NEW LIFE IN THE CONGO BASIN:

A DECADE OF SPECIES DISCOVERIES (2013-2023)

ACKNOWLEDGEMENTS

Written and researched by Christian Thompson with advisory by Martina Lippuner and reviewed by Fidelis Pegue Manga, Martin Kabaluapa Kapinga, Paul Ngoran, Jeff Worden, Jaap van der Waarde and Tubalemye Mutwale (WWF Int-Africa), Marsden Momanyi, Wendy Elliott (WWF-International), Idriss Ayaya Magwamboa, Christian Mpassi, (WWF DRC), Alain Ononino, Jonas Kemajou Syapze (WWF Cameroon), Terence Fuh Neba and Thomas Breuer (WWF Germany), Nuria Ortega (WWF CAR), Melissa Sophie Dondyas (WWF Gabon), Corneille Moukson KUTIA-KWA-NZAMBI and Aksil Goma (WWF RoC).

Designed by Francesca Herimihamina

WWF would like to thank the following for their advice and support in the production of this publication: Dr Aaron M. Bauer / Dr Alexey Prozorov / Dr Alice Petzold / Dr Anne-Hélène Paradis / Dr Bjarte Henry Jordal / Dr Charles Haddad / Dr Christian Schmid-Egger / Dr Eli Greenbaum / Dr Erik Verheyen / Dr Gary A. Voelker / Dr Gina Walsh / Dr Huber Bernhard / Dr Jean-François Trape / Dr Jens Kipping / Dr John P. Sullivan / Dr Jullian Kerbis Peterhans / Dr Kate Detwiler / Dr Klaas-Douwe B. Dijkstra / Dr Laura Azandi Ngnintedem / Dr Marc Sosef / Dr Marco de Haas / Dr Melanie L Stiassny / Dr Michael G. Harvey / Dr Nicolas Texier / Dr Ole Seehausen / Dr Olivier Lachenaud / Dr Olivier S. G. Pauwels / Dr Patrick Grootaert / Dr Peter Wirtz / Dr Ray Schmidt / Dr Ronald Fricke / Dr Stefano Valdesalici / Dr Tariq Stévart / Dr Thomas L.P. Couvreur / Dr Uwe Fritz / Dr Václav Gvoždík / Dr Vladimir Gnezdilov / Nik Borrow as well as all the photographers who have made their new species images available for use under Creative Commons Licence. All images are credited throughout this report.

We extend our gratitude to the many researchers who contributed to this report with photographs and quotes, as well as to the research institutions, universities, and conservation organizations responsible for discovering these remarkable new species.

A special thank you goes to the local communities and Indigenous peoples who are the dedicated stewards of the Congo Basin's extraordinary biodiversity.

Cover images: (from left to right)

Aerial view of the Democratic Republic of the Congo © Karine Aigner / WWF-US

Aphyosemion aurantiacum, Gabon 2018 © Olivier Buisson

Atheris mongoensis, DRC 2020 © Jean-François Trape

Cardioglossa annulata, Republic of Congo 2015 © Marius Burger

Sabicea rubiginosa, Gabon 2020 © Olivier Lachenaud

CONTENTS

Chlorocypha aurora, Dawn Jewel (male), Cameroon 2015 © Jens Kipping

FOREWORD: EXPLORING THE BIODIVERSITY OF THE CONGO BASIN, A DECADE OF DISCOVERY

Dear Readers,

Over the last few years, I have discovered the rich biodiversity of the Congo Basin and the impressive work done by governments, local and international civil society organisations to protect the ecosystem of the Congo Basin.

It gives me pleasure to introduce this report, which delves into the remarkable biodiversity of the Congo Basin—a vast and ecologically diverse region that spans the countries of Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, and the Republic of Congo.

The Congo Basin forest, covering an impressive 200 million hectares, stands as the world's second largest tropical forest. Within its lush green expanse, we encounter a rich variety of species, both familiar and newly revealed: over 742 species in just the last decade alone.

Approximately 10,000 species of tropical plants call the Congo Basin home, with 30 percent of them being unique to this region. From majestic trees to delicate orchids, the flora here paints a vivid picture of resilience and adaptation.

The forests influence the rain across Africa and shelter many endangered species. Forest elephants, chimpanzees, bonobos, and both lowland and mountain gorillas inhabit them but also the iconic okapi, and the Congolese peacock. Their survival depends on the balance maintained by this ecosystem. Recently, scientists mapped the world's largest tropical peatland within the Congo Basin—an essential carbon sink that supports nearby human communities and wildlife.

For over 50,000 years, humans have coexisted here with nature. Today, more than 75 million people rely on the Congo Basin for sustenance, shelter, and cultural identity. Several indigenous communities still call the forest their home.

Among the newfound treasures presented in this report are new plants, invertebrates, fish, amphibians, reptiles, birds and mammals, from new spiders to new cobras and even a monkey species known locally as the 'lesula'.

As we delve deeper into this report, let us celebrate the diverse life that exists in the Congo Basin and recognise the urgent need for conservation. Already WWF has programmes up and running such as the One Health approach, primate habituation, biomonitoring, solutions to human-elephant conflicts, Forests Forward,[1] TRAFFIC,[2] the Forest Stewardship Council (FSC) and ecotourism.

We are furthering these initiatives, working across key areas and critical habitats in landscapes like the Trinational de la Sangha (TNS) in Cameroon, Central African Republic and the Republic of Congo, the Trinational Dja - Odzala - Minkebe (TRIDOM) in the Republic of Congo, Cameroon and Gabon and the Salonga-Lukenie-Sankuru in the Democratic Republic of Congo, with WWF having a presence in five of the six countries covered in this report.

Our collective efforts can ensure that future generations inherit a world where the lesula monkey's call still echoes through the canopy, and where the peatlands and forests continue to sequester carbon for the well-being of people and our whole planet.

With gratitude for the tireless work of researchers, conservationists, government partners and local communities, I invite you to explore the wonders of the Congo Basin.

Warm regards,

Dr Martin Kabaluapa,
Regional Director Congo Basin
WWF International

EXECUTIVE SUMMARY

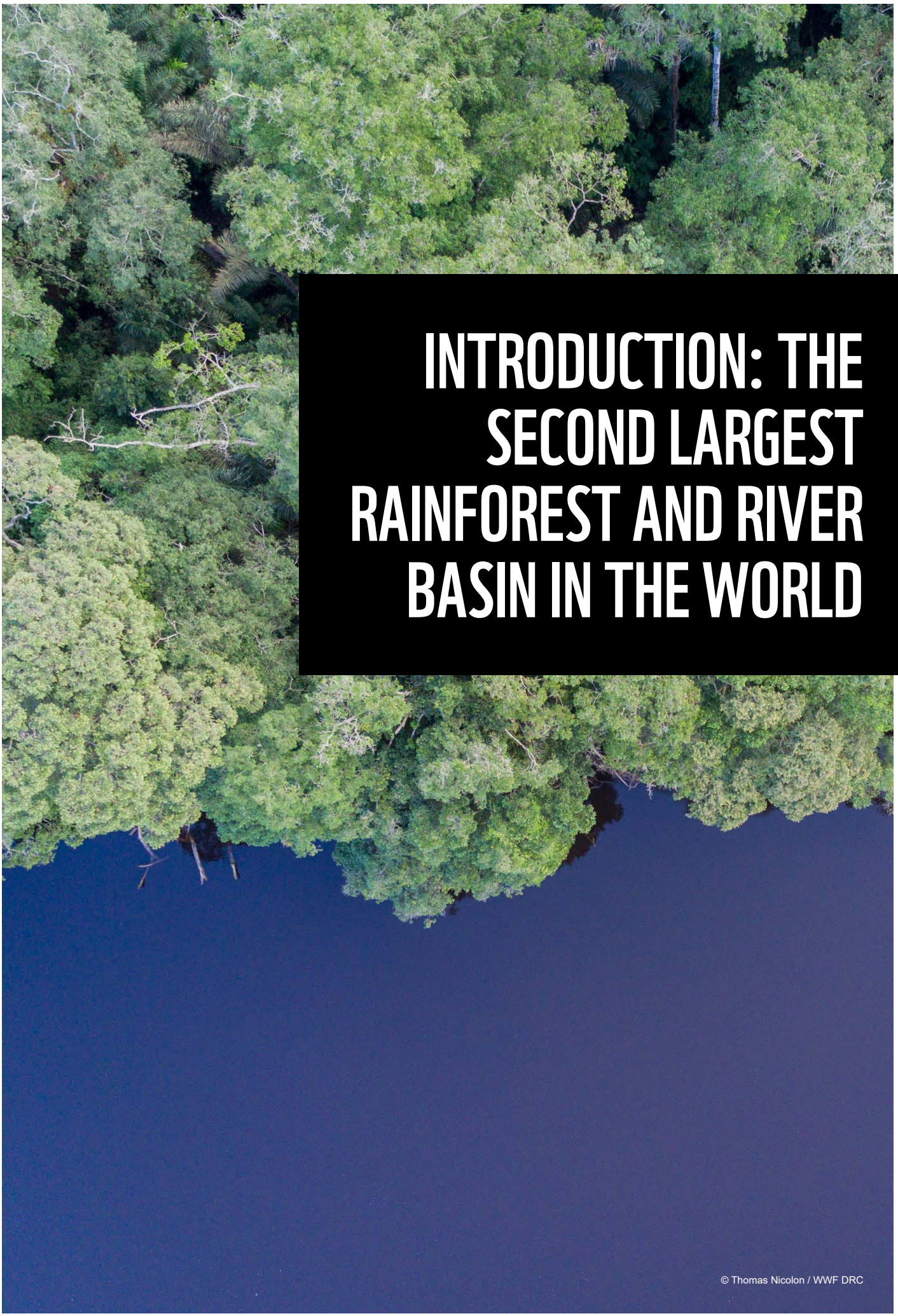
Between 2013 and 2023, at least 742 species have been discovered in the Congo Basin region of Central Africa and have officially been described by scientists as being new species.[3] Although some of the new finds may have been known to locals for possibly centuries, they will be new to science.

Recent finds include new orchids species and other flowering plants, new species of coffee, the first firefly species from the Central African Republic, air-breathing catfish, bats, blind snakes, bush vipers, chameleons, clawed frogs, cobras, crocodile, dragonflies, electric fish, endangered frogs, mice, a new monkey, owl, robin, shrews, spiders, a turtle and wasp, to name just a selection of the new discoveries. This report is not exhaustive but gives a snapshot of new life identified in this region.

In summary, the Congo Basin is not only a biodiversity hotspot but also a critical resource for both wildlife and human communities. The discovery of new species underscores the urgent need for conservation efforts to protect this vital ecosystem. The lush forests are home to endangered wildlife, such as forest elephants, chimpanzees, bonobos, lowland and mountain gorillas. Over 400 other species of mammals, 1,000 bird species, and 700 fish species and an incredible 10,000 species of plants can be found in the Congo Basin.

WWF has been involved in conservation here for several decades. We continue to work with local communities, institutions and governments across its 200 million hectares, linking community action with science and effective policy to promote the protection and sustainable use of forests, freshwater, and marine resources for people and for nature. More information on the initiatives and programmes WWF are pioneering can be found in this report.

INTRODUCTION: THE SECOND LARGEST RAINFOREST AND RIVER BASIN IN THE WORLD



© Thomas Nicolon / WWF DRC

GEOGRAPHY

The Congo Basin makes up one of the most important wilderness areas left on Earth. Covering an area over 200 million hectares, it is larger than the state of Alaska, USA, or 13 per cent of the entire African landmass and stands as the world's second largest tropical forest after the Amazon. The mighty Congo River and its tributaries spans 4,700km (2,900mi), the only major river globally to cross the Equator twice, flows through 10 countries from its highest point in the East Africa Rift to its lowest where it empties into the Gulf of Guinea at Moanda in the Democratic Republic of Congo. The river has the second largest flow in the world, after the Amazon, the second largest drainage basin of any river, behind the Amazon; and is one of the deepest rivers in the world, at depths greater than 220m (720ft).

Habitat types in the basin region span a remarkable range from dense network of tributaries, sub-tributaries, and small rivers coastal forests, swamp forests and lowland forests, flooded forest, woodlands, savanna, thickets, moorlands, grasslands and mangroves, caves, waterfalls pools, lakes and rapids, equatorial coastline and the Gulf of Guinea. The Congo Basin features concentric slopes ranging from 275 to 460m (900 to 1,500ft) in elevation.

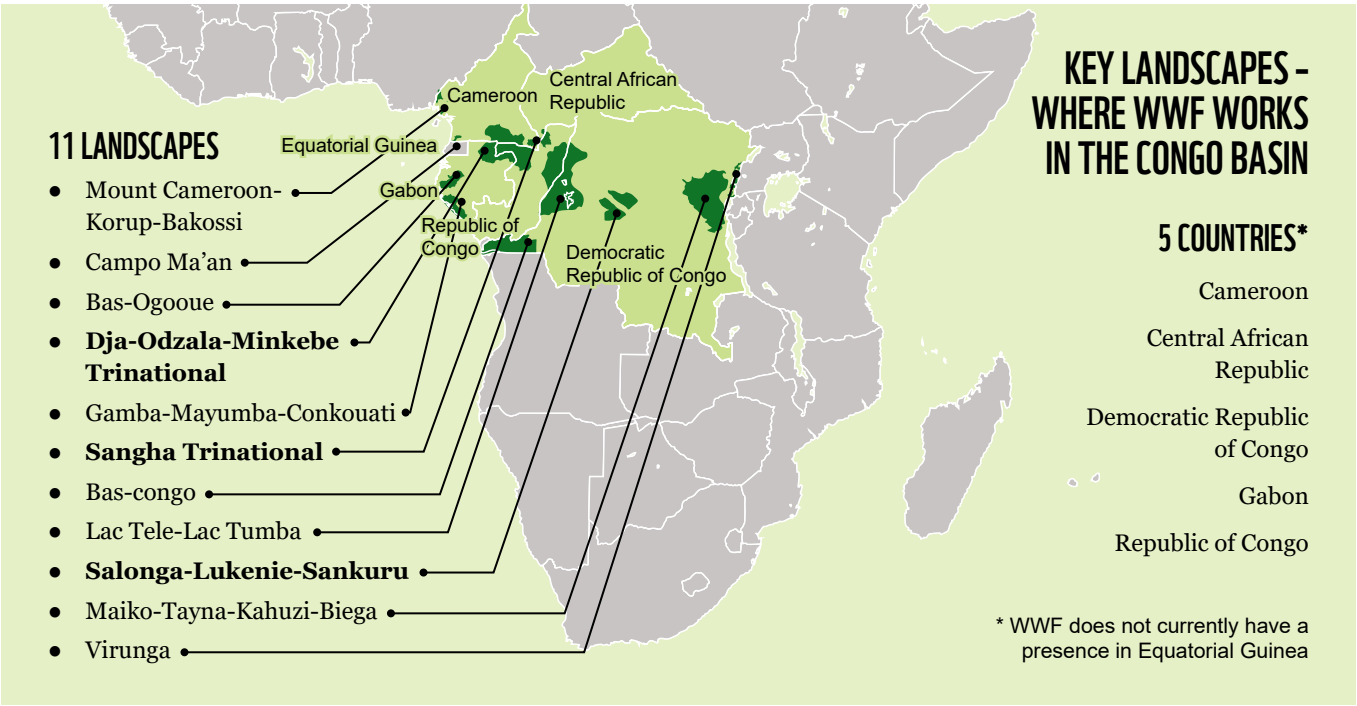
The Congo Basin contains a staggering 18 Terrestrial Ecoregions, 20 Freshwater Ecoregions and one Marine Ecoregion.[4] Ecoregions help us understand the natural diversity and ecological distinctiveness of different areas on our planet. These regions cover relatively large areas of land or water and contain characteristic, geographically distinct flora and fauna which may be distinct from other Ecoregions. To date, the map of Ecoregions[5][6] represents the most detailed classification available to highlight the importance of the habitats in the region.[7]

It's not just the diverse landscape that distinguishes the Congo Basin from other places, but the unparalleled cultural diversity too. The Congo Basin is home to ancient cultures and some of the earliest archaeological evidence of human existence. An archaeological dig along the Congo River in 2010 discovered a well-preserved ceramic pot of the Bantu people among sites dating between 1,500-3,000 years old.[8]

The Congo Basin has been inhabited by humans for more than 50,000 years. Today, the Congo Basin provides food, medicine, water, materials and shelter for over 75 million people. Among some 150 different ethnic groups, the Ba'Aka, BaKa, BaMbuti, Efe and other related groups—often referred to as Pygmies—are today's most visible representatives of an ancient hunter-gatherer lifestyle. They possess an incredible knowledge of the forest, its animals and its medicinal plants. Their lives and well-being are linked intimately with the forest. Some 242 languages are spoken in the Democratic Republic of Congo alone,[9] 208 of these are living languages.[10]

The vast forests of the Congo Basin act as powerful carbon sinks that absorb carbon dioxide (CO_2) from the atmosphere – a process that reduces the overall concentration of greenhouse gases and helps mitigate climate change. By storing large amounts of carbon in trees and soil, these forests play a crucial role in regulating the global carbon cycle and reducing net CO_2 emissions.

The Congo Basin is also vital to regulating climate beyond the green canopies of the forest, generating rainfall as far away as the Sahel and the Ethiopian highlands, supporting a further 300 million rural Africans.[11]



© Andy Isaacson / WWF-US

WWF SPOTLIGHT: TNS- TRINATIONAL DE LA SANGHA LANDSCAPES

The cross-border conservation initiative, known as the Sangha Tri-National (TNS) comprises three components. The Nouabalé Ndoki National Park located at the extreme northern part of the Republic of Congo, covers 4,000km2 of primary forests. This area has never been exploited by logging companies and is of particular botanical and biological significance. It was created in 1993 and is one of the largest forest reserves of West Central Africa. The park covers about two per cent of Congo's forests. The landscape contains over 300 bird species and more than 1000 plant species. The Dzanga-Sangha Protected Areas were established in December 1990, with an area of more than 4000km2. They are located in the Sangha-Mbaere Division in the south-western region of the Central African Republic, comprising two areas: the Ndoki sector that spans 725 km2 and the Dzanga sector which covers 495km2. The area has a Guinean forest type climate. The Lobéké National Park is mainly constituted of equatorial forest in the extreme south-eastern Cameroon. It covers an area of 217,854 hectares and was created in March 2001. Lobéké has a swampy clearings network especially on its eastern side and has a varied biodiversity rich in wildlife and plant resources. Many of these species are endemic and the park has one of the highest concentrations of African elephants and gorillas. The area is home to 305 bird species and 764 species of plants.


© WWF / Jaap van der Waarde

WWF SPOTLIGHT: TRIDOM LANDSCAPE

The TRIDOM landscape, involving the countries Cameroon, Congo and Gabon, spans nearly 10 percent of Central Africa's tropical forests, or 178,000km². This landscape contains 11 protected areas, including the Minkébé, Mwagna and Ivindo national parks in Gabon. It features most of the biodiversity of the Central African rainforests with emblematic species such as forest elephants and great apes. The landscape is known as the region's first "hot-spot" for the conservation of forest elephants – an estimated 40,000 forest elephants are found here. The TRIDOM landscape is facing several threats that are causing the degradation and the loss of its natural resources, such as poaching of elephants for ivory, hunting for the bushmeat trade, degradation and loss of natural habitats due to unsustainable extractive activities in the forestry, mining, agro-industry, fisheries and food crop sectors, human-wildlife conflicts, especially the human-elephant conflict

A weekly market in Vitshumbi Fishing village on the Southern shores of Lake Edward, Democratic Republic of Congo.

