused with black, darkest proximally, scapus grey with some reddish brown. Thorax: dark grey; patagia grey, with strong pearly gloss; caudal portion of tegula somewhat brownish; dorso-lateral scale tufts of metathorax blackish grey. Legs: predominantly reddish brown; foreleg with inner side of coxa narrow black, tarsus orange-brown, ventrally yellow, femur and tibia ventro-laterally with dense tufts of ventrally black, dorsally reddish brown, hair-like scales; mid- and hindleg with femur dark anthracite grey, distally somewhat reddish brown, ventrally with long, grey, hair-like scales; tibia dorsally with roughened scales; coxa of hindleg with yellow-white spot. Wings: forewing opaque, brown, distally somewhat darker; veins and costal area dark brown; hindwing hyaline; discal spot, veins, margins



and fringes dark brownish grey. Abdomen: tergites 1 and 2 black; tergite 2 dorsally mixed with dark wine-red; tergites 3 and 4 dorsally broadly blackish brown, laterally each with a large, somewhat rhombic, yellow spot; other tergites blackish brown; anal tuft dark reddish brown; sternites yellow.

Genitalia (Fig. 16). Valva the smallest of all species in the genus; distally somewhat more strongly pointed than in *F. rhynchiformis* **sp. n.**

#### Variation

The paratype, with a 27 mm alar expanse, is somewhat larger than the holotype, with which it agrees perfectly in colouration and pattern.

#### Diagnosis

See under previous species.

#### DNA barcoding

*Fortikona aethiopica* **sp. n.** differs from other available *Fortikona* species by more than 9% and over 14% from other species of Paranthrenini and *Cicinnoscelis longipes* (Table 1).

#### Etymology

This species is named after its country of origin, Ethiopia.

***Fortikona callipleura* (Meyrick, 1932), comb. n.**  
(Figs. 5, 18)

*Euhagena callipleura* Meyrick, 1932: 338. Holotype ♂ (examined): Uganda, Mabira Forest (NHMUK). References: HEPPNER & DUCKWORTH (1981: 25); PÜHRINGER & KALLIES (2004: 22).

*Paranthrene callipleura*: BARTSCH (2008: 274).

#### Remarks

This and the following species are currently only known from the historical male holotypes. For differentiation from related species, see under *F. rhynchiformis* **sp. n.**

***Fortikona porphyractis* (Meyrick, 1937), comb. n.**  
(Figs. 6, 18)

*Homogyna porphyractis* Meyrick, 1937: 119. Holotype ♂ (examined): Uganda, Ayage Gulu (NHMUK). References: HEPPNER & DUCKWORTH (1981: 43); PÜHRINGER & KALLIES (2004: 14).

*Paranthrene porphyractis*: BARTSCH (2008: 275).

***Fortikona xanthosoma* (Hampson, 1910), comb. n.**  
(Figs. 7, 8, 14, 18)

*Sciapteron xanthosoma* Hampson, 1910: 154. Holotype ♂ (examined): Zimbabwe, Bulawayo (NHMUK).

*Paranthrene xanthosoma*: HAMPSON (1919: 106); DALLA TORRE & STRAND (1925: 169); GAEDE (1929: 534); HEPPNER & DUCKWORTH (1981: 24); VÁRI et al. (2002: 64); PÜHRINGER & KALLIES (2004: 20); BARTSCH (2008: 275).

#### Additional material examined

3 ♂♂, Zimbabwe, Harare, 1450 m, 17°48.84'S, 31°02.01'E, 16–28 Dec. 2008; 58 ♂♂, same locality, 10. Dec. 2009–6. Feb. 2010, leg. J. LENZ (1 ex. Bartsch gen. prep. 2009-06) (SMNS).

**Table 1.** Comparison of pairwise genetic distances (in %) between *Fortikona* Bartsch & Sáfián, **gen. n.**, other species of Paranthrenini and *Cicinnoscelis longipes*, based on *COI* mt-DNA barcodes (658 bp). Analyses were conducted using the Kimura 2-parameter model (KIMURA 1980). The analysis was conducted in MEGA X (KUMAR et al. 2018; STECHER et al. 2020).

