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Review of the genus *Neomardara* Hering, 1926 with descriptions of two new species and updated information on the distribution of the genus (Lepidoptera: Erebiidae: Lymantriinae)

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Abstract

The taxonomy and distribution of the Afrotropical tussock moth genus *Neomardara* Hering, 1926 is revised and five species are distinguished based on morphological characters, two of which are described as new to science: *Neomardara fontainei* and *N. congolana* **spp. n.** Based on material sampled during recent fieldwork and located in collections, an updated distribution map of all species of the genus is provided. Both sexes of all species and their genitalia are illustrated in 92 diagnostic figures.

Key words: Afrotropics, biogeography, genital morphology, taxonomy.

Introduction

The tussock moth genus *Neomardara* was erected by Hering (1926) to include *Lepasta africana* Holland, 1893, a species described from 'Ogoué', Gabon, originally assigned to a neotropical notodontid genus. Collenette (1931) described *N. divergens*, the second species of the genus from Solwezi, northwest Zambia based on distinctive external morphology. The genus has long contained these two species, and it was not until early 2023 that a third species of the genus, *N. mondika* László, 2023 was described from northern Congo. László (2023) discussed the taxonomic history of the genus and provided information on the genital morphology of the *Neomardara* taxa for the first time.

In the course of processing the material collected in Nouabalé-Ndoki National Park, Republic of Congo housed in the African Natural History Research Trust (Leominster, UK), a short series of peculiar *Neomardara* specimens clearly differing from both *N. africana* as well as *N. mondika* were found. Additional specimens with identical habitus were located in the collections of the Royal Museum for Central Africa (Tervuren, Belgium) and Harald Sulak (Weiden, Germany). Although the genital morphology of these peculiar specimens differs only in minor details from *N. africana* and *N. mondika*, these differences together with the unique facies are considered here as species-level characters representing an apparently rare,

hitherto undescribed species inhabiting the rainforests of the Congo Basin and it is described here as *Neomardara congolana* **sp. n.**

Further *Neomardara* specimens from Burundi and other parts of the Albertine Rift with facies similar to but clearly differing in certain aspects from *N. africana* were traced in the collections of the Royal Museum for Central Africa (Tervuren, Belgium) and the Natural History Museum (London, UK). These specimens display a wing pattern reminiscent of *N. africana*, but with noticeably shorter and broader forewings and distinctive features in the wing pattern as well as genitalia configuration representing a species new to science confined to the Albertine Rift which is described in this paper: *N. fontainei* **sp. n.**

Material and methods

The material examined from Nouabalé-Ndoki National Park was sampled using a light tent illuminated with a 125 W mercury vapour light bulb or actinic and LepiLed light bucket traps.

Genital apparatuses were extracted and stained with Eosin red or Chlorazol black and embedded in Euparal on microscope slides, applying standard methods of preparation (Lafontaine & Mikkola 1987). Images of adults were captured using a Nikon D90 SLR camera equipped with a Nikkor AF Micro 60 mm lens. Genitalia were imaged using a Canon EOS 700D camera mounted on a Leitz Diaplan compound- or a Wild M5A stereo microscope.

Holotype label data are quoted exactly as they appear. A division slash (/) denotes the commencement of a new line, two division slashes (//) data on a further label.

Collection acronyms used in the text:

- ANHRT – African Natural History Research Trust, Leominster, U.K.;
- CMNH – Carnegie Museum of Natural History, Pittsburgh, U.S.;
- NHMUK – The Natural History Museum, London, U.K.;
- RMCA – Royal Museum for Central Africa, Tervuren, Belgium;
- RCHS – Research collection of Harald Sulak. Weiden, Germany;
- RCRF – Research collection of Ralf Fiebig, Roßleben-Wiehe, Germany.

Other abbreviation:

- LG – genitalia slides prepared by Gyula M. László;
- DRC – Democratic Republic of the Congo.

Taxonomy

Genus *Neomardara* Hering, 1926

Neomardara Hering, 1926, Pterothysanidae, Lymantriidae, Brahmaeidae. In: Seitz, A. (ed.) *Die Gross-Schmetterlinge der Erde. Eine Systematische Bearbeitung der bis jetzt bekannten Gross-Schmetterlinge. Die Afrikanischen Spinner und Schwärmer*, 14: 155. Type species: *Lepasta africana* Holland, 1893 by original designation.

Characterisation of the genus

The facies of the *Neomardara* species are rather unique within the subfamily Lymantriinae forming a compact group characterised by the following features: the moths are of medium size with a moderately long bipectinate male antenna with long rami without a filiform posterior section. The female antenna is also bipectinate but considerably shorter than that of the male with considerably shorter rami. The forewing shape is short triangular with an evenly arched termen and ornamented with conspicuous, whitish markings over the dark brownish-grey ground colour. The costal forewing area is marked with a wide, posteriorly evenly tapering, off-white subcostal stripe reaching the costa after the middle of the costal margin leaving a narrow blackish costal area in the anterior half of the wing. All species display a large, elongate-triangular, whitish postmedial spot between the veins M1 and CuA1 pointing inwards, which may be fused with the broad, arched whitish-grey subterminal stripe. The shape and position of the triangular spot is a species-level character, as is the width, shape, length and colouration of the subterminal stripe. Most species have a conspicuous wedge-shaped medial marking in the area between the veins CuA2 and A, the absence and

shape of which is also a specific character. The hindwing is evenly rounded apically and terminally, the anal margin is straight and covered in dense, long hair scales. The hindwing colouration ranges from pale yellowish-white to brownish-grey varying intraspecifically; the females may have markedly darker hindwing compared to the males. The sexual dimorphism is limited, expressed mostly by the considerably larger size of the females.

The male genitalia are characterised by the very short, hump-shaped uncus, the well-developed, narrow, ribbon-like gnathos without a medial plate, and the short, trapezoidal tegumen, the shape of which is a specific character. The valva is rather short, relatively broad at base, tapered distad with rounded apex, lacking a harpe, a saccular lobe or any other processes; the sacculus is rather broad and weakly sclerotized. The transtilla is well-developed, bilobate with rounded, thumb-like posterior processes, medially fused. The juxta is moderately sclerotized, elongate, posteriorly dilated, and more or less funnel-like. All *Neomardara* species have an extremely long, narrow, anteriorly tapered vinculum with a rounded apex. The aedeagus is also extremely long and thin, often exceeding the whole length of the clasping apparatus between the tips of the uncus and vinculum, with a long and very thin coecum penis and a small, variably dentate carinal plate, the shape and position of which is a species-level character. The posterior half of the aedeagus is armed with a longitudinal serrate bar bearing short but acute teeth. The vesica base is connected to the carina through an anterior and posterior, narrow, variably sclerotized plate, the configuration of which is a specific character. The vesica has a short posterior, sack-like diverticulum and a short and wide, inflated spherical main chamber continued in a long and narrow, tubular vesica ejaculatorius. The configuration of the vesica-carinal plate complex is another specific character.

The female genitalia have short and rounded, moderately setose papilla analis bearing a pair of narrow additional lobes ventrally, the papilla connected by a short intersegmental membrane to the 8th segment forming a very short ovipositor. The apophyses are long and apically pointed. The 8th tergite is short and broad with evenly convex posterior and slightly concave anterior margins; the 8th sternite possesses a rounded, finely scobinate medial plate posteriorly and a narrow, transverse sclerotized ridge anteriorly. The sinus vaginalis is deep, the depth of which serves as a specific character; the ostium bursae is narrow, variably notched (the depth of which is also a specific character) and densely spinulose; short, rounded peristial lobes may be present. The ductus bursae is long and heavily sclerotized corresponding well with the configuration of the aedeagus, having a dense, spinulose stripe longitudinally. The cervix bursae is slightly swollen and gelatinous; the corpus bursae has a short tubular posterior and a large, curved, reniform anterior section with a rugose surface and two scobinate bends of the signum bursae running along the entire perimeter of the bursa copulatrix.

The genitalia configuration is rather similar in all species of the genus displaying only subtle distinctive characters. The species are, however easily distinguishable based on the conspicuous and constant features of the external morphology.

Species content of the genus *Neomardara*

N. africana (Holland, 1893)

N. fontainei sp. n.

N. congolana sp. n.

N. divergens Collenette, 1931

N. mondika László, 2023

Taxonomic account with descriptions of new species

Neomardara africana (Holland, 1893)

(Figs 1–6, 19–21, 32–35, 44–46, 59–60, 71–73, 83–85)

Lepasta africana Holland, 1893, *Entomological News* 4(10): 343. Type locality: [Gabon] Kangwé, Valley of the Ogooué River. Holotype, male in coll. CMNH.

Type material examined.

Holotype. Male, [label with double-lined pink margins, with handwritten] “*Lepasta / africana*, Holl. / Type. Ogooué. / Good. // “217” (CMNH).

REVIEW OF THE GENUS *NEOMARDARA*



Lepasta africana Holld.
Type: Ogooué, Gabon

23.7

1



GABON 430m
Mikongo (Rouger) Monts
de Cristal (Secondary forest)
0°29'47"N, 11°10'42"E
28 vii-12 viii 2019 MV Light Trap
Albert, J.L., Anthonioz, M.,
Bie Mba, J., Dérozier, V.,
Morlot, P. Leg.
ANHRT 2019 T7

Gen. slide No.
ANHRTUK LG 6041 ♂
00167707
prep. by Gy. M. László

2



REPUBLIC OF CONGO 352m
Sangha Prov. Nouabalé-Ndoki
National Park, Ndoki formation
(Secondary forest)
0°12'47.7"N, 10°23'45.8"E
28 vii-1 x 2022. Leg. EDJ L. I.
Dérozier, V., Fouka, B.,
Kirk-Spriggs, A., Takano H. Leg.
ANHRT 2022 14

Gen. slide No.
ANHRTUK LG 6132 ♂
00286465
prep. by Gy. M. László

3



REPUBLIC OF CONGO 341m
Sangha Prov. Nouabalé-Ndoki
National Park, Domassa camp
(Secondary forest)
0°12'36.57"N, 10°11'00.2"E
16-23 ix 2022. MV Light Trap
Dérozier, V., Fouka, B.,
Kirk-Spriggs, A., Takano H. Leg.
ANHRT 2022 14

Gen. slide No.
ANHRTUK LG 6133 ♂
00286961
prep. by Gy. M. László

4



IVORY COAST 60m
Parc National d'Azagny, entree
Soniaye (Secondary forest)
0°14'32"N, 04°46'05"W
25-26 ix 2021. MV Light Trap
Morlot, P., Mulvaney, L.,
Takano, H. Leg.
ANHRT 2021 8

Gen. slide No.
ANHRTUK LG 6043 ♂
00267885
prep. by Gy. M. László

5



GUINEA 1413m
Dialaba, Forêt de Goubel
10°38'27"N, 12°15'44"W
10-16 ix 2019 MV Light Trap
Gasser, M., Leno, M.,
Kovács, S., Miles, W.,
Mulvaney, L., Saffari, Sz. Leg.
ANHRT 2019 19

Gen. slide No.
ANHRTUK LG 6043 ♂
00139454
prep. by Gy. M. László

6



HOLOTYPE
Neomardara fontainei
László & Volynkin,
2023

COLL. MUS. TERVUREN
Burundi: Gitega
1-4-1987
Dr M. Fontaine

Neomardara africana
Gibbard
v. Des' B&G det.