WWF SPOTLIGHT: SALONGA LANDSCAPE

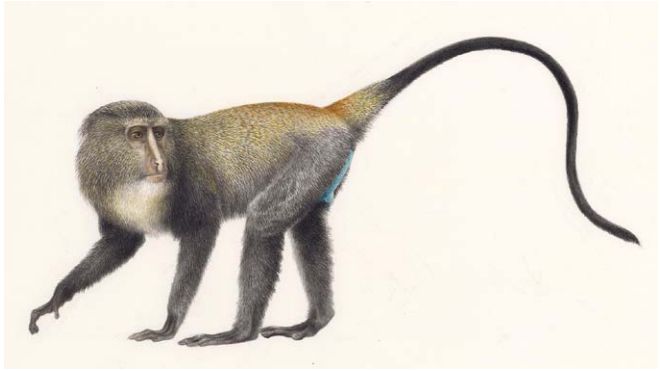
Declared a UNESCO World Heritage Site in 1984, Salonga is home to the Golden-Bellied Mangabey *(Cercocebus chrysogaster)*, Thollon's Red Colobus *(Piliocolobus tholloni)*, the Angola Pied Colobus *(Colobus angolensis)*, Allen's Swamp Monkey *(Allenopithecus nigroviridis)*, the De Brazza's Monkey *(Cercopithecus neglectus)* and the Black Mangabey *(Lophocebus aterrinus)*. The site also harbours the Congo Peacock, a majestic bird only found in the rainforests of the Congo Basin. A total of 51 species of mammals, 152 species of fish and 223 species of birds who live in the park. Several species are internationally endangered, particularly the forest elephant and the bonobo. Other large mammals are the leopard, nine kinds of antelopes including the bongo, five duiker species, giant pangolin and the hippopotamus. The threats to wildlife in Salonga are mostly related to illegal hunting, destructive fishing, live animal trade and the bushmeat trade, where nearly all species are targeted, as well as infrastructure development in the area.

BIODIVERSITY

It is the Congo Basin's extraordinary biodiversity that continues to amaze the world. This "megadiverse hotspot" is more like an entire continent than a region, given its amazing breadth of endemic animal and plant species.

In total, the Congo Basin is home to 15,387 vascular plant species, including 3,013 trees, representing five to seven per cent of the estimated world's tropical tree flora.[12] These forests have the highest endemism rate across Africa, with approximately 30 percent of species being endemic.[13] Over 1,200 species of birds, 450 mammal species, 700 species of fish, around 280 reptile species[14] and undoubtedly hundreds of thousands of invertebrate species can also be found here.

The second largest block of continuous tropical forest in the world harbours some of the most charismatic and iconic mammals in the world.[15][16] The Congo forest is home to endangered wildlife, including forest elephants, chimpanzees, bonobos, and lowland and mountain gorillas.



Cercopithecus lomamiensis, Lesula monkey, DRC 2012, illustration © Kimio Honda

Cercopithecus lomamiensis, Lesula monkey (male), DRC 2012, camera trap © Terese Hart

The okapi, *pygmy hippopotamus*, bongo (antelope) and the Congo peafowl also call this region home. In total, the region comprises 35 species of carnivores[17], 73 species of primates[18], and 57 species of artiodactyls[19], typically ungulate species like buffalo and antelope. Its apex predator is the leopard, which are larger than their savannah counterparts due to lack of competition from other large predators.

This vast wilderness area[20] which includes intact forest landscapes[21], remains largely understudied[22] - for example, new mammal species are still being discovered such as Cercopithecus lomamiensis in the Lomani National Park (NP) of the Democratic Republic of Congo.[23]

The Congo Basin is not only a megabiodiverse hotspot but also a lifeline for both wildlife and human communities.

WWF SPOTLIGHT: WWF BIOMONITORING – EYES ON THE FOREST

Since 1978 significant efforts have been made by WWF to conduct wildlife inventories, support government-led anti-poaching and law enforcement, the creation of Protected Areas (PAs), the development of community-managed areas and other initiatives. WWF has an ambitious programme in the Congo Basin that aims at stabilising or increasing the population of key species, including great apes (chimpanzees, gorillas and bonobos), elephants and regularly hunted species such as monkeys and duikers. The programme recognises the importance of biomonitoring in the implementation of its activities and to ensure greater conservation impact. In order to ensure better monitoring, assessment and optimisation of its conservation activities in the Congo Basin, WWF has committed to engage in a well-structured and coordinated programme based on existing capacities in countries as well as on the support of a dedicated biomonitoring coordinator focusing on the Congo Basin. This move has boosted activities under a harmonised survey protocol. It has also increased collaboration with other NGOs, universities and research institutes and contributed in ensuring that inventories are carried out following internationally recognised methods and standards.

One such biomonitoring consensus conducted by WWF and partners started since 2014. The surveys focuss on the Status of Forest Elephant and Great Apes in Central Africa Priority Sites for WWF and those species.

Several results have been compiled up to now; but a regional report produced in 2017 presents the information below.

Scope of the studies:

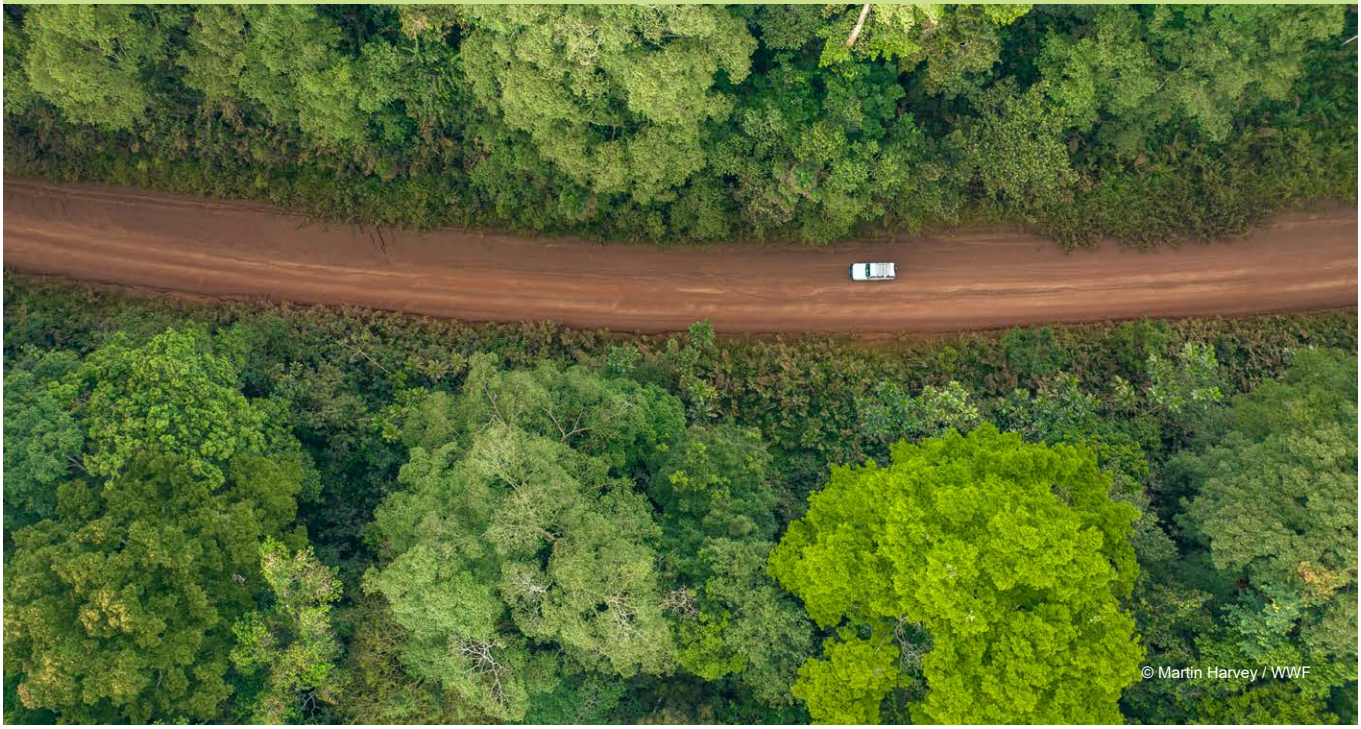
- Key protected areas in four countries: Cameroon, Gabon, Central African Republic and the Republic of Congo,
- Three conservation landscapes: Campo Ma'an, Sangha Tri-National (TNS) and Tri-national Dja-Odzala-Minkébé (TRIDOM). About one quarter of the total area of the landscapes was covered.
- A total surface area of 5,850,000 hectares

Key findings:

- Poaching pressure is 50 percent less in protected areas than outside
- Elephant population decreased by 66 per cent between 2008 and 2016 in the surveyed protected areas.
- Survey results show an estimated 59,000 weaned great apes individuals
- The elephant population is estimated at 9,500 individuals.

New studies are ongoing in the regional and after their completion, a new status will be done at regional level for a good understanding of new trends in wildlife populations and threats within WWF activity areas. Those results will be linked to the land cover changes in the region to enable adequate recommendations for adaptive management.

» **Find out more:** bit.ly/EyesOnTheForest



THE GREATEST SHOW ON EARTH: DISCOVERING THE CONGO BASIN

Man knows just one fifth of the nine million species of animal, plant, fungus and protist thought to inhabit our planet.[24]

Describing new species is a fascinating process that allows scientists to uncover the rich diversity of life on our planet. They often encounter new species during fieldwork, expeditions, or explorations, collecting specimens (individual organisms) that appear distinct from known species.

The description of a new species refers to the official scientific process by which a species is formally introduced and "described" by scientists for the first time in a peer-reviewed scientific journal.

Describing new species helps us understand and protect the life forms we share our planet with. Conservationists cannot protect what they do not know exists – a species without a name cannot be added to the IUCN Red List of Threatened Species[25] - so species descriptions are crucial for conservation efforts.

WWF has included in this report new discoveries that have been identified and presented as such by scientists. The new species were recorded by scientists from a number of institutions around the world, including museums, universities, government and non-governmental organisations. WWF was involved in the discovery of some of the new finds, including, for example, a certain new spider species *(Myrmarachne salongensish)* found in the Democratic Republic of Congo.

This report presents a list at the back of this report (Appendix 1) which was informed by a variety of expeditions and data retrieved from official and respected scientific databases, appendices, reports and peer-reviewed scientific journals. It was further refined through correspondence and advice received directly from the scientists that discovered the species featured. The list is not intended to be an exhaustive record of new species found in the Congo Basin region, as undoubtedly some species will have been unintentionally overlooked. It should be noted that many other species that may turn out to be new to science may have been encountered and collected in the Congo Basin over the past 10 years. These species may currently be awaiting official scientific description and recognition.

Indigenous knowledge

For centuries, indigenous communities in the Congo Basin have coexisted with these ecosystems, possessing deep knowledge of the flora and fauna that inhabit them. Many of these species, while newly described in scientific literature, have been familiar to local communities through generations. Recognizing this knowledge is integral to conservation efforts, and WWF is committed to working alongside these communities to honor and preserve this shared heritage.

Between 2013 and 2023, at least

742

new species were described for the first time by dedicated scientists. Each and every discovery made contributes to our understanding of Earth's incredible biodiversity. The new encounters span all the different animal groups and range from the cryptic and charismatic to the bold, brilliant and bizarre.

Species of the Congo Basin continue to surprise scientists, spurring them to venture ever further into the unique and often isolated habitats of the region in search of fantastic new finds. As habitats are rapidly disappearing, new species discoveries can raise awareness for the most unique and threatened biodiversity as they are often popular indicators of habitat value and quality.[26]

WWF SPOTLIGHT: NEW DISCOVERIES AT A GLANCE (2013-2023)

BY SPECIES

Plants	430
Invertebrates	140
Fish	96
Amphibians	22
Reptiles	42
Birds	2
Mammals	10
Total	**742 New species**

BY COUNTRY*

Cameroon	238
Central African Republic	25
Democratic Republic of Congo	259
Equatorial Guinea	59
Gabon	262
Republic of Congo	65

* Note: Certain species were found in more than one country e.g. plants, fish

PLANTS

A vast new garden of species, a remarkable 430 plant species, have been discovered in the Congo Basin between 2013-2023.

Angraecum biteaui, a new orchid species, Gabon 2016 © M Simo & Stevart

Angraecum biteaui, Gabon 2016 © Vincent Droissart

The new species include a plethora of new orchids, ferns from the *Asplenium* genus, species from *Begoni*, *Coffea*, *Hibiscus*, as well as flowering plant species from *Didelotia*, and *Grangea genera*.

The finds include some 14 new orchid species described for the first time, including species from the *Angraecum, Bulbophyllum, Cyrtorchis, Liparis, Stolzia, Disperis, Tridactyle* and *Polystachya genera*.

The Endangered *Angraecum biteaui* orchid was first discovered in 2016 between Kinguélé and Tchimbélé, Gabon.[27] The species is threatened by oil and gas exploration, logging and wood harvesting.[28] The delicate *Angraecum geerinckianum* discovered in 2018 from Bordamur logging concession in the Ndjolé area of Gabon[29], and *Bulbophyllum pauwelsianum* from the Crystal Mountains National Park, a protected area in Gabon in 2014,[30] also threatened by deforestation.

431

NEW DISCOVERED PLANTS SPECIES

Other flowering plants include the yellow *Grangea ogoouensis* from the lower Ogooué basin of Gabon in 2020[31], *Greenwayodendron glabrum* in 2018 from south-west Cameroon, Equatorial Guinea and Gabon in 2018[32], the white *Impatiens akomensis* from Efoulan, South Region, Cameroon in 2015[33], and the threatened purple *Impatiens banen* from the Yingui-Yabassi area of Littoral Region, Cameroon.[34]

Greenwayodendron glabrum, Cameroon and Gabon 2018 © Ehoarn Bidault

Grangea ogoouensis, Gabon 2020 © Ehoarn Bidault

Angraecum geerinckianum, a new orchid species, Gabon 2017 © Ehoarn Bidault

Bulbophyllum pauwelsianum, a new orchid species, Gabon 2014 © MBG

Impatiens akomensis, Cameroon 2015 © Vincent Droissart

Impatiens banen, Cameroon 2022 © Vincent Droissart

Sirdavidia solannona was described in 2015 from Gabon by Thomas L.P. Couvreur of France's Institute of Research for Development, Raoul Niangadouma of the Herbier National du Gabon, Bonaventure Sonké of the University of Yaoundé, and Hervé Sauquet of Université Paris-Sud.[35] The genus was named in honour of naturalist Sir David Attenborough. The type species *Sirdavidia solannona* was discovered and collected in Gabon in the Crystal Mountains National Park on 15 November 2013, at elevations of 300–600m, and named a Top Ten New Species globally for that year.[36] According to the scientists that filmed the pollination of *Sirdavidia*, it represents a unique syndrome amongst the whole family and order with bees trying to buzz the flower. The species is the only plant in its genus of flowering plants from the family *Annonaceae*. The species name refers to the resemblance of the flowers to those of *Solanum* species.

This species can grow to six metres tall with a narrow trunk just a few centimetres wide. The leaves are up to 26cm long by 9cm wide, roughly oval in shape with long, pointed tips. The inflorescences occur in the leaf axils and directly from the trunk. There are male and bisexual flowers. Each is made up of three whorls: one whorl of red sepals and two whorls of red petals. As the flower blooms the petals spread outward and sometimes curl backward toward the stalk. At the centre are 16 to 19 stamens with bright yellow tips.

Sirdavidia solannona, Gabon 2015 © Thomas Couvreur

New *Hibiscus* plants have been described including *Hibiscus minkebeensis* from Minkébé National Park in 2013[37] and *Hibiscus ngokbanakii* also from Gabon in 2013.[38] In addition a new coffee species, *Coffea rizetiana,* grown from plants collected south of the Mouyouka-Kompina Forest Reserve in Littoral Region, Cameroon in 2016, was officially described in 2021.[39]

Further plants of particular interest due to their distribution or habitat include the small herbaceous *Psychotria yaoundensis* discovered in 2013 in Central Province, Cameroon[40], which is only known from three rocky hills around Yaoundé and is Critically Endangered.[41] The plant *Palisota leewhitei* described in 2019 is endemic to the Raponda-Walker arboretum near Libreville, Gabon.[42] The species *Pauridantha gracilipes* has a very restricted distribution in the Ogooué delta, Gabon, and was first collected in 2014.[43] It only occurs in forests dominated by *Ctenolophon englerianus,* which are noteworthy for having the highest carbon stock per hectare of any plant.[44]

Psychotria yaoundensis, Cameroon 2013 © Olivier Lachenaud

Pauridiantha gracilipes, Gabon 2019 © Olivier Lachenaud

Sabicea rubiginosa, Gabon 2020 © Olivier Lachenaud

Palisota leewhitei, Gabon 2019 © Olivier Lachenaud

Particularly spectacular or attractive plants include the Endangered[45] *Englerophytum gigantifolium,* a plant with very long leaves described in 2016 from Mabounié, Ogooué Province, Gabon.[46] The highly ornamental species *Globimetula agelanthoides* is a parasitic mistletoe with attractive flowers, often growing on planted citrus and avocado trees. The species was discovered in 2023 in Cape Esterias, Estuaire, Gabon.[47]

Plant 'rediscoveries' include *Virectaria salicoides,* a herb growing on rocks in rivers, originally collected in 1897 in Gabon[48] but rediscovered by scientists in 2021. The species *Psychotria gaboonensis,* first collected in 1861 in Gabon[49], also rediscovered in 2021 – nearly 160 years later; and *Ceropegia letestui,* a herb from coastal white sand savannas in Gabon and Republic of Congo[50], with spectacular but foul-smelling flowers, rediscovered in 2016.[51]

Some 2,000 plant species globally are described for the first time each year[52], so the new species have made an important contribution to this number.

Englerophytum gigantifolium, a species known for its very long leaves, Gabon 2016 © Olivier Lachenaud

Globimetula agelanthoides, Gabon 2023 © Ehoarn Bidault

WWF SPOTLIGHT: WWF CONGO BASIN MONITORING AND EVALUATION DATABASE

WWF has turned its Congo Basin Biomonitoring Programme into an integrated "Impact Monitoring Programme" which is integrated into day-to-day activities for more efficiency, in order support field and countries programmes in delivering conservation outcomes and impacts for an easy contribution to the Global Goals. It is critical to properly identify and estimate the natural capital in order to sustainably manage it, by properly orientating conservation efforts and evaluating the efforts and their outcomes.

The general objective of the programme is the establishment of an adequate monitoring and evaluation system by 2027 for WWF's inclusive conservation efforts, which supports the adaptive management of priority landscapes and demonstrates conservation impacts across five countries in the Congo Basin: Cameroon, Central African Republic, Democratic Republic of Congo, Gabon and Republic of Congo. The target area spans more than 10 sites of high priority for WWF located in six landscapes - an area of at least 10 million hectares, targeted for data collection. Priority sites and their peripheral zones represent about 20 percent of the surface area of the six landscapes.

The programme identified the need for information storage and management in a structured way, allowing easy and quick access. Like several existing web platforms designed with databases facilitating visualisation and access to certain information, a web platform named "Congo Basin Monitoring and Evaluation Database" has been built to support decision-making. The platform has the advantage to combine several key sources of information useful for the management and development of conservation and research projects. It is organised by level (Congo Basin subregion, countries, landscapes and sites) and by pillars (type of data source), and it remains flexible to integrate additional topics.

