Ecologica Montenegrina
ISSN 2336-9744 (online) | ISSN 2337-0173 (print)

Ecologica Montenegrina 62: 26-37 (2023)
This journal is available online at: www.biotaxa.org/em
https://dx.doi.org/10.37828/em.2023.62.4

Article

https://zoobank.org/urn:lsid:zoobank.org:pub:8BA22FF6-95A9-47F1-835B-354B42CC9E61

A new *Neomardara* Hering, 1926 (Lepidoptera: Erebidae: Lymantriinae) from Nouabalé-Ndoki National Park, Republic of Congo

GYULA M. LÁSZLÓ

African Natural History Research Trust (ANHRT), Street Court, Leominster-Kingsland, HR6 9QA, United Kingdom;
E-mail: gyulalaszlo@anhrt.org.uk; *https://orcid.org/0000-0001-9862-8290*

Received 6 April 2023 | Accepted by *V. Pešić*: 16 April 2023 | Published online 19 April 2023.

Abstract
A new species of *Neomardara* Hering, 1926 (*N. mondika* **sp. n.**) is described and illustrated from the Nouabalé-Ndoki National Park, Republic of Congo, representing the third species of the genus. The male genitalia of *N. africana* (Holland, 1893) and the male and female genitalia of *N. divergens* Collenette, 1931 are illustrated for the first time. New distribution records of *N. africana* are published. The paper is illustrated with nine adult and 23 genitalia images and a habitat photograph.

Key words: Afrotropical Realm, Congo, new record, new species, taxonomy.

Introduction

The genus *Neomardara* was erected by Hering (1926) to include solely *Lepasta africana* Holland, 1893, a species originally attributed to a Neotropical notodontid genus based on similarities expressed in the wing pattern. Hering (1926) characterised *Neomardara* based on details of wing venation and configuration of labial palps only, distinguishing the Afrotropical genus by the latter character from the Indomalayan *Mardara* Walker, 1865 (a preoccupied name, replaced by *Ramadra* Nye, 1980, and subsequently synonymised with *Pida* Walker, 1865 (Wang *et al*. 2015)). Five years later, Collenette (1931) described the second species of the genus, *N. divergens* Collenette, 1931 from Solwezi, northwest Zambia (then Northern Rhodesia) displaying similar wing pattern characterised by the whitish subcostal band, the horizontal V-shaped medial and the wedge-shaped subventro-medial marking. Neither Hering, nor Collenette had provided information on genital morphology in their descriptions, leaving the genus characterised based solely on external morphology.

During a recent entomological expedition conducted in the Nouabalé-Ndoki National Park in the Republic of Congo, a long series of *Neomardara* Hering, 1926 specimens has been sampled at the Mondika research camp. As *N. africana* (Holland, 1893) was described from the nearby Gabon and has been recorded from the neighbouring Cameroon and the DRC, it was initially presumed that the same species was collected

in the Nouabalé-Ndoki National Park. The wing pattern of the specimens captured in the Park, however, diverged markedly from that of *N. africana*, being more reminiscent of *N. divergens* Collenette, 1931 described from the Zambian plateau. However, in certain constant external features (i.e. the shade and extent of the bright areas of the forewing and the colouration of the hindwing) the series of the Congolese specimens appeared to be clearly distinct from *N. divergens* as well, suggesting that the *Neomardara* occurring in northern Congo may belong to a third, hitherto undescribed species of the genus. The detailed analysis of the genital structures has confirmed this hypothesis and a new species from the Nouabalé-Ndoki National Park is described in this paper: *Neomardara mondika* **sp. n.**

Material and methods

The examined material was sampled using a light tent illuminated by 125 W mercury vapour light bulb and actinic and LepiLED light bucket traps.

The abdomen was removed and was macerated in 10% potassium hydroxide in a heated block for ten minutes. Genitalia were extracted and stained with Eosin red 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 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.

Institutional codens 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.

Other abbreviations:
LG – genitalia slides prepared by Gyula M. László
DRC – Democratic Republic of Congo.