RMCA ENT 000049538
Gen. slide No.
LG 6136 ♂
prep. by Gy. M. László

7



PARATYPE
Neomardara fontainei
László & Volynkin,
2023

COLL. MUS. TERVUREN
Urundi: Kitega
1-4-1987
Dr M. Fontaine

Neomardara africana
Gibbard
v. Des' B&G det.

RMCA ENT 000049539
Gen. slide No.
LG 6137 ♂
prep. by Gy. M. László

8



PARATYPE
Neomardara fontainei
László & Volynkin,
2023

Coll. Mus. Tervuren
Burundi: Gitega
1-4-1987
Dr M. Fontaine

RMCA ENT 000049540
Gen. slide No.
LG 6138 ♂
prep. by Gy. M. László

9

10 mm

Figures 1–9. Adults, male. 1. *Neomardara africana*, holotype of *Lepasta africana* Holland, 1893, Gabon (CMNH). 2. *Idem*, Gabon (ANHRT). 3. *Idem*, Republic of Congo (ANHRT). 4. *Idem*, Republic of Congo (ANHRT). 5. *Idem*, Ivory Coast (ANHRT). 6. *Idem*, Guinea (ANHRT). 7. *N. fontainei* sp. n., holotype, Burundi (RMCA). 8. *Idem*, paratype, Burundi (RMCA). 9. *Idem*, paratype, Burundi (RMCA).



HOLOTYPE
Neomardara congolana
László & Volynkin, 2023

REPUBLIC OF CONGO 341m
Sangha Prov., Nouabalé-Ndoki
National Park, Bomassa camp
(Secondary forest)
02°12'36.9"N, 16°11'30.2"E
15-16.10.2022, MV Light trap
Dierzse, V., Fodda, B.,
Kirk-Sprague, A., Takano, H. Leg.
ANHRT 2022.14

ANHRTUK
0025037

Gen. slide No.
LG 6125 ♂
prep. by Gy.M. László

10



PARATYPE
Neomardara congolana
László & Volynkin, 2023

REPUBLIC OF CONGO 341m
Sangha Prov., Nouabalé-Ndoki
National Park, Bomassa camp
(Secondary forest)
02°12'36.9"N, 16°11'30.2"E
15-23.10.2022, MV Light trap
Dierzse, V., Fodda, B.,
Kirk-Sprague, A., Takano, H. Leg.
ANHRT 2022.14

ANHRTUK
00286963

Gen. slide No.
LG 6126 ♂
prep. by Gy.M. László

11



PARATYPE
Neomardara congolana
László & Volynkin, 2023

DR CONGO
Mai-Ndombe, Ekongo camp
02°45'23 E, 20°18'55 S
14 km E - Cutzenbo
March/April 2007
leg. local collector
North-Eastern
Congoan Lowland
Forest

ANHRTUK
00286963

Gen. slide No.
LG 6126 ♂
prep. by Gy.M. László

12



N. W. Rhodesia:
Sulwezi,
X1 917
H.C. Dohrmann,
1919-77

Neomardara divergens
Collenette -
Holotype.

Arcle
present.

NHMUK 014173319

ANHRTUK
0011440

Gen. slide No.
LG 6044 ♂
prep. by Gy.M. László

13



ZAMBIA 1400m
Hilwood, Iselenge
(Miomboi / Riverine forest
mosaic)
11°16'02.5 S, 31°18'59"E
23-30.xi.2019 MV Light Trap
Bainford, M., Miles, W.,
Mukany, L., Smith, R. Leg.
ANHRT 2019.25

ANHRTUK
0011440

Gen. slide No.
LG 6044 ♂
prep. by Gy.M. László

14



ZAMBIA 1400m
Hilwood, Iselenge
(Miomboi/Riverine forest mosaic)
11°16'02.5 S, 31°18'59"E
7-10.xi.2019 Acoustic Light Trap
Bainford, M., Miles, W.,
Mukany, L. Leg.
ANHRT 2019.25

ANHRTUK
00141814

Gen. slide No.
LG 6222 ♂
prep. by Gy.M. László

15



HOLOTYPE
Neomardara mondika
László, 2023

REPUBLIC OF CONGO 365m
Nouabalé-Ndoki National Park,
Mondika camp
02°21'50.97"N, 16°16'25.82"E
07-14.x.2023, Lepid. light trap
Sakale, N. M., Dierzse, V.,
Kirk-Sprague, A., László, G. leg.
ANHRT 2023.3

ANHRTUK
00301050

Gen. slide No.
LG 6046 ♂
prep. by Gy.M. László

16



Central-CAMEROON
OBOUT village 678m
N 03°28'23" E 11°44'11"
09/2009
coll. STRÖHLE
leg. SPICER

African Natural History
Research Trust
ANHRT.2023.9

ANHRTUK
00339269

Gen. slide No.
LG 6128 ♂
prep. by Gy.M. László

17



GABON 430m
Mikongo (Fouger) Monts
(ex-Cristal (Secondary forest))
02°56'47"N, 11°16'42"E
25.iv.12.xi.2019 MV Light Trap
Albert, J.-L., Antignaphanos, M.,
Ben-Mou, J., Dierzse, V.,
Moretto, P. Leg.
ANHRT 2019.17

ANHRTUK
00174737

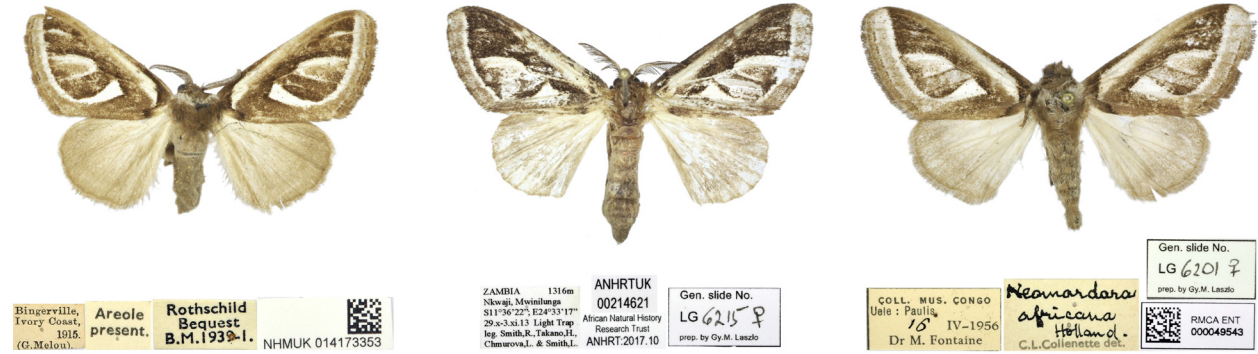
Gen. slide No.
LG 6128 ♂
prep. by Gy.M. László

18

10 mm

Figures 10–18. Adults, male. 10. *Neomardara congolana*, sp. n., holotype, Republic of Congo (ANHRT). 11. *Idem*, paratype, Republic of Congo (ANHRT). 12. *Idem*, paratype, DRC (RCHS). 13. *N. divergens*, holotype, Zambia (NHMUK). 14. *Idem*, Zambia (ANHRT). 15. *Idem*, Zambia (ANHRT). 16. *N. mondika*, holotype, Republic of Congo (ANHRT). 17. *Idem*, Cameroon (ANHRT). 18. *Idem*, Gabon (ANHRT).

REVIEW OF THE GENUS *NEOMARDARA*



19

20

21



22

23

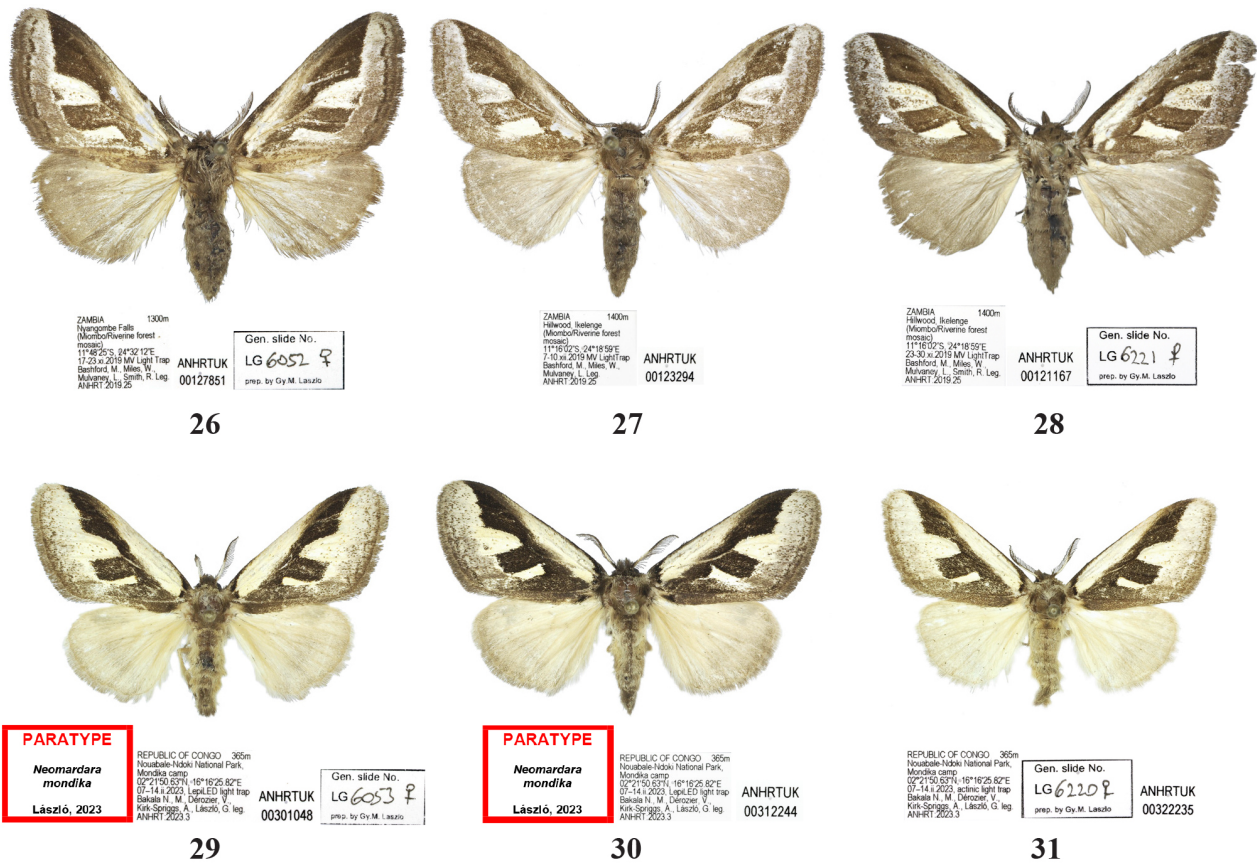
24



25

10 mm

Figures 19–25. Adults, female. 19. *Neomardara africana*, Ivory Coast (NHMUK). 20. *Idem*, Zambia (ANHRT). 21. *Idem*, DRC (RMCA). 22. *N. fontainei*, sp. n., paratype, DRC (RMCA). 23. *Idem*, paratype, DRC (RMCA). 24. *Idem*, paratype, DRC (NHMUK). 25. *N. congolana* sp. n., paratype, DRC (RMCA).