The database is still being improved and updated to provide access to reliable ecological and socio-economic data from WWF-supported programmes and other organisations in the Congo Basin. It is also a repository to facilitate information sharing, communication, and learning for all users. It particularly depicts the outcomes and impacts of different thematic issues of conservation and sustainable development at several geographic scopes.

» **Find out more:** bit.ly/ImpactMonitoringDatabase


© WWF / Jaap van der Waarde

Cyrtorchis okuensis, a new orchid species, Cameron and Equatorial Guinea 2021 © Vincent Droissart

Cyrtorchis submontana, a new orchid species, Cameroon, Equatorial Guinea and Republic of Congo 2016 © Vincent Droissart

Tridactyle minutifolia, a new orchid species, Equatorial Guinea and Gabon 2015 © Ehoarn Bidault

Polystachya bamendae, Cameroon 2013 © Vincent Droissart

INVERTEBRATES

Small creatures have a big role to play in the delicate ecology of the Congo Basin. It is difficult to count all the new invertebrates discovered in the region since 2013, but if we look at historical records at least half of all new species discovered globally each year are arachnids, insects and plants. An army of new species including at least 140 ants, beetles, bugs, flies, mites, moths, spiders, worms and a new firefly species were described for the first time.

Umma gumma © Klaas-Douwe B Dijkstra

+121

BUGS, ANTS, MITES, BEETLES, WORMS, FLIES, MOTHS, SPIDERS AND A NEW FIREFLY SPECIES

In 2022, a new species of firefly *Afrodiaphanes pulcher* was recorded from a cave system in Nana-Grébizi Prefecture, 550m above sea level in the Central African Republic.[53] The 17mm long species was given the name *pulcher* after the Latin meaning for beautiful or graceful. Today, the greatest diversity of fireflies can be found in the Democratic Republic of Congo and South Africa where the tropical and equatorial regions produce great biodiversity hotspots. It's very likely that a large number of firefly species have yet to be described and studied in Africa. Still, we do have records of numerous diverse species.

In 2010, 67 scientific experts in their fields descended on the Democratic Republic of Congo to mark 50 years since the country's independence. The expedition produced some staggering entomological results.[54]

Freshwater covers less than one percent of Earth's surface, but harbours ten per cent of animal species, of which a third may be at risk of extinction, with many of these being insects like dragon and damselflies.[55] So, it was exceptionally good news when a group of scientists including Dutch expert Dr Klaas-Douwe Dijkstra described 60 new species of dragonfly from Africa in a single journal published in 2015. Some 40 species were from the Congo Basin countries identified during the 2010 expedition, including the charismatic Robust Sparklewing *(Umma gumma)* from Cameroon, Democratic Republic of Congo, Gabon and Republic of Congo.[56] The species is named after the 1969 album by English rock band Pink Floyd and was listed as a Top Ten New Species discovery globally that year.[57] Other fantastically named species include the Swordbearer Emperor *(Anax gladiator)* from the Democratic Republic of Congo and Goldsmith Threadtail *(Elattoneura aurifex),* Bongo Leaftail *(Phyllogomphus bongorum)*, and Blue-spotted Pricklyleg *(Porpax mezierei),* all from Gabon.[58]

Anax gladiator, Swordbearer Emperor, DRC 2015 © Jens Kipping

Pseudagrion dactylidium, Gabon Slim Sprite (male), Gabon 2015 © Nicolas Meziere

Umma gumma © Klaas-Douwe B Dijkstra

Pseudagrion aureolum, Nugget Sprite (male), Gabon 2015 © Jens Kipping

Umma gumma, Robust Sparklewing (male), Cameroon, DRC, Gabon and Republic of Congo 2015 © Jens Kipping

Porpax mezierei, Blue-Spotted Pricklyleg (male), Gabon 2015 © Nicolas Meziere

Also part of the expedition in 2010, a pair of dedicated scientists identified a staggering 25 new species of flies *(Diptera),* which were officially described as new to science in 2013.[59] A year later, Dr Patrick Grootaert and Dr Igor Shamshev would describe a further 19 species also from the Democratic Republic of Congo.[60] [61]

Moths of the *Lasiocampidae* family are often spread through Cameroon, southern Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon and Republic of Congo. One scientific team described 19 species between 2013- 2023. Some of the species were discovered during a one-year stationary expedition in Mai-Ndombe, Ekongo camp in the buffer zone of the Salonga National Park between June 2017 – June 2018. Collectors Alexey Prozorov and Tatiana Prozorova along with fellow scientists evaluated the biodiversity of the park and analysed the diversity of collected specimens. Their results suggested that around 76 per cent of the collected species were endemic to the Salonga National Park and a staggering 84 per cent were likely new to science out of a total of 254.[62] The new species include *Leptometa adalensis, Leptometa knudlarseni, Leptometa sophiae,* all officially described in 2023.[63]

Lyroda centralafricana is a digger wasp of the family *Crabronidae*.[64] Little is known about the biology of the species from north of Sibut, Central African Republic, but related species are ground nesters which dig long burrows into the soil (up to 30cm below the surface). These contain several cells and the larvae develop in these. *Lyroda* species feed the larvae with grasshoppers. Some 19 species are known worldwide, most of them are from Asia.[65] The new species was described based on a specimen found in the Entomology collection of the Oberösterreichisches Landesmuseum in Linz, Austria.[66]

Leptometa adalensis (female), DRC 2023 © Prozorov et al.

Lyroda centralafricana (female), a new wasp species, CAR 2021 © Christian Schmid-Egger

Onychogomphus undecim, Katanga Claspertail (male), DRC 2015 © Klaas-Douwe B Dijkstra

Lyroda centralafricana (male), CAR 2021 © Christian Schmid-Egger

Four species of bark beetle including *Afromicracis concava* were discovered over the last 10 years.[67] This new species is only known from the vicinity of Mann Spring, Mount Cameroon. Specimens were collected from a variety of unusual host plants from different plant orders, including a *Hypericum* tree (Hypericaceae), and from lignified herbs of *Vernonia* (Asteraceae), *Solanecio mannii* (Asteraceae) and *Plectranthus* (Lamiaceae). The species was found feeding on the bark of the first three hosts and in the woody roots of *Plectranthus* pulled out from the soil. In *Vernonia* plants, both adults and larvae excavated longitudinal tunnels between fibres just beneath the cortex. The species is reddish-brown and has a concave forehead which gives the species its particular Latin name *Concava*.

Other new invertebrates include leafhoppers such as *Paranataretus albertinus* described from North Kivu Province, Democratic Republic of Congo in 2023[68], and an abundance of new spiders including *Orthobula marusiki* from Cameroon and Central African Republic in 2022[69] and those found by WWF and partners in the Democratic Republic of Congo (see Textbox).

Paranataretus albertinus, DRC 2023 © Vladimir Gnezdilov

Polychornum centroafricanum, DRC © Vladimir Gnezdilov

Afromicracis concava, Cameroon 2021 © Bjarte Jordal

Orthobula marusiki (female), Cameroon, CAR 2022 © Charles Haddad

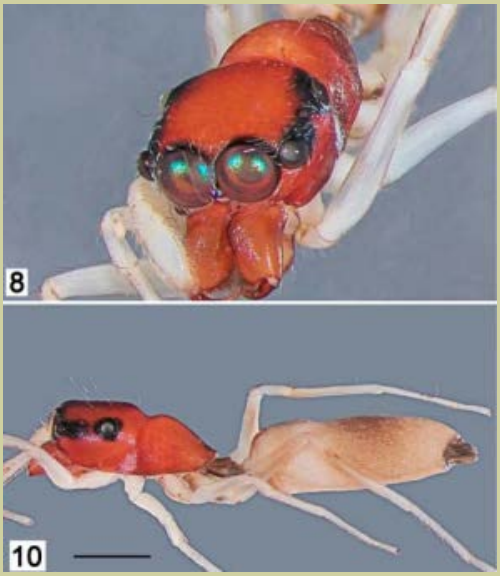
Ceriagrion banditum, Band-Eyed Citril (male), DRC 2015 © Jens Kipping

WWF SPOTLIGHT: WWF SPIDER DISCOVERY IN SALONGA NATIONAL PARK

Between November–December 2022, during a biodiversity inventory expedition to Salonga National Park, a science team discovered an orange-striped ant-like jumping spider. The species *Myrmarachne salongensish,* collected in Africa's largest protected tropical rainforest reserve in the Democratic Republic of Congo, was found at two sites deep in the primary rainforest.[70] The forest has dense leaf litter, high tree canopies and many large mature trees.

The spider was one of three species collected by scientists from the Biodiversity Inventory for Conservation (BINCO) in partnership with WWF: two species were recorded for the first time - the first published records of Myrmarachnini spider species from Salonga.

Jumping spiders are the most diverse spider family in the world, with 6,618 species in 677 genera. In the Afrotropical Region, over 1,000 jumping spider species are known. Despite having a relatively large number of described species, spider fauna in the region remains understudied with data limited to a few countries and localities. For instance, in the Democratic Republic of Congo, the largest country in Africa, only 66 jumping spider species have been recorded to date. However, based on the data from comparable sized tropical countries, it is believed to contain as much as 500 jumping spider species.[71]



Myrmarachne salongensis (female)
© Pett et al

Elattoneura aurifex, Goldsmith Threadtail (male), male, Gabon and Republic of Congo 2015 © Jens Kipping

Lestinogomphus venustus, Lovely Fairytail (male), Gabon 2015 © Nicolas Meziere

Phyllogomphus bongorum, Bongo Leaftail (male), Gabon 2015 © Jens Kipping

Urothemis venata, Red-Veined Basker (male), Gabon 2015 © Jens Kipping

FISH

Barbs, bass, catfish, clingfish, electric fish, killifish, swamp eel and tetras are among a whole shoal of new fish totalling 96 species encountered and described for the first time.

Aphyosemion aurantiacum, Gabon 2018 © Olivier Buisson

101

NEW FISH SPECIES

Aphyosemion grelli (male), Gabon 2013 © Valdesalici, S. and Eberl, W.

Aphyosemion grelli (female), Gabon 2013 © Valdesalici, S. and Eberl, W.

In Gabon, a new species of killifish was described in 2018.[72] The fish *Aphyosemion aurantiacum* is brightly coloured with blue iridescent scales, beige flanks and intense orange fins and tail, has red dots between the rays on its fins. Measuring 3.9cm from the tip of the snout (nose) to the end of the tail. The species was 'unexpectedly' collected along with five other species in a southern and a northern tributary of Wézé River in the Wonga-Wongué Presidential Reserve in Gabon.[73]

The endemic species was only found at three localities and nowhere else in the basin to date. It lives only in very small forest streams and water holes, often with a bottom consisting of roots and dead leaves, where it can be found in abundance. In the southern-most locality, it was found hidden under dead leaves along the riverbanks in a two-metre-wide river with a sandy bottom. This species was found together with three further undescribed species of *Aphyosemion, Epiplatys* and *Plataplochilus* fish.

Killifish are found in lakes, rivers and streams and feed primarily on aquatic arthropods such as insect (mosquito) larvae, aquatic crustaceans and worms. Normally, killifish avoid near-surface water to reduce the danger of being eaten by predators. The large populations of killifish and the genetic diversity of the species have enabled it to evolve and survive in areas where other species have died out. Over a few dozen generations, in a relatively short period of time (50–60 years), killifish have evolved resistance against levels of dioxins, Polychlorinated biphenyls (PCBs), mercury, and other industrial chemicals up to 8,000 times higher than the previously estimated lethal dose.

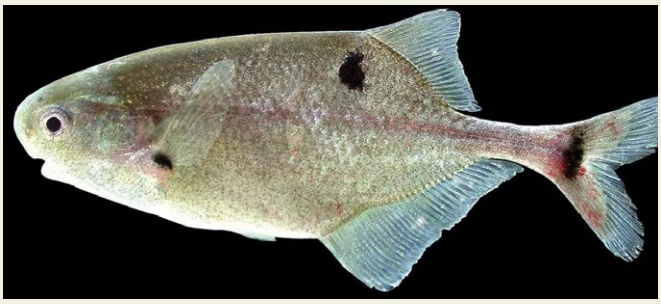
Ten species of elephant fish also known as electric fish were discovered during the period. These include the species *Petrocephalus arnegardi* described in 2014.[74] The silvery white, fish with three distinct black marks on each side of the body can grow to 9 cm (3.5 in) long and is found in the Likouala River drainage, middle Congo River, in the Democratic Republic of Congo and Republic of Congo.

Petrocephalus are African "Weakly" electric fishes (as opposed to "Strongly" e.g. electric eels and rays) of the family Mormyridae that produce pulses of only a few hundred millivolts from an electric organ made of modified muscle cells in front of their tail. Receptor cells on the fishes' skin detect distortions to the electric field created by nearby objects in the water. Short electric pulses, too weak to be sensed by touch, are also used to navigate their complex aquatic environment, sense prey and predators and communicate the sender's species identity and gender to other electric fishes for the purposes of reproduction.[75]

Clarias monsembulai, DRC 2022 © Melanie L Stiassny

Eugnathichthys virgatus, DRC 2013 © Melanie L Stiassny

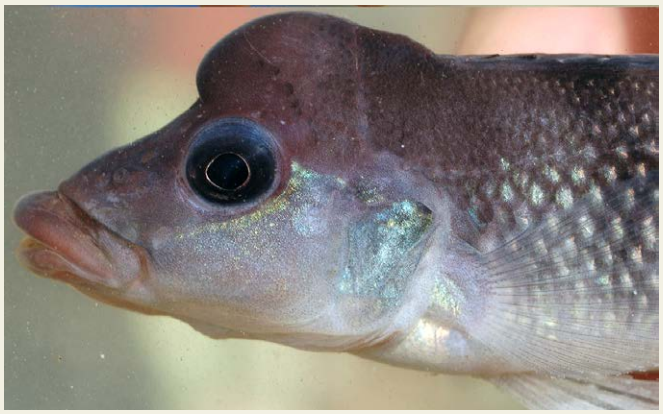
Cryptomyrus ogoouensis, Gabon 2016 © John P. Sullivan



Petrocephalus arnegardi, Republic of Congo 2014 © Sébastien Lavoué and John P. Sullivan

Petrocephalus boboto, Republic of Congo 2014 © Sébastien Lavoué and John P. Sullivan

A new species of air-breathing catfish *Clarias monsembulai* was discovered in 2022 and is only currently known from streams, both large and small, within the Momboyo, Luilaka, Salonga, and Yenge river systems, all within the Cuvette Centrale area of the middle Congo River Basin.[76] The near 10 inch long species is unique in that it has exceptionally long maxilliary barbels (up to 60 per cent of the fish length). The species is named in honour of Raoul Monsembula Iyaba, a biology professor at the University of Kinshasa for collecting the original specimen and for his contribution towards the study of fish (ichthyology) in Africa.

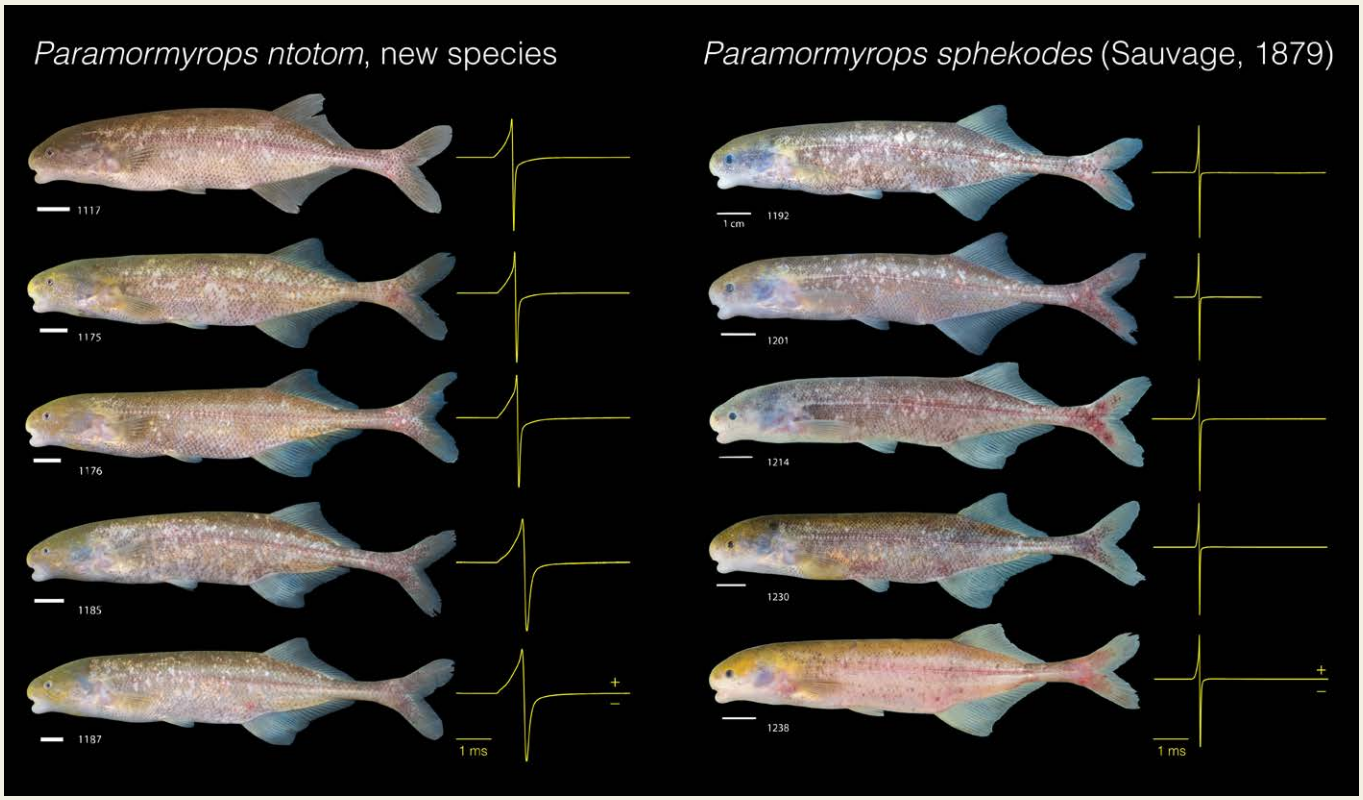


Lamprologus markerti, DRC 2014 © Melanie L Stiassny

A new cichlid species *Lamprologus markerti* is endemic to the lower Congo River in the Democratic Republic of Congo.[77] Another new cichlid species *Teleogramma obamaorum,* also native to the Congo River, is unique among the genus for the sexes lacking colour differences in the tail fin. Individuals reach up to 75 mm (3.0 inches) in length and are molluskivores preying mainly on snails.[78] The species was described in 2015 and named in honour of former U.S. president Barack Obama and first lady Michelle Obama in recognition of their commitments to science conservation, and development in Africa and overseas.[79]

Teleogramma obamaorum, DRC 2015 © Melanie L Stiassny

Nearly all the communities along the Congo River and its tributaries engage in fishing, providing a much-needed source of nutrition and protein for millions of people. Fish play an essential role in sustaining the livelihoods of Congo Basin communities and the sector across Africa employs some 12 million people. The continent's fisheries in general are incredibly important - almost 2.3million tonnes of fish are harvested each year inland and 4.6million tonnes from coastal marine waters, together contributing US$24billion to the African economy every year.[80] Climate change, pollution and overexploitation threaten these fish stocks and the future of fisheries.



