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A preliminary study of the butterfly diversity in Arusha region, northern Tanzania: Part 1

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Tanzania is one of the most butterfly-diverse countries in Africa, hosting numerous endemic species due to its diverse habitats and climatic conditions. Despite the presence of high biomass within key national parks, such as Kilimanjaro, Ngorongoro, and Manyara, studies on butterfly diversity in northern Tanzania remain fragmented and insufficient. To address this gap, we conducted a butterfly diversity survey in the Arusha region of northern Tanzania in 2024, collecting various butterfly species through field sampling. Additionally, specimens from northern Tanzania, housed at the Tanzania Wildlife Research Institute (TAWIRI), were cataloged and photographed. As a result, we identified and recorded 82 species, belonging to 49 genera, 14 subfamilies, and five families in Arusha region. This study is the first in a series of publications specifically summarizing butterfly diversity in northern Tanzania, providing structured baseline data on the previously unorganized butterfly diversity in the Arusha region. Furthermore, it includes ecological information and photographic data for all examined species, along with detailed collection site information from the surveyed regions.

Keywords: afrotropical region, eastern Africa, fauna, Lepidoptera, Papilionoidea

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Introduction

Tanzania, located between 1–11.75°S and 29.7–40.4°E, covers approximately 947,303 km^2 and encompasses a diverse range of climates and habitats, including rainforests, alpine regions, savannas, and coastal ecosystems. This environmental heterogeneity supports the country's high species diversity of flora and fauna (Kielland, 1990; Noort and Stone, 2000).

Currently, more than 1,400 butterfly species have been recorded in Tanzania, making it one of the biodiverse regions in East Africa, surpassing neighboring countries such as Kenya, Uganda, and Malawi (Kielland, 1990; Congdon and Collins, 1998; Noort and Stone, 2000). The country contains over 120 endemic butterfly species, which are associated with diverse topography, climates, and species differentiation hotspots, such as the Eastern Arc Mountains, known for their high endemism (Noort and Stone, 2000). However, ongoing threats such as deforestation, habitat loss, inadequate protected areas, and climate change are contributing to a rapid decline in butterfly diversity, placing several endemic species at risk of extinction (Noort and Stone, 2000).

Kielland (1990) conducted an extensive and comprehensive study on Tanzanian butterflies, later published as a book systematically detailing their distribution and ecol-

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ogy. Since then, various researchers have continued to investigate butterfly diversity and abundance in Tanzania; however, due to the country's vast size and diverse habitat characteristics, most studies have remained localized and fragmented (Cordeiro, 1990). In particular, northern Tanzania is an ecologically significant region that hosts several national parks, including Ngorongoro, Kilimanjaro, Arusha, Tarangire, and Manyara National Parks. Despite its exceptionally high wildlife biomass, this region remains largely understudied in terms of butterfly diversity (Coe *et al*., 1976; Loth and Prins, 1986; Cordeiro, 1990; 1995). To date, researchers such as Cordeiro (1990; 1995), and Liseki and Vanc-Wright (2011; 2013; 2014; 2016; 2018) have primarily focused their studies on Manyara and Kilimanjaro National Park. However, intensive research on the butterfly diversity of the Arusha region has yet to be conducted.

Therefore, this study examined butterfly diversity in the Arusha region of Tanzania, where research remains insufficient, through two field surveys conducted in 2024, during which specimens deposited at the Tanzania Wildlife Research Institute (TAWIRI) were analyzed, identifying a total of 82 butterfly species across five genera and 49 families. Furthermore, collection data and photographs of all identified species are provided as foundational resources for future butterfly research and conservation strategies in northern Tanzania.

Materials and Methods

Specimen collection

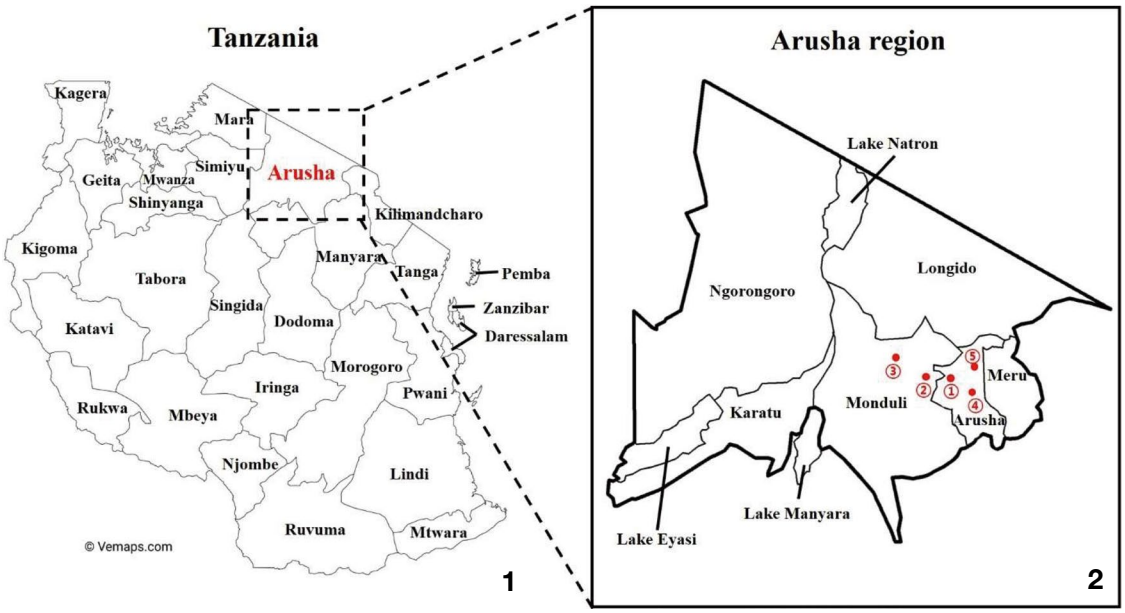
The specimens used in this study were collected during expeditions to Arusha region, Tanzania, in 2024, under the Memorandum of Understanding (MOU) between the National Institute of Biological Resources (NIBR), Ministry of Climate, Energy and Environment, Korea, and the Tanzania Wildlife Research Institute (TAWIRI), Tanzania, for cooperation concerning biological resources and information.

Collecting methods and photography

Butterflies were collected during the daylight hours using butterfly nylon nets (Bugdorm, Inc., Taiwan) from various habitats (Figs. 84–87). The collected specimens are deposited at the National Institute of Biological Resources (NIBR), Ministry of Climate, Energy and Environment, Incheon, Korea. Examined specimens were photographed using a Canon EOS 5Ds digital camera equipped with a Canon MP-E 65 mm F2.8 1–5× Macro photo lens (Canon, Inc., Japan) and illuminated with a Leica 5000HDI lamp. Specimens deposited at the Tanzania Wildlife Research Institute (TAWIRI) were photographed using a Nikon D810 digital camera paired with a Nikon AF-S 105 mm macro lens (Nikon, Inc., Japan).

Identification and classification

Butterfly identification in this study was based on data from Kielland (1990), Larsen (1991), Williams (2022), and articles published in the Journal of the Lepidoptera Society of Africa (Metamorphosis, metamorphosis.org.za). The classification of families follows Nieukerken *et al*. (2011), while subfamilies, genus and species are arranged in alphabetical order.



Figs. 1, 2. 1) Administrative map of Tanzania; 2) Administrative districts of the Arusha Region (Red dots indicate collecting sites listed in Table 1).

Collecting sites

The collecting sites in the Arusha region of Tanzania are listed in Table 1 and Figs. 1, 2.

Results and Discussion

In this study, a total of 82 butterfly species, representing 49 genera, 14 subfamilies, and five families, were identified. Specimens were collected during fieldwork conducted in 2024 and were further supplemented by the examination of reference specimens housed at the Tanzanian Wildlife Research Institute (TAWIRI). Although some specimens appeared to represent subspecies or exhibited notable morphological variation, all individuals were identified and classified at the species level to maintain consistency in this comprehensive and ongoing study. The complete list of examined species is provided in Table 2.

While the 82 butterfly species recorded represent only a small fraction of the approximately 1,400 species known

Table 1. Collecting sites in Arusha region, Tanzania.

Number	Sites	GPS information	Date	Altitude
1	Burka, Olasiti	S3°23′35.52″ E36°38′02.39″	29. Aug. 2024	1,346 m
2	Engorora village, Kisongo	S3°22′50.75″ E36°33′30.90″	03. Sep. 2024	1,346 m
3	Engutoto village, Monduli	S3°18′19.0″ E36°28′09.8″	14. May. 2024; 28. Aug. 2024	1,586 m
4	KARAMA Lodge, Arusha Urban	S3°22′47.0″ E36°42′53.0″	08. May. 2024	1,414 m
5	TAWIRI forest, Arusha Urban	S3°24′45.0″ E36°42′22.0″	08. May. 2024; 11. May. 2024; 27. Aug. 2024	1,308 m

Table 2. List of butterfly examined species in the Arusha region of Tanzania.

Number	Family	Subfamily	Species	Common name
1	Papilionidae	Papilioninae	*Graphium leonidas*	Veined swordtail
2	Papilionidae	Papilioninae	*Papilio dardanus*	Mocker swallowtail
3	Papilionidae	Papilioninae	*Papilio demodocus*	Citrus swallowtail
4	Papilionidae	Papilioninae	*Papilio echerioides*	White-banded swallowtail
5	Papilionidae	Papilioninae	*Papilio hornimani*	Horniman's swallowtail
6	Papilionidae	Papilioninae	*Papilio ophidicephalus*	Emperor swallowtail
7	Papilionidae	Papilioninae	*Papilio thuraui*	Black malachite
8	Hesperiidae	Hesperiinae	*Acleros mackenii*	Macken's dart
9	Hesperiidae	Hesperiinae	*Artitropa erinnys*	Bos-skemervegter
10	Hesperiidae	Hesperiinae	*Borbo fatuellus*	Long horned swift
11	Hesperiidae	Hesperiinae	*Borbo lugens*	Lesser-horned swift
12	Hesperiidae	Hesperiinae	*Celaenorrhinus ovalis*	Evans'orange sprite
13	Hesperiidae	Hesperiinae	*Metisella quadrisignatus*	Four spot sylph
14	Hesperiidae	Hesperiinae	*Zenonia zeno*	Orange-spotted skipper
15	Hesperiidae	Pyrginae	*Eagris sabadius*	Spotted sylph
16	Hesperiidae	Pyrginae	*Netrobalane canopus*	Buff-tipped skipper
17	Hesperiidae	Pyrginae	*Sarangesa haplopa*	–
18	Pieridae	Coliadinae	*Catopsilia florella*	African migrant
19	Pieridae	Coliadinae	*Eurema brigitta*	Broad-bordered grass yellow
20	Pieridae	Coliadinae	*Eurema desjardinsii*	Angled grass yellow
21	Pieridae	Coliadinae	*Eurema hapale*	Marsh grass yellow
22	Pieridae	Coliadinae	*Eurema senegalensis*	Forest grass yellow
23	Pieridae	Coliadinae	*Nepheronia thalassina*	Cambridge vagrant
24	Pieridae	Pierinae	*Belenois creona*	African common white
25	Pieridae	Pierinae	*Belenois gidica*	African veined white

Table 2. Continued.