Figures 26–31. Adults, female (all in coll. ANHRT). 26. *Neomardara divergens*, Zambia. 27. *Idem*, Zambia. 28. *Idem*, Zambia. 29. *N. mondika*, paratype, Republic of Congo. 30. *Idem*, paratype, Republic of Congo. 31. *Idem*, Republic of Congo.

Additional material examined.

Cameroon. 1 male, Ebogo, 23/29.xi.1992 (RMCA); 1 female, Bitje, 2000', leg. G. L. Bates; 1 female, Bitje, Ja River, 2000 ft., xi.-xii.1912 (NHMUK). **DRC.** 1 male, Isanghi, 22.vi.1953, leg. Dr. M. Fontaine; 1 male, Sankuru, Katako-Kombe, 26.xii.1951, leg. Dr. M. Fontaine; further males, same site and collector but collected at 23.xi.1951, 6.ix.1952; 5.i.1952; 1 female, Uele, Paulis 16.iv.1956, leg. Dr. M. Fontaine, QR code label with unique id.: RMCA ENT 000049543, gen. slide No.: LG 6201; 1 female, same site and collector, 29.viii.1959, QR code label with unique id.: RMCA ENT 000049544, gen. slide No.: LG 6202; 1 male, Ubangi, Region Bumba, 10.ix.1955, leg. Dr. M. Fontaine; 1 male, Ruthshuru, Kilinga, 1.vi.1936, leg. L. Lippens; 1 male, Sankuru, Luluabourg, 2.xi.1951, leg. Dr. M. Fontaine; 1 male, Sankuru, Djeka, 18.xii.1952, leg. Dr. Fontaine; 1 male, same site, 13.ix.1952; 1 male, Sankuru, Dimbelenge, 29.iii.1951; 1 female, Tshuapa, Flandria, 29.iv.1948, leg. Rév. G. Hulstaert; 1 male, Lukolela, 5.x.1913, leg. L. Burgeon; 1 female, Eala, 29.xii.1938, leg. G. Couteaux; 1 female, Kafakumba, ix.1933, leg. F. G. Overlaet (RMCA); 1 female, Lusambo, 10.ix.1950, leg. Dr. Fontaine; 1 male, Bopoto, Upp. Congo, leg. Rév. Smith; 1 male, Sankuru, Katako-Kombe, 3.i.1952, leg. Dr. Fontaine (NHMUK). **Gabon.** 4 males, Mikongo (Rougier), Monts de Cristal (Secondary Forest), 430m, 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, gen. slide No.: LG 6041; 1 male, Nyonie (Lowland Forest), 10m, 0°2'22"S, 9°20'25"E, 23–28.viii.2019, MV Light Trap,

Albert, J-L., Aristophanous, M., Bie Mba, J., Dérozier, V., Moretto, P. leg., ANHRT:2019.17; 1 male, Ogooue Ivindo P.N. Ivindo, Station de Recherche, d'Ipassa 450m, 0°30'43"N, 12°48'12"E, 14–26.vi.2016, Light Trap, Ruzzier, E., Tasane, T. leg., ANHRT:2017.19, gen. slide No.: LG 6041 (ANHRT). **Ghana.** 1 male, Ashanti, Bobiri, 4 km NE Kubease, 6°41'N, 1°20'W, 230m, 25.v.2011, leg. J. & W. De Prins (RMCA); 1 male, Takwa, Gold Coast, R. D. James; 1 male, Secondi, Gold Coast (NHMUK). **Guinea.** 5 males, Dalaba, Foret de Goubel, 1413m, 10°39'27"N, 12°15'44"W, 10–18.ix.2019, MV Light Trap, Geiser, M., Leno, M., Koivagui, S., Miles, W., Mulvaney, L., Sáfián, Sz. leg., ANHRT:2019.19, gen. slide No.: LG 6043; 3 males, Guinee Forestiere, Foret Classee de Zياما, Seredou (Lowland Forest-Farmland), 625m, 08°21'26"N, 09°17'48"W, 9–16.vii.2019, MV Light Trap, Dérozier, V., Koivagui, S., Miles, W., Sáfián, Sz., Warner, L. leg., ANHRT:2019.11, gen. slide No.: LG 6051; 2 males, Guinee Forestiere, Bossou Forest and Institut de Recherche Environnementale de Bossou (Lowland Forest-Farmland), 690m, 07°38'32"N, 08°30'30"W, 24–30.vi.2019, MV Light Trap, Dérozier, V., Suah Dore, J., Koivagui, S., Miles, W., Sáfián, S., Warner, R. leg., ANHRT:2019.11; 1 male, Dalaba, Foret de Tinka, 10°43'14"N, 12°15'22"W, 1289m, 25–28.ix.2019, MV Light Trap, Geiser, M., Leno, M., Koivagui, S., Miles, W., Mulvaney, L., Sáfián, Sz. Leg., ANHRT:2019.19; 1 male, Geipa Camp, Foret de Diecke, 7°26'7.06"N, 8°50'47.87"W, 435m, 05–14.iv.2019, Cold Cathode UV Light Trap (8W), Sáfián, Sz., Koivogui, S, leg., ANHRT:2019.7; 1 male, 619km ESE of Conakry, Nzerekore Region, Prefecture de Lola, Ziela env., 540-600m, x.2017, 7°42'N, 8°21'W, local collectors leg., ANHRT:2020.6 (ANHRT); 2 males, Conakry, Forêt Classée de Diecké, 7–16.v.2004, leg. E. Vingerhoedt (RMCA). **Ivory Coast.** 2 males, Tai NP, Tai Research Station, 174m, 05°49'59.8"N, 07°20'32.0"W, 14–23.xi.2015, Light Trap, Aristophanous, M., Moretto, P., Ruzzier, E. leg.; 1 male, same site, 25.iii.–17.iv.2017, MV light trap, leg. Aristophanous A. & M., Geiser, M., Moretto, P.; 2 males, Parc national du Mont Sangbé (Forest/Savannah mosaic), 08°07'05"N, 07°19'09"W, 14–20.xi.2021, MV Light Trap, Moretto, M., Mulvaney, L., Takano, H. leg., ANHRT:2021.8; 14 males, Park National d'Azagny, entrée Sonaye (Secondary forest), 60m, 05°14'32"N, 04°48'05"W, 25–28.xi.2021, MV Light Trap, Moretto, P., Mulvaney, L., Takano, H. leg. ANHRT:2021.8 (ANHRT); 2 males, Mokta, 5/14.vi.1964, leg. P. Griveaud; 1 male, Bingerville, 19.i.1963, leg. J. Decelle; 1 male, Lamto, 29.xii.1967, leg. R. Vuattoux; 1 female, same site, 29.iii.1968 (RMCA); 1 female, Bingerville, 1915 leg. G. Melou (NHMUK). **Liberia.** 2 males, Grand Cape Mount County, Lake Piso area (Bomi forest - savannah mosaic), 15m, 6°39'19.19"N, 11°7'71.35(sic!)W, 2–9.i.2018, MV Light Trap, Sáfián, Sz. Simonics, G. leg., ANHRT:2017.33, gen. slide No.: LG 6050; 1 male, Krahn-Bassa Reserve, Sinoe County, Juboe River, 7.5km South West Pellokon Town, 140m, 5°39'4"N, 8°39'4"W, 14–21.i.2018, MV Light Trap, Geiser, M., Sáfián, Sz., Simonics, G. leg., ANHRT:2017.33; 3 males, Sinoe County, 6.5km NW of Jacksonville, Forest near Solve Problem village, 103m, 5°26'25"N, 9°7'39.9"W, 23–27.i.2018, MV Light Trap, Geiser, M., Sáfián, Sz., Simonics, G. leg., ANHRT:2017.33; 4 males, Lofa County, Foya Proposed Protected Area, 530m, 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 (ANHRT). **Nigeria.** 1 female, R. Niger, Sapele, leg. F.W. Sampson; 1 male, 1 female, Lagos dist., S. Nigeria, Apr. 1953, leg. P. Roche, gen. slide No. BM 955 (male); 3 males, same site and collector, v.1953; 1 male, site and collector, i.1953; 1 male, site and collector, ii.1953 (NHMUK). **Republic of Congo.** 1 male, Nouabalé-Ndoki National Park, Mondika camp, 365m, 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, gen. slide No.: LG 6134; 2 males, Sangha Prov., Nouabalé-Ndoki National Park, Ndoki formation (Secondary forest), 352m, 02°12'47.7"N, 16°23'45.8"E, 29.ix.–1.x.2022 LepiLED and MV light trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg. ANHRT:2022.14, gen. slide No.: LG 6132; 2 males, Sangha Prov., Nouabalé-Ndoki National Park, Bomassa camp (Secondary forest), 341m, 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. ANHRT:2022.14, gen. slide No.: LG 6133 (ANHRT). **Sierra Leone.** Western Area Peninsula Forest Reserve, 180m, 24.x.2015, 08°20'57"N, 13°10'42"W, Light Trap, R. Goff coll., leg. Smith, R. & Takano, H. (ANHRT); 1 male, Clements, 21.vi.1895 (NHMUK). **Uganda.** 1 male, Zika, light trap, 5.vi.1961, leg. K.W. Brown (NHMUK). **Zambia.** 1 male, Nyangombe Falls, (Miombo/Riverine forest mosaic), 1300m, 11°48'25"S, 24°32'12"E, 17–23.xi.2019, MV Light Trap, Bashford, M., Miles, W., Mulvaney, R., Smith, R. leg., ANHRT:2019.25, gen. slide No.: LG 6131; 1 male, Camp near Kanyama, (Miombo/Riverine/Dambo mosaic), 1375m, 11°25'36"S, 24°40'00"E, 4–7.xii.2019, MV Light Trap, Bashford, M., Miles, W., Mulvaney, L. leg., ANHRT:2019.25; 1 female, Nkwaji, Mwinilunga, 1316m, 11°36'22"S, 24°33'17"E, 29.x.–3.xi.2013, Light Trap, leg. Smith, R., Takano, H., Chmurova, L., Smith, L., ANHRT: 2017.10, gen. slide No.: LG 6215 (ANHRT).