Paramormyrops ntotom (left), Gabon 2017 © John P. Sullivan

WWF SPOTLIGHT: ECOTOURISM IN DZANGA-SANGHA

The Dzanga-Sangha Protected Areas (APDS) offers high quality tourism based on exceptional natural and cultural resources. In addition to observing key wildlife species such as forest elephants, lowland gorillas, chimpanzees, bongos, buffaloes, hogs, bushpigs to name a few, Dzanga Sangha offers its visitors the opportunity to experience the culture of the local indigenous communities, including the Ba'Aka and the Sangha-Sangha through a range of community activities based on their traditional way of life.

Living with the Ba'Aka is an exceptional experience. The Ba'Aka are a people of the Congo Basin who are among the most dependent on the forest. Visitors can experience a traditional culture through community activities like hunting with nets or crossbows, cooking by Ba'Aka women, honey harvest, raffia wine harvest, building huts and collecting medicinal plants.

Taking a dugout canoe on the Sangha River, Ba'Aka dance and singing, Bilo -meaning bantu in Ba'Aka language - singing, and water drumming can also be experienced.

The Ba'Aka involved in this activity aim to preserve their cultural heritage, promote traditional knowledge for self-determination, empower their youth to document ancestral wisdom, and create economic opportunities through cultural valorization.

» **Find out more:** www.dzanga-sangha.org/

AMPHIBIANS

An incredible chorus of 22 new frog species have been discovered in the Congo Basin between 2013-2023.

Cardioglossa annulata, Republic of Congo 2015 © Marius Burger

22

NEW FROG SPECIES

The species *Cardioglossa annulata,* also known as the annulated long-fingered frog, scientifically described in 2015.[81] It is native to the Niari Department of the Republic of Congo and inhabits elevations ranging from 634 to 744m (2,080 to 2,441ft). These frogs are found in forests and wetlands within a 610km² (240 sq mi) area. Most of the specimens were found or trapped along small rivers in secondary or degraded rainforest. Some individuals were found on plants or logs or on the forest floor in muddy or marshy areas.[82]

Adults of this species measure between 22.8 to 32.9 mm (0.90 to 1.30 inches), with a single juvenile measuring 21.5 mm (0.85 inches). The *Cardioglossa annulata* frog has a relatively long body with a sharp snout. Its extremities are elongated and slender. An identifying feature is three little black spots on its brown back, with white spines adorning the tips of its feet, dorsal thigh, lower back, and groin.

According to IUCN, the species is Endangered[83] facing threats from agriculture, livestock farming and ranching, logging and wood harvesting, development projects such as housing.[84]

The species *Congolius robustus* was described in 2021 from the Democratic Republic of Congo.[85] This nocturnal species is likely endemic to the Congo Basin as it has only been found in several small locations to the south of the Congo River where it perches on vegetation along forest streams, as well as sometimes occupying flooded forests and dense farmbush. Scientists say the medium-sized frog is a flagship species for the central Congolian forests - a key indicator species for the health of the habitats found here.[86]

Six clawed frogs were described in 2015. These included *Xenopus parafraseri,* or the Upland Clawed Frog which is endemic to Cameroon, Congo and Gabon.[87] It lives in forests and wetlands, and in elevations of up to 420 to 715 m (1,378 to 2,346 ft). *Xenopus mellotropicalis* or Gabonese Clawed Frog[88] from several Congo Basin countries, and Bamiléké Clawed Frog *Xenopus eysoole* from Cameroon.[89]

Not a new species but nonetheless a significant new discovery is the curious species *Sclerophrys channingi* which mimics the pitviper. Endemic to the eastern Lower Guinean rainforest of the Congo Basin, the Congolese Giant Toad, exhibits colouration that bears a striking resemblance to that of the widespread Gaboon Viper *(Bitis gabonica).*[90] According to scientists this is the only example in the world of a toad mimicking a venomous snake to avoid predation. Scientists determined this through studying comparative data from colour pattern, morphology, geographic distribution and behaviour of the two species. Although the colour pattern similarity between these taxa is not an exact match, aposematism (markings or colouration that advertises to potential predators that it is not worth attacking or eating) and precise imitation are not required for mimicry to be effective, especially when *Bitis gabonica* is dangerously venomous and carefully avoided by other vertebrates. The species is very adept at survival - in the past locals have believed that the toad's white secretions might induce blindness and thus feared it.[91]

Xenopus eysoole, Cameroon 2015 © Daniel Portik

Sclerophrys channingi, Congolese Giant Toad vs Gaboon Viper comparison © Eli Greenbaum

Cardioglossa congolia, DRC 2015 © Eli Greenbaum

Congolius robustus, DRC 2021 © Václav Gvoždík

Xenopus kobeli, Cameroon 2015 © Václav Gvoždík

Xenopus mellotropicalis, Cameroon 2015 © Václav Gvoždík

Xenopus allofraseri, Cameroon © Václav Gvoždík

REPTILES

A diverse nest of reptiles including 25 snakes such as blind snakes, cobras and pitvipers, 10 geckos, three chameleons, two skinks, one turtle and a crocodile have been newly discovered in the Congo Basin.

Mecistops leptorhynchus, Congo Basin, 2018 © Nik Borrow

Of all the new reptile species, the most significant has to be the Central African Slender-Snouted Crocodile *(Mecistops leptorhynchus),* described as a new species by scientists in 2018.[92] Within the Congo Basin region, the new crocodile can be found across Cameroon, Equatorial Guinea, Gabon, northern Angola, Central African Republic, Republic of the Congo and the Democratic Republic of Congo.

42

NEW REPTILE SPECIES

Originally thought to be the same species as the West African slender-snouted crocodile *(Mecistops cataphractus),* studies and careful analysis of molecular sequencing revealed a new species that really was 'hiding in plain sight'. Journal papers show the animals' genetics first diverged more than eight million years ago, as volcanos arose in and around what is now Cameroon. This volcanic activity created impassable mountains that split the range of the reptiles in two, cutting off gene flow, and separating the two populations ever since.

As a consequence of identifying the new species and separation from the West African slender-snouted crocodiles, numbers of the latter have been revised down to such a level that the species is now listed as Critically Endangered.[93] Habitat loss and poaching affect both species. The species is listed on CITES Appendix II[94], highlighting that it is a species that may become endangered in the future.

Elsewhere, a new turtle species was identified from the Central African Republic in 2014.[95] The African helmeted terrapin *Pelomedusa schweinfurthi* is small to medium-sized, dark-coloured helmeted terrapins with a known maximum straight length of 15.7 cm and can be found in rivers, lakes, marshes and swamps of the region. Unlike many others the species is quite dark coloured overall, with a predominantly brown carapace. It is an omnivorous eater mainly feeding on aquatic invertebrates, small fish, and vegetation. The species is named after Georg August Schweinfurth who collected the oldest of the samples of the new species during his third Africa expedition (1868 – 1871) "inside the heart of Africa".[96] The species brings the total number of *Pelomedusa* species to 23.

Mecistops leptorhynchus, Congo Basin, 2018 © Leyo

An example of the African helmeted turtle genus (*Pelomedusa subrufa* shown) © Charles J. Sharp

A plethora of new snakes have been discovered over the last decade including two new cobras. The dwarf water cobra *(Naja nana)* is a small, venomous species of aquatic cobra found in the large freshwater Mai-Ndombe Lake within the Tumba-Ngiri-Maindombe area, western Democratic Republic of the Congo, the largest Wetland of International Importance recognised by the Ramsar Convention in the world.[97][98] The dwarf water cobra does not typically grow longer than 1m (3.3ft). Unlike the two other semi-aquatic African *Naja* species, *Naja annulata* and *Naja christyi,* both of which can attain lengths of up to about 2.5m (8.2ft). Distinguishing features of the species include its characteristic defensive posture, its aquatic lifestyle, the straight-row arrangement of its dorsal scales, and its distinctive coloration: black with small white or yellowish spots, a whitish abdomen, and a black underside of the tail. Dwarf water cobras can swim and climb, but generally prefer a terrestrial habitat, although they will hunt exclusively fish.[99]

Naja nana, DRC 2020 © Jean-François Trape

Naja nana, DRC 2020 © Anthony Laing

Naja savannula, Cameroon 2018 © Jean-François Trape

Naja savannula, Cameroon 2018 © Jzoobob

Among other new snakes is the venomous *Toxicodryas vexator* found in Mulisi, Nzovu Est, Kahuzi-Biega National Park, South Kivu Province, Democratic Republic of Congo.[100] The species described by scientists in 2021 is over a metre long and with adult males being glossy or velvety black with a yellow belly, and adult females light brown, grey, or yellowish-brown with light-brown or cream cross-bars on the flanks, with yellowish-brown venters. The name given to the species refers to the latin name for 'stalker' or 'harasser' in reference to the fact that this snake stalks prey when they are sleeping, and to its aggressiveness when disturbed.

Toxicodryas vexator (adult male), DRC 2021 © Konrad Mebert

Toxicodryas adamantea, DRC and Equatorial Guinea 2021 © Eli Greenbaum

The bush viper *Atheris hetfieldi,* or Hetfield's bush viper, is a venomous species found at the base of a volcano on Bioko Island, Equatorial Guinea. The species is named after James A. Hetfield, frontman of the band Metallica, and is the first new snake discovered on the island for more than 100 years. The species is the only snake known to be endemic to the island.[101] Species are sometimes named in honour of celebrities to help raise awareness. A further bush viper species, *Atheris mongoensis* or the Mongo Hairy Bush Viper, was described in 2020 from areas surrounding the Mbandaka region by the Congo River in the Democratic Republic of Congo.[102]

A new species of blind snake *Afrotyphlops chirioi* was described from Berbérati, Central African Republic in 2019.[103] It is known from a mosaic of tropical moist forest and secondary grasslands at 500–600 m (1,600–2,000 ft) above sea level. The eyes of the snake are covered in smooth translucent shiny scales, a sign of its adaptation to a subterranean life, allowing it to move easily through earth. They live underground in ant and termite nests. Another species of blind snake, *Afrotyphlops rouxestevae,* was described from Douala, Cameroon in 2019.[104]

Several of the new species were identified during an expedition to the Congo Basin in 2013 and subsequently described in a forthcoming book by reptile expert Dr Eli Greenbaum of the University of Texas, El Paso, titled *Venomous River: A Zoologist's Search for New Species Along the Congo*.[105]

Also among the den of 42 new reptile species are new species of lizards including three chameleons. Two species, *Kinyongia mulyai* and *Rhampholeon hattinghi,* were described from the Albertine Rift, Democratic Republic of Congo in 2015.[106] The former is known to occupy small, highly fragmented remnants of the temperate forest on Mount Nzawa where it is found perching on vines ranging from a few metres high to up to 20 meters high. Recent satellite imagery shows only three remaining suitable patches of habitable forest area. Both species are listed as Critically Endangered on the IUCN Red List[107] and *Kinyongia mulyai* is also on CITES Appendix II.[108] A third species, *Kinyongia itombwensis,* was discovered in 2017 from the same region.[109]

Afrotyphlops chirioi, CAR 2019 © Jean-François Trape

Afrotyphlops rouxestevae, Cameroon 2019 © Jean-François Trape

Dasypeltis congolensis, DRC, Gabon, Republic of Congo 2021 © Jean-François Trape

Atheris mongoensis, DRC 2020 © Jean-François Trape

Hemidactylus sinaitus, Cameroon © Jean-François Trape (note - not a new species but a new record)

Boaedon montanus, DRC 2022 © Jean-François Trape

Boaedon paralineatus, CAR 2016 © Jean-François Trape

Boaedon perisilvestris, Cameroon, Central African Republic, DRC, Gabon and Republic of Congo 2016 © Jean-François Trape

Boaedon longilineatus, Cameroon 2016 © Jean-François Trape

Boaedon subflavus, Cameroon 2016 © Jean-François Trape

Myriopholis occipitalis, CAR 2019 © Jean-François Trape

Hemidactylus coalescens, Cameroon, Gabon and Republic of Congo 2014 © Hectonichus

Lycophidion chirioi, CAR 2021 © Jean-François Trape

Lycophidion tchadensis, CAR 2021 © *Jean-François Trape*

Lygodactylus leopardinus, DRC 2023 © Eli Greenbaum

Echis romani, Cameroon, CAR 2018 © Jean-François Trape

Philothamnus chifunderai, Cameroon and DRC 2023 © Eli Greenbaum

Philothamnus chifunderai, Cameroon and DRC 2023 © Eli Greenbaum

Philothamnus mayombensis, DRC 2021 © Jean-François Trape

WWF SPOTLIGHT: THE CENTRAL AFRICA WILDLIFE CRIME COORDINATION HUB AND ETHICAL WILDLIFE LAW ENFORCEMENT

Poaching continues to be a growing problem in the Congo Basin, even within national parks and other protected areas. The international trade in protected species such as elephants has reached levels which endanger the survival of these species.

WWF plays an important role in combating poaching and illegal trade in wildlife artefacts such as bushmeat, tusks, skins and pangolins, through its partnership with TRAFFIC (Trade Records Analysis of Flora and Fauna in Commerce), the world's largest wildlife trade monitoring network.

WWF's partnership with TRAFFIC focuses on preserving biodiversity, by improving people's standards of living in order to reduce their dependence on nature. It was originally created in 1976 as a specialist group of the Species Survival Commission of the International Union for Conservation of Nature (IUCN), and evolved into a strategic alliance of WWF and the IUCN to tackle unsustainable illegal wildlife trade.

The Congo Basin, with its rich biodiversity, faces significant threats from wildlife crime. These threats include subsistence hunting and large-scale commercial poaching, which pose serious risks to endangered species such as elephants, gorillas, and pangolins. Organised criminal networks often drive wildlife trafficking, making it increasingly sophisticated and transnational. Trafficking involves the illegal trade, smuggling, poaching, capture, or collection of endangered species, protected wildlife (including animals or plants that are subject to harvest quotas and regulated by permits), derivatives, or products thereof.

In 2012, WWF established a Central Africa regional wildlife crime programme following the launching of the Illegal Wildlife Trade campaign to address the situation. The programme aimed to work with partners to create and manage protected areas, protect wildlife in logging concessions, clamp down on wildlife crime, address weak governance and corruption, build capacity and support and reduce demand.

In 2018, the Wildlife Crime Programme evolved to become the Central Africa Wildlife Crime Coordination Hub with a primary purpose to facilitate, coordinate, leverage resources and partnerships, and provide support to internal capacity building for the implementation of Wildlife Crime projects and programmes in the region.

One such initiative is ethical wildlife law enforcement which focuses on the landscapes of Sangha Tri-National (TNS), TRIDOM Cameroon, TRIDOM Congo, and Salonga National Park. The strategic approaches include building capacity and raising awareness of law enforcement agencies, operationalizing anti-poaching units, supporting judicial systems for effective prosecution, and enhancing communication for outreach and policy influence. The varying effectiveness of law enforcement and judicial systems across different sites highlights the need for sustained and enhanced efforts to combat these threats. WWF addresses these challenges through capacity building, logistical support, and collaboration with local and international partners.

» **Find out more:** www.traffic.org

BIRDS

At least two species have been discovered over the past decade with a new forest robin and an owl joining the flock.

In 2009 and 2010 a group of scientists were conducting collections-based fieldwork near Kisangani in the Democratic Republic of Congo. The primary goal of this survey work was to assess genetic variation in avian species, and their parasitic diseases, distributed on both sides of the Congo River and several of its tributaries. During these expeditions a number of Forest Robin specimens were collected and subsequently analysed for differences in morphology, plumage, and song. As a result a new species, *Stiphrornis rudderi,* or Rudder's Forest Robin, was described from the Yoko Forest Reserve, Ubundu District, Orientale Region, Democratic Republic of the Congo, in lowland rainforest at an elevation of 420m.[110]

The new species is brown with an orange-yellow throat and breast. The current known distributional range of the new species is currently limited to only two localities near the city of Kisangani, Democratic Republic of Congo. The first is Yoko Forest Reserve, Ubundu District, on the south side of the Congo River. The second locality is Turumbu, 8km north of Yelenge, Yawenda District, on the north side of the Congo River.

Otus bikegila, Principe Scops-Owl, St Tome and Principe 2022 © Martim Melo and Bárbara Freitas

+2

NEW BIRD SPECIES

Off the coast of Equatorial Guinea on a small island, another extraordinary new find was made. In 2022, a new species of Scops-owl was described from a Príncipe Obô Natural Park[on Principe island, highlighting once again the importance of protected areas in species conservation. The charismatic species *Otus bikegila,* or the Principe Scops-owl is small in size, has distinctive ear-tufts, facial disc, short rounded wings, and a short tail. It inhabits tall trees, where it feeds on insects. Researchers say it has a distinctive 'cat-like' call which sounds like "tuu tuu", a call that is emitted at a higher pitch among the females of the species. Its known predators are the mona monkey and black rat.

The species is believed to be low in numbers and to only inhabit the forests of the small protected area.[111] As a result, scientists have called on the IUCN to declare the species as Critically Endangered.[112]

In addition to the new species finds, in December 2023, biologist Michael Harvey and his team rediscovered a population of the yellow-crested helmet shrike or Prince Albert's hemshrike *(Prionops alberti)*[113] during a six-week expedition to the Itombwe Mountains, Democratic Republic of Congo. The elusive species with glossy black plumage and bright yellow crest had previously been categorised as a "lost species" or for all terms and purposes extinct, as it had not been seen in the wild for two decades. The new population is listed as Vulnerable by the IUCN as it is threatened by deforestation and mining.[114]

Birds in particular are likely the best studied animal group, making the discovery of new species more challenging and often restricted to remote locations in the basin. Scientists believe that the lack of collecting expeditions in lowland forests is likely inhibiting the potential discovery of new species, suggesting that a lack of sampling in the region, rather than a lack of diversity, is a contributing issue in fully documenting avian biodiversity in the region.

WWF SPOTLIGHT: 'ONE HEALTH' – REDUCING DISEASE TRANSMISSION IN DZANGA SANGHA LANDSCAPE

Zoonoses are infectious diseases that can be transmitted from humans to animals – and vice versa. Ebola, anthrax, avian influenza for example, are among them. To protect humans, habituated primates, and other wild animals, WWF worked with the Robert Koch Institute on an early warning system for six years. This system is designed to help identify health threats rapidly and initiate immediate responses. Since 2012, WWF has been cooperating with Leendertz Lab at RKI which later formed the Helmholtz Institute for One Health (HIOH).

This approach (also known as One Health) is highly appreciated by the local populations as it allows them to better protect themselves against outbreaks, reduces the risk of fatal epidemics and helps reduce the risk of disease transmission from humans to habituated gorillas. This keeps gorilla groups and other wildlife populations healthy and thus secures an income from ecotourism for local communities.

» **Find out more:** www.dzanga-sangha.org/research

WWF SPOTLIGHT: CREATING NATURAL BARRIERS FOR DISEASE PROTECTION

Lessons learned during the COVID 19 pandemic reiterate the importance of conserving nature for reducing the risk of future outbreaks. WWF is advancing on this front with an innovative project in Cameroon and the Central African Republic to effectively manage forests and biodiversity as natural barriers to disease spill-over (INFORBIO - Intact and effectively managed Forests and Biodiversity). The project has several strands carefully combined together to attain its main aim of lessening the risk of infectious disease outbreaks through the use of natural barriers.

Main activities include establishing a spatial database to inform land use planning; using the Effective area-based Conservation Measures (OECMs) to connect protected areas and corridor restoration; a disease early warning system for both humans and wildlife; One Health policy, communication and knowledge sharing; and introducing economic opportunities to improve the healthcare and wellbeing of indigenous people and local communities (IPLCs) in the zones of intervention.