Number	Family	Subfamily	Species	Common name
26	Pieridae	Pierinae	*Belenois raffrayi*	Raffray's white
27	Pieridae	Pierinae	*Belenois zochalia*	Forest white
28	Pieridae	Pierinae	*Colotis aurigineus*	African golden arab
29	Pieridae	Pierinae	*Colotis aurora*	Sulphur orange tip
30	Pieridae	Pierinae	*Colotis auxo*	Yellow orange tip
31	Pieridae	Pierinae	*Colotis euippe*	Smoky orange tip
32	Pieridae	Pierinae	*Colotis eunoma*	Dune crimson tip
33	Pieridae	Pierinae	*Leptosia alcesta*	African wood white
34	Pieridae	Pierinae	*Mylothris agathina*	Common dotted border
35	Pieridae	Pierinae	*Mylothris rueppellii*	Twin dotted border
36	Lycaenidae	Poritiinae	*Baliochila lipara*	Lipara buff
37	Lycaenidae	Poritiinae	*Pentila pauli*	Paul's pentila
38	Lycaenidae	Miletinae	*Lachnocnema bibulus*	Common woolly legs
39	Lycaenidae	Polyommatinae	*Anthene larydas*	Forest hairtail
40	Lycaenidae	Polyommatinae	*Azanus jesous*	African babul blue
41	Lycaenidae	Polyommatinae	*Azanus natalensis*	Natal babul blue
42	Lycaenidae	Polyommatinae	*Cacyreus lingeus*	Common bush blue
43	Lycaenidae	Polyommatinae	*Lampides boeticus*	Pea blue butterfly
44	Lycaenidae	Polyommatinae	*Leptotes pirithous*	Common zebra blue
45	Lycaenidae	Polyommatinae	*Zizeeria knysna*	African grass blue
46	Lycaenidae	Polyommatinae	*Zizina otis*	Dark grass blue
47	Lycaenidae	Polyommatinae	*Zizula hylax*	Tiny grass blue
48	Lycaenidae	Theclinae	*Chloroselas pseudozeritis*	Brilliant gem
49	Nymphalidae	Charaxinae	*Charaxes brutus*	White-barred emperor
50	Nymphalidae	Charaxinae	*Charaxes candiope*	Green-veined emperor
51	Nymphalidae	Charaxinae	*Charaxes varanes*	Southern african pearl emperor
52	Nymphalidae	Charaxinae	*Euxanthe wakefieldi*	Southern empress
53	Nymphalidae	Danainae	*Amauris albimaculata*	Layman
54	Nymphalidae	Danainae	*Amauris niavius*	Friar
55	Nymphalidae	Danainae	*Danaus chrysippus*	Plain tiger
56	Nymphalidae	Danainae	*Tirumala formosa*	Beautiful tiger
57	Nymphalidae	Heliconiinae	*Acraea acerata*	Sweet potato butterfly
58	Nymphalidae	Heliconiinae	*Acraea aganice*	Wanderer
59	Nymphalidae	Heliconiinae	*Acraea cabira*	Yellow-banded Acraea
60	Nymphalidae	Heliconiinae	*Acraea encedon*	White-barred Acraea
61	Nymphalidae	Heliconiinae	*Acraea jodutta*	Jodutta Acraea
62	Nymphalidae	Heliconiinae	*Acraea quadricolor*	Four-colour wanderer
63	Nymphalidae	Nymphalinae	*Catacroptera cloanthe*	Pirate
64	Nymphalidae	Nymphalinae	*Eurytela dryope*	Golden piper
65	Nymphalidae	Nymphalinae	*Hypolimnas misippus*	Danaid eggfly
66	Nymphalidae	Nymphalinae	*Junonia oenone*	Blue pansy
67	Nymphalidae	Nymphalinae	*Junonia orithya*	Eyed pansy
68	Nymphalidae	Nymphalinae	*Junonia sophia*	Little pansy
69	Nymphalidae	Nymphalinae	*Junonia terea*	Soldier pansy
70	Nymphalidae	Nymphalinae	*Junonia hierta*	Yellow pansy
71	Nymphalidae	Nymphalinae	*Junonia natalica*	Brown pansy
72	Nymphalidae	Nymphalinae	*Neptis penningtoni*	Speckled banded sailer
73	Nymphalidae	Nymphalinae	*Neptis saclava*	Malagasy spotted sailer
74	Nymphalidae	Nymphalinae	*Precis octavia*	Gaudy commodore

Table 2. Continued.

Number	Family	Subfamily	Species	Common name
75	Nymphalidae	Nymphalinae	*Precis tugela*	Dry-leaf commodore
76	Nymphalidae	Nymphalinae	*Protogoniomorpha anacardii*	Clouded mother-of-pearl
77	Nymphalidae	Nymphalinae	*Protogoniomorpha parhassus*	Mother-of-pearl
78	Nymphalidae	Nymphalinae	*Vanessa abyssinica*	Abyssinian admiral
79	Nymphalidae	Satyrinae	*Bicyclus safitza*	Common savanna bush brown
80	Nymphalidae	Satyrinae	*Bicyclus campus*	Hill bush brown
81	Nymphalidae	Satyrinae	*Heteropsis perspicua*	Marsh patroller
82	Nymphalidae	Satyrinae	*Melanitis leda*	Common evening brown
Total	5 families	14 subfamilies	82 species	

from Tanzania, this study provides valuable baseline data for future biodiversity research. It also helps address the current gap in documented butterfly diversity in northern Tanzania. Future research should aim to broaden both the geographic and temporal scope of surveys and employ a wider range of collection methods. Building on the findings of this study, we plan to carry out continuous butterfly surveys and maintain systematic records to advance and expand lepidopteran research in the region. This paper marks the first in a series of ongoing publications dedicated to the Northern Tanzania Butterfly Study.

Order Lepidoptera Linnaeus, 1758
Superfamily Papilionoidea Latreille, 1802
Family Papilionidae Latreille, 1802
Subfamily Papilioninae Latreille, 1802

***Graphium leonidas* (Fabricius, 1793) (Fig. 8)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 25.III.2022, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Sub-Saharan Africa.
Remarks. This species inhabits savannahs and forest edges, occurring at elevations of up to 2,200 m above sea level altitude. Its flight is fast, erratic, and highly mobile, enabling long-distance dispersal. It frequently visits flowers and often gathers at mud pools (Williams, 2022).

***Papilio dardanus* Brown, 1776 (Fig. 7)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Ngurdoto campsite, 06.IV.2023, (J. Mbulu), (S03°17′14.2″, E36°54′03.7″ Alt: 1,460 m), deposited in TAWIRI.
Distributions. Sub-Saharan Africa.
Remarks. This species is widely distributed and commonly found in evergreen and riverside forests, as well as in dry forests in West Africa. In Tanzania, it occurs at elevations between 780 and 2,100 m above sea level. It is frequently attracted to flowers, as well as to puddles and decaying organic matter (Kielland, 1990; Williams, 2022).

***Papilio demodocus* Esper, [1798] (Fig. 4)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Sub-Saharan Africa.
Remarks. This species inhabits a wide range of environments, except for deserts and alpine regions, and is commonly found in parks and gardens. In Tanzania, it occurs at elevations of up to 2,600 m above sea level, while in Madagascar, it can survive in urban environments. It frequently visits flowers and occasionally congregates near rivers or puddles. Additionally, it is capable of long-distance travel alongside other species, participating in mixed butterfly mass migrations. At night, individuals gather in groups on tree trunks or grass stalks, exhibiting communal roosting behavior (Williams, 2022).

***Papilio echerioides* Trimen, 1868 (Fig. 9)**

Material examined. (3♂, 2♀), TANZANIA, ARUSHA: 3♂, 2♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Cameroon, Equatorial Guinea, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Rwanda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits temperate and montane evergreen forests and occurs in Tanzania at elevations ranging from 250 to 2,400 m. It has relatively weak flight capability and typically flies close to the ground. It is often attracted to mud pools and animal waste (Williams, 2022).

***Papilio hornimani* Distant, 1879 (Fig. 5)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂,



Figs. 3, 4. Papilionidae. 3) *Papilio ophidicephalus*, male; 4) *Papilio demodocus*, male.

Maji ya chai river, 06.IV.2023, (J. Mbulu), (S03°18′10.0″, E36°52′57.0″ Alt: 1,399 m), deposited in TAWIRI.
Distribution. Kenya, Tanzania.
Remarks. This species primarily inhabits forests and occurs at elevations between 300 and 2,400 m above sea level in Tanzania. It has strong flight capabilities and is highly mobile. It frequently visits flowers and often gathers at mud pools (Kielland, 1990; Williams, 2022).

***Papilio ophidicephalus* Oberthür, 1878 (Fig. 3)**

Material examined. (2♂), TANZANIA, ARUSHA: 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Democratic Republic of Congo, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species primarily inhabits evergreen forests and occurs in Tanzania at elevations ranging from 0 to 2,000 m. Its flight is slow and undulating, often observed near forested canyons and streams. It frequently visits flowers and often gathers at mud pools (Kielland, 1990; Williams, 2022).

***Papilio thuraui* Karsch, 1900 (Fig. 6)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Iringa, Ilamba, 12−18.V.2023, (W. Sengo), (S08°03′59.0″, E35°52′49.7″ Alt: 1,977 m), deposited in TAWIRI.
Distribution. Democratic Republic of Congo, Tanzania, Malawi, Zambia.
Remarks. This species was collected from southern Tanzania but is specifically recorded here to document and organize the specimen collection at TAWIRI. It primarily inhabits montane forests and occurs at elevations between 1,300 and 2,600 m above sea level in Tanzania. It frequently visits flowers and often gathers at mud pools (Kielland, 1990; Williams, 2022).

Family Hesperiidae Latreille, 1809
Subfamily Hesperiinae Latreille, 1809

***Acleros mackenii* (Trimen, 1868) (Fig. 19)**

Material examined. (3♂, 1♀), TANZANIA, ARUSHA: 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24’45.0″, E36°42’22.0″ Alt: 1,308 m); 1♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sub-Saharan Africa.
Remarks. This species primarily inhabits humid regions and occurs at elevations of up to 2,000 m above sea level in Tanzania. It usually flies low along forest edges or in open spaces, often resting on leaves or grass. It frequently visits flowers for nectar and is also known to obtain moisture from bird droppings (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Artitropa erinnys* (Trimen, 1862) (Fig. 10)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 11.VII.2022, (A. Pauly), (S3°24′42.0″, E36°42′16.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Ethiopia, Kenya, Tanzania, Malawi, Mozambique, Zimbabwe, South Africa, Swaziland, Comoro Islands.
Remarks. This species primarily inhabits forests or shade near streams and occurring at altitude of 900 to 1,500 m above sea level in Tanzania. It is primarily active at dusk and frequently visits flowers for nectar (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Borbo fatuellus* (Hopffer, 1855) (Fig. 12)**

Material examined. (2♂), TANZANIA, ARUSHA: 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).



Figs. 5–9. Papilionidae. 5) *Papilio hornimani*, male; 6) *Papilio thuraui*, male; 7) *Papilio dardanus*, male; 8) *Graphium leonidas*, male; 9) *Papilio echerioides* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view).

Distribution. Sub-Saharan Africa.

Remarks. This species primarily inhabits wet forests, moist woodlands, and coastal bush, occurring at altitudes of up to 2,100 m above sea level in Tanzania. It is a common species, often resting on shrubs or grass stalks. It frequently visits flowers for nectar and often gathers at mud pools (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Borbo lugens* (Hopffer, 1855) (Fig. 13)**

Material examined. (2♂), TANZANIA, ARUSHA: 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).

Distribution. Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Mozambique, Zimbabwe, South Africa.

Remarks. This species inhabits grassy clearings within dense woodlands and forests, occurring at altitudes of up to 2,000 m above sea level in Tanzania. It is a relatively common species, primarily active in the morning It frequently visits flowers for nectar and is often observed near water courses (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Celaenorrhinus ovalis* Evans, 1937 (Fig. 17)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sierra Leone, Liberia, Ivory Coast, Ghana, Nigeria, Cameroon, Gabon, Congo, Central African Republic, Democratic Republic of Congo, Uganda, Kenya.
Remarks. This species inhabits forests, and considered relatively rare (Larsen, 1991; 2005; Williams, 2022).