Taxonomy

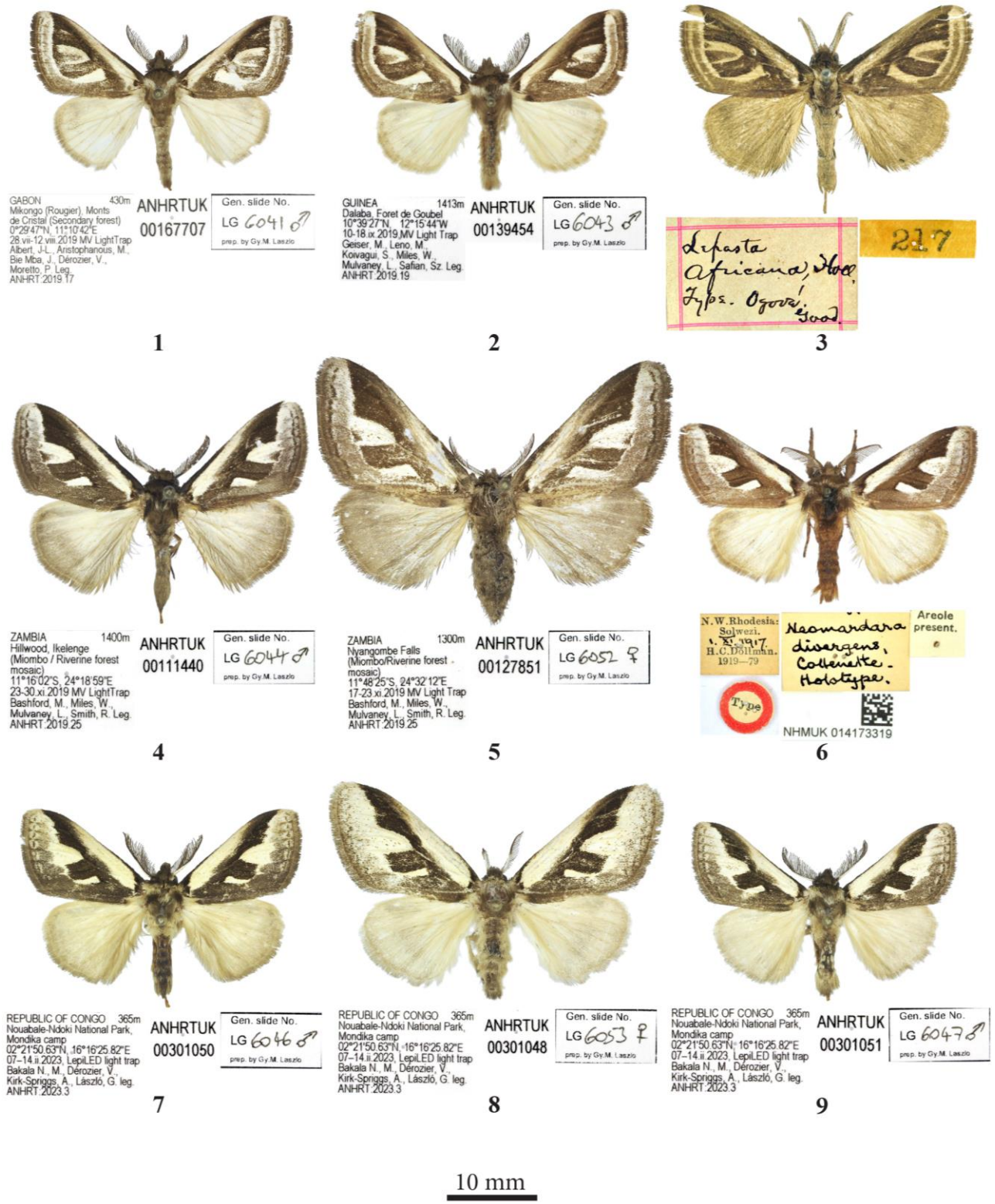
Description of the new species

***Neomardara mondika* sp. n.**
https://zoobank.org/urn:lsid:zoobank.org:act:218CE2A6-AF3C-4B4D-9232-13FC86EF7FE0
Figs 7–9, 15, 16, 21, 22, 27, 28, 30, 32

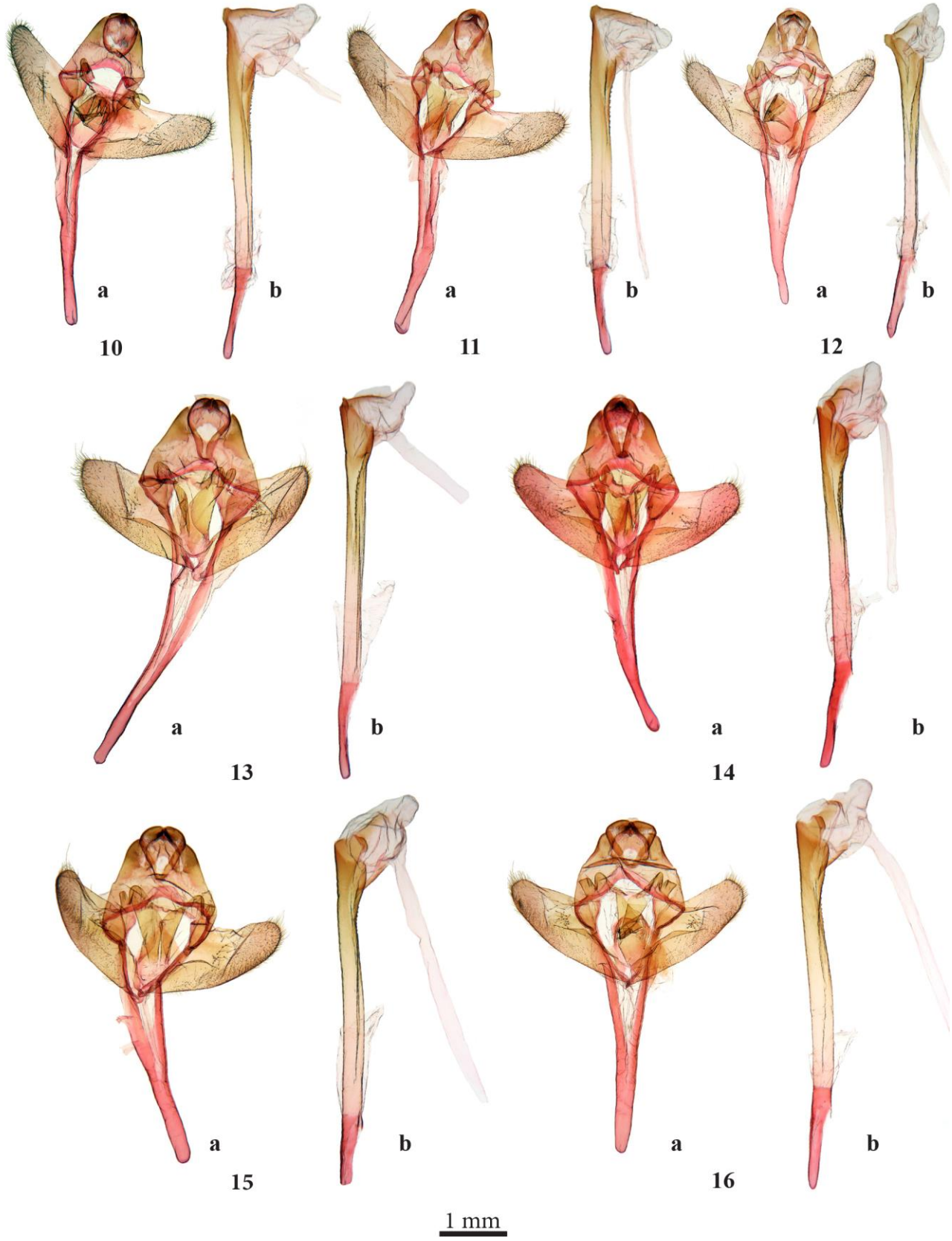
Type material examined.
Holotype. Male, “REPUBLIC OF CONGO 365m / Nouabale-Ndoki National Park, / Mondika camp / 02°21’50.63”N, 16°16’25.82”E / 07–14.ii.2023, LepiLED light trap / Bakala N., M., Dérozier, V., / Kirk-Spriggs, A., László, G. leg. / ANHRT:2023.3” // “ANHRTUK / 00301050”, gen. slide No.: LG 6046 (ANHRT).