MAMMALS

In the last decade, one new mammal species a year on average has been found in the Congo Basin. This pack of new mammals include a new monkey species, four species of shrew, three mice and two bats.

New mammal finds are rare on any continent, so it is especially significant when a new species of monkey, *Cercopithecus lomamiensis* or lesula, was discovered in the Lomami Basin of the Tshuapa–Lomami–Lualaba Conservation Landscape, until very recently a remarkably unknown forested region in central Democratic Republic of Congo.[115] Known to locals for some time, but otherwise unknown to the international scientific community, the new species was only the second new species of African monkey to be discovered since 1984. Although discovered in 2012, the species was listed among the Top 10 New Species globally in 2013,[116] and has been included in this report because of its enormous significance.

This monkey is described by scientists as having distinctive human-looking eyes, a blue bottom and a somewhat haunting low 'boom' call which echoes around the forest when calling out. The lesula are generally described by researchers as quiet and shy. They tend to usually live in small family groups of around five members or less where they leisurely forage for fruits and vegetation, groom, and rest.

10

NEW MAMMALS SPECIES

Cercopithecus lomamiensis, Lesula monkey, DRC 2012 © Steven McPhee

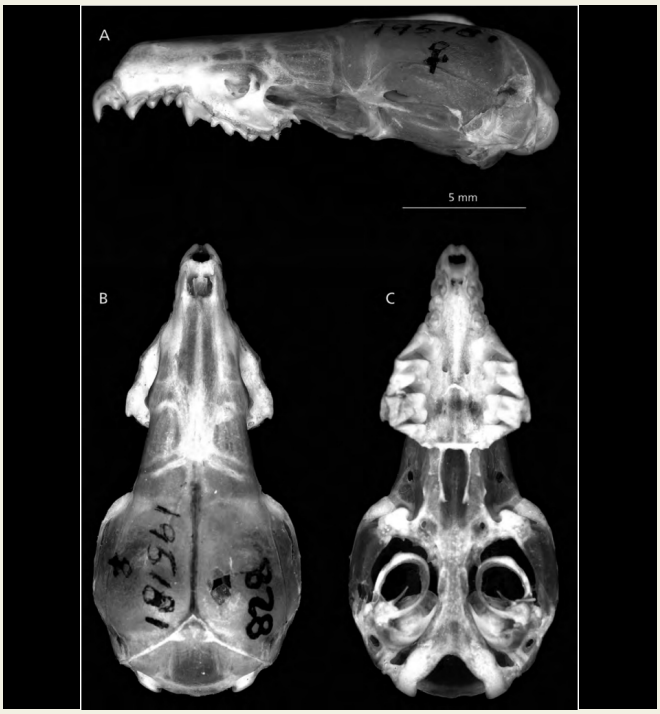
Like many Congo Basin species, the lesula is vulnerable to hunting for bushmeat. The initial discovery of the monkey was one held in captivity highlighting the potential threats they face. Protecting the species could be challenging, as species with such a small range can go from vulnerable to seriously endangered in a few years.

Since the lesula discovery a new population of a Critically Endangered primate, the endemic dryas monkey, was identified.[117] The discovery of the new population was particularly significant as it downgraded the species to an Endangered status from Critically Endangered.[118] Scientists are also working on the scientific description of a third primate species[119] proving that the Congo Basin region continues to be the source of incredible new mammal discoveries.

All of the primate species can be found in the Lomami National Park (LNP) in Democratic Republic of Congo which covers an area of almost 9,000 km² and is the heart of the 40,000 km² natural landscape between the rivers Tshuapa, Lomami, and Lualaba. The region is almost completely covered by dense tropical rainforest, which is also home to bonobos, forest elephants, giant pangolins[120], and hippos. Numerous endemic or rare species have been found in the LNP, including Congo peacocks, and Okapi.[121]

The Democratic Republic of Congo has actually been the source of all but one of the new mammal finds in the Congo Basin, including two new bat species described from the Albertine Rift in eastern Democratic Republic of Congo including *Rhinolophus willardi* or the Willard's horseshoe bat *(Rhinolophus willardi)*. [122] This endemic species lives in dense forest composed of tall trees about 40–50 m tall and found at only two sites in the Misotschi-Kabogo highlands in the South Kivu province off the shore of Lake Tanganyika at elevations of 1,880 m and 1,950 m in montane forest. Scientists say the species probably roosts in local caves and mines. Little information on population numbers exists and its habitat is threatened due to regional conflict, hunting, unregulated forest clearing, habitat degradation, and roost disturbance. As such the species islisted as Endangered by the IUCN Red List.[123]

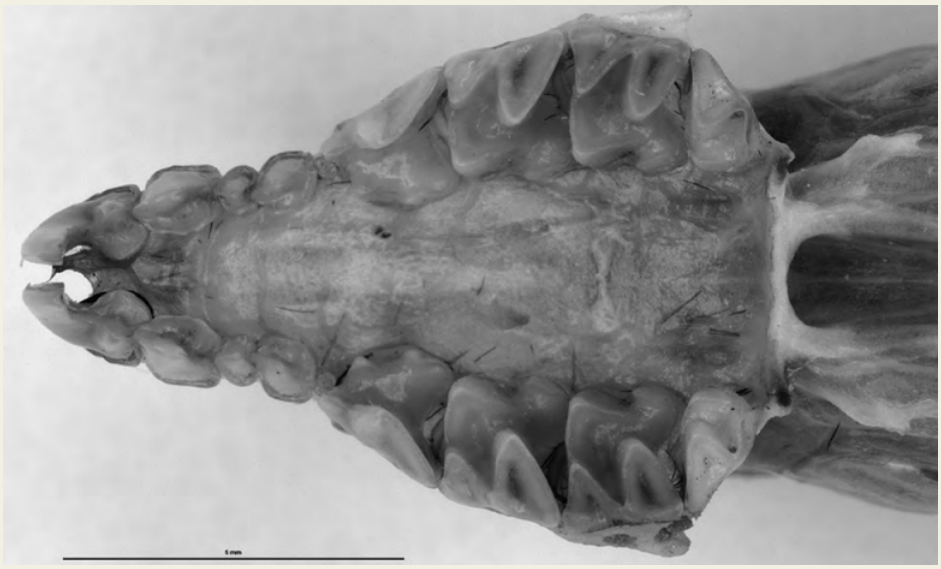
An elusive semi-aquatic mouse, *Colomys lumumbai,* was described in 2020 by an international team of scientists from the U.S., Democratic Republic of Congo and Kenya.[124] The species has thick waterproof fur, bright white belly and kangaroo-like elongated feet to wade through shallow streams on the prowl for water-dwelling insects like caddisfly larvae. Mining for gold and coltan and general forest degradation are major threats to the stream habitat of the species.[125]



Crocidura lwiroensis, Misotshi-Kabogo Shrew, DRC 2013 © Kerbis Peterhans et al

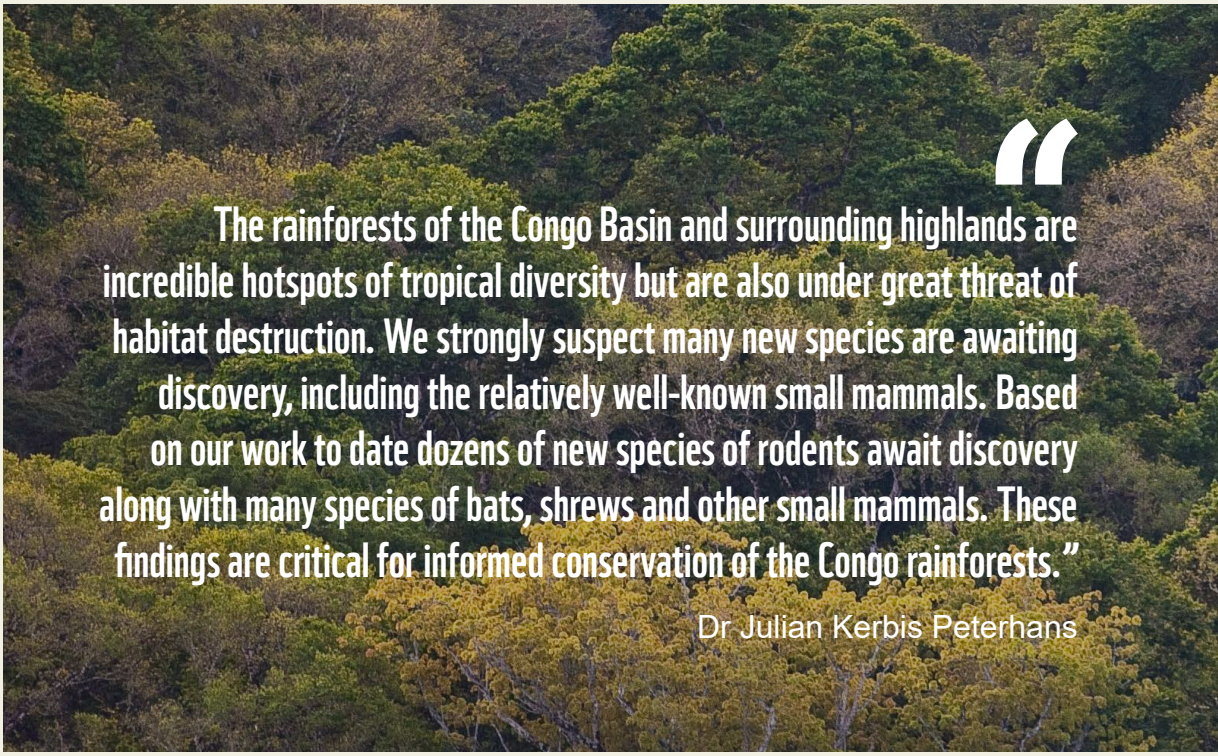
Colomys lumumbai, DRC © Velizar Simeonovski (illustration), T. C. Giarla et al

An example of the *Crocidura genus* © Rasbak



Myosorex kabogoensis, Kabogo Mouse Shrew, DRC 2013 © Kerbis Peterhans et al

The endemic Lwiro shrew or Misotshi-Kabogo shrew *(Crocidura lwiroensis)* is restricted to a small portion of the Albertine Rift on the western shore of Lake Tanganyika.[126] It is restricted to an isolated highland region of montane forest south of the Itombwe Mountains. The only known specimen was found along a creek in a primary forest. The species is very small in body size measuring 110 mm in length, with a nearly naked tail at 45 mm length, and weighing just 5.6g. It has dark grey fur above and lighter grey fur below. The habitat of the species is threatened by deforestation for agricultural expansion, mining concessions, as well as an increase in local population from migration by refugees from conflict with rebel groups in the east.

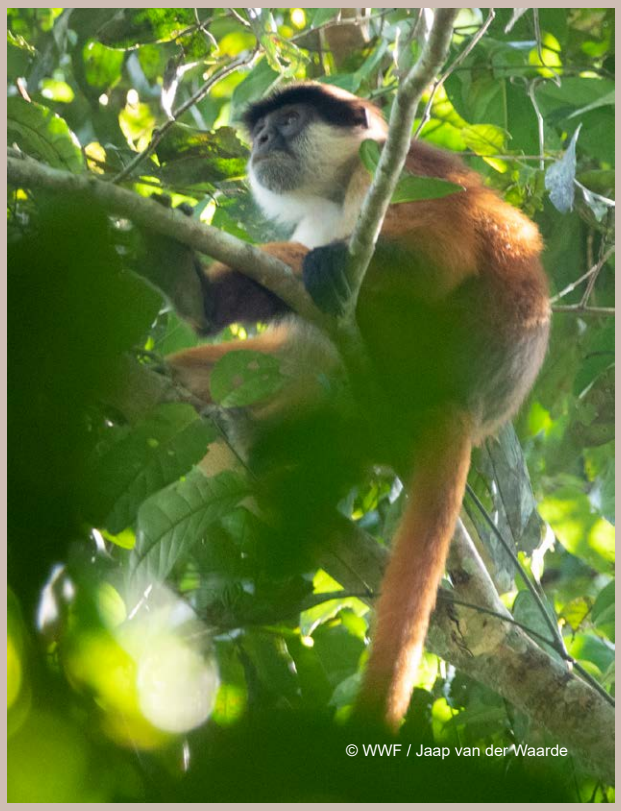


WWF SPOTLIGHT: BOUVIER'S RED COLOBUS MONKEY CAPTURED ON VIDEO FOR FIRST TIME

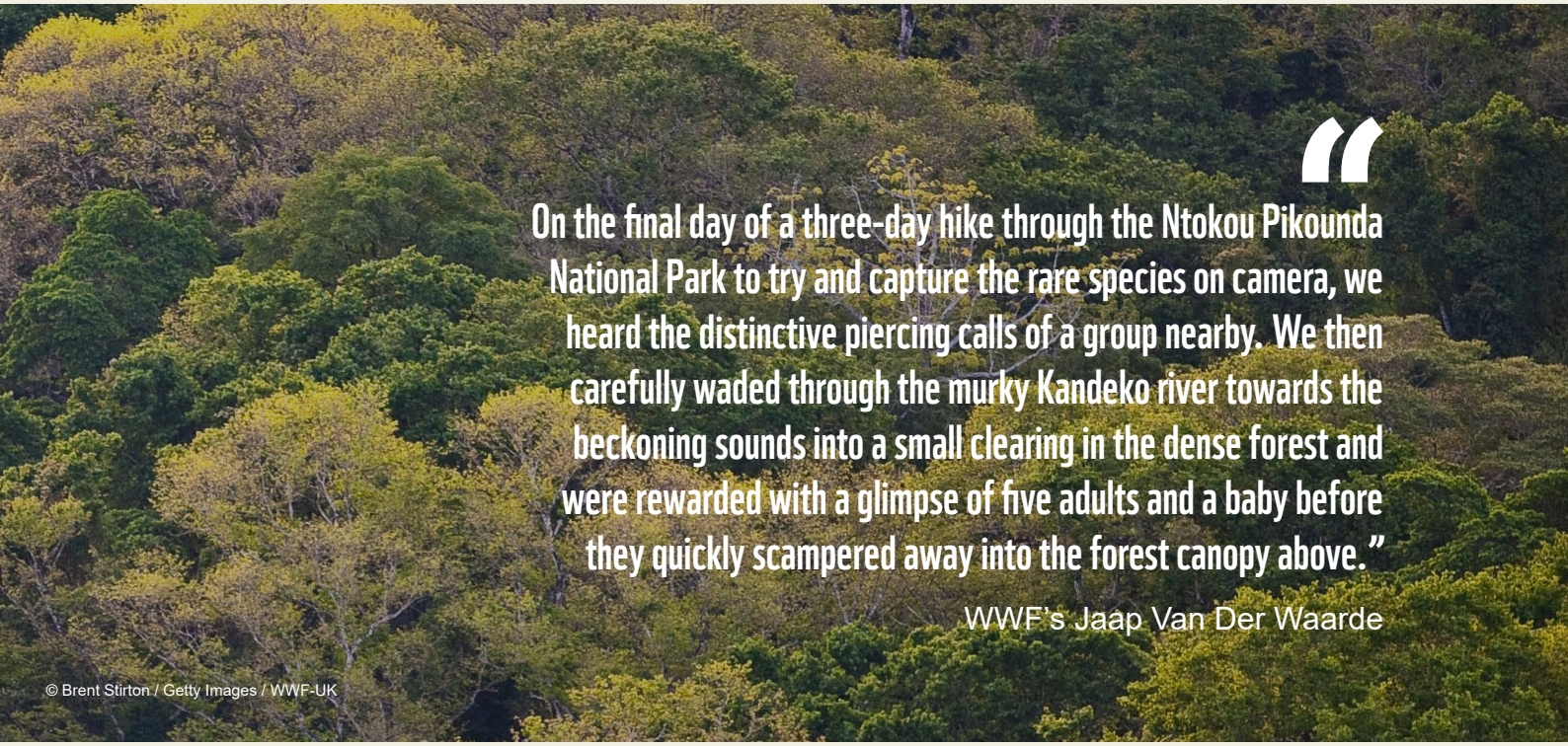
In May 2021, a conservation team from WWF on a mission to Ntokou Pikounda National Park in the Republic of the Congo captured the first-ever video footage of Bouvier's red colobus. This rare monkey, once thought to be extinct after four decades without a confirmed sighting, was rediscovered in 2015 and a still photo taken during an expedition by Lieven Devreese from Belgium and Gaël Elie Gnondo Gobolo from the Republic of the Congo.

The people of Congo including the local communities who carry out fishing activities along the forest's rivers have been aware of the existence of this species of colobus monkey for some time which is endemic to the Ntokou Pikounda National Park. In 2008, the Bouvier's Red Colobus was classified by the IUCN Red List of Threatened Species as Critically Endangered and even "possibly extinct." However, since its rediscovery in 2015 it has recently been reclassified as Endangered. There have been no systematic surveys carried out to determine the population status of the species however based on sightings and available habitat, it is estimated that their number ranges between 1,000 and 10,000 individuals.

Over the last six years, WWF has supported the government's conservation efforts in Ntokou Pikounda National including working with local and indigenous communities to find practical ways for them to manage this key forest habitat they have depended on for centuries.



» **Find out more:** bit.ly/BouviersRedColobusMonkey



WWF SPOTLIGHT: GORILLA CONSERVATION THROUGH HABITUATION AND EDUCATION

The Primate Habituation Programme (PHP) in the Dzanga-Sangha Reserve, initiated in 1997 by WWF, has not only significantly contributed to the conservation of Western Lowland Gorillas but has also played a crucial role in the economic sustenance of the region. Over the years, the program has nurtured an invaluable repository of the Ba'Aka community's traditional knowledge on gorilla tracking, which was at risk of disappearing before the programme began. This emphasis on traditional skills has sparked a renewed interest among the younger Ba'Aka generation in learning and preserving their ancestral customs.