***Metisella quadrisignatus* (Butler, 1894) (Fig. 16)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Uganda, Kenya, Tanzania, Malawi.
Remarks. This species inhabits wet grasslands, montane forest clearings, and open areas, occurring at altitudes of 1,700 to 2,600 m in Tanzania. It has a relatively slow flight and frequently visits flowers for nectar (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Zenonia zeno* (Trimen, 1864) (Fig. 18)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Nigeria, Cameroon, Angola, Democratic Republic of Congo, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa.
Remarks. This species inhabits forests, dense savannas, and coastal bush. In Nigeria, it is found on grassy slopes of the plateau, while in Tanzania, it occurs at altitudes of 400 to 2,600 m. It is a common species and is frequently observed along forest edges and near streams. It has a fast flight and primarily perches on shrubs or the ground (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

Subfamily Pyrginae Burmeister, 1878

***Eagris sabadius* (Gray, 1832) (Fig. 15)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Madagascar, Mauritius, Reunion, Seychelles, Comoro Islands.
Remarks. This species inhabits montane forests and occurs at altitudes of 400 to 2,000 m above sea level in Tanzania. It has a fast and irregular flight, and when resting on leaves or the ground, its wings are fully spread out (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Netrobalane canopus* (Trimen, 1864) (Fig. 11)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Guinea, Sierra Leone, Ivory Coast, Ghana, Nigeria, Cameroon, Democratic Republic of Congo, Sudan, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits moist savannas and forests and occurs at altitudes of 0 to 1,700 m above sea level in Tanzania. It is common in the eastern and southern regions but rare in West Africa. It has a relatively small population, and its flight is not particularly fast. Additionally, it has been suggested that the coloration of adults resembles bird droppings, providing camouflage (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

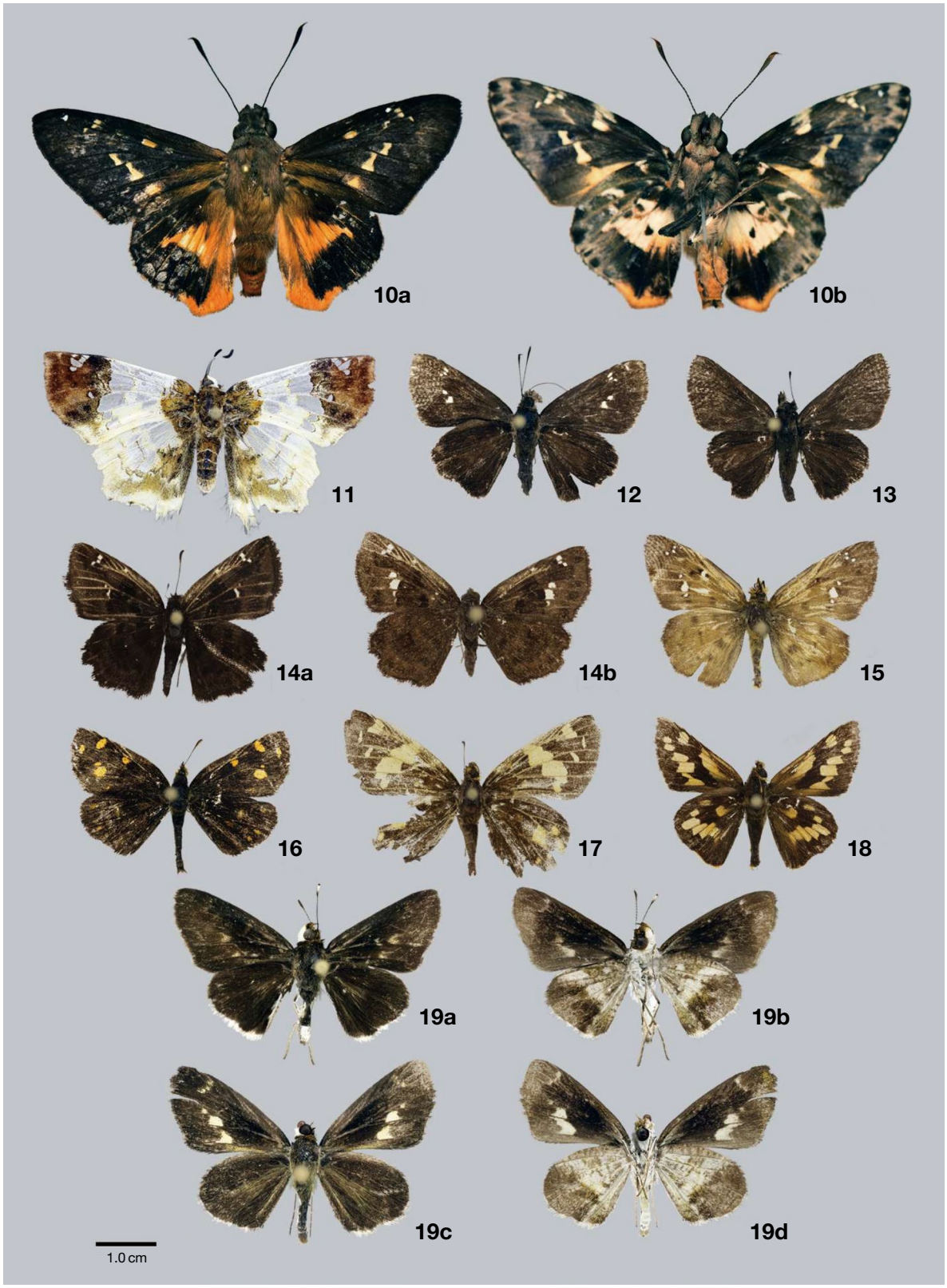
***Sarangesa haplopa* Swinhoe, 1907 (Fig. 14)**

Material examined. (1♂, 2♀), TANZANIA, ARUSHA: 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♀, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Democratic Republic of Congo, Sudan, Uganda, Kenya, Tanzania, Malawi.
Remarks. This species inhabits forests, and is considered relatively common (Larsen, 1991; Williams, 2022).

Family Pieridae Duponchel, [1835]
Subfamily Coliadinae Swainson, 1827

***Catopsilia florella* (Fabricius, 1775) (Fig. 33)**

Material examined. (1♂, 1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Forest, 23.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI; 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sub-Saharan Africa, Madagascar, Reunion, Mauritius, Comoro Islands, Seychelles, Arabia, Saudi



Figs. 10–19. Hesperiidae. 10) *Artitropa erinnys*, male (a. dorsal view; b. ventral view); 11) *Netrobalane canopus*, female; 12) *Borbo fatuellus*, male; 13) *Borbo lugens*, male; 14) *Sarangesa haplopa* (a. male; b. female); 15) *Eagris sabadius*, male; 16) *Metisella quadrisignatus*, male; 17) *Celaenorrhinus ovalis*, male; 18) *Zenonia zeno*, male; 19) *Acleros mackenii* (a. male, dorsal view; b. ventral view; c. female dorsal view; d. ventral view).

Arabia, Canary Islands, Egypt, Israel, Lebanon.
Remarks. This species inhabits a wide range of habitats, excluding dense forests, true deserts, and frigid alpine zones. It is highly migratory and adaptable, with excellent flight capabilities that allow it to fly in straight lines or at high altitudes. Additionally, it is strongly attracted to flowers and often gathers at mud pools to absorb water (Williams, 2022).

***Eurema brigitta* (Stoll, [1780]) (Fig. 35)**

Material examined. (1♂, 1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Forest, 23.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI; 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sub-Saharan Africa, Madagascar, Saudi Arabia, Yemen, Mauritius, Comoro Islands, Reunion, Cape Verde Islands, the Oriental Region, Japan.
Remarks. The species is also found in savannas, grasslands, forest clearings, and roadsides, and in Tanzania, it inhabits altitudes ranging from 0 to 2,400 m above sea level. It is a very common species with weak flight ability, typically flying close to the ground. Preferring humid environments, it often gathers in large groups at mud pools, wet sand, and animal feces to absorb water (Kielland, 1990; Williams, 2022).

***Eurema desjardinsii* (Boisduval, 1833) (Fig. 34)**

Material examined. (14♂, 14♀), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♀, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 3♂, 2♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 3♂, 2♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 8♂, 9♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Sub-Saharan Africa, Madagascar, Comoro Islands.
Remarks. This species inhabits forest edges, coastal bush, and dense savannas, occurring at altitudes ranging from 400 to 2,500 m in Tanzania, including montane habitats. It has weak flight capability, flies close to the ground, and exists in small, localized populations within its habitat. It feeds on nectar from flowers and also gathers in mud puddles to absorb moisture (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Eurema hapale* (Mabille, 1882) (Fig. 37)**

Material examined. (3♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sub-Saharan Africa, Madagascar.
Remarks. This species inhabits marshy areas in forests and moist savannas, often found along grassy stream banks within or near forests, and occurs at altitudes ranging from 0 to 2,000 m in Tanzania. Among the species in the genus *Eurema*, it has a very weak flight ability and occasionally gathers in mud puddles to absorb water (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Eurema senegalensis* (Boisduval, 1836) (Fig. 36)**

Material examined. (3♀), TANZANIA, ARUSHA: 1♀, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African Republic, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique.
Remarks. This species inhabits forests, heavy woodland, and occurs at altitudes ranging from 0 to 2,000 m in Tanzania. It is a common species and is frequently found with *Eurema hecabe*. It is attracted to flowers and often gathers at mud pools to absorb water (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Nepheronia thalassina* (Boisduval, 1836) (Fig. 26)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Senegal, Gambia, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, Angola, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, Swaziland, South Africa.
Remarks. This species inhabits forests and riparian vegetation, especially secondary and dry forests, and is also found in woodlands. In Tanzania, it occurs at altitudes ranging from 0 to 1,700 m. It has a fast, straight flight and

can fly at high altitudes. It is strongly attracted to flowers but tends not to gather in mud pools (Kielland, 1990; Larsen, 1991; Williams, 2022).

Subfamily Pierinae Swainson, 1820

***Belenois creona* (Cramer, [1776]) (Fig. 21)**

Material examined. (7♂, 8♀), TANZANIA, ARUSHA: 1♂, 2♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 4♂, 8♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 2♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sub-Saharan Africa, Madagascar, Comoro Islands.
Remarks. This species inhabits moist, frost-free savannas and frequently occurs along forest margins. In Tanzania, it occurs at altitudes ranging from 0 to 2,600 m. It is a very common species, strongly attracted to flowers, and frequently gathers in mud puddles. Additionally, this species participates in mixed migrations with up to a dozen or more butterfly species and also move in large-scale migrations alone (Larsen, 1991; Williams, 2022).

***Belenois gidica* (Godart, [1819]) (Fig. 22)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Sub-Saharan Africa.
Remarks. This species inhabits frost-free savannas, and occurring in Tanzania at altitudes ranging from 0 to 2,100 m. It can be a common species at times, is strongly attracted to flowers, and often gathers in mud pools (Kielland, 1990; Williams, 2022).

***Belenois raffrayi* (Oberthür, 1878) (Fig. 23)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Maji ya chai river, 06.IV.2023, (J. Mbulu), (S03°18′10.0″, E36°52′57.0″ Alt: 1,399 m), deposited in TAWIRI.
Distribution. Ethiopia, Sudan, Uganda, Kenya, Rwanda, Burundi, Democratic Republic of Congo, Tanzania.
Remarks. This species inhabits montane forests and open grasslands, and occurring in Tanzania at altitudes ranging from 1,500 to 2,000 m. It has a fast flight and is strongly attracted to the flowers of herbaceous and shrubby plants. Additionally, it gathers readily in mud puddles (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Belenois zochalia* (Boisduval, 1836) (Fig. 20)**

Material examined. (2♂, 1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 2♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Nigeria, Cameroon, Democratic Republic of Congo, Uganda, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Namibia, South Africa, Swaziland.
Remarks. This species inhabits forests and dense, moist woodlands, and occurring in Tanzania at altitudes ranging from 300 to 2,700 m. It flies quickly along the edge of the forest or in sunny open clearings while predominantly remaining active in the undergrowth. It is attracted to flowers and frequently gathers in mud puddles. Additionally, this species sometimes move in large-scale migrations (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Colotis aurigineus* (Butler, 1883) (Fig. 32)**

Material examined. (10♂), TANZANIA, ARUSHA: 10♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Sudan, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia.
Remarks. This species inhabits mesic to dry savannas and can extend into sub-desert areas as well as forest clearings. In Kenya, it has been recorded in forest clearings at altitudes of 3,000 m, while in Tanzania, it occurs at altitudes ranging from 500 to 2,200 m (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Colotis aurora* (Cramer, [1780]) (Fig. 29)**

Material examined. (2♂, 1♀), TANZANIA, ARUSHA: 2♂, 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Mauritania, Ghana, Chad, Sudan, Democratic Republic of the Congo, Ethiopia, Somalia, Tanzania, East Africa, Malawi, Zambia, Zimbabwe, Botswana, Mozambique.
Remarks. This species inhabits woodlands and savannas, particularly common in dry bushland from 200 to 1,700 m. In Tanzania, it is found in most areas except higher mountains and very wet coastal regions (Kielland, 1990).

***Colotis auxo* (Lucas, 1852) (Fig. 31)**

Material examined. (9♂, 4♀), TANZANIA, ARUSHA: 3♂, 3♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 5♂, 1♀, Monduli, 28.VIII.2024, (S.W. Jung,



Figs. 20–26. Pieridae. 20) *Belenois zochalia* (a. male, dorsal view; b. male, ventral view; c. female); 21) *Belenois creona* (a. male, dorsal view; b. male, ventral view; c. female); 22) *Belenois gidica* (a. male, dorsal view; b. male, ventral view); 23) *Belenois raffrayi*, male; 24) *Mylothris agathina* (a. male, dorsal view; b. male, ventral view; c. female); 25) *Mylothris rueppellii*, female (a. dorsal view; b. ventral view); 26) *Nepheronia thalassina*, male.

Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Democratic Republic of Congo, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland.
Remarks. This species inhabits dry, frost-free savannas. It has a medium-fast flight, flies close to the ground, and is strongly attracted to flowers (Williams, 2022).

