



## A preliminary butterfly checklist (Lepidoptera: Papilionoidea) for Cyamudongo tropical forest fragment, Rwanda

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**Abstract:** This study provides a preliminary checklist of butterfly species occurring in the Cyamudongo tropical forest fragment, Rwanda. A survey of butterflies was conducted seasonally from October 2019 to August 2020. Butterflies were collected for identification using butterfly nets and fruit-baited traps along trails within Cyamudongo forest. One hundred and sixty-two butterfly species were recorded in the Cyamudongo forest, including thirteen species that are endemic to the Albertine Rift. This preliminary checklist serves as baseline data for conservationists including park managers and researchers concerned with butterfly conservation.

**Key words:** Forest fragmentation, butterfly, species checklist, Albertine Rift, Cyamudongo forest

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### INTRODUCTION

Human activities, including agriculture, are the main drivers of natural habitat fragmentation including tropical rain forests (Lewis *et al.*, 2015), which are terrestrial biodiversity hotspots throughout the world (Ghazoul, 2010). With increasing human population demands, models predict an increase of tropical forest fragmentation with time (Taubert *et al.*, 2018) which negatively impacts resident biodiversity including the butterfly population. For example, large body size butterflies were found to be more vulnerable to extinction due to forest fragmentation (Shahabuddin & Ponte 2005), and predictive models have shown limitations in expansion range for some butterfly species within fragmented forests (Wilson *et al.*, 2009).

Some of the remaining Afrotropical forest fragments are under protection due to their cultural value or conservation significance (Bossart *et al.*, 2006). Cyamudongo forest is among the protected forest fragments due to its high significance for the conservation of biodiversity within the Albertine Rift (AR) region, a biodiversity hotspot. Historically, this fragment was connected to the Nyungwe main forest and was disconnected around 100 years ago due to agriculture and human settlements. Since the break up the fragment has become very isolated, managed as a forest reserve, and was gazetted as part of Nyungwe National Park since 2004 (Fischer & Killmann, 2008). Cyamudongo forest is located around 10 km from the Nyungwe main forest and

consists of a dense forest with a few clearings. It hosts a rich biodiversity including species endemic to the Albertine Rift (Plumptre *et al.*, 2007). However, it appears from the literature that the few studies conducted in the Cyamudongo forest concentrated on plant diversity and taxonomy (Fischer *et al.*, 2003; Fischer & Killmann, 2008) or on primates such as endangered chimpanzees (Moore *et al.*, 2018), but little is known about invertebrates including butterflies.

Butterflies as a biodiversity component of forest ecosystems play an important role in plant pollination (Winfree *et al.*, 2011; Barrios *et al.*, 2016; Majewska *et al.*, 2018; Sáfián, 2021) and have been largely used as bioindicators of environmental change and forest restoration and management (Kremen, 1992; Maleque *et al.*, 2009; Nyafwono *et al.*, 2014; Oloya *et al.*, 2021). While some butterfly surveys have been conducted in protected areas within countries neighbouring Rwanda (e.g. Ducarme, 2018; Forbes, 2018), no butterfly survey has been conducted in the Cyamudongo forest fragment to provide baseline information on its butterfly population. This fragment is currently an island in an anthropogenic dominated landscape that might serve as a refugium for diverse species including butterflies from the surrounding matrix (Bossart *et al.*, 2006), and thus contribute to the preservation of butterflies. Knowledge of the butterfly diversity in the Cyamudongo fragment would be an aid to effectively manage this fragment and ensure the protection of its biodiversity. This motivated a preliminary survey of butterfly species inhabiting the fragment. In addition, the authors wanted to make a collection for educational purposes and provide baseline data for future research on butterflies in the region.

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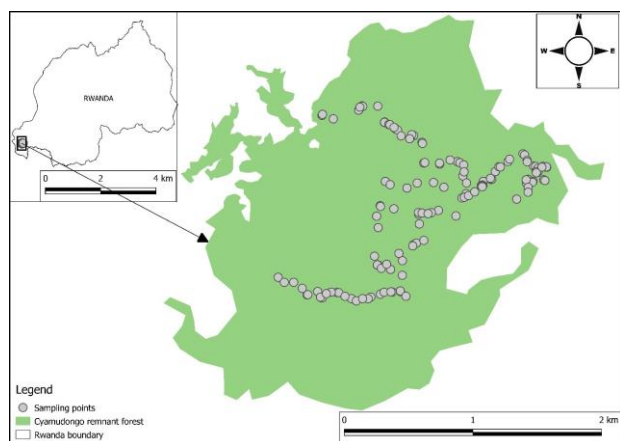
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## MATERIALS AND METHODS