Diagnosis. *Neomardara africana* is rather variable in size, with the forewing length in the range of 12–17 mm in males and 17–20 mm in females. The species is easily distinguished from other taxa of the genus based on the continuous subterminal band being gently arched following the termen and connected with the large, wedge-shaped marking in the lower part of the forewing, whereas the direction and length of the subterminal band is different in other taxa and never joins the wedge-like streak. The characteristic longitudinal triangular marking in the postmedial area is not connected with the subterminal band and deeply filled with dark greyish scales in *N. africana*, unlike in the other species of the genus where this patch is either fully whitish or just a little posterior notch is darkened. The majority of the examined *N. africana* specimens also have a whitish dash covering part of the vein R5, which character is not observed in other taxa of the genus.

In the male genitalia, the species is distinguished from other taxa of the genus by the narrowest, most elongate tegumen, the largest rounded carinal lobe situated apically in the aedeagus and the largest diverticulum of the vesica.

In the female genitalia, *N. africana* has the broadest, more or less straight peri-ostial lobes which are narrower, more curved or absent in other *Neomardara* species.

Bionomics and distribution. *Neomardara africana* is widely distributed in Equatorial Africa with confirmed records from Guinea to Kakamega Forest in Kenya (Dall'Asta 2008) and the Ikelenge pedicle in northwest Zambia with only Benin and Togo in the Dahomey Gap where the species has not yet been reported from.

The Burundi and Rwanda specimens reported by Dall'Asta (2008) refer to *N. fontainei* sp. n. described below. The male specimen illustrated by the author is indeed a *N. africana*, whereas the female belongs to *N. divergens*. Typical habitats of the species are the equatorial rainforests and riverine forest strips in dryer regions (e.g. NW Zambia). *Neomardara africana* appears to be a polyvoltine species with adults on the wing throughout the year regardless of the season, although it was collected only at the beginning of the rainy season in the southernmost localities in Zambia.

***Neomardara fontainei* sp. n.**

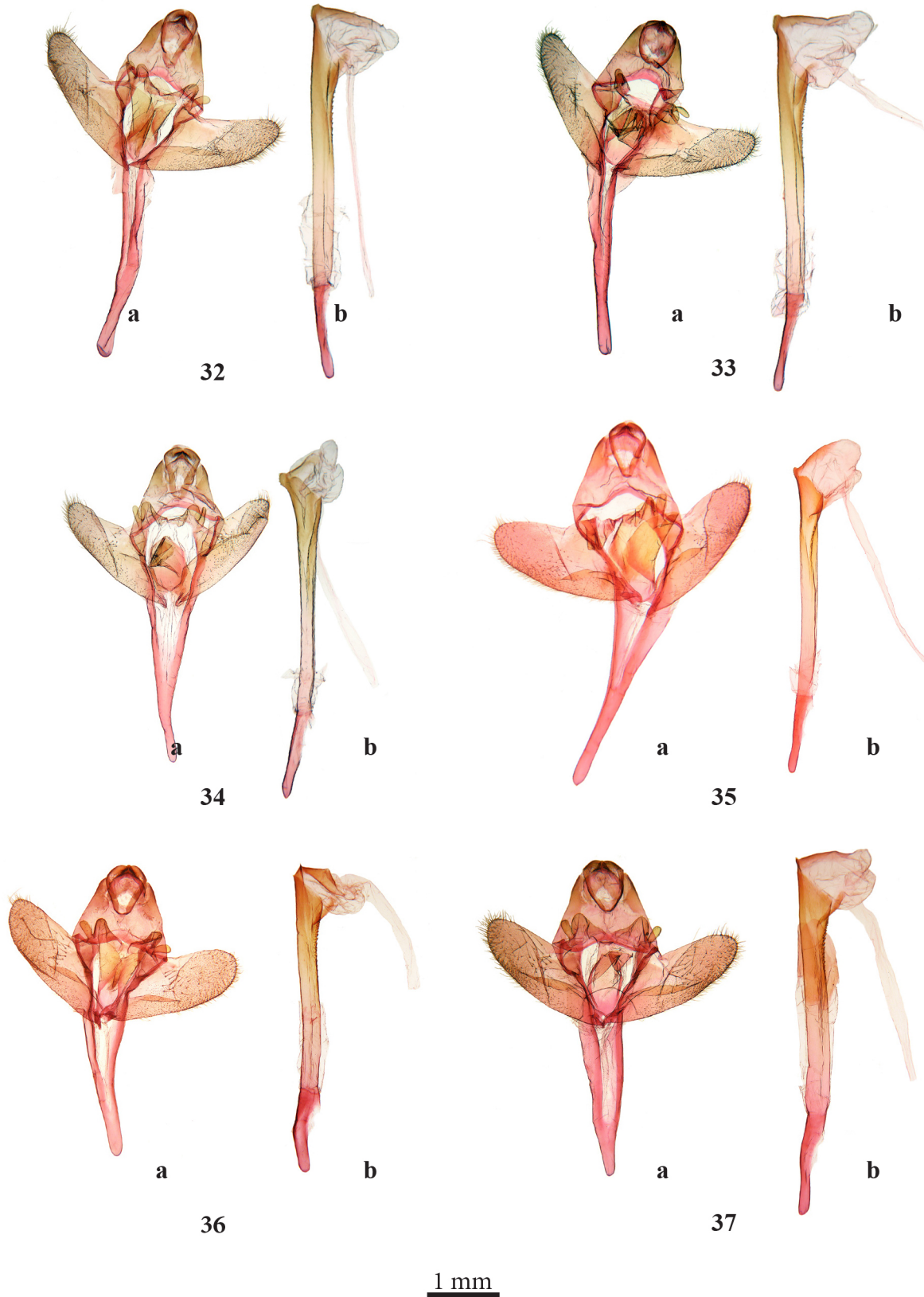
<https://zoobank.org/urn:lsid:zoobank.org:act:B2EA8926-2727-4583-99D4-DE6A7F71A30D>

(Figs 7–9, 22–24, 36–37, 47–49, 61–62, 74–75, 86–87)

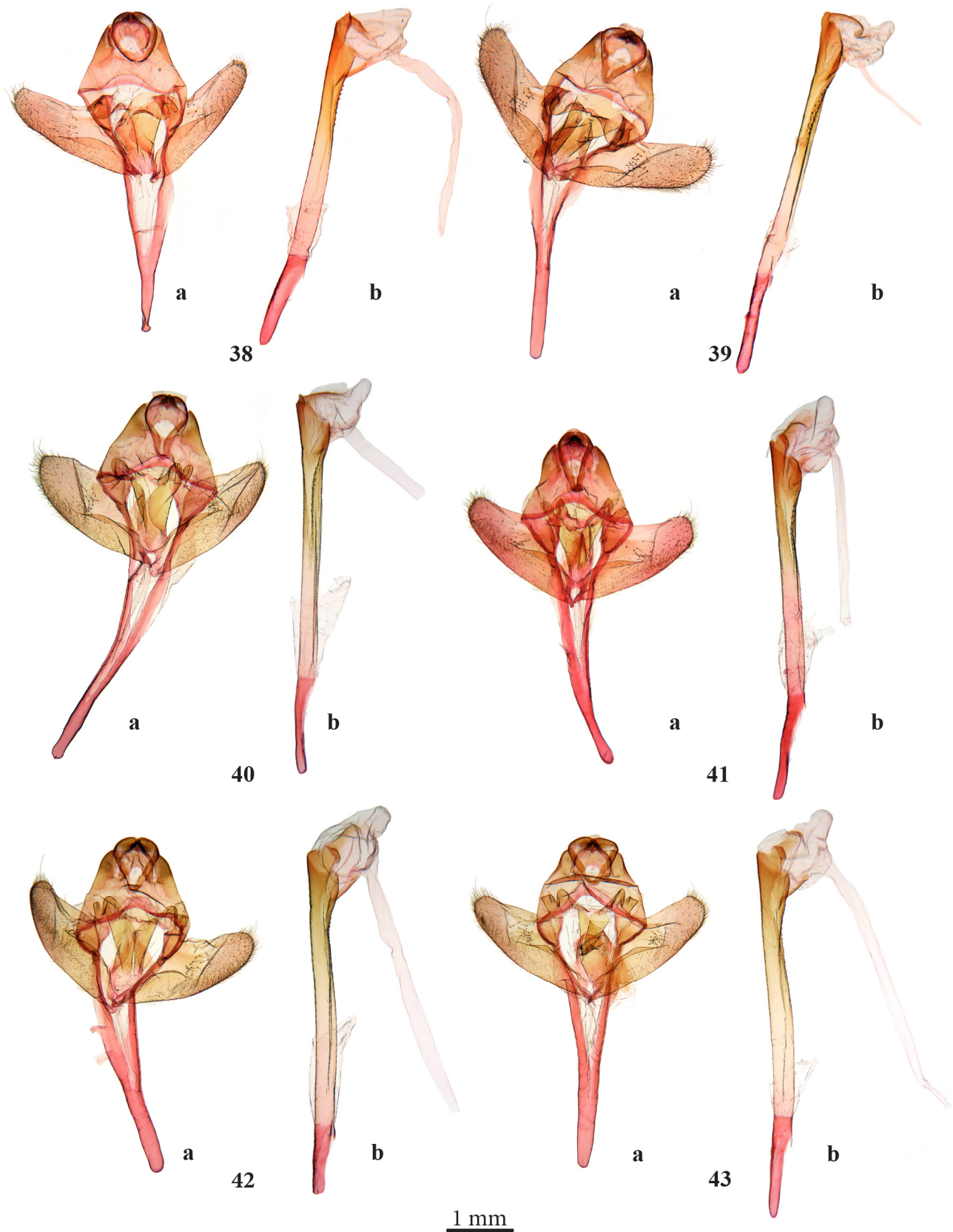
Holotype. Male, “COLL. MUS. TERVUREN / Burundi : Gitega / 1-4-1967 / Dr M. Fontaine” // [with handwritten] “*Neomardara africana* Holland U. Dall Asta det.” / QR code label with unique id.: RMCA ENT 000049538 / gen. slide No.: LG 6196 (RMCA).

Paratypes. Burundi. 2 males, 2 females, from the same site as the holotype, but collected at 19.iv.1967, 15.iv.1966, 19.x.1962, 11.xi.1963, QR code labels with unique ids: RMCA ENT 000049539–000049542, gen. slide Nos: LG 6197, LG 6198 (males), LG 6199, LG 6200 (females); further specimens from the same site, collected by M. Fontaine: 1 male, 16.ii.1964; 1 male, 25.iii.1964; 1 male, 21.iv.1964; 1 male, 19.ii.1968; 1 male, 10.xi.1967; 1 female, 12.x.1966; 1 female, 8.x.1965; 1 male, 28.iii.1968; 1 male, 12.iv.1965; 1 female, 3.iv.1965; 1 male, 28.iii.1965; 1 male, 23.iii.1966; 1 male, 29.iii.1965, gen. slide No. Ly.196; 1 female, 20.x.1963; 1 female, 2.xi.1962; 1 female, 11.iv.1964; 1 female, 19.iii.1964; 1 female, 15.xi.1963; 1 female, 21.xi.1963; 1 female, 20.x.1965; 1 female, 2.iv.1965; 1 female, 15.iv.1967; 1 male, 7.v.1964; 1 male, 20.xi.1963; 1 male, 17.x.1962; 1 female, 28.x.1962; 1 female, 17.xi.1963; 1 female, 16.xi.1963 (RMCA).