***Colotis euippe* (Linnaeus, 1758) (Fig. 28)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Burkina Faso, Togo, Benin, Nigeria, Cameroon, Chad, Central African Republic, Democratic Republic of Congo, Angola, Sudan, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Malawi, Comoro Islands, Saudi Arabia, Yemen.
Remarks. This species inhabits savannas, coastal bush, forest margins, and disturbed forest areas. In Tanzania, it occurs at altitudes from 0 to 1,900 m. It is a common species, favoring dense shrubland or semi-shaded environments, and is strongly attracted to flowers (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Colotis eunoma* (Hopffer, 1855) (Fig. 30)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Kenya, Tanzania, Mozambique.
Remarks. This species inhabits coastal dune scrub. It has a very fast flight and is strongly attracted to flowers, with a particular preference for wild periwinkle and flame lilies (Williams, 2022). The individual collected appears to be a variation of the female of this species.

***Leptosia alcesta* (Stoll, [1782]) (Fig. 27)**

Material examined. (6♂, 12♀), TANZANIA, ARUSHA: 10♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 6♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 2♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African, Republic, Angola, Democratic Republic of Congo, Sudan, Uganda, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland, Madagascar.
Remarks. This species inhabits forests and heavy woodland savannas, particularly along river courses, and is also found in disturbed areas within forest zones. In Tanzania, it occurs at altitudes from 0 to 1,850 m. It is a very common species found in various forest habitats, flying very weakly in the shaded lower layers of the forest. They are usually active around dawn and feed on nectar from small flowers in the forest. They do not gather in mud pools (Larsen, 2005; Williams, 2022).

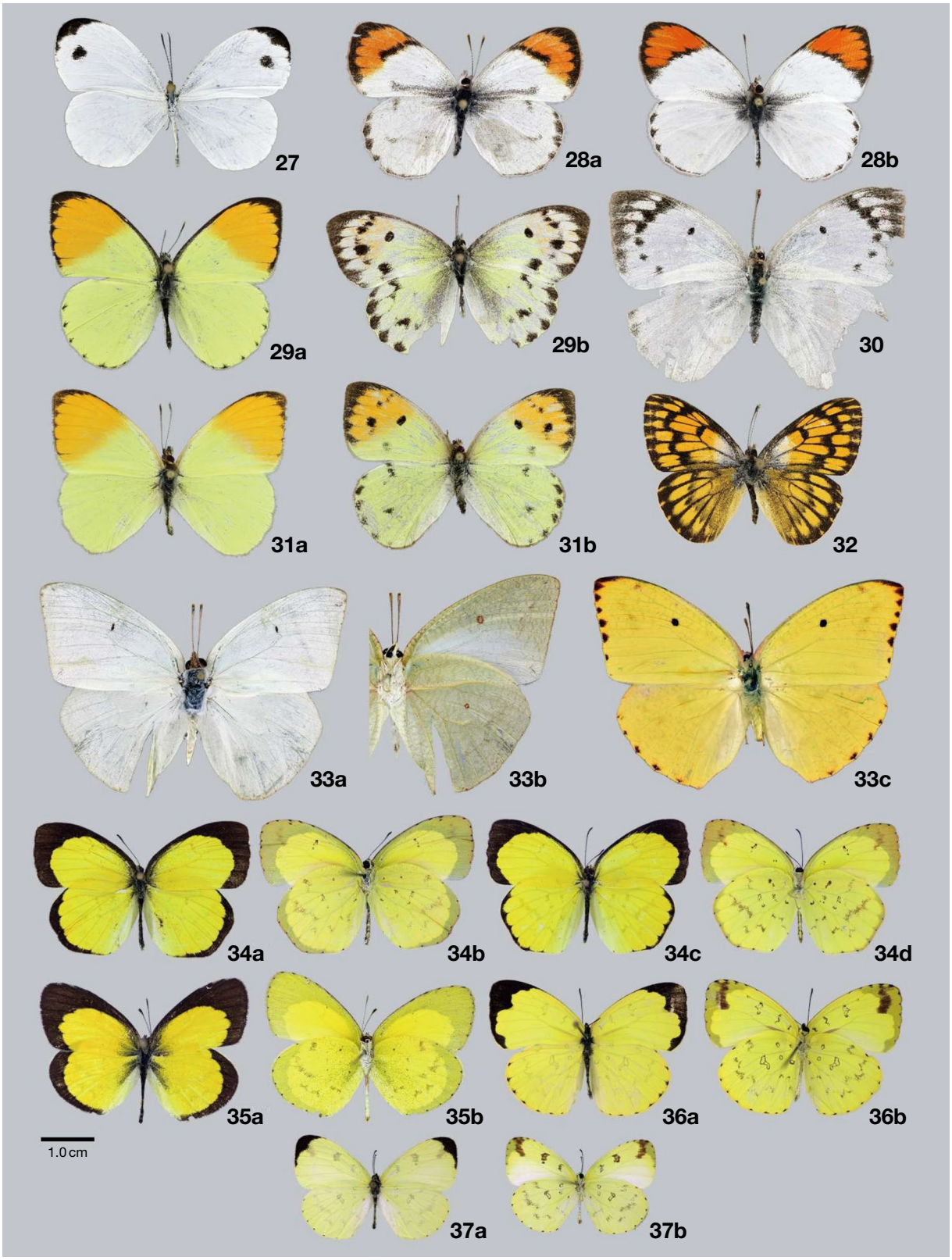
***Mylothris agathina* (Cramer, [1779]) (Fig. 24)**

Material examined. (1♂, 1♀), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24’45.0″, E36°42’22.0″ Alt: 1,308 m); 1♀, TAWIRI Forest, 19.VI.2023, (A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Cameroon, Gabon, Central African Republic, Democratic Republic of Congo, Uganda, Sudan, Ethiopia, Somalia, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species inhabits savannas and forests and is also commonly found in urban gardens and parks. In Tanzania, it occurs at altitudes from 0 to 2,200 m. It has a typical slow, floating flight, usually high in the trees. It is attracted to flowers and often gathers in mud puddles (Kielland, 1990; Williams, 2022).

***Mylothris rueppellii* (Koch, 1865) (Fig. 25)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Nigeria, Sudan, Ethiopia, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland.
Remarks. This species inhabits forests and heavily wooded savannas, occurring in Tanzania at altitudes ranging from 600 to 2,000 m. It is a common species with a slow, floating flight, primarily flying above trees. Additionally, it is strongly attracted to flowers (Kielland, 1990; Larsen, 1991; Williams, 2022).

Family Lycaenidae Leach, 1815
Subfamily Poritiinae Doherty, 1886



Figs. 27–37. Pieridae. 27) *Leptosia alcesta*, male; 28) *Colotis euippe*, male (a, b. dorsal view); 29) *Colotis aurora* (a. male; b. female); 30) *Colotis eunoma*, female; 31) *Colotis auxo* (a. male; b. female); 32) *Colotis aurigineus*, male; 33) *Catopsilia florella* (a. male, dorsal view; b. male, ventral view; c. female); 34) *Eurema desjardinsii*, male (a, c. dorsal view; b, d. ventral view); 35) *Eurema brigitta*, male (a. dorsal view; b. ventral view); 36) *Eurema senegalensis*, female (a. dorsal view; b. ventral view); 37) *Eurema hapale*, male (a. dorsal view; b. ventral view).

***Baliochila lipara* Stempffer & Bennett, 1953 (Fig. 39)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Kenya, Tanzania, Malawi, Mozambique, Zimbabwe, South Africa, Zambia.
Remarks. This species inhabits deciduous woodlands (savanna) and occurs at altitudes of 500 to 1,000 m in Tanzania. It has a habit of sitting on the bark of tree trunks or dry branches. Small individuals generally fly low, staying under the shade of trees (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Pentila pauli* Staudinger, 1888 (Fig. 38)**

Material examined. (10♂), TANZANIA, ARUSHA: 10♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m).
Distribution. Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, Central African Republic, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe.
Remarks. This species inhabits deciduous woodlands and forest margins, occurring at altitudes of 250 to 1,500 m in Tanzania. It has weak flying capabilities, flies low in the shade, and often sitting on grass (Kielland, 1990; Williams, 2022).

Subfamily Miletinae Reuter, 1896

***Lachnocnema bibulus* (Fabricius, 1793) (Fig. 40)**

Material examined. (8♀), TANZANIA, ARUSHA: 2♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 6♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Uganda, Burundi, Democratic Republic of Congo, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Madagascar.
Remarks. This species inhabits savannas and open forests, occurring at altitudes of 0 to 2,000 m in Tanzania. It flies around trees or shrubs and rests on low vegetation. Adults are often observed sucking honeydew secreted by small sapsucking hemiptera (Kielland, 1990; Williams, 2022).

Subfamily Polyommatinae Swainson, 1827

***Anthene larydas* (Cramer, 1780) (Fig. 44)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Burkina Faso, Liberia, Sierra Leone, Ivory Coast, Ghana, Benin, Togo, Nigeria, Cameroon, Niger, Equatorial Guinea, Gabon, Angola, Congo, Central African Republic, Democratic Republic of Congo, Sudan, Uganda, Rwanda, Burundi, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits forests and heavy woodlands, occurring at altitudes of 0 to 1,800 m in Tanzania. It is a common species in West Africa but rarely found in western Kenya. It is strongly attracted to flowers, actively gathers in mud puddles, and prefers humid areas. Additionally, it has a characteristic of being strongly attracted to human sweat, urine, and wet sand (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Azanus jesous* (Guérin-Méneville, 1849) (Fig. 43)**

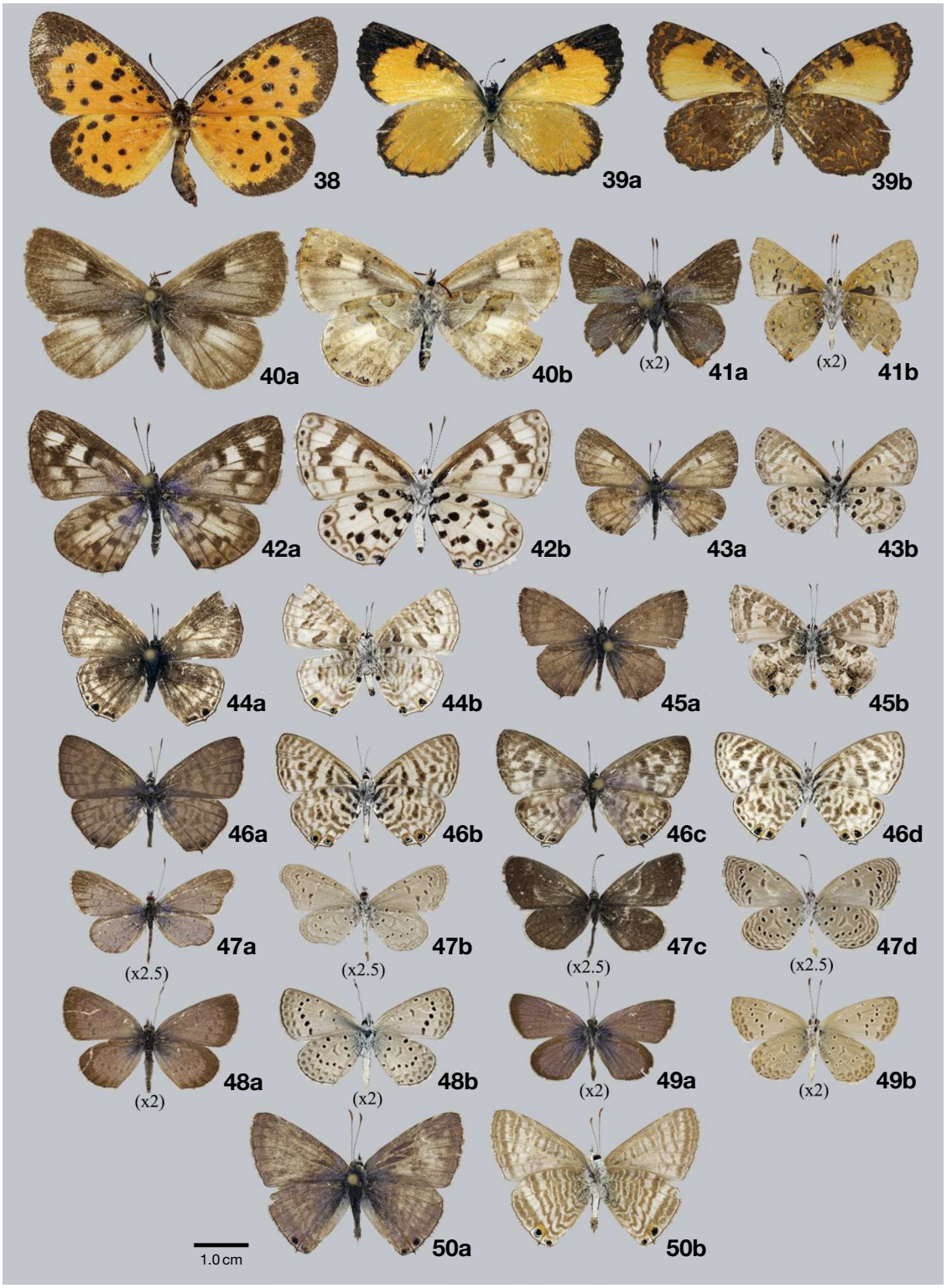
Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Burkina Faso, Ghana, Benin, Nigeria, Ethiopia, Somalia, Uganda, Kenya, Tanzania, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Lesotho, Arabia.
Remarks. This species inhabits savannas and Karoo regions, and occurring at altitudes of 300 to 2,600 m in Tanzania. It is a common species, characterized by its somewhat migratory nature. It is often observed flying around flowering acacia trees and is strongly attracted to flowers. Additionally, it tends to gather well in mud puddles and is often seen sitting on rotten animal carcasses (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Azanus natalensis* (Trimen, 1887) (Fig. 42)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Senegal, Ghana, Benin, Nigeria, Ethiopia, Uganda, Kenya, Tanzania, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits moist savannas, and occurring at altitudes of 300 to 2,000 m in Tanzania. It is the largest species in its genus but has the weakest flight capability. It is attracted to flowers, especially favoring acacia flowers, and also gathers in mud puddles (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Cacyreus lingeus* (Stoll, [1782]) (Fig. 45)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂,