### Study site

This study was conducted in Cyamudongo forest (Fig. 1), a submontane forest fragment located in the south-western part of Rwanda (02°33.12' S, 28°59.49' E) with an area of c. 400 ha (Mvunabandi *et al.*, 2015) and altitude between 1500–2140 m a.m.s.l. Cyamudongo tropical rainforest fragment is part of Nyungwe National Park since 2004 (Fischer & Killmann, 2008) and hosts a primate population of chimpanzees, Olive baboons, L' Hoest monkeys, Mona monkeys, and bird species, including the Great Blue Turaco among many others. The fragment also hosts a variety of plants including species endemic to the Albertine Rift region such as *Impatiens* spp., and some locally endemic plant species such as *Polystachya bruechertiae* and *Gastrodia rwandensis* are only found there (Fischer *et al.*, 2003; Fischer & Killmann, 2008). Cyamudongo is an income tourist site for Rwanda, especially through its endangered charismatic chimpanzee population. From a nearby meteorology station located in the Nyakabuye sector, the annual rainfall was 1668 mm in 2019. Major threats to the Cyamudongo forest include firewood collection, fodder collection for cattle, and encroachment of agricultural lands.



**Figure 1** – Map of Cyamudongo forest fragment with butterfly sampling points.

### Sampling methods

Sampling of butterflies in Cyamudongo was conducted from October to December 2019, January and March 2020, and August 2020. These periods correspond to the rainy season, short dry season, and dry season, respectively in this area. Butterflies were collected along tourist trails due to the hazardous terrain within the forest, using butterfly nets either in flight, resting, feeding on flowers or animal excrement, or mud puddling. The trails were walked for the purpose of a checklist survey (Royer *et al.*, 1998) rather than a Pollard monitoring walk (Pollard, 1977) which is commonly used for quantitative monitoring of butterfly population change over time rather than conducting preliminary inventories. Three trails with a total length of 4.6 km on foot were accessible for butterfly sampling within the Cyamudongo forest. Depending on the trail's accessibility, butterflies were collected by two collectors within 5 m of width along the trail walk and much effort was put into collecting every butterfly encountered along the trail. In addition, 48

nymphalid species (Appendix) were recorded using traps baited with fermented bananas along the same trails.

Depending on weather conditions, sampling took place on sunny days from 9 am until 5 pm, the period when most butterflies were active. For each collected butterfly, GPS coordinates were recorded. Photographs were also taken where possible especially for butterflies observed puddling, drinking, or feeding on decaying materials such as carnivore dung. Each trail was walked two consecutive days per season making six days per season in total to cover the three trails within the forest. All collected specimens were stored in envelopes for later identification. Species identification of collected specimens used available literature about the region (Kielland, 1990; Carder and Tindimubona, 2002; Larsen, 2005a,b; Woodhall, 2005; Vande Weghe, 2010; Martins & Collins, 2016; Liseki & Vane-Wright, 2018; Williams, 2021) and websites such as Dominique Bernaud's "Le site des Acraea" (<http://www.acraea.com/>) and African Butterfly Database (ABDB) (<https://www.abdb-africa.org/>). The expertise of local experts in the region was also sought for species confirmation. A checklist of all butterfly species occurring in Cyamudongo tropical forest fragment is provided. The butterfly classification follows Williams (2015), Dhungel & Wahlberg (2018) and Espeland *et al.* (2018). Collected specimens will be maintained in the Centre of Excellence and Biodiversity at the University of Rwanda.