Paratypes (88 males, 15 females in total). 32 males, 8 females, with the same data as in the holotype, gen. slide Nos: LG 6047 (male), LG 6053 (female); 39 males, 2 females, same data, but collected by actinic light trap; 17 males, 5 females, same data, but collected at MV light trap (ANHRT).

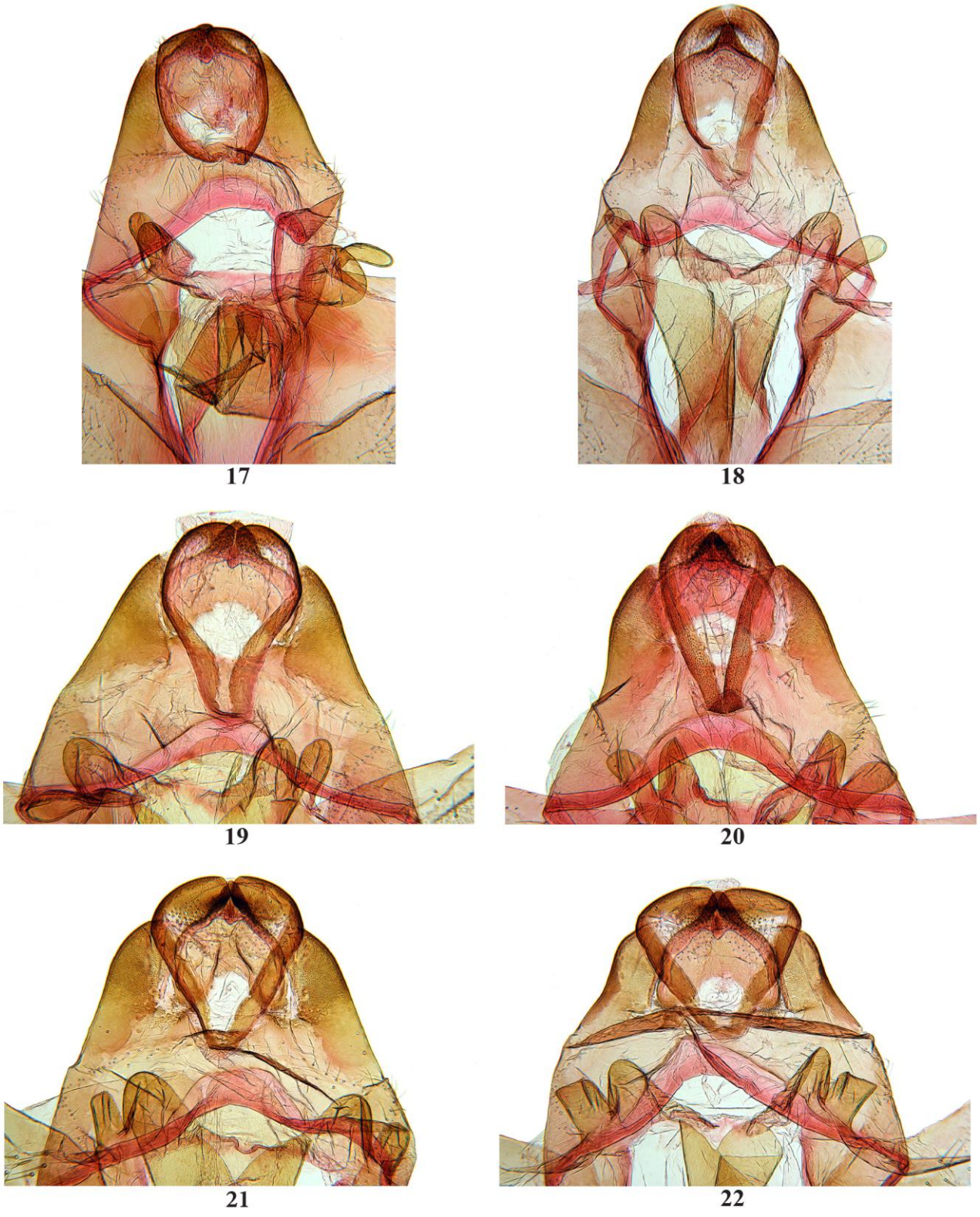
Description.
Adult (Figs 7–9). Forewing length 14–16 mm in male, 18–21 mm in female. Head relatively large, antenna bipectinate, rami of female antenna ca. two-thirds as long as those of male, dark brown in both sexes, dorsal side of antenna shaft creamy white; labial palp relatively short and broad, porrect, dark grey with group of pale grey scale dorso-apically; frons and vertex dark grey, collar dark grey basally, creamy white apically.