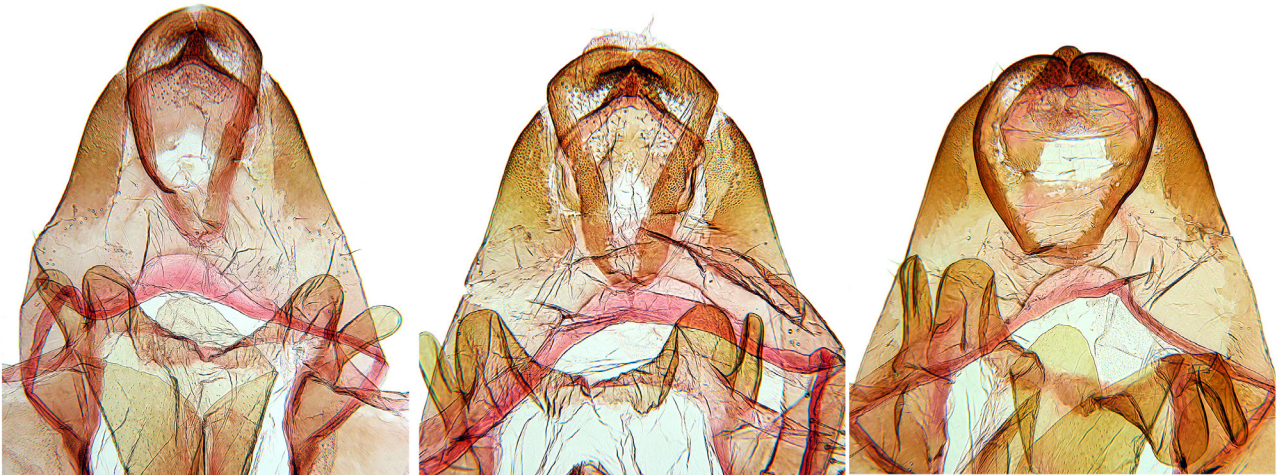
DRC. 1 male, Ituri, Nioka, 6.ix.1953; 1 female, Kibali-Ituri, Nioka, 30.iv.1954, leg. J. Hecq (RMCA). 1 female, 35. 24. Katana, W. Kivu, 5000–7000 ft. highland forest bordering pasture land. April '24 Beginning of wet season. T. A. Barns, QR code label with unique id.: NHMUK 014173342, gen. slide No.: NHMUK014331557 (NHMUK). **Uganda.** 10 males, 1 female, Bwindi Impenetrable NP, Cuckooland Lodge, 01°00.083'S, 29°42.448'E, 27–30.iii.2013, 1700m, leg. R. & S. Fiebig, D. Stadie; 5 males, same site, but collected at 27.x.–02.xi.2021 (RCRF).



Figures 32–37. Male genitalia, a: clasp apparatus, b: aedeagus. **32.** *Neomardara africana*, Gabon, LG 6042 (ANHRT). **33.** *Idem*, Gabon, LG 6041 (ANHRT). **34.** *Idem*, Liberia, LG 6050 (ANHRT). **35.** *Idem*, Republic of Congo, LG 6132 (ANHRT). **36.** *N. fontainei* sp. n., HT, Burundi, LG 6196 (RMCA). **37.** *Idem*, PT, Burundi, LG 6198 (RMCA).



Figures 38–43. Male genitalia, a: clasping apparatus, b: aedeagus (all in coll. ANHRT). **38.** *Neomardara congolana* sp. n., HT, Republic of Congo, LG 6125. **39.** *Idem*, PT, Republic of Congo, LG 6126. **40.** *N. divergens*, Zambia, LG 6044. **41.** *Idem*, Zambia, LG 6045. **42.** *N. mondika*, HT, Republic of Congo, LG 6046. **43.** *Idem*, PT, Republic of Congo, LG 6047.



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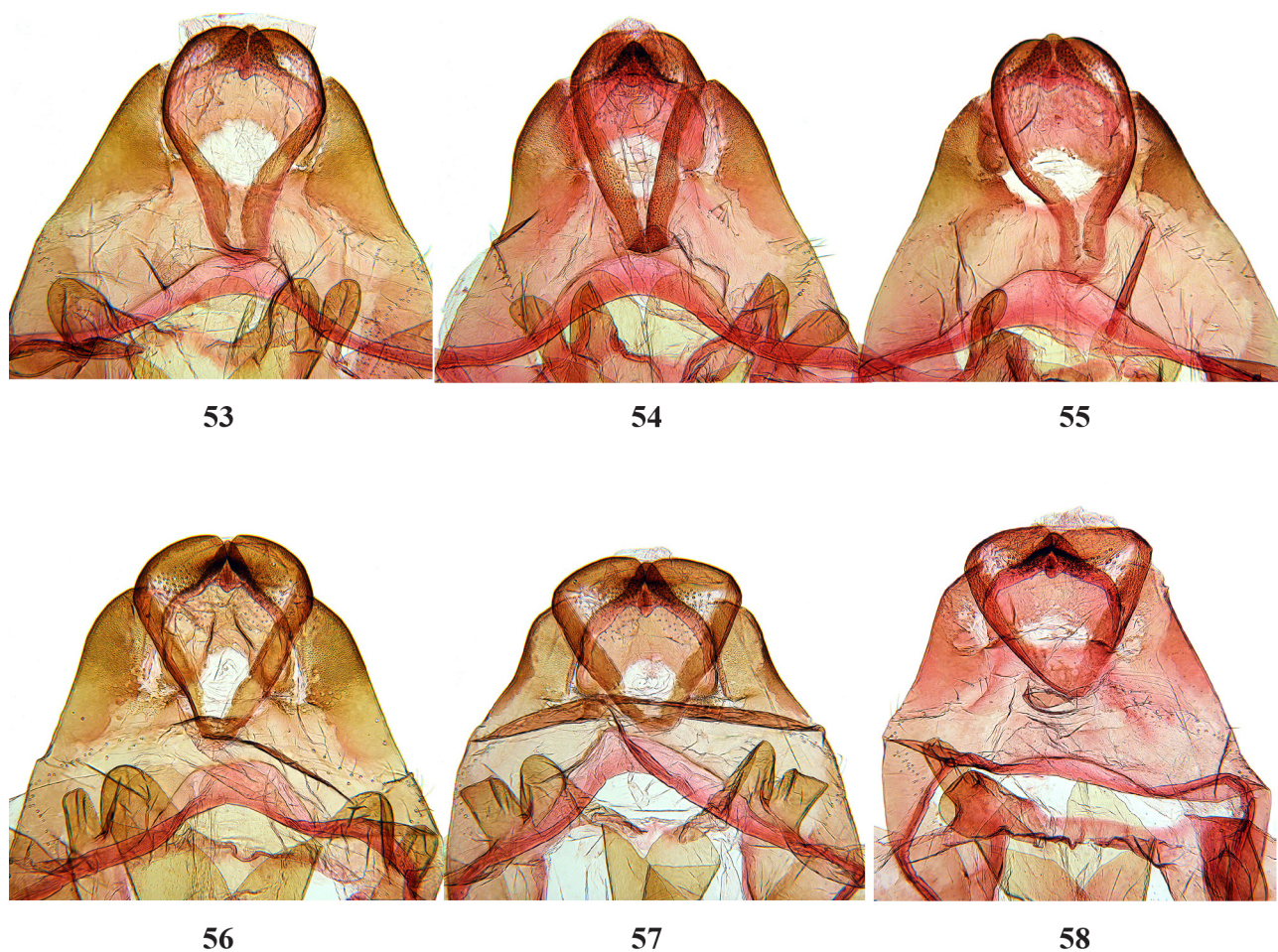


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Figures 44–52. Male genitalia, details of uncus-gnathos-tegumen complex. **44.** *Neomardara africana*, Gabon, LG 6042 (ANHRT). **45.** *Idem*, Liberia, LG 6050 (ANHRT). **46.** *Idem*, Republic of Congo, LG 6133 (ANHRT). **47.** *N. fontainei*, **sp. n.**, holotype, Burundi, LG 6196 (RMCA). **48.** *Idem*, paratype, Burundi, LG 6197 (RMCA). **49.** *Idem*, paratype, Burundi, LG 6198 (RMCA). **50.** *N. congolana*, **sp. n.**, holotype, Republic of Congo, LG 6125 (ANHRT). **51.** *Idem*, paratype, Republic of Congo, LG 6126 (ANHRT). **52.** *Idem*, paratype, DRC, LG 6127 (RCHS).



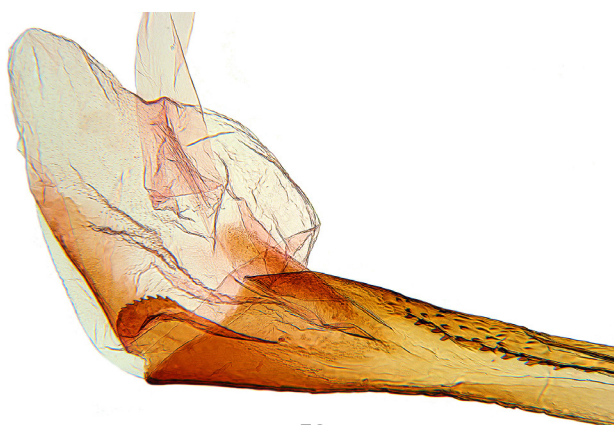
Figures 53–58. Male genitalia, details of uncus-gnathos-tegumen complex (all in coll. ANHRT). **53.** *Neomardara divergens*, Zambia, LG 6044. **54.** *Idem*, Zambia, LG 6045. **55.** *Idem*, Zambia, LG 6222. **56.** *N. mondika*, holotype, Republic of Congo, LG 6046. **57.** *Idem*, paratype, Republic of Congo, LG 6047. **58.** *Idem*, Gabon, LG 6128.

Diagnosis. The forewing length is 15–16 mm in males and 18–20 mm in females. *Neomardara fontainei* **sp. n.** is reminiscent of *N. africana* but clearly distinguished by the noticeably shorter forewings, the S-shaped subterminal band (it is evenly arcuate following the termen in *N. africana*), the smaller postmedial patch with markedly shallower posterior notch and the considerably narrower wedge-shaped marking unconnected to the subterminal band.

In the male genitalia, the new species has the largest transtillar lobes, where especially the inner lobe is conspicuously broad at base, and the shortest vinculum in the genus. The tegumen is similarly narrow as in *N. africana*, distinguishing thus *N. fontainei* from *N. divergens*, *N. mondika* and *N. congolana* **sp. n.** which all have a considerably broader tegumen. The aedeagus of the new species is approximately 10% shorter than that of the other *Neomardara* species and has a markedly smaller carinal plate with a less rounded margin compared to the other taxa of the genus.