## RESULTS

One hundred and sixty-two species, 6 families, and 20 subfamilies were recorded in the Cyamudongo forest fragment. Nymphalid species were dominant while only one riodinid species was recorded. A checklist including thirteen butterfly species endemic to the Albertine Rift (AR) is provided in the Appendix. The AR endemics are *Charaxes mafuga*, *Cymothoe collarti*, *Euphaedra margueriteae*, *E. barnsi*, *E. phosphor*, *Euriphene amicia excelsior*, *Belenois victoria*, *Mylothris polychroma*, *M. ruandana*, *Bicyclus matuta*, *B. neustetteri*, *B. persimilis* and *Gnophodes grogani* (Davenport, 2002)

## DISCUSSION

This survey recorded more Nymphalidae species than Lycaenidae (the most species-rich African butterfly family) (Larsen, 2005b). This dominance of the Nymphalidae in the Cyamudongo forest is similar to the eastern forests of the Democratic Republic of Congo, a neighbouring country (Ducarme, 2018). However, the low number of recorded Lycaenidae and Hesperidae might be due to their small size and some being canopy dwellers, which makes them difficult to observe (Vande Weghe, 2010) in the dense forest. As in another inventory conducted in a lowland forest in Tanzania (Mtui *et al.*, 2019), the riodinids were least abundant in the Cyamudongo fragment. This group represents less than one per cent of all described African butterfly species, while the subfamilies Limenitidinae and Heliconiinae dominate among the Nymphalidae and this explains their dominance among the recorded subfamilies in Cyamudongo forest (see Appendix). This butterfly survey was the first in Cyamudongo and was conducted within a

short time. Thus, a long-term standardised monitoring programme should be established by park managers to add more species to the list. With respect to biodiversity conservation, butterfly inventory studies should be conducted in other protected forest fragments of Rwanda. Such inventories should also be conducted in fragments outside protected areas to assess whether they might accommodate species with urgent protection needs.

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**APPENDIX** – Preliminary checklist of butterfly species and their seasonal occurrence in Cyamudongo tropical forest fragment. Species with (\*) were recorded by both butterfly net and fruit-baited traps, and species with (\*\*) were only recorded by fruit baited traps. DS = Dry season, RS = Rain season, SDS = Short dry season.

TAXON	DS	RS	SDS	ALL
<b>FAMILY HESPERIIDAE Latreille, 1809</b>				
<b>Subfamily Coeliadinae Evans, 1937</b>				
Genus <i>Coeliades</i> Hübner, [1818]				
<i>Coeliades forestan forestan</i> (Stoll, [1782])	X			1
<b>Subtotals for the subfamily Coeliadinae</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Subfamily Hesperinae Latreille, 1809</b>				
Tribe Ceratrichiini Grishin, 2019				
Genus <i>Ceratrichia</i> Butler, 1870				
<i>Ceratrichia semlikensis</i> Joicey & Talbot, 1921	X	X	X	1
Genus <i>Pardaleodes</i> Butler, 1870				
<i>Pardaleodes tibullus torensis</i> Bethune-Baker, 1906	X	X	X	1
Tribe Hesperini Latreille, 1809				
Genus <i>Gorgyra</i> Holland, 1896				
<i>Gorgyra aretina</i> (Hewitson, 1878)			X	1
Genus <i>Paracleros</i> Berger, 1978				
<i>Paracleros biguttulus</i> (Mabille, 1889)	X			1
Genus <i>Platylesches</i> Holland, 1896				
<i>Platylesches galesa</i> (Hewitson, 1877)		X		1
Tribe Baorini Doherty, 1886				
Genus <i>Torbenlarsenia</i> Kemal & Koçak, 2020				
<i>Torbenlarsenia perobscura</i> (Druce, 1912)	X			1
<b>Subtotals for the subfamily Hesperinae</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>6</b>
<b>Subfamily Tagiadinae Mabille, 1878</b>				
Tribe Tagiadini Mabille, 1878				
Genus <i>Eagris</i> Guenée, 1862				
<i>Eagris lucetia</i> (Hewitson, 1875)		X	X	1
<i>Eagris tigris kayonza</i> Evans, 1956	X			1
<i>Eagris subalbida aurivillii</i> (Neustetter, 1927)		X		1
Genus <i>Tagiades</i> Hübner, 1819				
<i>Tagiades flesus</i> (Fabricius, 1781)	X			1
Genus <i>Netrobalane</i> Mabille, 1903				
<i>Netrobalane canopus</i> (Trimen, 1864)	X			1
Tribe Celaenorrhini Swinhoe, 1912				
Genus <i>Celaenorrhinus</i> Hübner, 1819				
<i>Celaenorrhinus mediostictus mediostictus</i> Libert, 2014			X	1
Genus <i>Apallaga</i> Strand, 1911				
<i>Apallaga kivuensis</i> (Joicey & Talbot, 1921)		X		1
<i>Apallaga rwandae</i> Libert, 2014	X	X	X	1
Genus <i>Eretis</i> Mabille, 1891				
<i>Eretis buamba</i> Evans, 1937			X	1
<i>Eretis mitiana</i> Evans, 1937	X			1
Genus <i>Sarangesa</i> Moore, 1881				
<i>Sarangesa haplopa</i> Swinhoe, 1907		X		1
<b>Subtotals for the subfamily Tagiadinae</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>11</b>
<b>FAMILY LYCAENIDAE Leach, 1815</b>				
<b>Subfamily Miletinae</b>				