Figures 1–9. Adults (coll. ANHRT, unless otherwise stated). 1. *Neomardara africana* ♂, Gabon. 2. *Idem*, ♂, Guinea. 3. *Idem*, holotype, ♂, Gabon (CMNH). 4. *N. divergens*, ♂, Zambia. 5. *Idem*, ♀, Zambia. 6. *Idem*, holotype, ♂, Zambia (NHMUK). 7. *N. mondika* **sp. n.**, holotype, ♂, Republic of Congo. 8. *Idem*, paratype, ♀, Republic of Congo. 9. *Idem*, paratype, ♂, Republic of Congo.



Figures 10–16. Male genitalia, a: clasping apparatus, b: aedeagus (all in coll. ANHRT). 10. *Neomardara africana*, Gabon, LG 6041. 11. *Idem*, Gabon, LG 6042. 12. *Idem*, Liberia, LG 6050. 13. *N. divergens*, Zambia, LG 6044. 14. *Idem*, Zambia, LG 6045. 15. *N. mondika* **sp. n.**, holotype, Republic of Congo, LG 6046. 16. *Idem*, paratype, Republic of Congo, LG 6047.



Figures 17–22. Male genitalia, details of uncus-gnathos-tegumen complex (all in coll. ANHRT). 17. *Neomardara africana*, Gabon, LG 6041. 18. *Idem*, Gabon, LG 6042. 19. *N. divergens*, Zambia, LG 6044. 20. *Idem*, Zambia, LG 6045. 21. *N. mondika* **sp. n.**, holotype, Republic of Congo, LG 6046. 22. *Idem*, Paratype, Republic of Congo, LG 6047.

Tegula covered in long dark brown hairs with admixture of creamy hairs basally. Mesothorax creamy medially, dark brown anteriorly and posteriorly. Legs. Foreleg. Coxa covered in long creamy, femur in dark grey, tibia and tarsus in creamy grey hairs. Midleg. Femur dark grey, tibia creamy white dorsally, dark grey

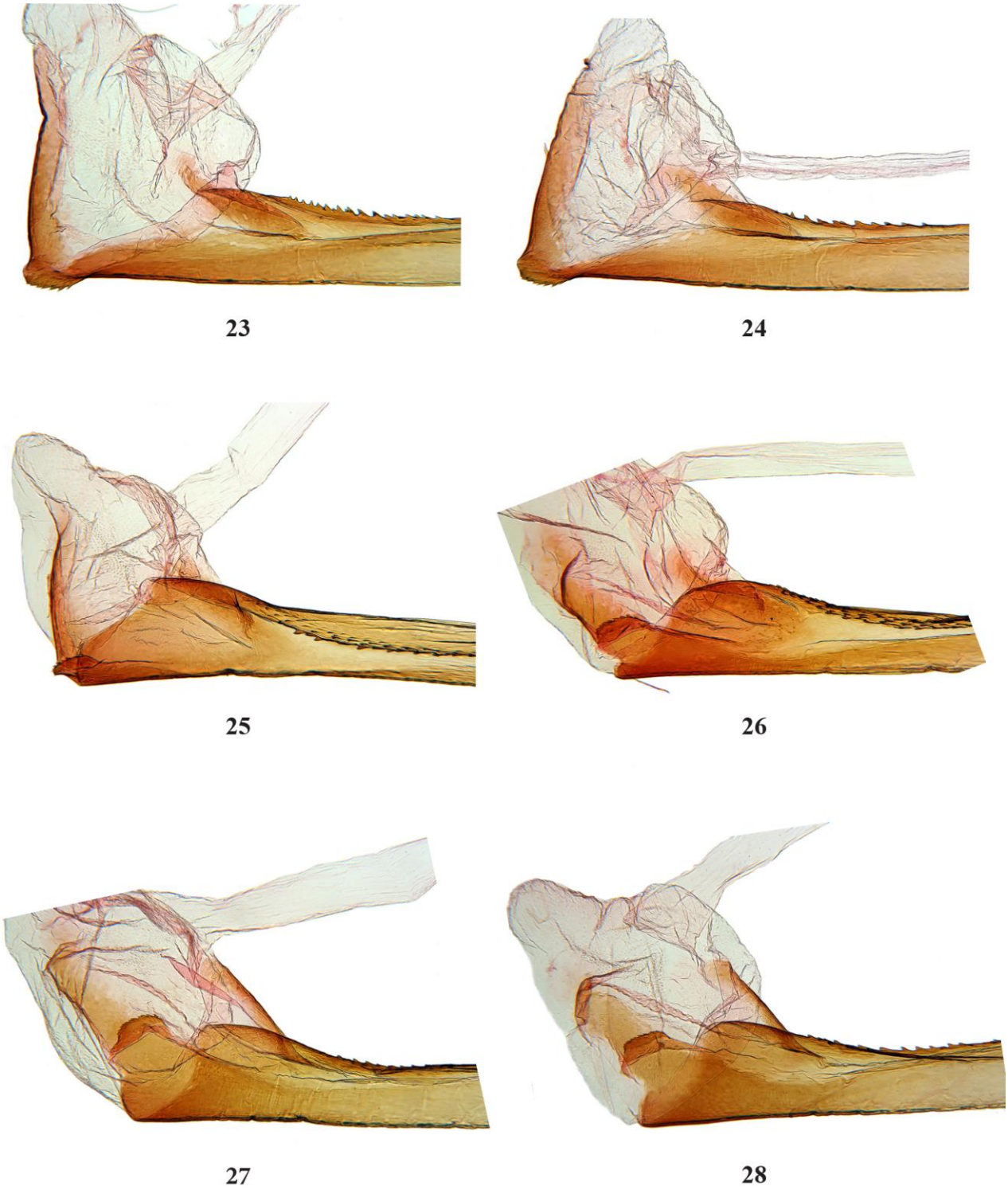
ventrally, tarsus blackish with group of creamy hairs dorso-basally. Hindleg. Femur pale creamy grey, tibia creamy white, tarsus creamy white basally, with patches of pale grey scales medially, pale grey distally. Abdomen cream in first two basal segments, pale creamy grey distally. Forewing moderately broad and short, costa straight in basal two-thirds, slightly arched in distal third, apex rounded, termen evenly arcuate, anal margin straight. Ground colour dark brown, with broad, cream, distally tapering subcostal band between subbasal area and two-thirds of costa leaving a narrow dark brown costal margin in basal half. Postmedial area with large, cream triangular horizontal patch pointing inwards fused with broad, oblique creamy white postmedial fascia reaching CuA2; subventral part of medial area with narrow, wedge-shaped cream longitudinal streak. Subterminal area gradually darkened from cream to grey ventrad; subterminal line interrupted, consisting of dark brown dashes between veins surrounded by semi-circular creamy patches; terminal line narrow, dark brown, interrupted in upper third. Cilia relatively short, dark brown. Hindwing cream-ochreous, slightly darkened distally; transverse lines absent; cilia short, pale brown. Underside. Forewing. Basal half of costa blackish, distal half creamy grey; inner third creamy grey subcostally, pale grey ventrally; outer two-thirds dark grey with diffuse creamy grey triangular postmedial and subapical patch; cilia as on upperside. Hindwing. Cream, with pale grey area along dorsal margin ending subapically; apex sparsely scattered with grey scales. Sexual dimorphism clearly expressed, females 10–20% larger than males with postmedial area of forewing filled almost uniformly with cream-white scales.