	1	2	3	4	5	6	7	8	9	10	11	12
1 <i>Fortikona rhynchiformis</i> <b>sp. n.</b>												
2 <i>Fortikona aethiopica</i> <b>sp. n.</b>	9.28											
3 <i>Fortikona xanthosoma</i>	11.59	5.09										
4 <i>Thyranthrene</i> sp.	16.15	15.58	17.68									
5 <i>Rubukona</i> sp.	17.25	12.40	15.19	14.79								
6 <i>Rubukona svetlanae</i> Fischer, 2007	14.59	14.22	16.07	14.98	10.06							
7 <i>Paranthrene mesothyris</i> Hampson, 1919	18.23	16.57	17.63	19.90	16.18	19.23						
8 <i>Nokona regale</i> (Butler, 1878)	15.18	12.81	14.41	14.75	14.16	15.99	16.97					
9 <i>Pseudosesia oberthueri</i> (Le Cerf, 1916)	15.61	11.85	13.23	16.62	12.21	14.13	17.01	14.55				
10 <i>Paranthrene tabaniformis</i> (Rottemburg, 1775)	16.28	13.31	14.21	15.99	14.80	15.64	16.69	12.70	12.24			
11 <i>Sura melanochalcia</i> (Le Cerf, 1917)	21.54	16.63	19.37	21.74	20.60	21.06	25.26	23.31	21.10	21.21		
12 <i>Sura xylocopiformis</i> Walker, 1856	17.15	14.41	16.36	18.28	18.45	18.00	20.05	16.29	17.14	14.73	22.97	
13 <i>Cicinnoscelis longipes</i> Holland, 1893	17.22	13.56	15.78	16.70	16.25	16.58	18.24	15.77	17.02	16.70	22.08	15.98



### Redescription

Alar expanse 24–34 mm. Head: labial palpus dorsally and ventrally pale yellow to white, laterally with rufous stripe; first and third palpomeres ventrally rufous with some yellow scales; frons silver-grey with pearly shine; vertex and pericephalic scales rufous, the latter laterally white; antenna rufous, reverse side with bright orange-yellow longitudinal stripe. Thorax: grey; patagia silver-grey with pearly shine; tegula near forewing base mixed with rufous scales; scale-tufts of mesothorax laterally grey and dorsally black. Abdomen: tergites 1 and 2 grey, tergite 2 medially dark anthracite-grey, dorso-laterally with some rufous scales, tergites 3–6 bright yellow, medially broad, dark anthracite-grey; segment 7 dark anthracite-grey throughout; sternite 1 dark brown, other sternites bright yellow, laterally bordered with dark anthracite-grey; anal tuft long and narrow, dorsally dark brownish grey, ventrally rufous. Legs: rufous with some black scales; mid- and hind coxae pale yellow; mid femur proximally grey; hind femur proximally dark greyish brown, distally with some rufous scales; spurs white. Wings: forewing opaque, cupreous grey to reddish brown, at tornus slightly paler, basely dark rufous; costal margin and veins except crossvein somewhat darker, greyish brown with faint purple shine in fresh specimens; hindwing almost hyaline, wing base at anal angle rufous, veins and margins greyish brown, the latter somewhat paler; outer margin between cubitus veins broadened; underside of both wings yellowish.

### Genitalia

The genitalia (Fig. 14), figured here for the first time, have valva distally strongly pointed.

### Variation

Besides size, males of this species vary slightly in the intensity of forewing colour, the size of the protrusion at the hindwing margin and the width of the dark median stripe on the abdomen.