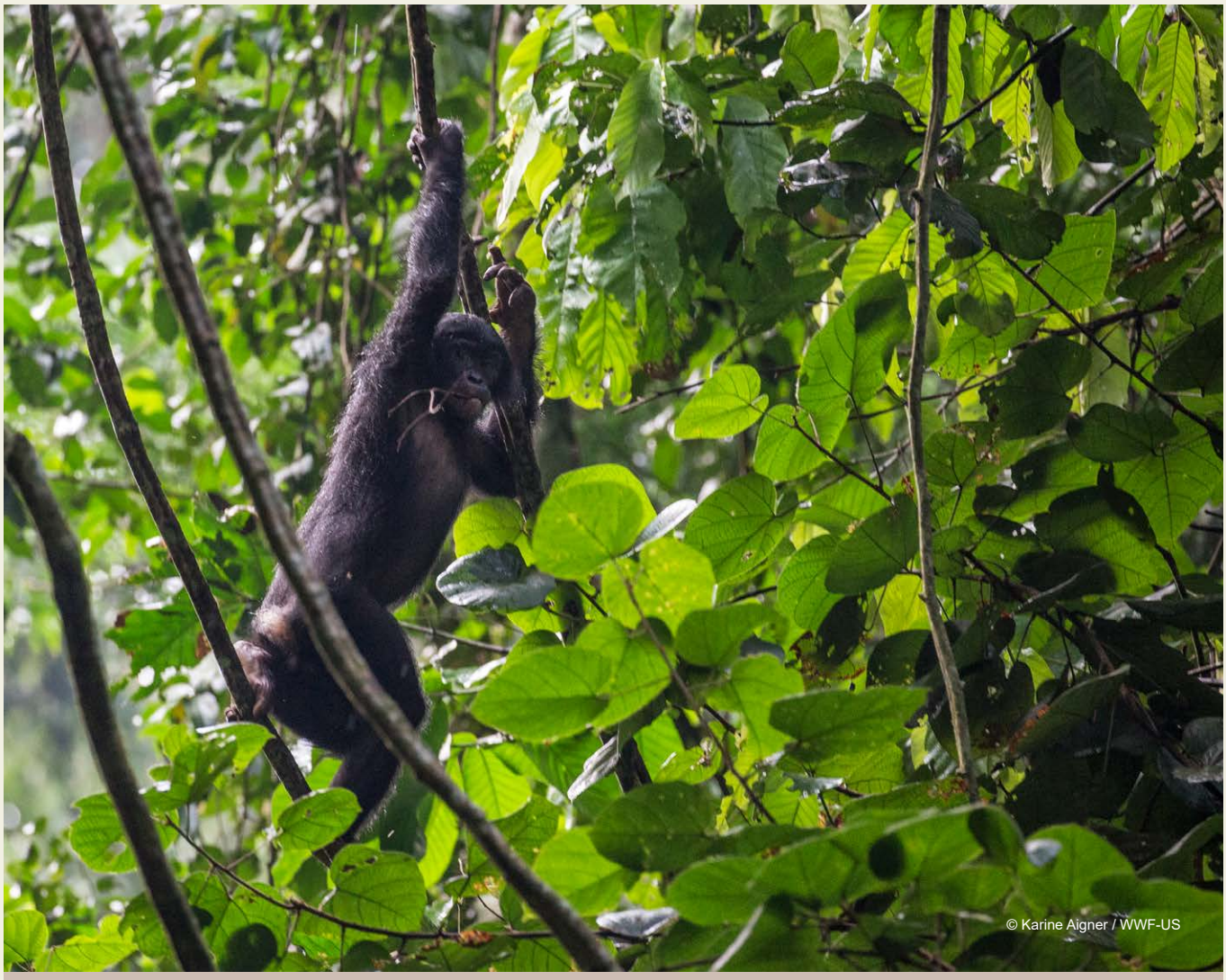
Economically, the PHP has proven to be a substantial asset. Between 2007 and 2011, primate tourism alone enabled the Dzanga-Sangha Protected Areas (APDS) to generate revenue ranging from 17 million to 76 million CFA francs (approximately US$28,000 to US$126,000). When considering all income related to the program—including park entry fees, other tourist activities, research fees, and filming fees—the revenues from PHP accounted for more than 60% of the total tourism receipts for the APDS.

Eventually, despite the successes of the habituation program in increasing our understanding and fostering global interest in these majestic creatures, the habituated gorilla families disintegrated following the death of their silverbacks.

Two habituated silverbacks, Mata and Mayele, died in 2022 while Makumba, the most famous habituated silverback in Dzanga Sangha died in May 2024 as a result of natural causes - Makumba and Mayele died from injuries resulting from inter-group interactions while Mata died probably from an accident. Inter-group interactions, migration of individuals, silverback challenge, infanticide and disintegration of gorilla groups are all natural phenomena. Silverbacks are the bonds that keep western lowland gorilla groups together and their death may lead to the disintegration of the groups. This was the case in Dzanga-Sangha.

The loss of the gorillas represented a significant setback not only for local conservation efforts but also for the communities dependent on ecotourism. The gorillas of Dzanga-Sangha were not just a source of scientific curiosity; they were a vital component of the region's ecological health and its economic stability through tourism, underscoring the fragility of conservation success and the need for innovation and support in these efforts.

WWF and its partners are committed to continuing their work in the region, adapting their strategies to ensure gorillas and their habitat are protected. This includes furthering research, enhancing local community engagement, and refining conservation techniques to prevent such losses in the future.



WWF SPOTLIGHT: BONOBO HABITUATION

The bonobo *(Pan paniscus)* is an Endangered species of primate endemic to the Democratic Republic of Congo. For the past three decades, research and conservation organisations have been supporting the government of the Democratic Republic of Congo in its efforts to protect these unique great apes by making sure they face minimal threats, and their long-term survival is ensured. Salonga is home to the world's largest bonobo population, estimated at 15,000 individuals in protected areas of the Democratic Republic of Congo, and almost 50 per cent of the global population.

WWF contributes to the protection of bonobos in Salonga through effective management of the Salonga national park (to eliminate poaching), continuous surveys and monitoring (to track changes in population size, distribution and assess the levels and location of threats) and supporting improved and sustainable agriculture methods (to reduce habitat loss).

In October 2023, WWF launched a bonobo habituation program in the Salonga National Park in the Democratic Republic of Congo with the intention of habituating bonobos to human presence with the aim of implementing an ecotourism project and conducting research to better understand bonobos and how to protect them. The overall aim is to develop sustainable tourism for bonobos, which promotes the well-being of local communities while ensuring the viability of the bonobo population. The habituation process will be carried out in strict compliance with IUCN guidelines on ecotourism and primate habituation.

A temporary habituation camp has been set up in Inkomu, 35 km or two hours by boat from the new headquarters in the park's northern block (Yokelelu station), where tourism infrastructure is currently being developed.

It will be one of the few programs in the region to habituate bonobos. On the other hand, habituated bonobos will enable studies to be carried out that are difficult to conduct without access to habituated groups.

THREATS: A FOREST FIGHTING FOR ITS FUTURE

© Brent Stirton / Getty Images / WWF-UK

Like many forests around the world, the threats facing critical habitats of the Congo Basin are significant. Despite protection efforts by governments of the region, NGOs like WWF, WCS, Greenpeaceand others as well as international bodies, the region is faced with a disastrous combination of pressures as a result of infrastructure development, increased access to forests, and the demand for commodities by local, regional and global markets.

The host of threats include forest destruction as a result of legal and illegal and unsustainable logging, forest conversion for industrial and artisanal agriculture, leading to shifting cultivation for firewood, illegal poaching for bushmeat and the illegal wildlife trade.

If we look at the largest country in the region, the Democratic Republic of Congo, the amount of tree cover lost between 2001-2023 was 19.7 million hectares of tree cover. This is equivalent to a 9.9 per cent decrease in tree cover since 2000 and 12.3 gigatonnes of CO_2 emissions. In 2023, the country lost 1.32 million hectares of natural forest, equivalent to 888 megatonnes of CO_2 emissions.[127] At the same time, biodiversity in the forest is declining rapidly: monitored forest-dwelling wildlife populations have shrunk by 79 per cent on average, with habitat loss, habitat degradation and climate change as the most pressing threat.[128]

The Global Forest Atlas estimated that the logging industry in the Democratic Republic of Congo covers between 44 - 66 million hectares of forest. Studies show that 54,000 miles of roads for forest concessions were built across the Congo Basin between 2003 and 2018, reaching a total of 143,500 miles.[129] Construction of roads has greatly facilitated access to the interior of the forest, and many people have relocated close to roads.

Many of the tropical logs from the basin will be destined for foreign markets like China, the world's largest timber importer. China's top ten sources of tropical logs, including many African timber producers like the Democratic Republic of Congo, rank low in forest governance with rampant illegal logging. Together they supply 80 percent of China's tropical timber imports.[130] The Congo Basin especially is an important source of African teak, used for building furniture and flooring.

Unsustainable hunting of wildlife for the commercial bushmeat market threatens to wipe out many species, with monkeys and antelope being common targets but also including endangered wildlife like forest elephants and great apes. In the Democratic Republic of Congo alone, over a million tonnes of bushmeat are consumed each year. Alarmingly, this lucrative business is causing the forest to become empty of species.

Combating the bushmeat trade presents many challenges. In remote areas, bushmeat is the primary source of income for families, as it is the only export that will earn a profit.

The international demand for ivory still drives the killing of elephants, leading to local extinctions and threatening to eliminate elephants entirely. WWF plays an important role in fighting illegal trade, including through TRAFFIC, the world's largest wildlife trade monitoring network.

As a result of the ongoing threats facing the Congo Basin, today 1,082 species are considered either Critically Endangered, Endangered or Threatened by IUCN[131][132].

Mining and infrastructure projects like roads also open up previously inaccessible areas to poachers, increasing the illegal trade in wildlife and the availability of bushmeat.

The Congo Basin is abundant in natural resources: diamonds, gold, rare metals, coltan (used to make cell phones) and lithium (crucial for renewable energy technologies) and petroleum, but current methods and rates of extracting these resources are unsustainable and threaten the future of this vast wilderness region's ecosystems

Many people depend on such resources for their livelihoods, and the global demand for these materials is increasing. For example, China has 22 cobalt and one lithium mine operating in the Democratic Republic of Congo and a manganese mine in Gabon.[133] Cobalt is a rare vital material in the lithium batteries that power our mobile electronics and increasingly cars: 90 percent of the Cobalt from the Democratic Republic of Congo is exported to China.[134] These mines form part of China's 'Belt and Road Initiative' to build an infrastructure network connecting China to the world.[135] The country has invested heavily in projects in the Democratic Republic of Congo, focusing mainly on minerals essential to meet global energy demand, with Chinese companies pledging up to US$7billion in future infrastructure investment relating to their copper and cobalt extractive venture agreement with Democratic Republic of Congo.[136] Some of these mines have become sources of tension with locals ranging from damage to ecosystems, violations of the rights of local communities, child slave labour and unsafe working conditions.

While forests are a lifeline for many Congolese, slash-and-burn subsistence farming and a heavy reliance on fuelwood drive deforestation – over 80 percent of the population relies on fuelwood for cooking and heating needs. An estimated 40 million people depend on these forests, surviving on traditional livelihoods.

In the Democratic Republic of Congo, refugees from armed conflict are forced to live off the land with severe impacts to forests and wildlife. For example, the demand for fuelwood and charcoal has led to deforestation in Virunga National Park, the oldest national park in Africa.

Deforestation not only affects biodiversity but also impacts rainfall patterns across Africa. The worsening effects of climate change exacerbate the threats to the Congo Basin, affecting its rich biodiversity and the people who depend on it.

At a global level, Congo's forests are a huge "carbon sink", trapping carbon that could otherwise remain carbon dioxide. The Congo Basin holds roughly 8 percent of the world's forest-based carbon. If these woodlands are deforested, the carbon they trap will be released into the atmosphere. Predictions for future unabated deforestation estimate that by 2050 activities in the Democratic Republic of Congo will release roughly the same amount of carbon dioxide as the United Kingdom has emitted over the last 60 years. In 2017, British scientists discovered that peatlands in the Cuvette Centrale, which cover a total of 145,500 sq km, contain 30 billion tonnes of carbon or 20 years of U.S. fossil fuel emissions.

To safeguard the Congo Basin, it is crucial to address these threats through concerted conservation efforts, sustainable practices, and international cooperation.

WWF SPOTLIGHT: SUSTAINABLE FORESTRY PRACTICES HELP WILDLIFE THRIVE

A new study reveals compelling evidence that forests certified by the Forest Stewardship Council (FSC) in Gabon and the Republic of Congo harbour a higher abundance of larger mammals and critically endangered species such as gorillas and elephants compared to non-FSC certified forests. The research – led by Utrecht University with support from WWF and the Wildlife Conservation Society (WCS) and published in the journal Nature – underscores the effectiveness of measures implemented in FSC-certified forest concessions to safeguard wildlife.

By meticulously documenting individual animal counts and strategically positioning camera traps, the research affirms that certified concessions notably harbour a bigger population of large and threatened mammals – 2.7 times more for mammals over 100 kg, such as gorillas and forests elephants, and 2.5 times more for mammals from 30-100 kg such as leopards and chimpanzees – when compared to non-FSC-certified forests concessions.

The number of smaller mammals observed was similar between FSC- and non-FSC concessions. In addition, the encounter rates observed of large mammals in FSC-certified forests were comparable to published data from recently monitored protected areas in the Congo Basin region. The new study is the first to compare so many different forest areas at the same time, using 474 camera traps across 14 logging concessions – seven FSC-certified and seven non-FSC certified.

FSC-certified forest concessions in the Congo Basin are often in large, remote areas which are harvested under Reduced-Impact Logging principles in a decades-long rotational pattern, meaning that large mammals are able to roam and avoid production areas. Certified forestry companies' proactive measures, such as blocking old logging roads, establishing checkpoints, and supporting alternative protein sources for local populations, have significantly curbed illegal hunting. One of those companies is Interholco, which manages a 1.16 million-hectare FSC-certified forestry concession in the Republic of Congo, bordering the Odzala-Kokoua National Park. The company has also been granted FSC Ecosystem Services certification for their role in conserving biodiversity.

As logging concessions account for more than half of the remaining forest areas in the two countries studied (61 percent in the Republic of Congo and 67 percent in Gabon), these positive results from FSC-certified concessions are of great importance for the conservation of biodiversity in the region.

» **Find out more:**

Research results: bit.ly/FSCResearch

Forest Forward programme: bit.ly/ForestForward


© WWF / Jaap van der Waarde

"These results are inspiring and an indication that FSC continues to be an effective tool in tropical forests, and that its standards translate into tangible impacts. Solutions that benefit both people and nature do exist, and responsible forest management certification is one of those vital solutions."

Fran Price, Leader, WWF Forest Practice.

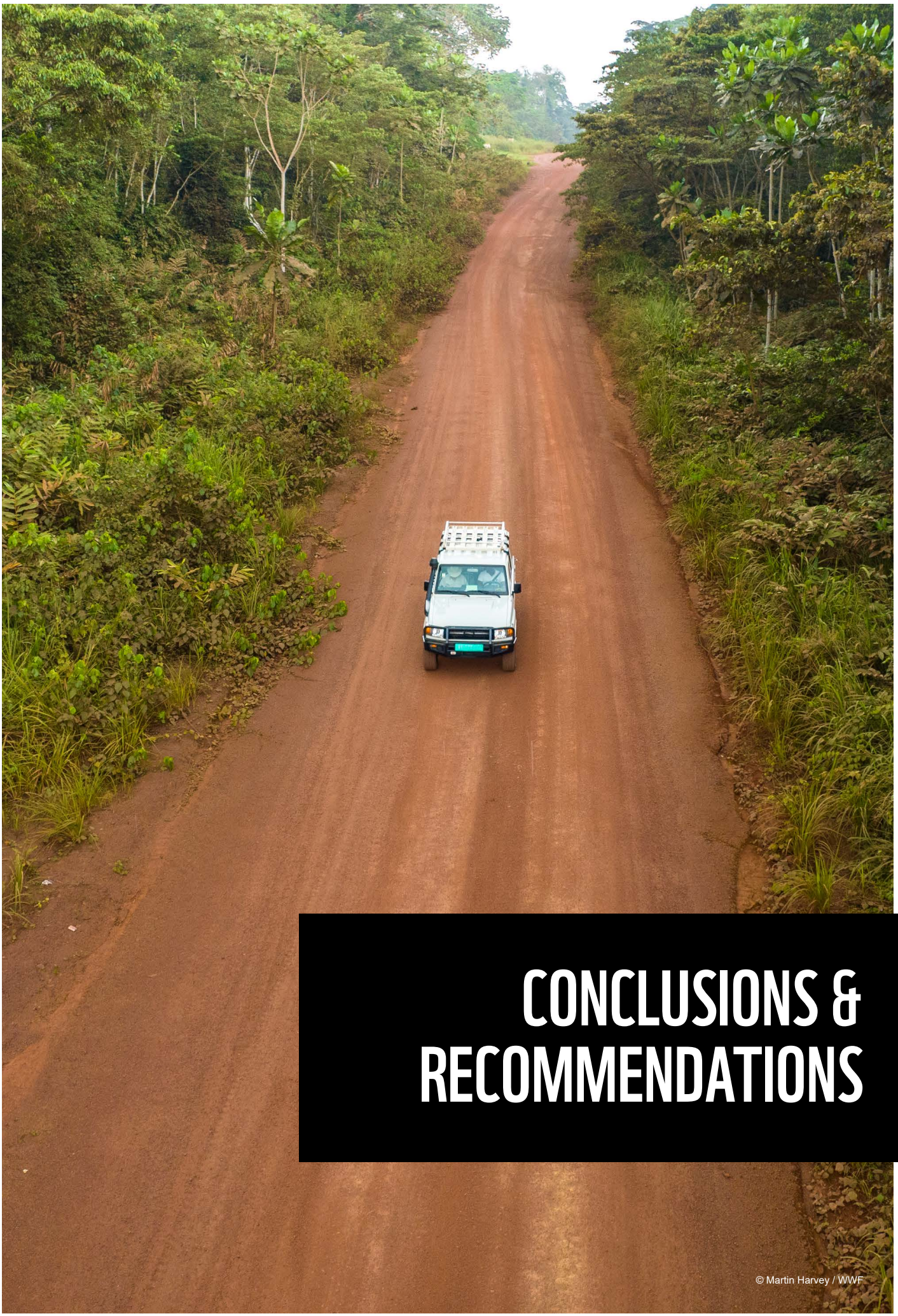
WWF SPOTLIGHT: MANAGING HUMAN-WILDLIFE CONFLICTS THROUGH WILDLIFE INSURANCE SCHEMES

In 2024, WWF began pioneering a new initiative to ease the conflict between man and wildlife. Agricultural fields are sometimes the only source of income for local and indigenous communities, which means damage wrought by wildlife such as elephants can sometimes be devastating.

Under the new scheme introduced by WWF in the Republic of Congo, communities can receive insurance compensation if they have become a victim of wildlife which would otherwise lead to human-elephant conflict. The scheme also provides material and technical resources to ensure harmonious cohabitation.

The project is currently open to village communities bordering the Messok-Dja forest massif, part of the Tri-National Dja-Odzala-Minkebe (TRIDOM) landscape, a forest elephant stronghold.

Around Ntokou Pikounda National Park, human elephant conflicts pose a safety risk and a challenge for local communities, whose agricultural crops and properties can be damaged or lost. Livelihood concerns, driven by human-wildlife conflict concerns, have surfaced in discussions at multi-stakeholder platform meetings. NPNP is a pilot site for WWF's recently developed Conflict to Coexistence (C2C) methodology, which includes hands-on guidance and training for managing human-wildlife conflict. WWF's work in this context around NPNP involves a detailed situational analysis of conflict with elephants and other wildlife, stakeholder identification and analysis, and human-wildlife risk assessment with multiple stakeholder groups with an objective to co-create a human wildlife conflict management plan with the community.



CONCLUSIONS & RECOMMENDATIONS

© Martin Harvey / WWF

In conclusion, the Congo Basin's biodiversity is a treasure trove of ecological wealth, hosting a vast array of species and ecosystems that are vital for global biodiversity. To preserve this natural heritage, it is recommended that:

1. Conservation should be intensified, with increased funding and resources allocated to protected areas by key stakeholders.

2. Sustainable practices be promoted among local communities to balance ecological preservation with economic needs.

3. International collaboration be strengthened to combat illegal wildlife trade and deforestation.

4. Research and monitoring be enhanced to better understand the Basin's ecosystems and respond to environmental changes.

5. Raise awareness about the importance of the Congo Basin to support conservation efforts by governments, communities and the private sector.

6. Promote and support sustainable land use and resource management in the region to help protect the habitats and species of the Congo Basin

7. Engage with community reserves and projects that aim to create jobs and generate tourism income while conserving wildlife

8. The Congo Basin acts as a significant carbon sink. By reducing carbon footprints, contribute to global efforts to combat climate change, which in turn will help preserve the rainforest.

By implementing these recommendations, we can ensure the Congo Basin remains a bastion of biodiversity for generations to come.