Figs. 38–50. Lycanidae. 38) *Pentila pauli*, male; 39) *Baliochila lipara*, male (a. dorsal view; b. ventral view); 40) *Lachnocnema bibulous*, female (a. dorsal view; b. ventral view); 41) *Chloroselas pseudozeritis*, male (a. dorsal view; b. ventral view); 42) *Azanus natalensis*, female (a. dorsal view; b. ventral view); 43) *Azanus jesous*, female (a. dorsal view; b. ventral view); 44) *Anthene larydas*, female (a. dorsal view; b. ventral view); 45) *Cacyreus lingeus*, male (a. dorsal view; b. ventral view); 46) *Leptotes pirithous* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view); 47) *Zizula hylax* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view); 48) *Zizeeria knysna*, female (a. dorsal view; b. ventral view); 49) *Zizina otis*, male (a. dorsal view; b. ventral view); 50) *Lampides boeticus*, male (a. dorsal view; b. ventral view).

TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Gambia, Guinea-Bissau, Guinea, Sierra Leone, Burkina Faso, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Uganda, Kenya, Tanzania, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Lesotho.
Remarks. This species inhabits moist savannas, typically along stream banks in wooded habitats and is often found in gardens. It also occurs in open areas within forest zones and dry forests. In Tanzania, it is found at altitudes ranging from 0 to 2,300 m. It is a common species that usually flies low and slowly above the ground. Often sitting on flowers, grass stalks, or low vegetation, it is attracted to flowers and sometimes gathers in mud puddles (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Lampides boeticus* (Linnaeus, 1767) (Fig. 50)**

Material examined. (3♂, 22♀), TANZANIA, ARUSHA: 2♂, 20♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, 2♀, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″Alt: 1,366 m).
Distribution. Afrotropical region, Saharo-Arabian region, Europe, Oriental region, Oceanian region, Sino-Japanese region.
Remarks. This species has strong migration abilities and is widely distributed from Africa to Australia, East Asia. In Africa, it inhabits a variety of habitats, ranging from subdeserts to open forests, and is commonly found in gardens. It has a high flight speed and typically flies low. It often visits flowers and readily gathers in mud puddles (Williams, 2022).

***Leptotes pirithous* (Linnaeus, 1767) (Fig. 46)**

Material examined. (4♂, 2♀), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 3♂, 1♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Sub-Saharan Africa, Madagascar, Mauritius, Reunion, Arabia, North Africa, Europe.
Remarks. This species inhabits most biomes except primary forests and deserts and is found from sea level to high altitudes. It is a very common species with a weak flight ability, often attracted to flowers and found around shrubs or small trees. Additionally, it drinks water in moist areas and gathers at animal carcasses (Larsen, 1991; Larsen, 2005; Williams, 2022).

***Zizeeria knysna* (Trimen, 1862) (Fig. 48)**

Material examined. (2♂, 4♀), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♀, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m); 3♀, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″ Alt: 1,366 m).
Distribution. Africa, Madagascar, Middle East, Spain, Southeast Asia, Australia.
Remarks. This species has strong migration abilities and is widely distributed from Africa to Southeast Asia and Australia. It inhabits a variety of habitats, including open areas in forest zones, suburban gardens, and parks, but is absent from dense forests and deserts. As one of the most common butterflies in Africa, it occurs extensively from sea level to high mountainous areas. Its flight capability is weak, and it flies low near the ground. It is frequently attracted to small flowers close to the ground and absorbs water in humid places (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Zizina otis* (Fabricius, 1787) (Fig. 49)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m); 1♂, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″ Alt: 1,366 m).
Distribution. Afrotropical region, Saharo-Arabian region, Oriental region, Oceanian region, Sino-Japanese region.
Remarks. This species appears to be a subspecies (*Zizina otis antanossa*), but it is treated as a distinct species in this study. It is widely distributed from Africa to Southeast Asia, East Asia, and Australia. In Africa, it inhabits grassy areas in savannas, occurring from sea level to high mountainous regions. It sometimes forms large groups and is frequently attracted to flowers or riverbeds (Larsen, 1991; Larsen, 2005; Williams, 2022).

***Zizula hylax* (Fabricius, 1775) (Fig. 47)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″Alt: 1,346 m); 1♂, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″ Alt: 1,366 m).
Distribution. Afrotropical region, Saharo-Arabian region, Oriental region, Australian region, Oceanian region, Sino-

Japanese region.
Remarks. This species is widely distributed from Africa to Southeast Asia, East Asia, and Australia. In Africa, it inhabits a wide variety of habitats, particularly grasslands and grassy savannas, but is absent from primary forests. In Tanzania, it occurs from 0 to 2,600 m. It has a very weak flying ability, flying low, mainly within lower vegetation. Additionally, it is attracted to flowers and frequently gathers in mud pools (Kielland, 1990; Larsen, 2005; Williams, 2022).

Subfamily Miletinae Swainson, 1831

***Chloroselas pseudozeritis* (Trimen, 1873) (Fig. 41)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Central African Republic, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland.
Remarks. This species inhabits deciduous woodlands and thornbush savannas, and occurring in Tanzania at altitudes between 1,000 and 1,500 m. It is a rare species that flies quickly around acacia trees, with a habit of perching on the tips of small branches. Additionally, it is strongly attracted to flowers (Kielland, 1990; Larsen, 1991; Williams, 2022).

Family Nymphalidae Rafinesque, 1815
Subfamily Charaxinae Guenée, 1865

***Charaxes brutus* (Cramer, [1779]) (Fig. 59)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 19.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African Republic, Angola, Democratic Republic of Congo, Sudan, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species inhabits forests, degraded forests, dense savannas, and occurring in Tanzania at altitudes between 500 and 1,900 m. It is a relatively common species with a very fast flight, often sailing over the tops of trees. It is strongly attracted to fermented fruit and tree sap and also has the habit of gathering on rotten animal carcasses and animal feces (Kielland, 1990; Williams, 2022).

***Charaxes candiope* (Godart, [1824]) (Fig. 60)**

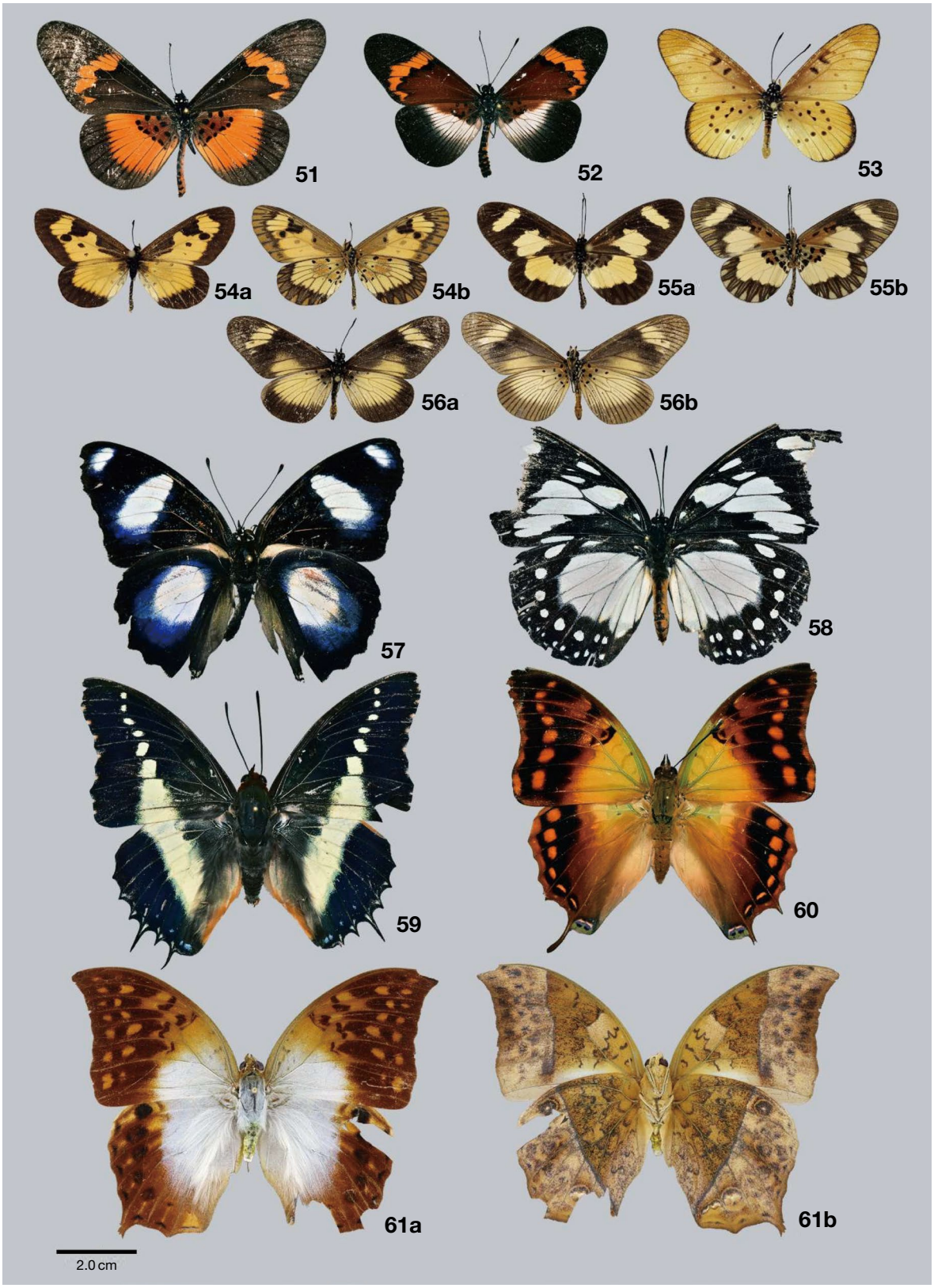
Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 24.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Senegal, Gambia, Guinea, Sierra Leone, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Sao Tome and Principe Islands, Gabon, Angola, Central African Republic, Democratic Republic of Congo, Ethiopia, Uganda, Rwanda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species inhabits forests and savannas, excluding arid savannas, and occurs in Tanzania at altitudes from 0 to 2,600 m. It is a relatively common species with a very fast flight, often sailing over the tops of trees. It is strongly attracted to fermented fruits and fluids and is frequently seen gathering in mud puddles (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Charaxes varanes* (Cramer, 1777) (Fig. 61)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Burkina Faso, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Equatorial Guinea, Gabon, Central African Republic, Democratic Republic of Congo, Sudan, Ethiopia, Somalia, Yemen, Oman, Uganda, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species primarily inhabits dry forests, open forests, dense savannas, and occurring in Tanzania at altitudes from 0 to 2,300 m. It is a common species with a moderate flight, often sailing over the tops of trees. It is strongly attracted to fermented fruits but not to animal feces or rotting animal carcasses (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Euxanthe wakefieldi* (Ward, 1873) (Fig. 58)**

Material examined. (1♀), TANZANIA, ARUSHA: 1♀, TAWIRI Forest, 23.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits lowland and coastal forests, and occurring in Tanzania at altitudes from 0 to over 2,000 m. It is mainly active in semi-shaded areas of the forest, with a slow flight characterized by gliding and occasional wing flaps. It primarily flies along the edges of shrublands, resting on the edge of forests or on trees in open areas. Additionally, it is strongly attracted to fermented fruits (Kielland, 1990; Larsen, 1991; Williams, 2022).