The female genitalia of *N. fontainei* has more strongly bent and slightly narrower peri-ostial lobes than in *N. africana* and *N. congolana* **sp. n.**, a ca. 10–20% shorter ductus bursae and a considerably smaller, less curved, more elliptical rather than reniform bursa copulatrix compared to the other *Neomardara* species.

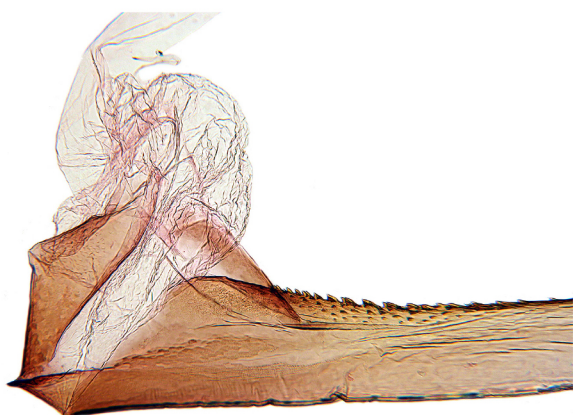
Etymology. This new species is named in honour of Dr. Maurice Fontaine, Belgian entomologist, a prominent explorer of the Lepidoptera fauna of the Congo Basin and adjacent areas, collector of the type series deposited in RMCA.



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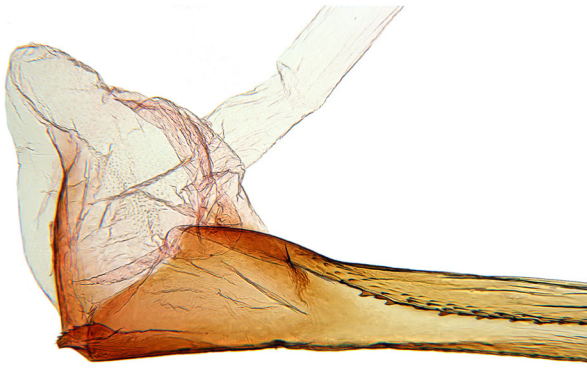


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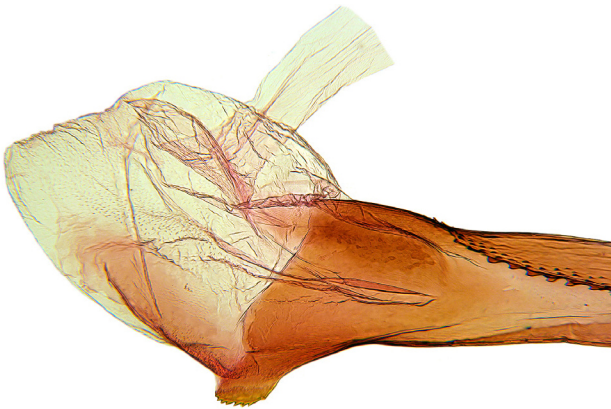
Figures 59–64. Male genitalia, distal end of aedeagus. **59.** *Neomardara africana*, Republic of Congo, LG 6133 (ANHRT) **60.** *Idem*, Liberia, LG 6050 (ANHRT). **61.** *N. fontainei* sp. n., holotype, Burundi, LG 6196 (RMCA). **62.** *Idem*, paratype, Burundi, LG 6198 (RMCA). **63.** *N. congolana* sp. n., holotype, Republic of Congo, LG 6125 (ANHRT). **64.** *Idem*, paratype, DRC, LG 6127 (RCHS).



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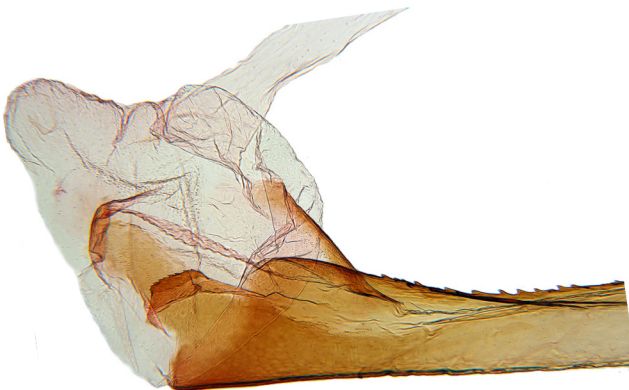
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Figures 65–70. Male genitalia, distal end of aedeagus (all in coll. ANHRT). **65.** *Neomardara divergens*, Zambia, LG 6044. **66.** *Idem*, Zambia, LG 6045. **67.** *Idem*, Zambia, LG 6222. **68.** *N. mondika*, holotype, Republic of Congo, LG 6046. **69.** *Idem*, paratype, Republic of Congo, LG 6047. **70.** *Idem*, Gabon, LG 6128.

Bionomics and distribution. *Neomardara fontainei* is currently known from the mountainous areas of Burundi, Uganda and the Kivu in eastern DRC, and is probably endemic to the mountains surrounding the Albertine Rift with flying periods from February to April and September to November.

***Neomardara congolana* sp. n.**

<https://zoobank.org/urn:lsid:zoobank.org:act:4BEE102B-D3FD-48D8-9F6A-2321DA1F1D53>

(Figs 10–11, 25, 38–39, 50–52, 63–64, 76, 88)

Holotype. Male, “REPUBLIC OF CONGO 341m / Sangha Prov., Nouabale-Ndoki / National Park, Bomassa camp / (Secondary forest) / 02°12'36.9"N, 16°11'30.2"E / 10–16.x.2022 MV light trap / Dérozier, V., Fouka, B., / Kirk-Spriggs, A., Takano, H. Leg. / ANHRT:2022.14” // “ANHRTUK / 00255037”, gen. slide No.: LG 6125 (ANHRT).

Paratypes. Republic of Congo. 2 males, with the same data as in the holotype but collected at 16–23.ix.2022, unique ids.: ANHRTUK 00286963, 00286708, gen. slide No.: LG 6126; 1 male, Sangha Prov., Nouabalé-Ndoki National Park, Bomassa forest, (Secondary forest), 358m, 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., ANHRT:2022.14 (ANHRT). **DRC.** 2 males, Mai-Ndombe, Ekongo camp, 02°45'23"S, 20°18'55"E, 14 km E Cutembo, March/April 2007, leg. local collector (North-Eastern Congolian Lowland Forest), gen. slide No.: LG 6127 (RCHS). 1 male, Eala, iii.1936, leg. J. Ghesquière; 1 female, Katako-Kombe, 2.i.1952, leg. Dr. Fontaine; 1 female, Lusambo 16.iv.1950, leg. Dr. M. Fontaine, gen. slide No.: LG 6203 (RMCA).

Diagnosis. The forewing length is 14–16 mm in males and 21 mm in the female paratype. *Neomardara congolana* sp. n. has a distinctive external habitus expressed by the highly reduced subterminal fascia which runs straight only between the forewing apex and the upper tip of the postmedial patch, and the absence of the wedge-shaped subventral streak which is present in every other species of the genus. This species has the least extent of whitish wing markings and the darkest hindwing in the genus rendering *N. congolana* a readily recognisable taxon. Despite the rather unique external appearance, the male genitalia of *N. congolana* are nearly identical to those of *N. mondika* and *N. divergens*, noticeable constant differences are found only in the shape of the tegumen, which is somewhat narrower in the new species than in *N. mondika* and *N. divergens*, but broader than in *N. africana* and *N. fontainei*; in addition, the carinal lobe is smaller and less rounded in the new species than in *N. mondika*. In the female genitalia, *N. congolana* is readily distinguished from *N. mondika* and *N. divergens* by the presence of a pair of well-developed peri-ostial lobes, which are also present in *N. africana* and *N. fontainei*. The peri-ostial lobes of *N. congolana* are strongly curved unlike in *N. africana*, being more similar to *N. fontainei*, however this latter species has a markedly shorter ductus bursae (in comparison to the entire length of the genitalia) than *N. congolana*.

Etymology. The specific epithet of the new species refers to its distribution within the Congo Basin.

Bionomics and distribution. *Neomardara congolana* was collected in Nouabalé-Ndoki National Park, Republic of Congo in September-October, at the end of the main dry season. The specimens sampled farther south and east in the Equateur, Mai-Ndombe and Sankuru Provinces of DRC were on the wing in January and March-April, which represents the short dry and beginning of the small rainy season, respectively. Comparing the flying periods with the sympatric *N. africana* and *N. mondika*, the former species is on the wing throughout the whole year, while the latter has been observed in small numbers at the end of the long dry season between August and early October with the main flying period falling to the small dry season in February.

***Neomardara divergens* Collenette, 1931**

(Figs 13–15, 26–28, 40–41, 53–55, 65–67, 77–79, 89–90)

Neomardara divergens Collenette, 1931, *Transactions of the entomological Society of London* 79(2): 350. Type locality: [Zambia] NW Rhodesia, Solwezi. Holotype, male in coll. NHMUK.

Type material examined.

Holotype (Fig. 6). Male, [red ring label] “Type” // “N. W. Rhodesia: / Solwezi. / 1.xi.1917. / H.C. Dollman. / 1919-79” // [with handwritten] “*Neomardara* / *divergens*, / Collenette. / Holotype.” // “Areole / present.”, QR code label with unique id.: NHMUK 014173319 (NHMUK).



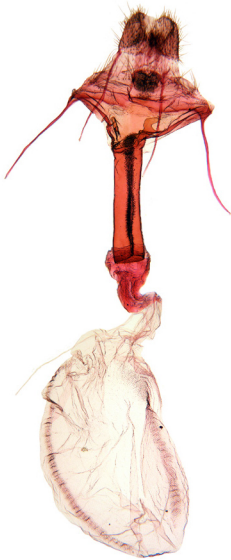
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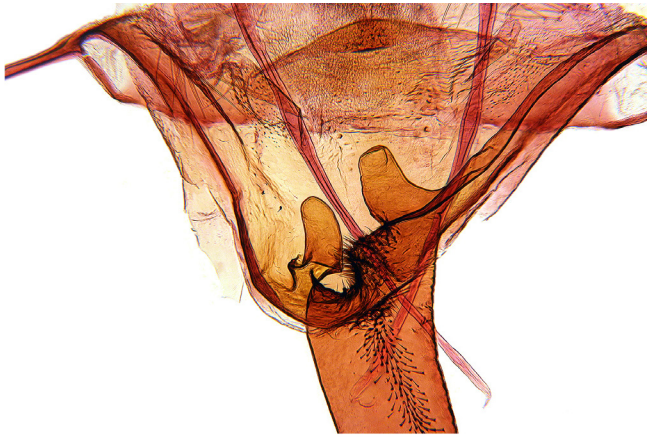
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1 mm

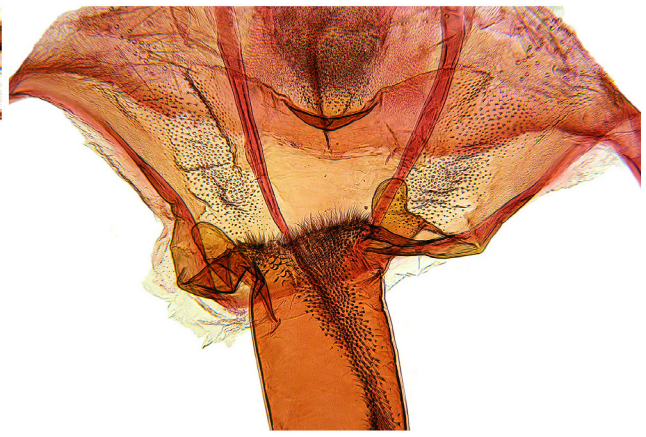
Figures 71–76. Female genitalia. **71.** *Neomardara africana*, DRC, LG 6201 (ANHRT). **72.** *Idem*, Zambia, LG 6215 (ANHRT). **73.** *Idem*, W Africa, Ivory Coast, NHMUK 014331760 (prepared by Laszlo) (NHMUK). **74.** *N. fontainei* sp. n., paratype, Burundi, LG 6199 (RMCA). **75.** *Idem*, paratype, Burundi, LG 6200 (RMCA). **76.** *N. congolana*, sp. n., paratype, DRC, LG 6203 (RMCA).