APPENDIX

© Thomas Nicolon / WWF DRC

APPENDIX 1. NEW SPECIES OF THE CONGO BASIN 2013-2023

PLANTS

Species	Scientist(s)	Year	Distribution	Type
Aframomum dhetchuvii	Harris & Wortley	2018	DRC	Plant
Aframomum fragrans	Harris & Wortley	2018	Cameroon	Plant
Aframomum hirsutum	Harris & Wortley	2018	DRC, Gabon	Plant
Aframomum kamerunicum	Harris & Wortley	2018	Cameroon	Plant
Aframomum kodmin	Harris & Wortley	2018	Cameroon	Plant
Aframomum lutarium	Harris & Wortley	2018	Cameroon, DRC	Plant
Aframomum ngamikkense	Fisch., Kirunda, Ewango, Leal & Plumptre	2018	DRC	Plant
Aframomum parvulum	Harris & Wortley	2018	DRC, Republic of Congo	Plant
Aframomum plicatum	Harris & Wortley	2018	Cameroon	Plant
Aframomum rotundum	Harris & Wortley	2018	Gabon	Plant
Aframomum scalare	Harris & Wortley	2018	Central African Republic, DRC, Gabon, Republic of Congo	Plant
Aframomum submontanum	Harris & Wortley	2018	DRC	Plant
Aframomum tchoutoui	Harris & Wortley	2018	Cameroon	Plant
Afrothismia fungiformis	Sainge & Kenfack	2013	Cameroon	Plant
Afrothismia kupensis	Cheek & Williams	2019	Cameroon	Plant
Afrothismia pusilla	Sainge & Kenfack	2013	Cameroon	Plant
Albertisia badia	Breteler	2022	Gabon	Plant
Albertisia mouilaensis	Breteler	2022	Gabon	Plant
Allophylus bertoua	Cheek	2016	Cameroon	Plant
Amischotolype scandens	Burg & Bidault	2020	Gabon	Plant
Amorphophallus dumboi	Fisch., Dumbo & Dumbo	2022	DRC	Plant
Anemia rauhiana	Mickel	2016	Cameroon	Plant
Angraecum biteaui	Simo & Stévart	2016	Gabon	Plant
Angraecum geerinckianum	Stévart & Ječmenica	2017	Gabon	Plant
Angraecum gereauanum	Stévart & Ječmenica	2017	Gabon	Plant
Angraecum lanceolatum	Ječmenica, Stévart & Droissart	2016	Cameroon,Gabon	Plant
Anisophyllea biokoensis	Zhang, Chen & He	2015	Equatorial Guinea, Gabon	Plant
Anisophyllea cuneata	Zhang, Chen & He	2015	Cameroon, Gabon	Plant
Anisophyllea myriostictoides	Zhang, Chen & He	2015	Gabon	Plant
Anisophyllea neopurpurascens	Zhang, Chen & He	2015	Cameroon, Gabon	Plant
Asplenium kivuensis	Mangambu	2016	DRC	Plant
Asplenium markusbeckeri	Fisch. & Lobin	2023	DRC	Plant
Asplenium uschiae	Fisch. & Lobin	2023	DRC	Plant
Atriplex congolensis	Sukhor.	2016	DRC	Plant
Baissea atrobrunnea	Lachenaud	2022	Gabon	Plant
Baphia vili	Cheek	2014	Republic of Congo	Plant
Begonia monte-alenensis	Sosef	2014	Equatorial Guinea	Plant
Begonia puberula	Sosef	2014	Gabon	Plant
Bolusiella fractiflexa	Droissart, Stévart & Verlynde	2013	Cameroon	Plant
Bonamia ngouniensis	Breteler	2015	Gabon	Plant
Bulbophyllum pauwelsianum	Stévart & Droissart	2014	Gabon	Plant
Campylospermum auriculatum	Biss.	2013	Equatorial Guinea, Gabon	Plant
Campylospermum gabonense	Biss.	2013	Gabon	Plant

Species	Scientist(s)	Year	Distribution	Type
Campylospermum glaucifolium	Biss.	2013	Cameroon, Equatorial Guinea, Gabon, Republic of Congo	Plant
Campylospermum occidentale	Biss.	2013	Gabon	Plant
Carapa wohllebenii	Fisch., Killmann, Leh & Janssens	2021	DRC	Plant
Coffea rizetiana	Stoff. & Noirot, Adansonia	2021	Cameroon	Plant
Cola elegans	Pierre ex Breteler	2014	DRC, Gabon, Republic of Congo	Plant
Cola etugei	Cheek	2020	Cameroon	Plant
Cola kodminensis	Cheek	2020	Cameroon	Plant
Cola mamboana	Kenfack & Sainge	2018	Cameroon	Plant
Cola moussavoui	Breteler	2014	Gabon	Plant
Cola stigmatosa	Breteler	2014	Gabon	Plant
Cola zemagoana	Kenfack & Thomas	2018	Cameroon	Plant
Combretum longistipitatum	Jongkind	2018	Gabon	Plant
Combretum rupestre	Jongkind	2019	Gabon	Plant
Cordia letestui	Simons	2021	Cameroon, Gabon	Plant
Costus acutissimus	Maas & Maas	2016	Gabon	Plant
Costus albiflos	Maas & Maas	2016	Cameroon, Gabon	Plant
Costus fenestralis	Maas & Maas	2016	Gabon, Republic of Congo	Plant
Costus kupensis	Maas & Maas	2016	Cameroon	Plant
Costus lilaceus	Maas & Maas	2016	Cameroon, Equatorial Guinea, Gabon, Republic of Congo	Plant
Costus louisii	Maas & Maas	2016	Gabon	Plant
Costus nimba	Maas & Maas	2016	Cameroon	Plant
Crateranthus cameroonensis	Cheek & Prance	2015	Cameroon	Plant
Craterispermum capitatum	Taedoyumg & De Block	2017	Cameroon, DRC, Republic of Congo	Plant
Craterispermum deblockianum	Taedoyumg & De Block	2013	Gabon	Plant
Craterispermum gabonicum	Taedoyumg & De Block	2017	Gabon	Plant
Craterispermum rumpianum	Taedoyumg & De Block	2013	Cameroon	Plant
Craterispermum sonkeanum	Taedoyumg & De Block	2013	Equatorial Guinea, Gabon	Plant
Crossopetalum bokdamii	Breteler & Buerki	2016	DRC	Plant
Crotalaria tchibangensis	Maesen	2013	Gabon	Plant
Crotonogyne micrantha	Breteler	2018	Cameroon	Plant
Crotonogyne neglecta	Breteler	2018	Cameroon, Equatorial Guinea	Plant
Crotonogynopsis korupensis	Kenfack & Thomas	2015	Cameroon, Equatorial Guinea	Plant
Cryptosepalum korupense	Burgt	2014	Cameroon	Plant
Ctenopterella gabonensis	Parris	2013	Gabon	Plant
Cyperus inselbergensis	Lye	2013	Cameroon, Gabon	Plant
Cyrtopera bamendensis	Szlach	2021	Cameroon	Plant
Cyrtorchis okuensis	Droissart, Azandi & Simo	2021	Cameroon, Equatorial Guinea	Plant
Cyrtorchis submontana	Stévart, Droissart & Azandi	2016	Cameroon, Equatorial Guinea	Plant
Dalbergia adiantifolia	Lachenaud	2016	Gabon	Plant
Dalbergia lancistipula	Lachenaud	2016	Equatorial Guinea, Gabon	Plant
Dalbergia nervosa	Lachenaud	2016	Cameroon, Gabon	Plant
Dalbergia obliquifoliolata	Lachenaud	2016	Gabon	Plant
Dalbergia semiapplanata	Lachenaud	2016	Gabon	Plant
Dalbergia stenopetala	Lachenaud	2016	Cameroon, Equatorial Guinea, Gabon	Plant
Dalbergia xylocarpa	Lachenaud	2016	Equatorial Guinea	Plant
Decorsella arborea	Jongkind	2017	Cameroon, Gabon, Republic of Congo	Plant
Deinbollia onanae	Cheek	2021	Cameroon	Plant
Didelotia korupensis	Burgt	2016	Cameroon	Plant
Didymochlaena cameroonensis	Zhang & Shang	2023	Cameroon, Equatorial Guinea	Plant
Diospyros cleistantha	Lachenaud & Schatz	2017	Cameroon, Equatorial Guinea, Gabon	Plant

Species	Scientist(s)	Year	Distribution	Type
Diospyros subargentea	Lachenaud & Schatz	2017	Gabon	Plant
Discoclaoxylon ikabangae	Lachenaud	2023	Gabon	Plant
Discoclaoxylon korupense	Barberá & Quintanar	2023	Cameroon	Plant
Disperis tomaszii	Szlach., Grochocka, Dudek & Olędrz.	2017	Cameroon	Plant
Distylodon sonkeanus	Droissart, Stévart & Cribb	2014	Cameroon	Plant
Djinga cheekii	Ghogue, Huber & Rutish.	2013	Cameroon	Plant
Dorstenia luamensis	Leal	2014	DRC	Plant
Dracaena bushii	Damen	2018	Cameroon, Equatorial Guinea, Gabon	Plant
Dracaena haemanthoides	Bos ex Damen	2018	Cameroon, Equatorial Guinea, Gabon	Plant
Dracaena laxissima	Wiland & Luke	2018	DRC	Plant
Dracaena litoralis	Mwachala & Fisch.	2013	Cameroon, Equatorial Guinea, Gabon	Plant
Dracaena longipetiolata	Mwachala & Fisch.	2013	Gabon	Plant
Dracaena marina	Bos ex Damen	2018	Cameroon, DRC, Gabon, Republic of Congo	Plant
Dracaena rosulata	Mwachala & Fisch.	2013	DRC	Plant
Dracaena wakaensis	Damen & Quiroz	2018	Gabon	Plant
Dracaena waltersiae	Damen	2018	Central African Republic, Gabon, Republic of Congo	Plant
Drypetes aphanes	Quintanar, Harris & Barberá	2023	Gabon	Plant
Drypetes burnleyae	Cheek	2021	Cameroon	Plant
Drypetes cauta	Harris, Barberá & Quintanar	2023	DRC, Gabon	Plant
Drypetes morocarpa	Léonard ex Harris & Quintanar	2020	DRC	Plant
Drypetes palustris	Léonard ex Harris & Quintanar	2022	Republic of Congo	Plant
Drypetes stevartii	Sonké & Quintanar	2023	Cameroon	Plant
Drypetes umbricola	Harris & Quintanar	2021	Cameroon, Central African Republic, DRC, Gabon, Republic of Congo	Plant
Englerodendron nguemae	Lachenaud & Bidault	2022	Gabon	Plant
Englerophytum ferrugineum	Gaut. & Lachenaud	2016	Gabon	Plant
Englerophytum gigantifolium	Lachenaud & Gaut.	2016	Gabon	Plant
Englerophytum libenii	Lachenaud & Gaut.	2016	Cameroon, Gabon	Plant
Englerophytum paludosum	Gaut., Burgt & Lachenaud	2016	Cameroon, DRC, Gabon	Plant
Englerophytum sylverianum	Kenfack & Gaut.	2016	Cameroon, Equatorial Guinea	Plant
Erythrina wieringae	Maesen	2013	Gabon	Plant
Eugenia breteleri	Jongkind	2015	Gabon	Plant
Gambeya korupensis	Ewango & Kenfack	2016	Cameroon	Plant
Gilbertiodendron bambolense	Burgt.	2015	DRC	Plant
Gilbertiodendron breteleri	Burgt.	2015	Gabon	Plant
Gilbertiodendron ebo	Burgt & Mackinder	2015	Cameroon	Plant
Gilbertiodendron maximum	Burgt & Wieringa	2015	Gabon	Plant
Gilbertiodendron minkebense	Burgt & Estrella	2015	Gabon, Republic of Congo	Plant
Gilbertiodendron quinquejugum	Burgt.	2015	Gabon, Republic of Congo	Plant
Gilbertiodendron scutatum	Wieringa & Estrella	2015	Equatorial Guinea, Gabon	Plant
Gilbertiodendron sulfureum	Burgt	2015	Cameroon, Gabon	Plant
Globimetula agelanthoides	Lachenaud & Ndolo	2023	Gabon	Plant
Globulostylis dewildeana	Sonké, Lachenaud & Dessein	2013	Cameroon	Plant
Globulostylis rammelooana	Sonké, Lachenaud & Dessein	2013	Cameroon	Plant
Globulostylis robbrechtiana	Sonké, Lachenaud & Dessein	2013	Cameroon, Equatorial Guinea, Gabon	Plant
Gnetum interruptum	Blye	2013	Cameroon, Central African Republic, DRC, Equatorial Guinea, Gabon, Republic of Congo	Plant
Gnetum latispicum	Blye	2013	Cameroon	Plant
Grangea ogoouensis	Lachenaud & Beentje	2020	Gabon	Plant

Species	Scientist(s)	Year	Distribution	Type
Greenwayodendron glabrum	Lissambou, Hardy & Couvreur	2018	Cameroon, Equatorial Guinea, Gabon	Plant
Greenwayodendron littorale	Lissambou, Hardy & Couvreur	2018	Gabon, Republic of Congo	Plant
Grossera angustifolia	Barberá & Riina	2015	Equatorial Guinea	Plant
Hibiscus minkebeensis	Burg	2013	Gabon	Plant
Hibiscus ngokbanakii	Burg	2013	Gabon	Plant
Hunteria maasiorum	Jongkind & Bidault	2022	Gabon	Plant
Hymenophyllum senterreanum	Dubuisson & Deblauwe	2016	Cameroon, Equatorial Guinea	Plant
Hymenostegia viridiflora	Mackinder & Wieringa	2013	Cameroon	Plant
Hypolytrum goetghebeurii	Thery	2019	DRC	Plant
Impatiens akomensis	Janssens, Sonké & Lachenaud	2015	Cameroon	Plant
Impatiens banen	Cheek	2022	Cameroon	Plant
Impatiens elwiraurzulae	Fisch., Abrah., Holstein & Janssens	2021	DRC	Plant
Impatiens etugei	Fisch., Abrah., Holstein & Janssens	2022	Cameroon	Plant
Impatiens lotteri	Fisch., Abrah., Holstein & Janssens	2021	DRC	Plant
Impatiens ludewigii	Fisch., Abrah., Holstein & Janssens	2021	DRC	Plant
Impatiens moutsambotei	Cheek	2022	Republic of Congo	Plant
Impatiens smetsiana	Janssens, Taedoumg & Dessein	2022	Cameroon	Plant
Inversodicraea achoundongii	Schenk, Herschlag & Thomas	2015	Cameroon	Plant
Inversodicraea ebo	Cheek	2017	Cameroon	Plant
Inversodicraea eladii	Cheek	2017	Cameroon	Plant
Inversodicraea senei	Cheek	2017	Cameroon	Plant
Inversodicraea tchoutoi	Cheek	2017	Cameroon	Plant
Inversodicraea xanderi	Cheek	2017	Cameroon	Plant
Isoetes hallei	Fisch. & Lobin	2022	DRC	Plant
Ixora kalehensis	De Block	2018	DRC	Plant
Jasminum mouilaense	Breteler	2018	Gabon	Plant
Justicia alchorneeticola	Champl.	2013	DRC	Plant
Justicia catenula	Champl.	2013	DRC	Plant
Justicia gladiatotheca	Champl.	2013	DRC	Plant
Justicia lenticellata	Champl.	2013	DRC	Plant
Justicia lovoiensis	Champl.	2013	DRC	Plant
Justicia nanofrutex	Champl.	2013	DRC	Plant
Justicia pedemontana	Champl.	2013	DRC	Plant
Justicia sejuncta	Champl.	2013	DRC	Plant
Justicia tutukuensis	Champl.	2013	DRC	Plant
Kalaharia schaijesii	Bamps	2013	DRC, Gabon, Republic of Congo	Plant
Kalaharia schaijesii	Bamps	2013	DRC	Plant
Keetia namoyae	Lachenaud & Luke	2017	DRC	Plant
Kihansia jengiensis	Sainge & Kenfack	2015	Cameroon	Plant
Kolobopetalum synsepalum	Breteler	2021	Gabon	Plant
Kosteletzkya rotundalata	Blanch.	2013	DRC	Plant
Kupeantha ebo	Alvarez & Cheek	2018	Cameroon	Plant
Kupeantha kupensis	Cheek & Sonké	2018	Cameroon	Plant
Kupeantha yabassi	Alvarez & Cheek	2021	Cameroon	Plant
Kylicanthe arcuata	Stévart & Droissart	2018	Cameroon	Plant
Kylicanthe cornuata	Stévart & Droissart	2018	Cameroon, Equatorial Guinea, Gabon	Plant
Laccosperma cristalensis	Couvreur & Niang.	2016	Gabon	Plant
Landolphia anthonii	Jongkind	2022	Cameroon, Gabon	Plant
Landolphia coriacea	Jongkind	2022	Cameroon, Gabon	Plant
Landolphia dibatae	Jongkind	2022	Gabon	Plant
Landolphia obovata	Lachenaud & Jongkind	2022	Cameroon, Gabon	Plant
Landolphia persooniana	Lachenaud & Jongkind	2022	Gabon	Plant

Species	Scientist(s)	Year	Distribution	Type
Landolphia verrucosa	Jongkind & Lachenaud	2022	Gabon	Plant
Leptoderris gabonica	Breteler	2016	Gabon	Plant
Leptoderris robusta	Breteler	2016	Gabon	Plant
Leptonychia moyesiae	Cheek	2013	Cameroon	Plant
Liparis esmahaniae-hefiediae	Fisch., Dumbo & Dumbo	2023	DRC	Plant
Mapania pallescens	Lye	2014	Gabon	Plant
Massularia stevartiana	Sonké, Bidault & Droissart	2015	Cameroon, Gabon	Plant
Memecylon alipes	Stone	2020	Gabon	Plant
Memecylon biokoense	Stone	2020	Equatorial Guinea	Plant
Memecylon fugax	Stone	2020	Cameroon	Plant
Memecylon korupense	Stone	2020	Cameroon	Plant
Mendoncia camerounensis	Breteler & Wieringa	2018	Cameroon	Plant
Mendoncia rabiensis	Breteler & Wieringa	2018	Gabon	Plant
Mesanthemum alenicola	Phillips	2019	Equatorial Guinea	Plant
Microcoelia nguemae	Farminhão & Stévart	2023	Gabon	Plant
Microcos magnifica	Cheek	2017	Cameroon	Plant
Microcos rumpi	Cheek	2023	Cameroon	Plant
Millettia geerinckiana	Lachenaud	2016	Gabon	Plant
Millettia viridiflora	Lachenaud	2016	Gabon	Plant
Millettia wieringae	Adomou	2016	Gabon	Plant
Mischogyne congensis	Gosline	2019	DRC	Plant
Mocquerysia distans	Breteler	2013	Gabon	Plant
Momordica breteleri	H.Schaef.	2021	Gabon	Plant
Monanthotaxis aestuaria	Hoekstra	2021	Gabon	Plant
Monanthotaxis bali	Cheek	2023	Cameroon	Plant
Monanthotaxis bidaultii	Hoekstra	2021	Gabon	Plant
Monanthotaxis confusa	Hoekstra	2021	DRC	Plant
Monanthotaxis couvreurii	Hoekstra	2016	Cameroon	Plant
Monanthotaxis hexamera	Hoekstra	2021	Cameroon	Plant
Monanthotaxis latistamina	Hoekstra	2016	Gabon	Plant
Monanthotaxis mcphersonii	Hoekstra	2021	Gabon	Plant
Monanthotaxis paniculata	Hoekstra	2014	Gabon	Plant
Monanthotaxis quasilanceolata	Hoekstra	2021	Equatorial Guinea, Gabon	Plant
Monanthotaxis sterilis	Hoekstra	2021	Cameroon, DRC, Equatorial Guinea, Gabon	Plant
Monanthotaxis submontana	Hoekstra	2021	Cameroon	Plant
Monanthotaxis tripetala	Hoekstra	2016	Cameroon, Gabon	Plant
Monanthotaxis vulcanica	Hoekstra	2021	Cameroon	Plant
Monanthotaxis wieringae	Hoekstra	2021	Gabon	Plant
Monanthotaxis zenkeri	Hoekstra	2016	Cameroon	Plant
Monotes duvigneaudii	Meerts	2017	DRC	Plant
Napoleonaea cuneata	Jongkind	2015	Gabon	Plant
Neobotrydium ense	Chu & Zhang	2016	DRC	Plant
Neuropeltis eladii	Breteler	2014	Cameroon	Plant
Noronhia cameroonensis	Jongkind	2020	Cameroon	Plant
Nothodissotis alenensis	Lib. & Lachenaud	2019	Equatorial Guinea	Plant
Oncinotis gabonica	Lachenaud	2022	Gabon	Plant
Ottelia profundecordata	Symoens	2015	DRC	Plant
Oxyanthus doucetii	Sonké & Lachenaud	2016	Cameroon	Plant
Oxyanthus lewisii	Sonké & Lachenaud	2016	Cameroon, DRC, Gabon	Plant
Oxygyne confusa	Bidault, Merckx & Byng	2018	Central African Republic	Plant
Oxygyne duncanii	Cheek	2018	Cameroon	Plant
Oxygyne frankei	Cheek	2018	Central African Republic	Plant
Palisota akouangoui	Bidault & Burg	2019	Cameroon, Gabon, Equatorial Guinea, Republic of Congo	Plant