Tribe Spalгинi Toxopeus, 1929				
Genus <i>Spalgis</i> Moore, 1879				
<i>Spalgis lemolea lemolea</i> Druce, 1890	X			1
<b>Subtotals for the subfamily Miletinae</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Subfamily Aphnaeinae Distant, 1884</b>				
Genus <i>Lipaphnaeus</i> Aurivillius, 1916				
<i>Lipaphnaeus aderna pan</i> (Talbot, 1935)	X			1
<b>Subtotals for the subfamily Aphnaeinae</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Subfamily Polyommatainae</b>				
Tribe Lycaenesthini Toxopeus, 1929				
Genus <i>Anthene</i> Doubleday, 1847				
<i>Anthene larydas</i> (Cramer, [1780])		X	X	1
<i>Anthene ligures ligures</i> (Hewitson, 1874)	X	X	X	1
Tribe Polyommataini Swainson, 1827				
Subtribe incertae sedis				
Genus <i>Azanus</i> Moore, 1881				
<i>Azanus mirza</i> (Plötz, 1880)	X			1
Genus <i>Cacyreus</i> Butler, 1897				
<i>Cacyreus lingeus</i> (Stoll, [1782])	X			1
Genus <i>Tuxentius</i> Larsen, 1982				
<i>Tuxentius margaritaceus</i> (Sharpe, 1892)	X	X	X	1
Genus <i>Uranothauma</i> Butler, 1895				
<i>Uranothauma falkensteini</i> (Dewitz, 1879)	X	X		1
<i>Uranothauma heritsia intermedia</i> (Tite, 1958)	X			1
Genus <i>Zizeeria</i> Chapman, 1910				
<i>Zizeeria knysna knysna</i> (Trimen, 1862)	X			1
<b>Subtotals for the subfamily Polyommatainae</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>8</b>
<b>Subfamily Theclinae Swainson, 1830</b>				
Tribe Hypolycaenini Swinhoe, 1910				
Genus <i>Hypolycaena</i> Felder, 1862				
<i>Hypolycaena hatita ugandae</i> Sharpe, 1904	X	X	X	1
<i>Hypolycaena liara liara</i> Druce, 1890		X	X	1
Tribe Deudorigini Doherty, 1886				
Genus <i>Deudorix</i> Hewitson, [1863]				
<i>Deudorix kayonza</i> (Stempffer, 1956)	X			1
Genus <i>Pilodeudorix</i> Druce, 1891				
<i>Pilodeudorix azurea azurea</i> (Stempffer, 1964)	X			1
<b>Subtotals for the subfamily Theclinae</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>4</b>
<b>FAMILY NYMPHALIDAE Rafinesque, 1815</b>				
<b>Subfamily Biblidinae Boisduval, 1833</b>				
Tribe Biblidini Boisduval, 1833				
Genus <i>Ariadne</i> Horsfield, [1829]				
* <i>Ariadne pagenstecheri</i> (Suffert, 1904)	X	X	X	1
Genus <i>Eurytela</i> Boisduval, 1833				
* <i>Eurytela dryope angulata</i> Aurivillius, [1899]	X			1
* <i>Eurytela hiarbas hiarbas</i> (Drury, 1782)	X	X	X	1
Genus <i>Neptidopsis</i> Aurivillius, [1899]				
<i>Neptidopsis ophione nucleata</i> Grünberg, 1911	X	X	X	1
Tribe Epicaliini Guenée, 1865				
Genus <i>Sevenia</i> Koçak, 1996				