Figures 77–82. Female genitalia (all in coll ANHRT). **77.** *Neomardara divergens*, Zambia, LG 6221. **78.** *Idem*, Zambia, LG 6052. **79.** *Idem*, Zambia, LG 6217. **80.** *N. mondika*, Republic of Congo, LG 6219. **81.** *Idem*, paratype, Republic of Congo, LG 6053. **82.** *Idem*, paratype, Republic of Congo, LG 6235.



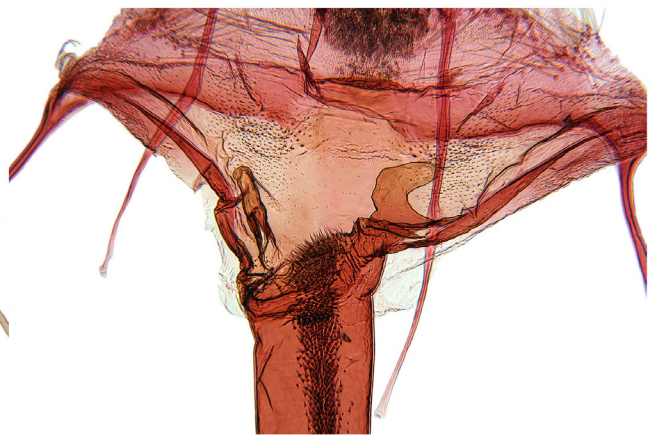
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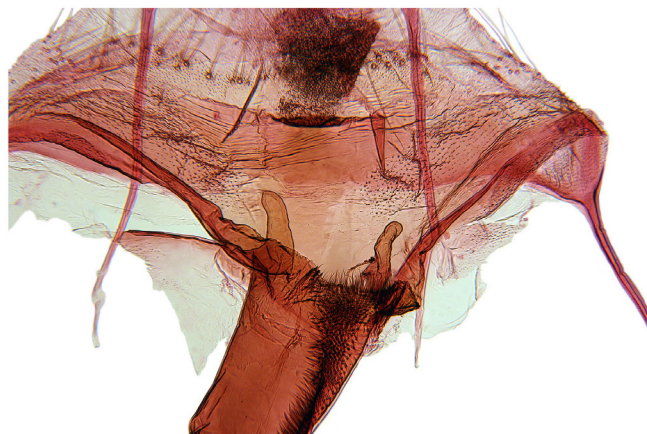
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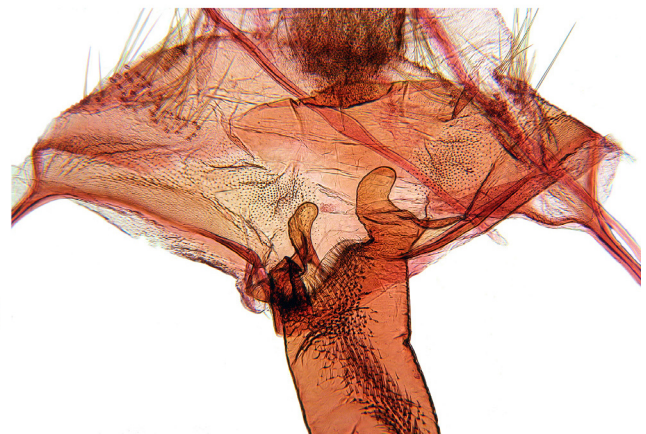
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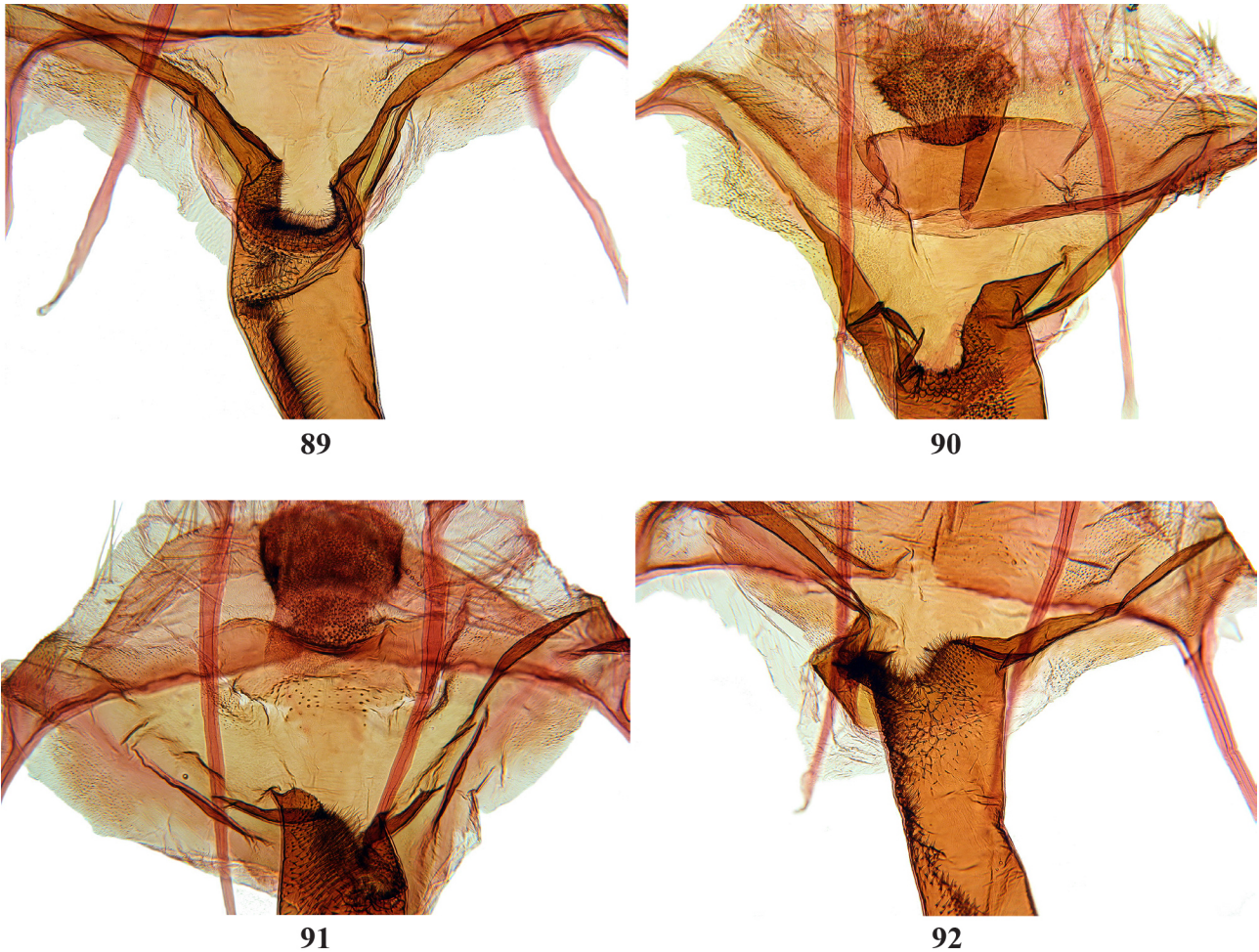


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Figures 83–88. Female genitalia. **83.** *Neomardara africana*, DRC, LG 6201 (RMCA). **84.** *Idem*, Zambia, LG 6215 (ANHRT). **85.** *Idem*, Ivory Coast, NHMUK014331760 (prepared by Laszlo) (NHMUK). **86.** *N. fontainei*, paratype, DRC, LG 6199 (RMCA). **87.** *N. fontainei*, paratype, DRC, LG 6200 (RMCA). **88.** *N. congolana*, paratype, DRC, LG 6203 (RMCA).



Figures 89–92. Female genitalia (all in coll. ANHRT). **89.** *Neomardara divergens*, Zambia, LG 6052. **90.** *Idem*, Zambia, LG 6221. **91.** *N. mondika*, Republic of Congo, LG 6219. **92.** *Idem*, paratype, Republic of Congo, LG 6053.

Additional material examined.

Zambia. Long series of both sexes, Hillwood, Ikelenge (Miombo/Riverine forest mosaic), 1400m, 11°16'02"S, 24°18'59"E, 17–24.iii.2013, 21–28.x.2013; 25–27.xi.2014, leg. Smith, R. & Takano, H.; 30.iv.–11.v.2014, leg. Smith, R., Takano, H., Chmurova, L., Smith, L.; 23–30.xi.2019, 7–10.xii.2019, Bashford, M., Miles, W., Mulvaney, L. leg., ANHRT:2019.25, gen. slide Nos: LG 6044 (male), LG 6217 (female); 5–11.vi.2021, MV Light Trap, Chizuwa, D., Choongo, W. leg. ANHRT:2022.5; 4 males, Nkwaji, Mwinilunga, 1316m, 11°36'22"S, 24°33'17"E, 5–8.v.2014, Light Trap, leg. Smith, R., Takano, H., Chmurova L., Smith, L.; 3 males, same site, 17–21.v.2015, leg. Smith, R., Takano, H. & Aristophanous, M.; 2 males, Camp near Kanyama, (Miombo/Riverine/Dambo mosaic), 1375m, 11°25'36"S, 24°40'00"E, 4–7.xii.2019, MV Light Trap, Bashford, M., Miles, W., Mulvaney, L. leg., ANHRT:2019.25; 1 female, Nyangombe Falls, (Miombo/Riverine forest mosaic), 1300m, 11°48'25"S, 24°32'12"E, 17–23.xi.2019, MV Light Trap, Bashford, M., Miles, W., Mulvaney, R., Smith, R. leg., ANHRT:2019.25, gen. slide No.: LG 6052; 1 female, Jiwundu Swamp, 1340m, S11°51'54", E25°33'20", 21–24.xi.2014, Light Trap, leg. Smith, R. & Takano, H.; 1 male, Chavuma Forest Reserve, 1080m, 13°04'07"S, 22°55'45"E, 25–27.iv.2014, Light Trap, leg. Smith, R., Takano, H., Chmurova, L., Smith, L.; 1 male, Kalene Hill (Miombo woodland), 1440m, 11°11'11"S, 24°12'5"E, 27.xi.–3.xii.2020, MV Light Trap Chizuwa, D., Choongo, D. leg. ANHRT:2022.4; 1 male, 1147m, Lukwakwa, West Lunga NP (*Cryptosepalum* forest/Dambo), 12°39'40"S, 24°26'13"E, 28–29.iv.2014, Light Trap, Smith, R., Takano, H., Chmurova, L., Smith, L. leg. ANHRT:2018.40; 2 males, Senka Hill, Mukulizi Forest Reserve, Muchinga Province, 1566m, 09°05'43"S, 32°05'06"E, 1–6.v.2019, MV and actinic light trap, Dérozier, V., László, G., Miles, W. leg., ANHRT:2019.12, gen. slide No.: LG 6045; 3 males, Lunzua Falls, 20 km S of Mpulungu, Northern Province, 1416m, 08°55'38"S, 31°09'31"E,