Male genitalia (Figs 15, 16, 21, 22, 27, 28). Uncus very short, triangular, encompassed postero-laterally by broad, distally rounded arms of gnathos having narrow proximal arms without medial dilation forming a V shape. Tegumen short and broad, trapezoidal with straight lateral, rounded distal and medially broadly depressed proximal margin. Valva moderately broad at base, gradually tapered distally, apically broadly rounded, ventral margin evenly convex and slightly setose, dorsal margin gently concave without setae; sacculus weakly sclerotized, short with gently arched distal margin, without processes Transtilla with two well-developed distal lobes, inner lobe broad, rounded triangular, outer lobe quadrangular. Juxta long, funnel-like; vinculum very long, gradually tapered in proximal half, distal half finger-like with rounded apex. Aedeagus very long, ca. 1.1 times longer than distance between tip of uncus and vinculum; coecum penis narrow, apically rounded, medial section of aedeagus slightly dilated, then somewhat constricted, distally dilated, dorsal margin finely dentate in distal third. Carina with small, distally rounded and finely dentate lateral plate; basal part of vesica with a moderately sclerotized elongate plate ventro-distally and a more heavily sclerotized elongate plate dorso-proximally. Vesica moderately dilated basally with a sack-like diverticulum near base of long, narrow tubular vesica ejaculatorius; cornuti absent.