* <i>Sevenia boisduvali omissa</i> (Rothschild, 1918)	X	X	X	1
* <i>Sevenia garega</i> (Karsch, 1892)	X	X		1
<b>Subtotals for the subfamily Biblidinae</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>6</b>
<b>Subfamily Charaxinae Guenée, 1865</b>				
Tribe Charaxini Guenée, 1865				
Genus <i>Charaxes</i> Ochseneheimer, 1816				
* <i>Charaxes acuminatus kigezia</i> van Someren, 1963		X	X	1
* <i>Charaxes ameliae ameliae</i> Doumet, 1861			X	1
* <i>Charaxes anticlea adusta</i> Rothschild, 1900	X	X	X	1
* <i>Charaxes brutus alcyone</i> Stoneham, 1943	X	X		1
* <i>Charaxes candiope</i> (Godart, [1824])	X	X		1
* <i>Charaxes etesipe</i> (Godart, [1824])	X			1
* <i>Charaxes eudoxus lequeuxi</i> Plantrou, 1982	X			1
* <i>Charaxes mafuga</i> van Someren, 1969	X	X		1
* <i>Charaxes mafugensis</i> Jackson, 1956			X	1
** <i>Charaxes numenes aequatoralis</i> van Someren, 1972	X		X	1
* <i>Charaxes pleione delvauxi</i> Turlin, 1987	X	X	X	1
* <i>Charaxes pollux pollux</i> (Cramer, 1775)	X			1
* <i>Charaxes tiridates tiridatinus</i> Röber, 1936			X	1
<b>Subtotals for the subfamily Charaxinae</b>	<b>9</b>	<b>6</b>	<b>7</b>	<b>13</b>
<b>Subfamily Cyrestinae Guenée, 1865</b>				
Genus <i>Cyrestis</i> Boisduval, 1832				
<i>Cyrestis camillus camillus</i> (Fabricius, 1781)	X	X	X	1
<b>Subtotals for the subfamily Cyrestinae</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Subfamily Danainae Boisduval, 1833</b>				
Tribe Danaini Boisduval, 1833				
Genus <i>Tirumala</i> Moore, 1880				
<i>Tirumala formosa mercedonia</i> (Karsch, 1894)	X	X	X	1
Subtribe Amaurina Le Cerf, 1922				
Genus <i>Amauris</i> Hübner, 1816				
<i>Amauris inferna grogani</i> Sharpe, 1901	X	X		1
<i>Amauris niavius niavius</i> (Linnaeus, 1758)	X	X		1
<b>Subtotals for the subfamily Danainae</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>3</b>
<b>Subfamily Heliconiinae Swainson, 1822</b>				
Tribe Acraeini Boisduval, 1833				
Subtribe Acraeina Boisduval, 1833				
Genus <i>Acraea</i> Fabricius, 1807				
<i>Acraea aganice montana</i> (Butler, 1888)	X	X		1
<i>Acraea asboloplintha</i> Karsh, 1894	X	X	X	1
<i>Acraea cerasa cerita</i> Sharpe, 1906	X			1
<i>Acraea egina egina</i> (Cramer, 1775)		X	X	1
<i>Acraea eltringhami</i> Joicey & Talbot, 1921		X		1
<i>Acraea kinduana</i> Pierre, 1979			X	1
<i>Acraea kivuensis kivuensis</i> (Joicey & Tabot, 1927)	X	X		1
<i>Acraea parageum parageum</i> (Grose-Smith, 1900)	X	X		1
<i>Acraea quadricolor</i> (Rogenhofer, 1891)			X	1
<i>Acraea quirina</i> (Fabricius, 1781)	X			1
Subtribe Actinotina Henning, 1992				
Genus <i>Telchinia</i> Hübner, [1819]				
<i>Telchinia alicia</i> Sharpe, 1890		X		1