11–16.v.2019 LepiLED Light Trap, Dérozier, V., László, G., Miles, W. leg. ANHRT: 2019.12; 5 males, 1 female, Danger Hill, 30 km N of Mpika, Muchinga Province, 1684m, 11°37'38"S, 31°33'56"E, 27–30.iv.2019, Actinic Light Trap, Dérozier, V., László, G., Miles, W. leg. ANHRT:2019.12, gen. slide Nos: LG 6216 (male), LG 6218 (female); 1 male, Lumangwe Falls, Kalungwishi River, 1187m, 09°32'33"S, 29°23'17"E, 5–7.xi.2014 Light Trap leg. Smith, Takano & Oram; ANHRT:2017.12; 1 male, Ntumbachushi Falls, Ngona River, Luapula Prov., 1166 m, 09°51'12"S, 28°56'41"E, 12–13.v.2013, Light Trap leg. Smith, R. & Takano, H. (ANHRT). **DRC.** 1 female, Elisabethville (A la lumière), 21.xi.1951, leg. Ch. Seydel; 1 male, same site and collector, 15.iv.1951; 1 male, 1 female, Katanga, Kolwezi, i.1961, leg. V. Allard; 1 male, Sankuru, Lusambo, 11.x.1950, leg. Dr. Fontaine(RMCA); 2 males, Elisabethville, 12.v.1953, 23.iv.1953, leg. Ch. Seydel (NHMUK).

Diagnosis. The forewing length is 13–18 mm in males and 19–22 mm in females. *Neomardara divergens* is readily distinguished from *N. africana* and *N. fontainei* by the absence of a continuous subterminal band which is present only between the forewing apex and the outer end of the triangular postmedial patch. This latter marking is almost entirely filled with whitish scales, only a tiny triangular dark notch is present at the lower half of the outer margin of the patch. The species is also easily distinguished from *N. congolana* by the presence of the wedge-shaped subventral patch which is absent in the latter taxon. Compared to the most similar *N. mondika*, *N. divergens* has more greyish-white forewing markings and hindwing ground colour in contrast to the rather creamy colouration and much narrower subcostal and subterminal bands of *N. mondika*. The characteristic triangular postmedial patch is slightly notched posteriorly in *N. divergens*, whereas it is entirely filled with creamy-white scales in its sister species.

In the male genitalia, *N. divergens* has a distally narrower, more elongate gnathos, a somewhat smaller, less rounded carinal plate situated more apically than in *N. mondika*, and in addition, the dorso-basal sclerotized plate is much smaller and less sclerotized in the former species than in its Congolese congener.

The female genitalia of *N. divergens* has a ca. 5–10% shorter ductus bursae and deeper sinus vaginalis than that of *N. mondika*.

Bionomics and distribution. *Neomardara divergens* is known to date from Zambia and the Katanga plateau of the DRC. The species has been sampled from March to June and October to December in Zambia suggesting its two main flying periods fall at the end and beginning of the rainy season. Amongst the sporadic records from Katanga, a couple collected in January were found, with further specimens examined from the DRC captured in April-May and October corresponding well with the Zambian records.

Neomardara mondika László, 2023

(Figs 16–18, 29–31, 42–43, 56–58, 68–70, 80–82, 91–92)

Neomardara mondika László, 2023, *Ecologica Montenegrina* 62: 27. Type locality: Republic of Congo, Nouabalé-Ndoki National Park, Mondika camp. Holotype, male, in coll. ANHRT.

Type material examined.

Holotype. 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” // “ANHRTUK / 00301050”, gen. slide No.: LG 6046 (ANHRT).

Additional material examined.

Republic of Congo. 2 females, 365m, Nouabalé-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, gen. slide Nos: LG 6219, LG 6220; 6 males, Sangha Prov., Nouabalé-Ndoki National Park, Mbeli camp, (*Gilbertiodendron* forest), 372m, 02°14'23.8"N, 16°23'52.1"E, 1–10.x.2022, MV and Actinic Light Trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg., ANHRT:2022.14; 1 male, Sangha Prov., Nouabalé-Ndoki National Park, Ndoki formation (Secondary forest), 352m, 02°12'47.7"N, 16°23'45.8"E, 29.ix.–1.x.2022, MV Light Trap, Dérozier, V., Fouka, B., Kirk-Spriggs, A., Takano, H. leg., ANHRT:2022.14 (ANHRT). **Gabon.** 1 male, Mikongo (Rougier), Monts de Cristal (Secondary Forest),

430m, 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, gen. slide No.: LG 6128 (ANHRT). **Cameroon.** 1 male, Obout village, 678m, 03°28'23"N, 11°44'11"E, ix.2009, coll. Ströhle, leg. Spicer (ANHRT).

Diagnosis. The forewing length of *N. mondika* is 14–16 mm in males and 18–21 mm in females. Based on its extensive creamy-white forewing markings and the postmedial patch fully fused with the subterminal band, this species is readily distinguished from all other taxa of the genus, being most similar to *N. divergens* where the distinctive morphological characters are discussed in the diagnosis of the latter species.

Bionomics and distribution. The overwhelming majority of *N. mondika* was sampled in the pristine Congolian lowland rainforest habitats of Nouabalé-Ndoki National Park with *Gilbertiodendron dewevrei* stands nearby. The species seems to be on the wing exclusively in the dry season and especially frequent in the short dry season in February. Two specimens have been traced from Gabon and Cameroon displaying morphological characters matching well with the topotypical population suggesting that *N. mondika* likely occurs in a wider area of central Africa.

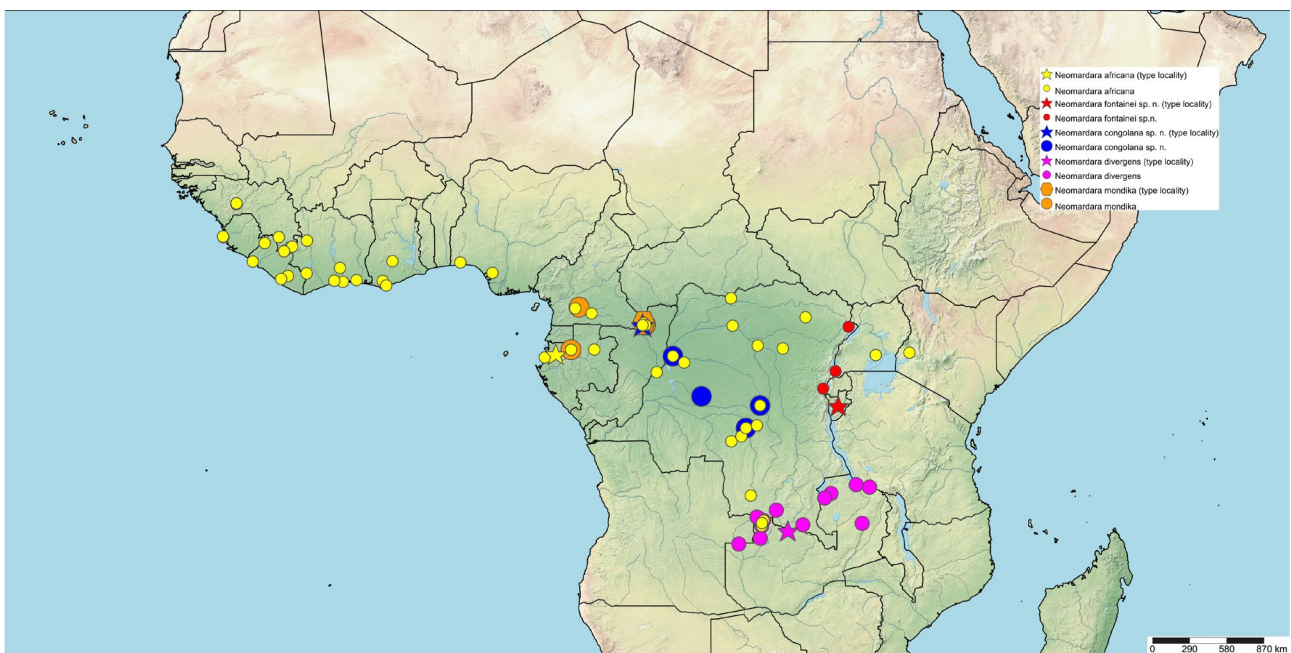


Figure 93. Distribution of the genus *Neomardara*.

Discussion

The number of the known *Neomardara* species has significantly increased thanks to recent sampling in earlier unstudied areas and thorough morphological examinations of material in institutional and private collections. Despite the striking external differences between the species, the genitalia structures of all taxa have an identical ground plan with only subtle, although constant, distinctive specific characters. Based on genital morphology, the genus can be divided into two main lineages where the species of the *N. africana* group (*N. africana*, *fontainei* and *congolana*) possess two well-developed peri-ostial lobes in the female genitalia, whilst *N. divergens* and *N. mondika* lack this character. In the male genitalia, *N. africana* and *N. fontainei* share a similarly narrow, more elongate tegumen whereas *N. congolana*, *N. divergens* and *N. mondika* have a broader and shorter tegumen. Further distinctive morphological features between the species are expressed by subtle differences in the configuration of the carinal plate of the aedeagus, the shape of the gnathos in the male and the overall size and the length of the ductus bursae in the female genitalia. Such examples of externally clearly differing species with uniform genital morphology are not unknown in Lepidoptera (e.g. in the genera *Thyatira* and *Gaurena* of Thyatirinae (László *et al.* 2007). The limited modification of the genital structures in Lymantriinae could be explained by the emphasized role of highly specific pheromones in the mating process (*cf.* Gries *et al.* 1996) often serving as a chemical barrier between

different species. The reliance on semiochemical signals between the male and female of closely related species may be a limiting factor to extensive modifications in the genital morphology.

The genus is distributed throughout equatorial Africa with *N. africana* being the most widespread species. The rainforests of the Congolian Basin host three *Neomardara* species (*N. africana*, *N. mondika*, *N. congolana*), whilst the western, eastern and southeastern extremities of the range host only one species: *N. africana*, *N. fontainei* and *N. divergens*, respectively.

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