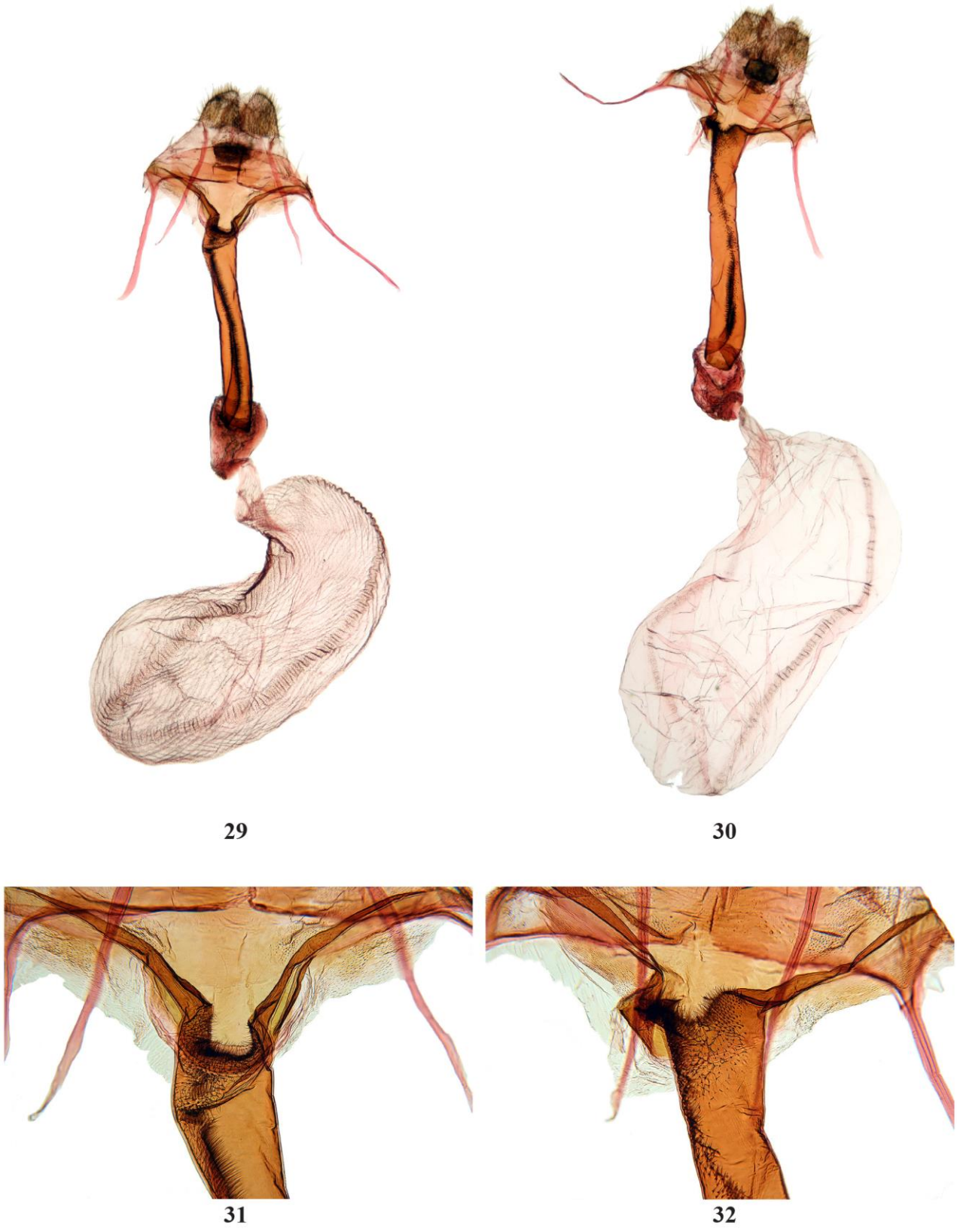
Female genitalia (Figs 30, 32). Papilla analis short and broad, moderately setose, trapezoidal with short ovoid ventro-distal lobe and rounded rectangular, heavily sclerotized ventro-proximal plate; apophysis posterioris long and narrow, apically pointed. Eighth tergite short, ribbon-like with membranous distal and sclerotized, medially slightly notched proximal margin; apophysis anterioris long, ca. 1.1 times longer than apophysis posterioris, narrow, apically rounded. Sinus vaginalis broad and shallow with heavily sclerotized, almost straight lateral margins and narrow, rounded triangular rather shallow medial notch on distal margin of antrum. Antrum heavily sclerotized, tubular, very slightly dilated distally and proximally, medially replacing ductus bursae in entire length, distal end with broad, densely spinulose area, continued in longitudinal spinulose band reaching cervix bursae, spinules short and relatively thick, acute. Cervix bursae membranous and strongly rugose, slightly broader than antrum. Posterior section of corpus bursae very short, as long as cervix bursae, tubular, gradually dilated anteriorly; anterior section of corpus bursae large utriform, slightly curved subdistally; signum bursae represented by a very long, narrow, finely scobinate band running along the perimeter of entire bursa copulatrix.

Differential diagnosis. *Neomardara mondika* **sp. n.** is easily distinguished from *N. africana*, the type species of the genus, by the creamy colouration of the forewing pattern (it is white in *N. africana*), the considerably broader subcostal band, the fully filled postmedial patch (it is white along its margins only, forming a horizontal V-shaped marking in *N. africana*), the much smaller subventro-medial streak and the lack of the parallel, sharply defined, white subterminal and terminal lines (Figs 1–3, 7–9). In the male genitalia, the new species has a markedly broader distal and shorter proximal section of the gnathos, a considerably broader and shorter tegumen, a noticeably broader, distally wider, less tapered valva and somewhat larger distal processes of the transtilla where the inner and outer processes are similar in width in *N. mondika*, whilst the inner transtillar process is much wider than the outer one in *N. africana*. The aedeagus of *N. mondika* is somewhat longer and thicker than that of *N. africana*; the small rounded serrate

carinal plate is situated laterally in the new species, whilst it is directed ventro-distally in *N. africana*, continued in a considerably longer and more heavily sclerotized distal plate reaching the diverticulum of the vesica. Furthermore, the dorso-basal sclerotized plate of the vesica is markedly longer in the new species, and the longitudinal dentation of the dorsal side of the aedeagus is shorter than in *N. africana* (Figs 10–12, 17, 18, 21–24, 27, 28). As female of *N. africana* was not traced during this study, the morphology of female specimens could not be compared. Externally, *N. mondika* is more reminiscent of *N. divergens*, a species endemic to the Zambian plateau, but readily distinguished by the following features: the new species has a



Figures 23–28. Male genitalia, distal part of aedeagus (all in coll. ANHRT). 23. *Neomardara africana*, Gabon, LG 6041. 24. *Idem*, Gabon, LG 6042. 25. *N. divergens*, Zambia, LG 6044. 26. *Idem*, Zambia, LG 6045. 27. *N. mondika* **sp. n.**, holotype, Republic of Congo, LG 6046. 28. *Idem*, Paratype, Republic of Congo, LG 6047.