<i>Telchinia bonasia</i> (Fabricius, 1775)	X	X	X	1
<i>Telchinia cinerea</i> (Neave, 1904)	X		X	1
<i>Telchinia disjuncta</i> (Grose-Smith, 1898)	X	X	X	1
<i>Telchinia jodutta iodutta</i> (Fabricius, 1793)		X		1
<i>Telchinia kalinzu</i> (Carpenter, 1936)	X			1
<i>Telchinia lycoa</i> (Godart, [1819])	X	X		1
<i>Telchinia ntebiae ntebiae</i> (Sharpe, 1897)	X			1
<i>Telchinia oreas oreas</i> (Sharpe, 1891)	X	X		1
<i>Telchinia orestia</i> (Hewitson, 1874)	X	X	X	1
<i>Telchinia parrhasia servona</i> (Godart, [1819])		X		1
<i>Telchinia penelope penelope</i> (Staudinger, 1896)	X	X	X	1
<i>Telchinia pentapolis pentapolis</i> (Ward, 1871)		X		1
<i>Telchinia pharsalus</i> (Ward, 1871)	X	X	X	1
<i>Telchinia sotikensis sotikensis</i> (Sharpe, 1892)	X	X		1
<i>Telchinia toruna</i> (Grose-Smith, 1900)	X	X	X	1
<i>Telchinia uvui uvui</i> (Grose-Smith, 1890)		X	X	1
Tribe Vagrantini Pinratana & Eliot, 1996				
Genus <i>Lachnoptera</i> Doubleday, [1847]				
<i>Lachnoptera anticlia</i> (Hübner, [1819])	X			1
Genus <i>Phalanta</i> Horsfield, 1829				
<i>Phalanta eurytis eurytis</i> (Doubleday, [1847])	X	X	X	1
<b>Subtotals for the subfamily Heliconiinae</b>	<b>20</b>	<b>21</b>	<b>13</b>	<b>29</b>
<b>Subfamily Limenitidinae Behr, 1864</b>				
Tribe Cymothoini Dhungel & Wahlberg, 2018				
Genus <i>Cymothoe</i> Hübner, 1819				
<i>Cymothoe collarti wernerii</i> Beaurain, 1984	X	X	X	1
* <i>Cymothoe herminia johnstoni</i> (Butler, 1902)	X	X	X	1
Genus <i>Harma</i> Doubleday, 1848				
* <i>Harma theobene superna</i> (Fox, 1968)	X	X	X	1
Tribe Adoliadini Doubleday, 1845				
Subtribe Bebearina Hemming, 1960				
Genus <i>Evena</i> Westwood, [1850]				
* <i>Evena crithea</i> (Drury, 1773)	X	X	X	1
Genus <i>Pseudathyma</i> Staudinger, 1891				
<i>Pseudathyma plutonica plutonica</i> Butler, 1902	X			1
Genus <i>Euphaedra</i> Hübner, 1819				
* <i>Euphaedra barnsi</i> Joicey & Talbot, 1922	X			1
* <i>Euphaedra harpalyce dowsetti</i> Hecq, 1990		X	X	1
<i>Euphaedra margueriteae</i> Hecq, 1978		X		1
<i>Euphaedra medon fraudata</i> van Someren, 1935	X	X	X	1
<i>Euphaedra phosphor</i> Joicey & Talbot, 1921		X	X	1
Genus <i>Euriphene</i> Boisduval, 1847				
* <i>Euriphene butleri remota</i> Hecq, 1994	X	X	X	1
* <i>Euriphene amicia excelsior</i> (Rebel, 1911)	X	X	X	1
Genus <i>Euryphura</i> Staudinger, 1891				
<i>Euryphura chalcis chalcis</i> (Felder & Felder, 1860)	X			1
Genus <i>Aterica</i> Boisduval, 1833				
* <i>Aterica galene extensa</i> Heron, 1909	X	X	X	1
Genus <i>Bebearia</i> Hemming, 1960				
* <i>Bebearia sophus monforti</i> Hecq, 1990	X	X	X	1