### Diagnosis

See under *F. rhynchiformis* **sp. n.**

### *Fortikona dalaba* Sáfián & Bartsch, **sp. n.**

(Figs. 9–11, 17, 18)

### Type material

Holotype ♂ (Fig. 9): Guinea, Dalaba Plateau, Forêt de Goubel, 10°39'27.00"N, 12°15'44.00"W, 1413 m, pheromone lures, 10–18.IX.2019, GEISER, M., KOİVOGUI, S., LENO, M., MILES, W., MULVANEY, L. & SÁFIÁN, Sz. leg., ANHRT: 2019.19. ANHRT unique number: ANHRTUK00107355. With labels: "Guinea, 1413m / Dalaba Forêt de Goubel / 10°39'27"N 12°15'44"W / 10-18.ix.2019 Pheromones / Geiser, M., Koivogui, S., Leno, M., Miles, W., Mulvaney, L., Sáfián, Sz. Leg."; "ANHRTUK 00107355" (ANHRT).

Paratypes: 21♂♂, with same data as holotype; ANHRT unique numbers: ANHRT00107342–49, ANHRT00107352–

54, ANHRT00107356–67; deposited in ANHRT. 2♂♂, with same data as holotype; ANHRT unique numbers: ANHRTUK00107350, ANHRTUK00107351; deposited in SMNS. 1♂, Guinea, Dalaba Plateau, Forêt de Tinka, 10°43'14.00"N, 12°15'22.00"W, 1289 m, light trap 125W mercury vapour, 25–28.IX.2019, GEISER, M., KOİVOGUI, S., LENO, M., MILES, W., MULVANEY, L. & SÁFIÁN, Sz. leg., ANHRT: 2019.19. ANHRT unique number: ANHRTUK00103013, Gen. prep.: LG5063. 2♂♂, with same data, ANHRT: 2019.19. ANHRT unique numbers: ANHRTUK00107312, ANHRTUK00107314; deposited in ANHRT.

### Description

Holotype. Alar expanse 32.0 mm, forewing 14.0 mm, antenna 9.5 mm, body length 18.5 mm. Head: proboscis reduced, not visible; labial palpus dark brownish grey, ventrally somewhat paler; frons dark grey with pearly gloss; vertex and pericephalic scales glossy brownish black; antenna black, dorsally individually mottled with pale yellow scales densest distally. Thorax: glossy brownish black, laterally dark brownish grey; patagia and scapular spot at forewing base glossy anthracite-grey; dorso-lateral scale tufts of metathorax grey-black. Legs: glossy brownish black; tarsi ventrally grey-brown; spurs laterally white. Wings: forewing black with blue-green gloss; hindwing brownish black with bluish gloss, more or less translucent on discal cell and distad of discal spot, and between CuA2 and the anal veins; fringes dark brownish grey. Abdomen: glossy black.

Genitalia (Fig. 17). Valva much less pointed distally than in other species.

### Variation

The size differs significantly, with alar expanse of 23–34 mm; the yellow mottling of the antenna varies from nearly absent to dense on almost the entire surface except for the basal part; some specimens have the brightened hindwing parts almost completely transparent (Fig. 11). The majority of specimens reflect a dark blue metallic sheen. However, on a few specimens the sheen is greenish-tinged. Older specimens can also look rather brownish, almost reddish brown, particularly in flight.

### Diagnosis

Unmistakable within the genus due to the unique, almost uniform blackish colouration. Black males of the genus *Sura* differ by the presence of two narrow, transparent cells at the hindwing base.

### Etymology

The species carries the name of the Dalaba Plateau in the Fouta Djallon mountain range, Guinea, where the majority of specimens were collected.