Figs. 51–61. Nymphalidae. 51) *Acraea aganice*, male; 52) *Acraea quadricolor*, male; 53) *Acraea encedon*, male; 54) *Acraea acerata*, male (a. dorsal view; b. ventral view); 55) *Acraea cabira*, male (a. dorsal view; b. ventral view); 56) *Acraea jodutta*, male (a. dorsal view, b. ventral view); 57) *Hypolimnas misippus*, male; 58) *Euxanthe wakefieldi*, female; 59) *Charaxes brutus*, male; 60) *Charaxes candiope*, male; 61) *Charaxes varanes*, male (a. dorsal view; b. ventral view).

Subfamily Danainae Boisduval, 1833

***Amauris albimaculata* Butler, 1875 (Fig. 65)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Maji ya chai river, 06.IV.2023, (J. Mbulu), (S03°18′10.0″, E36°52′57.0″ Alt: 1,399 m), deposited in TAWIRI.
Distribution. Cameroon, Democratic Republic of Congo, Uganda, Rwanda, Burundi, Sudan, Ethiopia, Somalia, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits forests, occurring in Tanzania at altitudes from 800 to over 2,200 m. It has a slow and lazy flight, usually flying above the trees. It is attracted to flowers and sometimes gathers in mud puddles or around animal waste (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Amauris niavius* (Linnaeus, 1758) (Fig. 66)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Maji ya chai river, 06.IV.2023, (J. Mbulu), (S03°18′10.0″, E36°52°57.0″ Alt: 1,399 m), deposited in TAWIRI.
Distribution. Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African, Republic, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Namibia, South Africa, Swaziland.
Remarks. This species appears to be a subspecies (*Amauris niavius dominicanus*), but it is treated as a distinct species in this study. This species inhabits drier forests and disturbed areas in the rainforest zone, and occurring in Tanzania at altitudes from 800 to over 2,300 m. It flies in a slow, gliding manner, is strongly attracted to flowers, and is also observed gathering at water, excrement, and rotting animal carcasses (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Danaus chrysippus* (Linnaeus, 1758) (Fig. 64)**

Material examined. (5♂), TANZANIA, ARUSHA: 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 2♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″Alt: 1,346 m); 1♂, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″ Alt: 1,366 m).
Distribution. Afrotropical region, Saharo-Arabian region, Europe, Oriental region, Oceanian region, Sino-Japanese region.
Remarks. This species appears to be a subspecies (*Danaus chrysippus dorippus*), but it is treated as a distinct species in this study. It has strong migration abilities and is widely distributed from Africa to Australia, East Asia. In Africa, this species inhabits a wide range of habitats, excluding dense forests, and occurs from sea level to high mountains. It has a slow flight and contains toxic compounds in its body, which help protect it from vertebrate predators. It is strongly attracted to flowers and is occasionally observed gathering at mud puddles or the feces of carnivores (Larsen, 2005; Williams, 2022).

***Tirumala formosa* (Godman, 1880) (Fig. 67)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m).
Distribution. Nigeria, Cameroon, Equatorial Guinea, Gabon, Democratic Republic of Congo, Sudan, Ethiopia, Somalia, Uganda, Rwanda, Burundi, Kenya, Tanzania, Zambia.
Remarks. This species inhabits semi-montane forests, and occurring in Tanzania at altitudes from 300 to over 2,300 m. It usually flies above the forest canopy and has a slow, gliding flight pattern. It is easily attracted to flowers and occasionally gathers in mud pools. Additionally, this species is believed to mimic *Papilio rex* (Papilionidae) (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

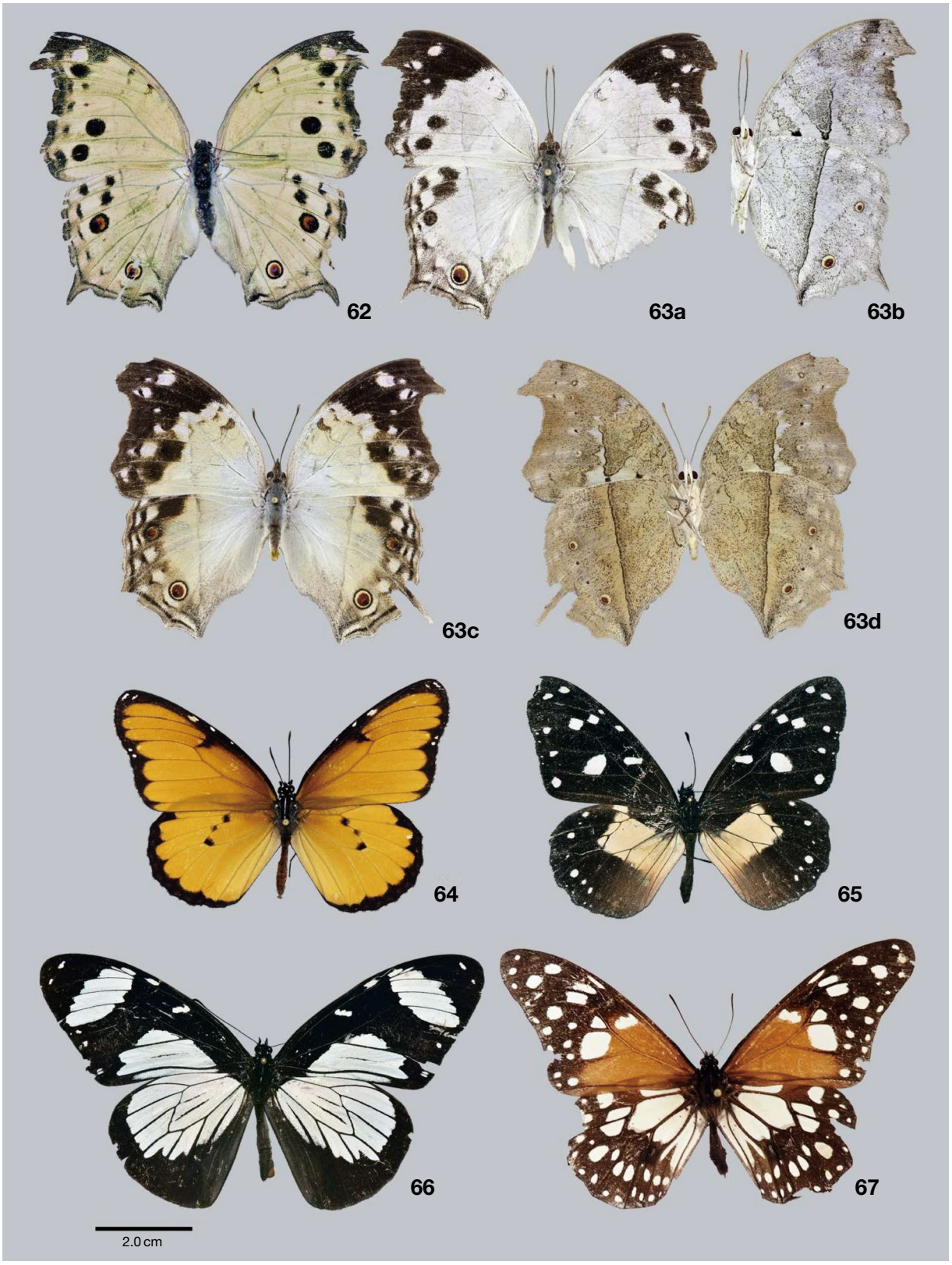
Subfamily Heliconiinae Swainson, 1822

***Acraea acerata* (Hewitson, 1874) (Fig. 54)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Niger, Cameroon, Equatorial Guinea, Gabon, Congo, Democratic Republic of Congo, Central African Republic, Sudan, Rwanda, Uganda, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia.
Remarks. This species primarily inhabits disturbed areas in forest zones, typically found near water or in riverine bush, and occurs in Tanzania at altitudes from 800 to 2,000 m. It has a weak flight capacity, flies close to the ground, and is known as a major pest of sweet potatoes (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Acraea aganice* Hewitson, [1852] (Fig. 51)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 20.XII.2023, (W. Sengo, A. Pauly) (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Sudan, Ethiopia, Uganda, Kenya, Tanzania, Democratic Republic of Congo, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.



Figs. 62–67. Nymphalidae. 62) *Protogoniomorpha parhassus*, male; 63) *Protogoniomorpha anacardii*, male (a, c. dorsal view; b, d. ventral view); 64) *Danaus chrysippus*, male; 65) *Amauris albimaculata*, male; 66) *Amauris niavius*, male; 67) *Tirumala formosa*, male.

Remarks. This species appears to be a subspecies (*Acraea aganice nicega*), but it is treated as a distinct species in this study. It inhabits forests, coastal bush, heavy woodlands, and occurring in Tanzania at altitudes from 0 to 2,100 m. It is a common species with a slow flight, usually flying close to the ground. It perch high on twigs with closed wings, and is attracted to flowers or gathers in mud puddles (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Acraea cabira* (Hopffer, 1855) (Fig. 55)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Ethiopia, Uganda, Kenya, Tanzania, Democratic Republic of Congo, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits riverine forests, escarpment forests, heavy woodlands, and occurring in Tanzania at altitudes from 0 to 2,100 m. It has weak flying capabilities, primarily flies low, and is strongly attracted to flowers (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Acraea encedon* (Linnaeus, 1758) (Fig. 53)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″Alt: 1,346 m); 1♂, Kisongo, 03.IX.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′50.7″, E36°33′30.9″Alt: 1,366 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Burkina Faso, Liberia, Sierra, Leone, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Angola, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Saudi Arabia, Yemen, Comoro Islands, Madagascar.
Remarks. This species inhabits savannas, forest clearings, anthropogenic environments, and occurring in Tanzania at altitudes from 0 to 2,100 m. It is a common species with a slow flight, flying close to the ground and settling on low vegetation. It is strongly attracted to flowers, and communal resting behavior is regularly observed. Additionally, this species exhibits significant individual variation and is one of the species that forms a Müllerian mimicry relationship, including with *Danaus chrysippus* (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Acraea jodutta* (Fabricius, 1793) (Fig. 56)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Senegal, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African Republic, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Zambia.
Remarks. This species inhabits forests, and occurring in Tanzania at altitudes between 800 and 1,600 m. It is a relatively common species with a weak flight, flying close to the ground. It is mainly active in the shade of the forest but also moves into sunlight to feed on flower nectar (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Acraea quadricolor* (Rogenhofer, 1891) (Fig. 52)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 20.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Uganda, Burundi, Democratic Republic of Congo, Kenya, Tanzania.
Remarks. This species appears to be a subspecies (*Acraea quadricolor latifasciata*), but it is treated as a distinct species in this study. This species inhabits semi-montane, montane forests, and occurring in Tanzania at altitudes ranging from 900 to 2,300 m. It is a relatively common species that tends to fly high, and exhibiting a fluttering flight pattern (Kielland, 1990; Larsen, 1991; Williams, 2022).