Tribe Neptini Newman, 1870				
Genus <i>Neptis</i> Fabricius, 1807				
<i>Neptis agouale</i> Pierre-Baltus, 1978	X	X	X	1
<i>Neptis</i> cf. <i>quintilla</i> Mabille, 1890	X	X	X	1
<i>Neptis nemetes nemetes</i> Hewitson, [1868]	X			1
<i>Neptis nicoteles</i> Hewitson, 1874	X			1
<i>Neptis occidentalis</i> Rothschild, 1918	X	X	X	1
<i>Neptis ochracea ochreatea</i> Gaede, 1915		X		1
<i>Neptis saclava marpessa</i> Hopffer, 1855	X	X		1
Tribe Pseudacraeini Dhungel & Wahlberg, 2018				
Genus <i>Pseudacraea</i> Westwood, 1850				
<i>Pseudacraea dolomena kayonza</i> Jackson, 1956			X	1
* <i>Pseudacraea eurytus eurytus</i> (Linnaeus, 1758)	X			1
* <i>Pseudacraea lucretia protracta</i> (Butler, 1874)	X	X	X	1
<b>Subtotals for the subfamily Limenitidinae</b>	<b>20</b>	<b>18</b>	<b>16</b>	<b>25</b>
<b>Subfamily Libytheinae Boisduval, 1833</b>				
Genus <i>Libythea</i> Fabricius, 1807				
<i>Libythea labdaca</i> Westwood, [1851]		X		1
<b>Subtotals for the subfamily Libytheinae</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>
<b>Subfamily Nymphalinae Rafinesque, 1815</b>				
Tribe Junoniini Reuter, 1896				
Genus <i>Hypolimnas</i> Hübner, 1819				
<i>Hypolimnas anthedon anthedon</i> (Doubleday, 1845)	X		X	1
Genus <i>Junonia</i> Hübner, 1819				
* <i>Junonia gregorii</i> Butler, 1896	X	X	X	1
<i>Junonia terea tereoides</i> (Butler, 1901)	X			1
Genus <i>Precis</i> Hübner, 1819				
<i>Precis rauana silvicola</i> Schultze, 1916	X	X	X	1
<i>Precis sinuata hecqui</i> Berger, 1981	X			1
Genus <i>Protogoniomorpha</i> Wallengren, 1857				
* <i>Protogoniomorpha parhassus</i> (Drury, 1782)	X	X	X	1
<i>Protogoniomorpha temora temora</i> (Felder & Felder, [1867])	X	X	X	1
Genus <i>Salamis</i> Boisduval, 1833				
<i>Salamis cacta cacta</i> (Fabricius, 1793)		X		1
Tribe incertae sedis				
Genus <i>Kallimoides</i> Shirôzu & Nakanishi, 1984				
* <i>Kallimoides rumia rattrayi</i> (Sharpe, 1904)	X	X	X	1
Genus <i>Vanessula</i> Dewitz, 1887				
* <i>Vanessula milca latifasciata</i> Joicey & Talbot, 1928	X	X	X	1
Tribe Nymphalini Swainson, 1827				
Genus <i>Vanessa</i> Fabricius, 1807				
* <i>Vanessa dimorphica dimorphica</i> (Howarth, 1966)	X			1
Genus <i>Antanartia</i> Rothschild & Jordan, 1903				
* <i>Antanartia schaeneia dubia</i> Howarth, 1966	X	X		1
<b>Subtotals for the subfamily Nymphalinae</b>	<b>11</b>	<b>8</b>	<b>7</b>	<b>12</b>
<b>Subfamily Satyrinae Boisduval, 1833</b>				
Tribe Melanitini Reuter, 1896				
Genus <i>Gnophodes</i> Doubleday, 1849				
* <i>Gnophodes grogani</i> Sharpe, 1901	X	X		1
Genus <i>Melanitis</i> Fabricius, 1807				