### *Fortikona lampadura* (Meyrick, 1935), **comb. n.**

(Figs. 12, 18)

*Sura lampadura* Meyrick, 1935: 558. Holotype ♀ (examined): Uganda, Kampala (NHMUK). References: DALLA

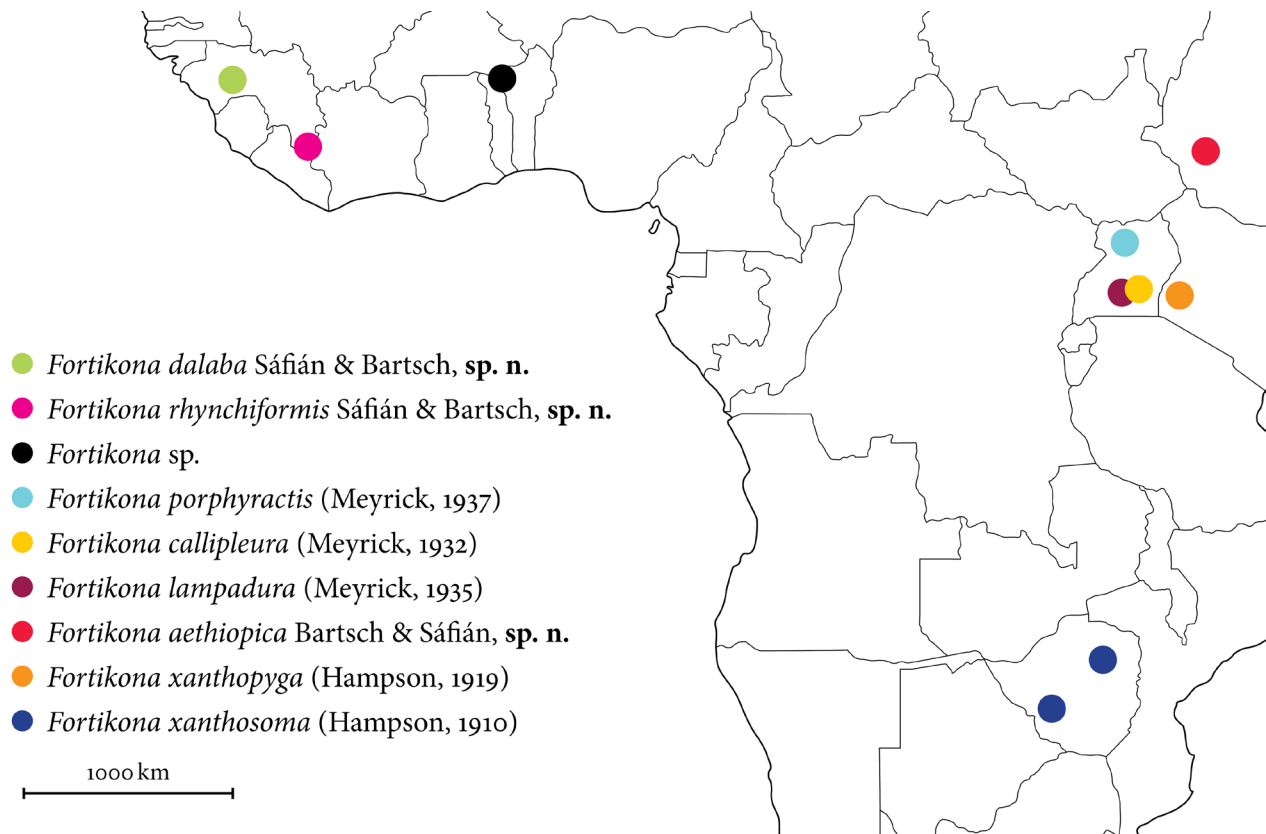


Fig. 18. Currently known distribution of species of *Fortikona* in Africa.

TORRE & STRAND (1925: 169); GAEDE (1929: 532); HEPPNER & DUCKWORTH (1981: 25); PÜHRINGER & KALLIES (2004: 22); BARTSCH (2008: 277).