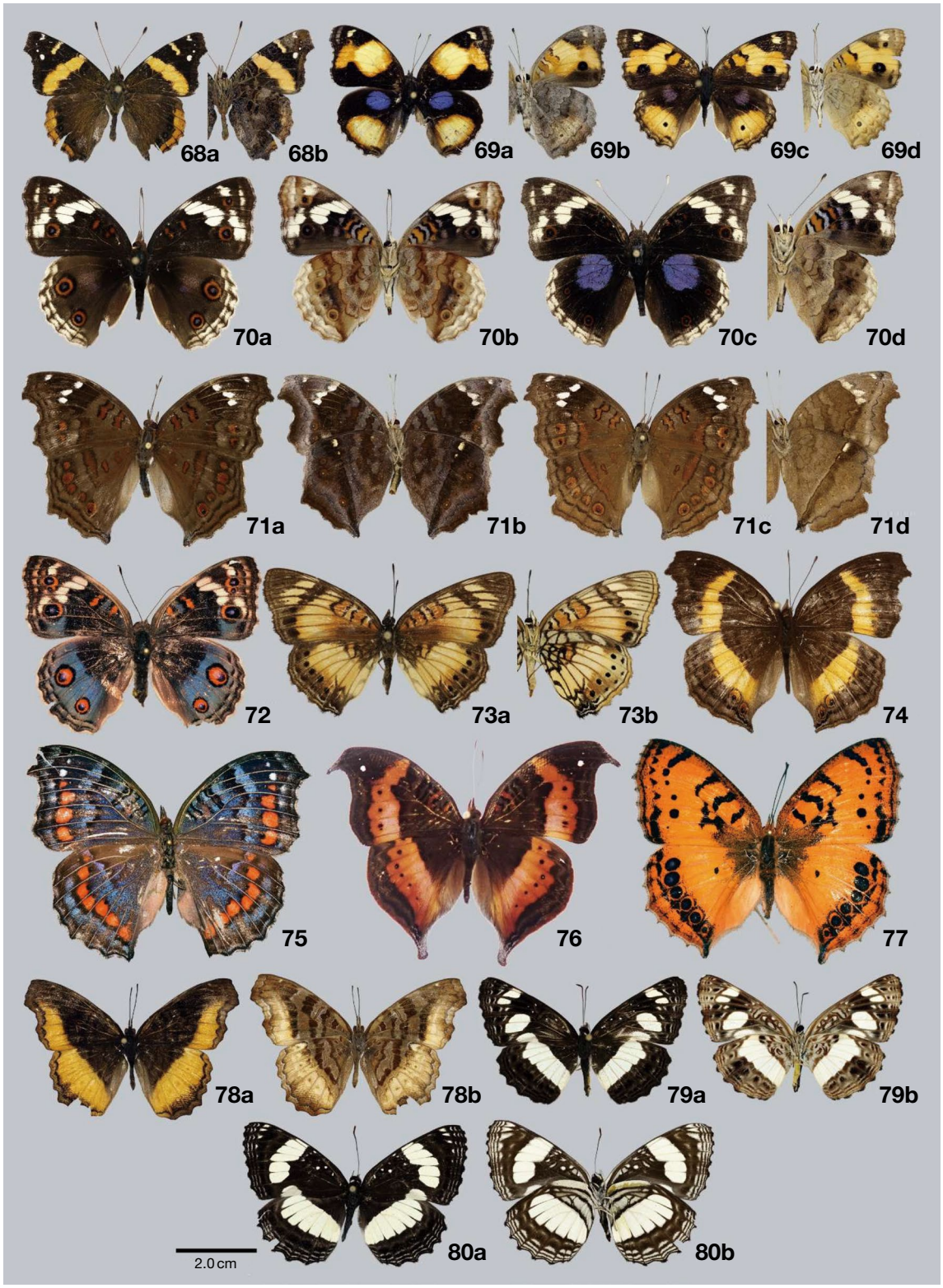
Subfamily Nymphalinae Swainson, 1827

***Catacroptera cloanthe* (Stoll, [1781]) (Fig. 77)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 20.XII.2023, (W. Sengo, A. Pauly), (S3°24′41.0″, E36°42′15.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Sub-Saharan Africa.
Remarks. This species inhabits grasslands, savannas, and areas near streams, marshes, and seepages on hillsides, occurring in Tanzania at altitudes from 300 to 2,200 m. It is sensitive and vigilant, quickly gliding away when threatened. It is strongly attracted to fermented fruits and often rests on the ground or on rocks (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Eurytela dryope* (Cramer, [1775]) (Fig. 78)**

Material examined. (5♂, 1♀), TANZANIA, ARUSHA: 1♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m); 3♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, 1♀,



Figs. 68–80. Nymphalidae. 68) *Vanessa abyssinica*, male (a. dorsal view; b. ventral view); 69) *Junonia hierta* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view); 70) *Junonia oenone* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view); 71) *Junonia natalica* (a. male, dorsal view; b. male, ventral view; c. female, dorsal view; d. female, ventral view); 72) *Junonia orithya*, male; 73) *Junonia sophia*, male (a. dorsal view; b. ventral view); 74) *Junonia terea*, male; 75) *Precis octavia*, male; 76) *Precis tugela*, male; 77) *Catacroptera cloanthe*, male; 78) *Eurytela dryope*, male (a. dorsal view; b. ventral view); 79) *Neptis saclava*, male (a. dorsal view; b. ventral view); 80) *Neptis penningtoni*, male (a. dorsal view; b. ventral view).

Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″Alt: 1,346 m).
Distribution. Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Angola, Democratic Republic of Congo, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland, Saudi Arabia, Yemen, Madagascar, Comoro Islands.
Remarks. This species inhabits disturbed habitats in drier forests, forest-savanna ecotones, moist savannas, and occurring in Tanzania at altitudes from 0 to 2,200 m, though it is uncommon at higher elevations. It hovers around shrubs or low vegetation and is strongly attracted to tree sap and overripe fruit (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Hypolimnas misippus* (Linnaeus, 1764) (Fig. 57)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 05.IV.2022, (A. Pauly), (S3°24′42.0″, E36°42′16.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Afrotropical region, Saharo-Arabian region, Oriental region, Australian region, Sino-Japanese region, Neotropical region, USA.
Remarks. This species has strong migration abilities and is distributed worldwide, except for the Palearctic region and some countries. In Africa, it inhabits savannas, grasslands, degraded habitats such as agricultural lands, and occurring in Tanzania at altitudes from 0 to over 2,300 m. It flies very fast and is strongly attracted to flowers. Additionally, females mimic several taxa, including the *Danaus chrysippus* (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Junonia oenone* (Linnaeus, 1758) (Fig. 70)**

Material examined. (5♂, 1♀), TANZANIA, ARUSHA: 1♂, 1♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 3♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Sub-Saharan Africa, Madagascar, Seychelles.
Remarks. This species inhabits savannas and grasslands and is a very common species. It often settles on the ground, roads, and trails and frequently gathers to feed on flower nectar (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Junonia orithya* (Linnaeus, 1758) (Fig. 72)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Forest, 19.VII.2023, (A. Pauly *et al*.), (S3°24′42.0″, E36°42′16.0″ Alt: 1,300 m), deposited in TAWIRI.
Distribution. Afrotropical region, Saharo-Arabian region, Oriental region, Australian region.
Remarks. This species has strong migration abilities and is widely distributed from Africa to Southeast Asia and Australia. In Africa, it inhabits savannas and grasslands and is a common species. It flies close to the ground, frequently settling on the ground with its wings spread horizontally. Additionally, individuals feeding on flower nectar are often observed (Larsen, 2005; Williams, 2022).

***Junonia sophia* (Fabricius, 1793) (Fig. 73)**

Material examined. (4♂), TANZANIA, ARUSHA: 4♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory, Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Central African Republic, Angola, Democratic Republic of Congo, Ethiopia, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Mozambique.
Remarks. This species inhabits forests and savannas, preferring open forests and disturbed habitats. In Tanzania, it occurs at altitudes from 400 to 2,000 m. It is a common species with weak flight capabilities, flying low among vegetation in search of flowers (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Junonia terea* (Drury, 1773) (Fig. 74)**

Material examined. (7♂), TANZANIA, ARUSHA: 6♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Central African Republic, Angola, Democratic Republic of Congo, Sudan, Ethiopia, Somalia, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits forests, woodlands, disturbed areas in forests, and occurring in Tanzania at altitudes from 0 to 2,200 m. It is a very common species, flying slowly along forest edges and in open areas around dense shrubland. In general, it does not fly more than 1–2 m above the ground and rests with its wings spread out on low vegetation. It is easily attracted to flowers and is often observed settling on animal feces (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Junonia hierta* (Fabricius, 1798) (Fig. 69)**

Material examined. (1♂, 2♀), TANZANIA, ARUSHA: 2♀, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Sub-Saharan Africa, Madagascar, Seychelles, Arabia, Egypt, Lebanon.
Remarks. This species inhabits grasslands, grassy savannas, and occurring in Tanzania at altitudes from 0 to 2,300 m. It is a very common species, often resting on the ground or low plants with its wings spread open. Additionally, it is easily attracted to flowers and gathers on animal waste (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Junonia natalica* (Felder & Felder, 1860) (Fig. 71)**

Material examined. (10♂), TANZANIA, ARUSHA: 6♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 4♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Angola, Democratic Republic of Congo, Uganda, Burundi, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Madagascar.
Remarks. This species inhabits well-wooded savannas, riverine bush, coastal bush, and occurring in Tanzania at altitudes from 0 to 2,200 m. It is highly sensitive, flying quickly when it senses danger and frequently settling on the ground or low shrubs. It is strongly attracted to flowers and absorbs nutrients from damp places and animal feces (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Neptis penningtoni* van Son, 1977 (Fig. 80)**

Material examined. (2♂, 4♀), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 3♀, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, 1♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Kenya, Tanzania, Zambia, Mozambique, Zimbabwe.
Remarks. This species inhabits woodland, wooded hills, and occurring in Tanzania at altitudes from 900 to 1,700 m (Kielland, 1990; Williams, 2022).

***Neptis saclava* Boisduval, 1833 (Fig. 79)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Nigeria, Cameroon, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland, Madagascar.
Remarks. This species inhabits woodlands and forests, particularly along water courses, and occurring in Tanzania at altitudes from 0 to 2,200 m. It is one of the most common species in this genus, flying with a floating motion and intermittent flapping between trees. It is easily attracted to flowers and absorbs nutrients from fermented fruits and tree sap (Kielland, 1990; Larsen, 1991; Williams, 2022).

***Precis octavia* (Cramer, 1777) (Fig. 75)**

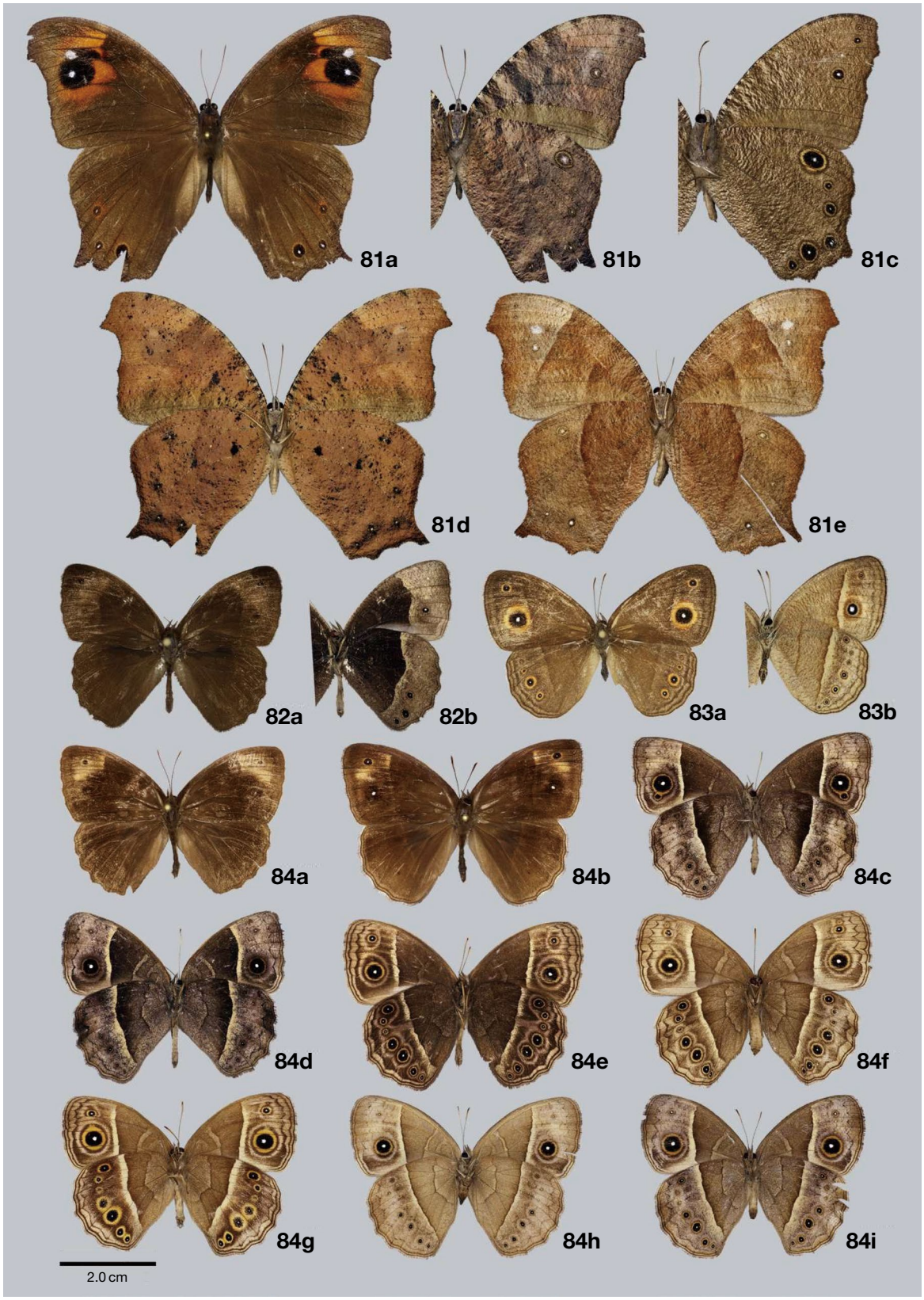
Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Iringa, Ilamba, 12−18.V.2023, (W. Sengo), (S08°03′59.0″, E35°52′49.7″ Alt: 1,977 m), deposited in TAWIRI.
Distribution. Senegal, Guinea-Bissau, Guinea, Burkina Faso, Sierra Leone, Liberia, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, Central African Republic, Democratic Republic of Congo, Sudan, Ethiopia, Somalia, Angola, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species inhabits savannas and grasslands, particularly rocky areas, and occurring in Tanzania at altitudes from 800 to 2,600 m. It exhibits extreme seasonal dimorphism, which is more pronounced in certain subspecies. During cold periods, dry-season individuals rest in dark places, such as holes in levees or inside buildings. In warmer periods, they are easily attracted to flowers (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Precis tugela* Trimen, 1879 (Fig. 76)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Democratic Republic of Congo, Sudan, Ethiopia, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits forests and woodlands, and occurring in Tanzania at altitudes from 350 to 2,500 m. It has a fast, low flight and is highly sensitive, quickly escaping to the treetops when disturbed. Dry-season individuals tend to gather in groups in holes or protruding areas of embankments (Kielland, 1990; Williams, 2022).