* <i>Melanitis leda</i> Westwood [1851]	X			1
Tribe Satyrini Boisduval, 1833				
Subtribe Mycalesina Reuter, 1896				
Genus <i>Bicyclus</i> Kirby, 1871				
** <i>Bicyclus</i> cf. <i>smithi</i> (Aurivillius, [1899])	X	X	X	1
* <i>Bicyclus dentata</i> (Sharpe, 1898)	X	X		1
* <i>Bicyclus jefferyi</i> Fox, 1963	X			1
* <i>Bicyclus mandanes</i> Hewitson, 1873		X		1
* <i>Bicyclus matuta matuta</i> (Karsch, 1894)		X		1
* <i>Bicyclus mesogena ugandae</i> (Riley, 1926)	X			1
* <i>Bicyclus neustetteri</i> (Rebel, 1914)		X		1
* <i>Bicyclus persimilis</i> (Joicey & Talbot, 1921)		X	X	1
** <i>Bicyclus safitza safitza</i> (Westwood, [1850])			X	1
** <i>Bicyclus sandace</i> (Hewitson, [1877])	X			1
* <i>Bicyclus sophrosyne sophrosyne</i> (Plötz, 1880)	X	X	X	1
** <i>Bicyclus vulgaris</i> (Butler, 1868)	X			1
<b>Subtotals for the subfamily Satyrinae</b>	<b>9</b>	<b>8</b>	<b>4</b>	<b>14</b>
<b>FAMILY PAPILIONIDAE Latreille, 1802</b>				
<b>Subfamily Papilioninae Latreille, 1802</b>				
Tribe Leptocircini Kirby, 1896				
Genus <i>Graphium</i> Scopoli, 1777				
<i>Graphium policenes policenes</i> (Cramer, [1775])	X	X	X	1
Tribe Papilionini Latreille, [1802]				
Genus <i>Papilio</i> Linnaeus, 1758				
<i>Papilio chrapkowskoides</i> Storace, [1952]	X	X		1
<i>Papilio dardanus dardanus</i> Brown, 1776	X		X	1
<i>Papilio echerioides joiceyi</i> Gabriel, 1945	X	X		1
<i>Papilio jacksoni ruandana</i> Le Cerf, 1924	X	X	X	1
<i>Papilio mackinnoni mackinnoni</i> Sharpe, 1891	X	X		1
<i>Papilio nireus nireus</i> Linnaeus, 1758	X	X	X	1
<i>Papilio phorcas congoanus</i> Rothschild, 1896	X	X	X	1
<b>Subtotals for the family Papilionidae</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>8</b>
<b>FAMILY PIERIDAE Swainson, 1820</b>				
<b>Subfamily Coliadinae Swainson, 1821</b>				
Genus <i>Terias</i> Swainson, [1821]				
<i>Terias desjardinsii regularis</i> Butler, 1876	X			1
<i>Terias floricola leonis</i> Butler, 1886	X			1
<i>Terias hapale</i> Mabille, 1882		X	X	1
<i>Terias hecabe solifera</i> Butler, 1875	X		X	1
<i>Terias senegalensis</i> Boisduval, 1836	X	X	X	1
<b>Subtotals for the subfamily Coliadinae</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>5</b>
<b>Subfamily Pierinae Swainson, 1820</b>				
Tribe Pierini Swainson, 1820				
Subtribe Appiadina Kuzenov, 1921				
Genus <i>Appias</i> Hübner, 1819				
<i>Appias sabina sabina</i> (Felder & Felder, [1865])	X			1
Subtribe Aporiina Chapman, 1895				
Genus <i>Belenois</i> Hübner, 1819				
<i>Belenois raffrayi extendens</i> (Joicey & Talbot, 1927)	X		X	1
<i>Belenois victoria schoutedeni</i> Berger, 1953	X	X	X	1

<i>Belenois zochalia agrippinides</i> (Holland, 1896)		X		<b>1</b>
<b>Genus <i>Mylothris</i> Hübner, 1819</b>				
<i>Mylothris agathina richlora</i> Suffert, 1904	X			<b>1</b>
<i>Mylothris kiwuensis kiwuensis</i> Grünberg, 1910	X		X	<b>1</b>
<i>Mylothris nagichota ruandensis</i> Warren-Gash, 2020		X	X	<b>1</b>
<i>Mylothris polychroma</i> Berger, 1981		X	X	<b>1</b>
<i>Mylothris ruandana ruandana</i> Strand, 1909	X			<b>1</b>
<b>Tribe Nepheroniini Braby, 2014</b>				
<b>Genus <i>Nepheronia</i> Butler, 1870</b>				
<i>Nepheronia argia argia</i> (Fabricius, 1775)	X	X	X	<b>1</b>
<b>Tribe Teracolini Reuter, 1896</b>				
<b>Genus <i>Colotis</i> Hübner, 1819</b>				
<i>Colotis elgonensis basilewskyi</i> Berger, 1956	X		X	<b>1</b>
<b>Tribe Leptosiaini Braby, 2014</b>				
<b>Genus <i>Leptosia</i> Hübner, 1818</b>				
<i>Leptosia nupta pseudonupta</i> Bernardi, 1959	X	X	X	<b>1</b>
<b>Subtotals for the subfamily Pierinae</b>	<b>9</b>	<b>6</b>	<b>8</b>	<b>12</b>
<b>FAMILY RIODINIDAE Grote, 1895</b>				
<b>Subfamily Nemeobiinae Bates, 1868</b>				
<b>Tribe Abisarini Stichel, 1928</b>				
<b>Subtribe Abisarina Stichel, 1928</b>				
<b>Genus <i>Afrodinia</i> d' Abrera, 2009</b>				
<i>Afrodinia neavei neavei</i> (Riley, 1932)	X	X	X	<b>1</b>
<b>Subtotals for the family Riodinidae</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>OVERALL TOTALS</b>	<b>123</b>	<b>99</b>	<b>82</b>	<b>162</b>