Figures 29–32. Female genitalia (all in coll. ANHRT). 29. *Neomardara divergens*, Zambia, LG 6052. 30. *N. mondika* **sp. n.**, paratype, Republic of Congo, LG 6053. 31. *N. divergens*, details of ostium bursae-antrum complex (LG 6052). 32. *N. mondika* **sp. n.**, details of ostium bursae-antrum complex (LG 6053).

conspicuously creamy white forewing pattern in contrast to the greyish white markings of *N. divergens*. The subcostal band and the postmedial area of *N. mondika* are markedly wider than in *N. divergens*, especially in females, where the uniformly cream-whitish postmedial area of the forewing is twice as wide as the more greyish white postmedial forewing area of *N. divergens*. The large postmedial patch of the new species is entirely filled with creamy white scales, whereas a small triangular area in the distal section of the patch is dark greyish brown in *N. divergens*, furthermore, the dash-like subventro-medial marking is noticeably shorter and narrower in *N. mondika* than in its congener, where it is rather wedge-shaped. The colouration of the hindwing of the new species is creamy white, being more similar to *N. africana*, whilst it is pale grey in *N. divergens* (Figs 4–9). In the male genitalia, the new species has considerably more broadly arched distal part of gnathos with shorter proximal arms, noticeably shorter, distally broaded tegumen with more rounded distal corners, somewhat narrower, slightly more elongate valva and slightly shorter vinculum compared to those of *N. divergens*. In the configuration of the aedeagus, *N. mondika* has the small, rounded dentate carinal plate situated more laterally compared to the more distal position of the carinal plate in *N. divergens*; in addition, the new species has much larger and more sclerotized dorso-basal plate of the vesica and a less acute, dorsal dentation of the aedeagus compared to *N. divergens* (Figs 13–16, 19–22, 25–28). In the female genitalia, the new species has a markedly shorter and less deeply incised sinus vaginalis and a somewhat longer antrum with considerably shorter, less dense spinules compared to those of *N. divergens* (Figs 29–32).

Etymology. The new species is named after its type locality, the Mondika camp (Fig. 33), a recognised research station established to study the biology and behaviour of western lowland gorillas in the Nouabalé-Ndoki National Park.

Distribution. *Neomardara mondika* **sp. n.** was collected during the dry season, however after a heavy rain, solely in the Mondika camp of the Nouabalé-Ndoki National Park, where it appeared to be one of the dominant heteroceran species. Interestingly, the species has not been captured at other sites during the expedition, possibly due to the unusual drought affected large areas of the region delaying the emergence of numerous species. Nevertheless, it is highly likely that *N. mondika* is distributed throughout the National Park. Further research in the surrounding areas and neighbouring countries is required to establish the exact range of this interesting taxon.

Comparative material of *Neomardara* taxa examined

Neomardara africana (Holland, 1893)

Figs 1–3, 10–12, 17, 18, 23, 24)

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 (Fig. 3). Male, [label with double-lined pink margins, with handwritten] “Lepasta / africana, Holl. / Type. Ogoué. / Good. // “217” (CMNH).

Additional material examined.
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 6041; 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). **Guinea.** 1 male, 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; 1 male, Guinee Forestiere, Foret Classee de Ziama, 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 (ANHRT). **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.; **Liberia.** 1 male,

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 (ANHRT). **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 (ANHRT). **Sierra Leone.** Western Area Peninsula Forest Reserve, 180m, 24.x.2015, N08°20'57", W13°10'42", Light Trap, R. Goff coll., leg. Smith, R. & Takano, H. (ANHRT).

Distribution. *Neomardara africana* was earlier reported from Burundi (Dall'Asta 2004), Cameroon (Hering 1926), DRC (Collenette 1960), Equatorial Guinea (Strand 1914), Ghana (Dall'Asta 2004), Nigeria (Swinhoe 1903), Rwanda (Dall'Asta 2004) and Sierra Leone (Swinhoe 1903). This current research found this species to be occurring in Ivory Coast, Liberia and the Republic of Congo representing new country records. Interestingly, a single male specimen was collected at the Mondika camp of Nouabalé-Ndoki National Park demonstrating a sympatric distribution of *N. africana* and *N. mondika* in the region.

Neomardara divergens Collenette, 1931

Figs 4–6, 13–14, 19, 20, 25, 26, 29, 31)

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).

Additional material examined.

Zambia. 1 male, Hillwood, Ikelenge (Miombo/Riverine forest mosaic), 1400m, S11°16'02", E24°18'59", 23–30.xi.2019, LepiLED Light Trap, Bashford, M., Miles, W., Mulvaney, L. leg., ANHRT:2019.25, gen. slide No.: LG 6044; 1 male, Senka Hill, Mukulizi Forest Reserve, Muchinga Province, 1566m, 09°05'43"S, 32°05'06"E, 1–6.v.2019, MV Light Trap, Dérozier, V., László, G., Miles, W. leg., ANHRT:2019.12, gen. slide No.: LG 6045; 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 (ANHRT).

Distribution. *Neomardara divergens* is known to date from Zambia only, however, its occurrence in the Katanga plateau of the DRC is highly likely.

Discussion

The third species of the genus described in this present paper clearly displays homologous external characters suggesting a close relationship to *N. divergens* with most probably allopatric distribution. It is important to note, however, that the taxonomy of the Afrotropical Lymantriinae has been one of the least studied after Collenette's (1960) last work, leaving the current nomenclature of the majority of the taxa rather outdated. Publications applying modern taxonomic methods such as analysis of genital morphology and applying genetic markers to establish phylogenetic relationships within the subfamily are practically missing, the only recent attempt to elucidate the phylogeny of Lymantriinae based on eight genetic markers was published by Wang *et al.* (2015). This leads to the conclusion that almost all the Afrotropical lymantriine genera are in a need of integrative taxonomic revision, therefore, their current species content is rather tentative. Consequently, it cannot be ruled out that as a result of a future phylogenetic research, the characteristic genus *Neomardara* will be synonymised with other genus or, on the contrary, will accommodate further species which are currently attributed to other genera. In this present paper, the genital morphology of the species of *Neomardara* following Collenette's species concept of the genus, is published for the first time, providing fundamental morphological information to be utilised in future studies.

Figure 33. Mixed forest habitat with the Mondika stream, type locality of *Neomardara mondika* **sp. n.**, Nouabalé-Ndoki National Park, Republic of Congo (photo by V. Dérozier).