#### Remarks

This and the following species are only known from the historical female holotypes. Both specimens were collected from the same region north of Lake Victoria in East Africa, *Fortikona lampadura* **comb. n.** in Uganda, Kampala, 28 April 1934, by H. HARGREAVES, *F. xanthopyga* **comb. n.** in Western Kenya, “Br. E. Africa, N. Kavirondo, Nyangori”, 18 May 1911 by S. A. NEAVE. Both are extremely similar and may well be conspecific. The only noticeable difference is the size and extension of the transparent areas of the hindwings, which are smaller and only present in the anal area in *F. xanthopyga* **comb. n.** However, this feature is almost certainly also subject to considerable intraspecific variability and is therefore of little use for species differentiation. Conspecificity with one of the other two species from the region, which are only known from the male sex (*F. callipleura* **comb. n.** and *F. porphyractis* **comb. n.**), also cannot be ruled out. Nevertheless, additional fresh specimens of both sexes and/or genetic methods are required to clarify this question.

#### *Fortikona xanthopyga* (Hampson, 1919), **comb. n.** (Figs. 13, 18)

*Paranthrene xanthopyga* Hampson, 1919: 101. Holotype ♀ (examined): Kenya, Kavirondo (NHMUK). References: DALLA TORRE & STRAND (1925: 169); GAEDE (1929: 532); HEPPNER & DUCKWORTH (1981: 25); PÜHRINGER & KALLIES (2004: 22).

*Sura xanthopyga*: BARTSCH (2008: 277).

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
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#### Authors' addresses:

<sup>1</sup>Staatliches Museum für Naturkunde Stuttgart, Rosenstein 1, D-70191 Stuttgart, Germany; e-mails: daniel.bartsch@smns-bw.de (DB; corresponding author), dominic.wanke@smns-bw.de (DW);  <https://orcid.org/0000-0002-3778-2187> (DB),  <https://orcid.org/0000-0001-5390-8993> (DW)

<sup>2</sup>Hungarian Natural Heritage Trust. H-9945 Kercaszomor, Fő út 57. Hungary; e-mail: szsafian@gmail.com;  <https://orcid.org/0000-0002-0614-4203>

<sup>3</sup>University of Hohenheim, Schloss Hohenheim 1, 70599 Stuttgart, Germany

ZooBank registration: <https://zoobank.org/References/377FACDD-7D0E-477E-9D8C-4B2915D600B5>

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**Appendix 1.** List of specimens used for the calculation of genetic distances, with species, sampling site and Process ID.

<b>Taxon identification</b>	<b>Sampling site</b>	<b>Process ID</b>
<i>Fortikona rhynchiformis</i> sp. n.	Liberia, Nimba Mountains	GSCMS003-23
<i>Fortikona xanthosoma</i> sp. n.	Zimbabwe, Harare	GSCMS004-23
<i>Fortikona aethiopica</i>	Ethiopia, Bonga	GSCMS005-23
<i>Sura melanochalcia</i>	South Africa, Limpopo	GSCMS008-23
<i>Paranthrene mesothyris</i>	South Africa, KwaZulu-Natal, Umkomas	GSCMS007-23
<i>Rubukona</i> sp.	Cameroon, Sangmelima	GSCMS006-23
<i>Rubukona svetlanae</i>	Tanzania, Ngorongoro	GSCMA669-10
<i>Rubukona svetlanae</i>	Tanzania, Ngorongoro	GSCMA667-10
<i>Paranthrene tabaniformis</i>	Hungary	GSCMA013-10
<i>Paranthrene tabaniformis</i>	Turkey, Konya	GSCMA014-10
<i>Sura xylocopiformis</i>	South Africa, Mpumalanga	GSCMW1277-10
<i>Sura xylocopiformis</i>	South Africa, Limpopo	GSCMA515-10
<i>Thyranthrene</i> sp.	South Africa, Limpopo	GSCMW1278-10
<i>Nokona regale</i>	Japan, Honshu	GSCMA1147-11
<i>Pseudosesia oberthueri</i>	Australia, Northern Territory	GSCMW1206-10
<i>Cicinnoscelis longipes</i>	Democratic Republic of the Congo, Eala	GSCMB733-12
<i>Cicinnoscelis longipes</i>	Democratic Republic of the Congo, Bamanya	GSCMA1231-11