***Protogoniomorpha anacardii* (Linnaeus, 1758) (Fig. 63)**

Material examined. (2♂), TANZANIA, ARUSHA: 2♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H.



Figs. 81–84. Nymphalidae. 81) *Melanitis leda*, male (a. dorsal view; b–e; ventral view); 82) *Bicyclus campus*, male (a. dorsal view; b. ventral view); 83) *Henotesia perspicua*, male (a. dorsal view; b. ventral view); 84) *Bicyclus safitza* (a. male, dorsal view; b. female, dorsal view; c–i. ventral view).

Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Sierra Leone, Ivory Coast, Ghana, Togo, Nigeria, Angola, Central African Republic, Democratic Republic of Congo, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland, Madagascar, Arabia.
Remarks. This species inhabits open forests, riverine bush, and frost-free savannas, and occurring in Tanzania at altitudes from 0 to 2,200 m. It is often seen in open spaces or along roadsides, and when disturbed, it flies up, perches on leaves, then slowly descends and returns to its original position. It is frequently observed feeding on nectar from tree flowers and absorbing nutrients from mud puddles and animal feces (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Protogoniomorpha parhassus* (Drury, 1782) (Fig. 62)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m).
Distribution. Sub-Saharan Africa.
Remarks. This species inhabits forests, heavy woodlands, and degraded forests, particularly near streams and rivers, occurring in Tanzania at altitudes from 0 to 2,400 m. It is a common species, flying along the edges of forests and perching on leaves. Males defend their territories by perching on leaves with their wings three-quarters spread, driving away passing butterflies. At night, they roost in small groups under large leaves. This species is strongly attracted to flowers, and it also absorbs nutrients from mud puddles and animal feces (Kielland, 1990; Larsen, 1991; 2005; Williams, 2022).

***Vanessa abyssinica* (Felder & Felder, 1867) (Fig. 68)**

Material examined. (2♂), TANZANIA, ARUSHA: 1♂, Monduli, 14.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m); 1♂, Monduli, 28. VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03° 18′19.0″, E36°28′09.8″ Alt: 1,586 m).
Distribution. Ethiopia, Democratic Republic of Congo, Uganda, Rwanda, Kenya, Tanzania.
Remarks. This species appears to be a subspecies (*Vanessa abyssinica jacksoni*), but it is treated as a distinct species in this study. It inhabits montane forests, and occurring in Tanzania at altitudes from 1,500 to 2,700 m. It is readily attracted to banana-baited traps (Kielland, 1990; Williams, 2022).

Subfamily Satyrinae Boisduval, 1833

***Bicyclus safitza* (Westwood, [1850]) (Fig. 84)**

Material examined. (13♂, 2♀), TANZANIA, ARUSHA: 1♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m); 2♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, TAWIRI Office, 27.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 9♂, 2♀, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Senegal, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Central African Republic, Ethiopia, Uganda, Kenya, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, South Africa, Swaziland.
Remarks. This species inhabits savannas and forests, primarily Guinea savannas in West Africa, and occurs in Tanzania at altitudes from 0 to 2,200 m. It has a slow and low flight, mainly moving in the semi-shade of forests and dense bushes. Additionally, it is strongly attracted to fermenting fruits (Kielland, 1990; Larsen, 2005; Williams, 2022).

***Bicyclus campus* (Karsch, 1893) (Fig. 82)**

Material examined. (1♂), TANZANIA, ARUSHA: 1♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24'45.0″, E36°42'22.0″ Alt: 1,308 m).
Distribution. Guinea, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Angola, Democratic Republic of Congo, Sudan, Uganda, Kenya, Tanzania.
Remarks. This species inhabits hilly terrain in forest and savanna mosaics, as well as forest edges in mountainous regions and woodlands. In Tanzania, it occurs at altitudes from 800 to 2,000 m. Due to its preference for hilly landscapes, its distribution is extensive but patchy (Kielland, 1990; Williams, 2022).

***Heteropsis perspicua* (Trimen, 1873) (Fig. 83)**

Material examined. (3♂), TANZANIA, ARUSHA: 3♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).
Distribution. Cameroon, Sudan, Ethiopia, Uganda, Kenya, Democratic Republic of Congo, Rwanda, Burundi, Tanzania, Malawi, Zambia, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.
Remarks. This species inhabits savannas, particularly along the banks of streams and rivers, and occurring in Tanzania at altitudes from 0 to 2,100 m. It flies low with a bobbing flight among tall grass, mainly in shady areas near water sources. Additionally, it is strongly attracted to fermenting fruit (Kielland, 1990; Williams, 2022).

***Melanitis leda* (Linnaeus, 1758) (Fig. 81)**

Material examined. (10♂), TANZANIA, ARUSHA:



Figs. 85–89. Collecting sites. 85) TAWIRI forest, Arusha Urban; 86) KARAMA Lodge, Arusha Urban; 87) Engutoto village, Monduli; 88) Burka, Olasiti; 89) Engorora village, Kisongo.

1♂, KARAMA Lodge, 08.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°22′47.0″, E36°42′53.0″ Alt: 1,414 m); 3♂, TAWIRI Office, 11.V.2024, (Y.H. Kim, J.H. Ko, S.B. Son), (S03°24′45.0″, E36°42′22.0″ Alt: 1,308 m); 1♂, Monduli, 28.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°18′19.0″, E36°28′09.8″ Alt: 1,586 m); 5♂, Burka, Olasiti, 29.VIII.2024, (S.W. Jung, Y.H. Kim, J.H. Ko, S.B. Son), (S03°23′35.5″, E36°38′02.3″ Alt: 1,346 m).

Distribution. Afrotropical region, Saharo-Arabian region, Oriental region, Australian region, Oceanian region, Sino-Japanese region.

Remarks. This species has strong migration abilities and is widely distributed from Africa to Southeast Asia, East Asia, Australia. In Africa, it inhabits forests and savannas, including arid savannas, and occurring in Tanzania at altitudes from 0 to 2,000 m. It is a very common species, hiding in the shade of trees or among fallen leaves during the day and becoming active at dusk. It possesses excellent camouflage abilities, and when threatened, it slowly flaps its wings before disappearing into the leaf litter. Additionally, it is strongly attracted to fermenting fruits (Kielland, 1990; Larsen, 2005; Williams, 2022).

Conflicts of Interest

The authors of this paper have no affiliation with any interests and are solely responsible for the paper.

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References

Coe, M.J., D.H. Cumming and J. Phillipson. 1976. Biomass and production of large African herbivores in relation to rainfall and primary production. Oecologia 22(4):341-354.

Congdon, N. and S. Collins. 1998. Kielland's butterflies of Tanzania. Supplement. African Butterfly Research Institute & Union des Entomologistes Belges, Nairobi & Tervuren. 143 pp.

Cordeiro, N.J. 1990. A provisional, annotated checklist of the butterflies in lake Manyara National Park, Arusha region, Tanzania. Journal of the East Africa Natural History Society and National Museum 80(196):25-41.

Cordeiro, N.J. 1995. Interesting distribution records of butterflies from northern Tanzania. Metamorphosis 6(4):194-201.

Kielland, J. 1990. Butterflies of Tanzania. Hill House, London.

Larsen, T.B. 1991. The butterflies of Kenya and their natural history. Oxford University Press, New York.

Larsen, T.B. 2005. Butterflies of West Africa (2 vols.). Apollo Books, Denmark.

Liseki, S.D. and R.I. Vane-Wrightm. 2011. Butterflies (Lepidoptera: Papilionoidea) of Mount Kilimanjaro: introduction and family Papilionidae. Journal of Natural History 45(37-38):2375-2396.

Liseki, S.D. and R.I. Vane-Wrightm. 2013. Butterflies (Lepidoptera: Papilionoidea) of Mount Kilimanjaro: family Pieridae, subfamily Coliadinae. Journal of Natural History 47(19-20):1309-1323.

Liseki, S.D. and R.I. Vane-Wrightm. 2014. Butterflies (Lepidoptera: Papilionoidea) of Mount Kilimanjaro: family Pieridae, subfamily Pierinae. Journal of Natural History 48(25-26):1543-1583.

Liseki, S.D. and R.I. Vane-Wrightm. 2016. Butterflies (Lepidoptera: Papilionoidea) of Mount Kilimanjaro: Nymphalidae subfamilies Libytheinae, Danainae, Satyrinae and Charaxinae. Journal of Natural History 50:13-14, 865-904.

Liseki, S.D. and R.I. Vane-Wrightm. 2018. Butterflies (Lepidoptera: Papilionoidea) of Mount Kilimanjaro: Nymphalidae subfamily Helconiinae. Journal of Natural History 52(39-40):2511-2552.

Loth, P.E. and H.H.T. Prins. 1986. Spatial patterns of the landscape and vegetation of Lake Manyara National Park. ITC Journal 1986:115-130.

Nieukerken, E.J., L. Kaila, I.J. Kitching, N.P. Kristensen, D.C. Lees, J. Minet, C. Mitter, M. Mutanen, J.C. Regier, T.J. Simonsen, N. Wahlberg, S.-H. Yen, R. Zahiri, D. Adamski, J. Baixeras, D. Bartsch, B.Å. Bengtsson, J.W. Brown, S.R. Bucheli, D.R. Davis, J. De Prins, W. De Prins, M.E. Epstein, P. Gentili-Poole, C. Gielis, P. Hättenschwiler, A. Hausmann, J.D. Holloway, A. Kallies, O. Karsholt, A. Kawahara, S.J.C. Koster, M. Kozlov, J.D. Lafontaine, G. Lamas, J.-F. Landry, S. Lee, M. Nuss, K.T. Park, C. Penz, J. Rota, B.C. Schmidt, A. Schintlmeister, J.C. Sohn, M.A. Solis, G.M. Tarmann, A.D. Warren, S. Weller, R.V. Yakovlev, V.V. Zolotuhin, A. Zwick and Z.-Q. Zhang. 2011. Order Lepidoptera Linnaeus: 1758. Animal biodiversity: an outline of higher-level classification and survey of taxonomic

richness. Zootaxa 3148:212-221.

Noort, S.V. and G. Stone. 2000. Species richness, biogeography, conservation and pollination ecology of butterflies (Lepidoptera: Hesperioidea & Papilionoidea) in Mkomani Game Reserve, Tanzania. Metamorphosis 11(2):77-103.

Williams, M.C. 2022. Afrotropical butterflies and skippers - a digital encyclopaedia [Available from: https://www.metamorphosis.org.za/?p=articles&s=atb, accessed 20 February 2024].

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