Acknowledgements

Violette Dérozier very ably organised the ANHRT's third Republic of Congo Expedition (CG-03) and kindly supplied Figure 33. Our cooperative partner, the Wildlife Conservation Society (WCS) Congo and their employees authorised research in Nouabalé-Ndoki National Park and provided diverse administrative and technical support during the Expedition. I express my gratitude to the following WCS staff: Morgane Cournarie (Program coordinator), Vittoria Estienne (Director of Research and Biomonitoring), Ben Evans (Park Director), Richard Malonga (Director), Onesi Samba (Research Assistant) and Yako Valentin (Administrative Manager). My special thanks go to Tatiana Thomas (Camp Manager, Mondika) for her multiple assistance and kind hospitality provided for ANHRT team during the survey. Joseph Goma-Tchimbakala (General Director of IRSEN, Institut National de Recherche en Sciences Exactes et Naturelles), Jean Bosco Nganongo (Directeur de la DFAP Direction de la Faune et des aires protégées) and the Ministère de la recherche scientifique are acknowledged for the seamless collaboration in issuing the necessary research (permit Nos: 051/MESRSIT/IRSEN/DG/DS, 0107/ACFAP/DG/DTS) and export permits. The valuable assistance of Victor Mamonekene (Hydrobiologist, Ichthyologist, IRSEN and Marien Ngouabi University) is also highly appreciated. Scientific research in Gabon was authorised by the Centre National de la Recherche Scientifique (CENAREST) and collaboration with the Université des Sciences et Techniques de Masuku (USTM). Rougier Gabon is thanked for allowing access to concession forest. In Liberia, Annika Hiller (Wild Chimpanzee Foundation, Liberia) and Jerry Garteh (Society for the Conservation of Nature, Liberia) provided help in organizing ground logistics of ANHRT expedition; Darlington Tuaben, Mike C. Doryen and Kederick F. Johnson (Forestry Department Authority, Liberia) issued research permit. Scientific research in Côte d'Ivoire was authorised by the Ministère de l'Enseignement Supérieur et de la Recherche Scientifique. The Office Ivoirien des Parcs et Réserves (OIPR) and the Société de Développement des Forêts (SODEFOR) are thanked for authorising access to protected forests and providing export permits. In Guinea, Mamadou Diawara, Directeur Exécutif (Guinée Ecologie), Colonel Layaly Camara, Directeur National; Cece Papa Konde, Directeur Général (Ministère de l'Environnement et des Eaux et Forêts) and Jamison Suter, Manager (Responsabilité Environmentale et Sociale, Société des Mines de Fer de Guinée) provided administrative and technical support and issued the necessary permits for ANHRT expedition. In Zambia, Rhoda Kachali (Department of National Parks and Wildlife – ZAWA, Lusaka), Claire Mateke and Martha

Imakando (Livingstone Museum, Livingstone) are thanked for the diverse administrative and technical assistance provided during fieldwork as well as for issuing the research and export permits.

I am grateful to Alberto Zilli and Geoff Martin (NHMUK), Vanessa Verdecia, James Fetzner, Robert Davidson and the late John Rawlins (CMNH) for kindly facilitating access to the Lymantriinae type materials under their care. The images of the holotypes of *Lepasta africana* and *Neomardara divergens* are reproduced with permission from the CMNH and the Trustees of the Natural History Museum, London, respectively, and made available under Creative Commons License 4.0 (https://creativecommons.org/licenses/by/4.0/). The author declares that to the best of his knowledge he conforms to the national regulations and meets with the conditions and requirements of International Conventions concerning collecting/export and handling of the specimens presented in this Article.

References

Collenette, C.L. (1931) New African Lymantriidae in the British Museum collection. *Transactions of the entomological Society of London*, 79 (2): 341–363, pls 12-13.

Collenette, C.L. (1960) New and little-known Lymantriidae from the Belgian Congo (Lepidoptera Heterocera). *Annales du Musée du Congo belge, Tervuren, Zoologie*, 80, 7–37.

Dall'Asta, U. (2008) Lymantriidae. *In:* Kühne, L. (ed.) *Butterflies and moth diversity of the Kakamega forest (Kenya)*, 171–180.

Hering, E.M. (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, 123–204.

Holland, W.J. (1893) New exotic Lepidoptera. *Entomological News*, 4 (10), 337–344, pl. 15.

Lafontaine, J.D. & Mikkola, K. (1987) Lock–and–key system in the inner genitalia of Noctuidae (Lepidoptera) as taxonomic character. *Entomologiske Meddelelser*, 55, 161–167.

Nye, I.W.B. (ed.) (1980) *The Generic Names of Moths of the World*, 2 (1–14), 228 pp.

Strand, E. (1914) Zoologische Ergebnisse der Expedition des Herrn G. Tessmann nach Süd-Kamerun und Spanisch-Guinea. Lepidoptera IX. Kurze Mitteilungen über Arten verschiedener Familien. *Archiv für Naturgeschichte*, 80 (A)(2), 84–93.

Swinhoe, C. (1903) A revision of the Old World Lymantriidae in the national collection. *Transactions of the entomological Society of London*, 1903 (3), 375–498.

Walker, F. (1865) *List of the specimens of Lepidopterous insects in the collection of the British Museum*, 31-35 (7), 2040 pp.

Wang, H., Wahlberg, N., Holloway, J.D., Bergsten, J., Fan, X., Janzen, D.H., Hallwachs, W., Wen, L., Wang, M. & Nylin, S. (2015) Molecular phylogeny of Lymantriinae (Lepidoptera, Noctuoidea, Erebidae) inferred from eight gene regions. *Cladistics*, 31, 579–592.