Species	Scientist(s)	Year	Distribution	Type
Palisota alboanthera	Burg & E.Bidault	2019	Gabon	Plant
Palisota cristalensis	Bidault & Burg	2019	Equatorial Guinea, Gabon	Plant
Palisota decumbens	Faden, Burg & Bidault	2020	Gabon	Plant
Palisota ebo	Burg & Bidault	2018	Cameroon	Plant
Palisota fadenii	Burg & Bidault	2019	Gabon, Republic of Congo	Plant
Palisota leewhitei	Burg, Lachenaud & Bidault	2019	Gabon	Plant
Palisota plicata	Bidault & Burg	2019	Gabon, Equatorial Guinea	Plant
Palisota repens	Bidault & Burg	2019	Equatorial Guinea, Gabon, Republic of Congo	Plant
Palisota stevartii	Burg & Bidault	2019	Gabon	Plant
Pauridiantha gracilipes	Lachenaud & Ntore	2019	Gabon	Plant
Pauridiantha halleana	Ntore & Lachenaud	2020	DRC	Plant
Piptostigma goslineanum	Ghogue, Sonké & Couvreur	2017	Cameroon	Plant
Piptostigma macrophyllum	Ghogue, Sonké & Couvreur	2017	Cameroon	Plant
Piptostigma mayndongtsaeanum	Ghogue, Sonké & Couvreur	2017	Cameroon, Equatorial Guinea	Plant
Piptostigma submontanum	Ghogue, Sonké & Couvreur	2017	Cameroon	Plant
Pleiocarpa robusta	Lachenaud	2022	Gabon	Plant
Plukenetia kwangoensis	Gillespie	2023	DRC	Plant
Plumbago ituriensis	Ntore	2015	DRC	Plant
Polystachya bamendae	Szlach., Baranow & Mytnik	2013	Cameroon	Plant
Polystachya kathriniae	Fisch. & Killmann	2020	DRC	Plant
Pseudohydrosme bogneri	Cheek & Moxon-Holt	2021	Gabon	Plant
Pseudohydrosme ebo	Cheek	2021	Cameroon	Plant
Psychotria accumulans	Lachenaud	2019	Gabon	Plant
Psychotria acutigemma	Lachenaud	2019	Gabon	Plant
Psychotria adamawae	Lachenaud	2019	Cameroon	Plant
Psychotria altimontana	Lachenaud	2019	Cameroon	Plant
Psychotria anthocleistifolia	Lachenaud	2019	Gabon	Plant
Psychotria aquatica	Lachenaud	2019	DRC	Plant
Psychotria asterogramma	Lachenaud	2019	Cameroon	Plant
Psychotria aurantiiflora	Lachenaud	2019	Cameroon	Plant
Psychotria bampsiana	Lachenaud	2019	DRC	Plant
Psychotria basicordata	Lachenaud	2019	Cameroon	Plant
Psychotria bilineata	Lachenaud	2019	Gabon	Plant
Psychotria blepharocalyx	Lachenaud	2019	Gabon	Plant
Psychotria breteleri	Lachenaud	2019	Gabon	Plant
Psychotria brevifissa	Lachenaud	2019	Cameroon	Plant
Psychotria campoensis	Lachenaud	2019	Cameroon	Plant
Psychotria champluvierae	Lachenaud	2019	Gabon	Plant
Psychotria cheekii	Lachenaud	2019	Cameroon	Plant
Psychotria conica	Lachenaud	2019	Cameroon	Plant
Psychotria crystallina	Lachenaud	2019	Gabon	Plant
Psychotria cussetii	Lachenaud	2019	Republic of Congo	Plant
Psychotria degreefii	Lachenaud	2019	Gabon	Plant
Psychotria descoingsii	Lachenaud	2019	Gabon	Plant
Psychotria desseinii	Lachenaud	2019	Gabon	Plant
Psychotria dewildei	Lachenaud	2019	Cameroon	Plant
Psychotria droissartii	Lachenaud	2019	Cameroon	Plant
Psychotria duncanthomasii	Lachenaud	2019	Cameroon	Plant
Psychotria eladii	Lachenaud	2019	Cameroon	Plant
Psychotria elephantina	Lachenaud	2013	Cameroon	Plant
Psychotria flagelliflora	Lachenaud	2019	Gabon	Plant
Psychotria geoscopa	Lachenaud	2019	Cameroon	Plant
Psychotria gigantifolia	Lachenaud	2019	Gabon	Plant

Species	Scientist(s)	Year	Distribution	Type
Psychotria humifera	Lachenaud	2019	Gabon	Plant
Psychotria issembei	Lachenaud	2019	Gabon	Plant
Psychotria janssensii	Lachenaud	2019	Gabon	Plant
Psychotria kivuensis	Lachenaud	2019	DRC	Plant
Psychotria korupensis	Lachenaud	2019	Cameroon	Plant
Psychotria koumounaboualiensis	Lachenaud	2019	Gabon	Plant
Psychotria kribiensis	Lachenaud	2019	Cameroon	Plant
Psychotria laticalyx	Lachenaud	2019	Gabon	Plant
Psychotria laxithyrsa	Lachenaud	2019	Gabon	Plant
Psychotria leeuwenbergiana	Lachenaud	2019	Cameroon	Plant
Psychotria longicalyx	Lachenaud	2019	Cameroon	Plant
Psychotria longicornis	Lachenaud	2019	Cameroon	Plant
Psychotria lophocarpa	Lachenaud	2019	Cameroon	Plant
Psychotria maesenii	Lachenaud	2019	Gabon	Plant
Psychotria magnistipula	Lachenaud	2019	Gabon	Plant
Psychotria marantifolia	Lachenaud	2019	Cameroon	Plant
Psychotria nerei	Lachenaud	2019	Republic of Congo	Plant
Psychotria neurosticta	Lachenaud	2019	Gabon	Plant
Psychotria nubisylvae	Lachenaud	2019	Cameroon	Plant
Psychotria nzabii	Lachenaud	2019	Gabon	Plant
Psychotria onanae	Lachenaud	2019	Cameroon	Plant
Psychotria orbicalyx	Lachenaud	2019	Gabon	Plant
Psychotria pachycalyx	Lachenaud	2019	Cameroon, Equatorial Guinea	Plant
Psychotria pendulothyrsa	Lachenaud	2019	Cameroon	Plant
Psychotria radicifera	Lachenaud	2019	Gabon	Plant
Psychotria raynaliorum	Lachenaud	2019	Cameroon	Plant
Psychotria reitsmarum	Lachenaud	2019	Gabon	Plant
Psychotria retrofracta	Lachenaud	2019	Cameroon	Plant
Psychotria retrorsipilis	Lachenaud	2019	Cameroon	Plant
Psychotria rhynchodiscus	Lachenaud	2019	Cameroon	Plant
Psychotria rosulata	Lachenaud	2019	Gabon	Plant
Psychotria rubriflora	Lachenaud	2019	Gabon	Plant
Psychotria satabiei	Lachenaud	2019	Cameroon	Plant
Psychotria senterrei	Lachenaud	2019	Cameroon	Plant
Psychotria sitae	Lachenaud	2019	Cameroon, Republic of Congo	Plant
Psychotria stenostegia	Lachenaud	2019	Cameroon	Plant
Psychotria sublyrata	Lachenaud	2019	DRC	Plant
Psychotria synactica	Lachenaud	2019	Gabon	Plant
Psychotria taedoumgii	Lachenaud	2019	Cameroon	Plant
Psychotria tchoutoi	Lachenaud	2019	Cameroon	Plant
Psychotria titanophylla	Lachenaud	2019	Gabon	Plant
Psychotria uapacifolia	Lachenaud	2019	Gabon	Plant
Psychotria varians	Lachenaud	2019	Cameroon	Plant
Psychotria villicarpa	Lachenaud	2019	Cameroon	Plant
Psychotria wieringae	Lachenaud	2013	Gabon	Plant
Psychotria yaoundensis	Lachenaud	2013	Cameroon	Plant
Ptisana senterreana	Christenh.	2018	Cameroon	Plant
Pycreus rubidomontanus	Browning	2019	Cameroon	Plant
Raphia gabonica	Mogue, Sonké & Couvreur	2018	Gabon	Plant
Raphia zamiana	Mogue, Sonké & Couvreur	2018	Cameroon, Gabon	Plant
Rhaphidophora bogneri	Boyce & Haigh	2016	Gabon	Plant
Rhaptopetalum cheekii	Prance	2015	Cameroon	Plant
Rhaptopetalum rabiense	Kenfack & Nguema	2019	Gabon	Plant
Rhipidoglossum montealenense	Descourv., Stévart & Cribb	2013	Cameroon, Equatorial Guinea	Plant

Species	Scientist(s)	Year	Distribution	Type
Rinorea amietii	Achound.	2021	Cameroon	Plant
Rinorea calcicola	Velzen & Wieringa	2014	Gabon	Plant
Rinorea dewildei	Achound.	2021	Cameroon	Plant
Rinorea dimakoensis	Achound.	2022	Cameroon, Gabon	Plant
Rinorea faurei	Achound.	2021	Cameroon	Plant
Rinorea spongicarpa	Achound.	2022	Cameroon	Plant
Rinorea villiersii	Achound.	2021	Cameroon	Plant
Sabicea bullata	Lachenaud & Sonké	2014	Cameroon	Plant
Sabicea couteronii	Lachenaud, Zemagho & Sonké	2020	Cameroon, Gabon, Republic of Congo	Plant
Sabicea desseinii	Zemagho, Lachenaud & Sonké	2018	Cameroon, Equatorial Guinea, Gabon	Plant
Sabicea dichrosepala	Lachenaud, Zemagho & Sonké	2020	Gabon	Plant
Sabicea ezangae	Zemagho, Lachenaud & Sonké	2018	Gabon	Plant
Sabicea golgothae	Lachenaud & Zemagho	2015	Gabon	Plant
Sabicea mabouniensis	Lachenaud & Zemagho	2015	Gabon	Plant
Sabicea mapiana	Zemagho, Lachenaud & Sonké	2017	Gabon	Plant
Sabicea ndjoleensis	Zemagho, Lachenaud & Sonké	2017	Gabon	Plant
Sabicea parmentierae	Zemagho, Lachenaud & Sonké	2017	Cameroon, Equatorial Guinea, Gabon	Plant
Sabicea rubiginosa	Lachenaud, Zemagho & Sonké	2020	Gabon	Plant
Sabicea sciaphilantha	Zemagho, Lachenaud & Sonké	2017	Gabon	Plant
Sabicea uniflora	Zemagho, Lachenaud & Sonké	2018	Gabon	Plant
Sabicea urniformis	Zemagho, Lachenaud & Sonké	2014	Gabon, Republic of Congo	Plant
Salacia arenicola	Gosline	2014	DRC, Gabon	Plant
Salacia nigra	Cheek	2014	Cameroon	Plant
Saxicolella ijim	Cheek	2022	Cameroon	Plant
Scleria cheekii	Bauters	2018	Cameroon	Plant
Scleria pedicellata	Bauters	2018	Gabon	Plant
Sirdavidia solannona	Couvreur & Sauquet	2015	Gabon	Plant
Stolzia kalkhof-roseae	Fisch., Killmann, Lebel & Delep.	2011	DRC	Plant
Streptocarpus bampsii	Fisch. & Darbysh.	2021	DRC	Plant
Streptocarpus malachiticola	Fisch. & Darbysh.	2021	DRC	Plant
Streptocarpus malaissei	Fisch. & Darbysh.	2021	DRC	Plant
Streptocarpus salesianorum	Fisch. & Darbysh.	2021	DRC	Plant
Streptocarpus schaijesii	Fisch. & Darbysh.	2021	DRC	Plant
Synclisia oligogyna	Breteler	2022	Gabon	Plant
Ternstroemia cameroonensis	Cheek	2017	Cameroon	Plant
Tessmannia korupensis	Burgt	2016	Cameroon	Plant
Tetracera breteleri	Niang., Lachenaud & Sosef	2022	DRC, Gabon	Plant
Torenia daubyi	Fisch. & Lachenaud	2013	Gabon	Plant
Tricalysia elmar	Cheek	2020	Cameroon	Plant
Tricalysia lophocarpa	Lachenaud & Sonké	2020	Gabon	Plant
Tricalysia obovata	Lachenaud & Sonké	2020	Equatorial Guinea	Plant
Tricalysia wilksii	Lachenaud & Sonké	2020	Gabon, Republic of Congo	Plant
Trichoscypha wilksii	Breteler	2017	Gabon	Plant
Triclisia gabonensis	Jongkind & Breteler	2022	Gabon	Plant
Triclisia megacarpa	Breteler	2022	Gabon	Plant
Tridactyle elzbietae	Szlach.	2021	Gabon	Plant
Tridactyle minutifolia	D'haijère & Stévart	2015	Equatorial Guinea, Gabon	Plant
Urera gabonensis	Pierre ex Friis	2018	Gabon	Plant
Urobotrya gabonensis	Jongkind	2018	Gabon	Plant
Uvariodendron pilosicarpum	Dagallier & Couvreur	2023	Gabon	Plant
Uvariopsis citrata	Couvreur & Niang.	2016	Gabon	Plant
Uvariopsis dicaprio	Gosline	2022	Cameroon	Plant

Species	Scientist(s)	Year	Distribution	Type
Uvariopsis etugeana	Dagallier & Couvreur	2022	Cameroon	Plant
Vadensea testui	Jongkind & Lachenaud	2019	Gabon, Equatorial Guinea, Republic of Congo	Plant
Vandenboschia confusa	Dubuisson, Deblauwe & Bouch.-Dubuisson	2022	Cameroon, DRC	Plant
Vepris adamaouae	Onana	2015	Cameroon	Plant
Vepris araliopsioides	Onana	2015	Cameroon	Plant
Vepris bali	Cheek	2018	Cameroon	Plant
Vepris letouzeyi	Onana	2015	Cameroon	Plant
Vepris mbamensis	Onana	2019	Cameroon	Plant
Vepris montisbambutensis	Onana	2015	Cameroon	Plant
Vepris onanae	Cheek	2022	Cameroon	Plant
Vepris teva	Cheek	2022	Republic of Congo	Plant
Vepris zapfackii	Cheek & Onana	2021	Cameroon	Plant
Voacanga bambidiensis	Jongkind	2022	Gabon	Plant
Voacanga bidaultii	Jongkind	2022	Gabon	Plant
Voacanga cornuta	Jongkind	2022	Gabon	Plant
Voacanga lachenaudii	Jongkind	2022	Gabon	Plant
Voacanga wieringae	Jongkind	2022	Gabon, Republic of Congo	Plant
Warneckea ngutiensis	Stone	2018	Cameroon	Plant
Wilczekra gabonica	Breteler	2016	Gabon	Plant
Xenostegia lomamiensis	Sosef & Gereau	2019	DRC	Plant
Xylopia calva	Johnson & Murray	2018	Cameroon	Plant
Xylopia globosa	Johnson & Murray	2018	Gabon, Republic of Congo	Plant
Xylopia monticola	Johnson & Murray	2018	Cameroon	Plant
Xylopia unguiculata	Johnson & Murray	2018	Gabon	Plant
Xysmalobium alatum	Goyder	2020	DRC	Plant
Zehneria palmatiloba	Lachenaud & Schaef.	2021	Equatorial Guinea, Gabon	Plant
TOTAL	**430**			

INVERTEBRATES

Species	Scientist(S)	Year	Distribution	Type	
Aciagrion bapepe	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Congo Slim
Africallagma quingentum	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Green-Fronted Bluet
Africocypha varicolor	Dijkstra, Mézière & Günther	2015	Gabon	Dragonfly/ Damselfly	Polychrome Jewel
Afrodiaphanes pulcher	Fanti & Pankowski	2022	Central African Republic	Firefly	
Afromarengo ugandensis	Azarkina & Haddad	2020	DRC	Spider	
Afromicracis concava	Jordal	2021	Cameroon	Bark Beetle	
Allocnemis vicki	Dijkstra & Schütte	2015	Cameroon	Dragonfly/ Damselfly	Blue-Shouldered Yellowwing
Anax gladiator	Dijkstra & Kipping	2015	DRC	Dragonfly/ Damselfly	Swordbearer Emperor
Aradus congoensis	Heiss	2023	DRC	Hemiptera	
Brasura piscinura	Wang, Dietrich & Zhang	2018	Republic of Congo	Hemiptera	
Brasura sinistra	Wang, Dietrich & Zhang	2018	Republic of Congo	Hemiptera	
Ceriagrion banditum	Kipping & Dijkstra	2015	DRC	Dragonfly/ Damselfly	Band-Eyed Citril
Ceriagrion junceum	Dijkstra & Kipping	2015	DRC	Dragonfly/ Damselfly	Spikerush Citril
Ceriagrion obfuscans	Dijkstra, Mézière & Kipping	2015	DRC, Gabon	Dragonfly/ Damselfly	Darkening Citril
Chlorocypha aurora	Dijkstra, Kipping & Schütte	2015	Cameroon	Dragonfly/ Damselfly	Dawn Jewel
Chlorocypha granata	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Garnet Jewel
Chlorocypha maxima	Dijkstra, Kipping & Mézière	2015	Gabon	Dragonfly/ Damselfly	Great Jewel
Cichlidogyrus chrysopiformis	Pariselle, Nyom & Bilong	2014	Cameroon	Flatworm	

Species	Scientist(S)	Year	Distribution	Type	
Cichlidogyrus djietoi	Pariselle, Nyom & Bilong	2014	Cameroon	Flatworm	
Cichlidogyrus mvogoi	Pariselle, Nyom & Bilong	2014	Cameroon	Flatworm	
Cichlidogyrus sigmocirrus	Pariselle, Nyom & Bilong	2014	Cameroon	Flatworm	
Coridiellus pseudocyclopeltus	Kocorek	2020	DRC	Hemiptera	
Crossopalpus yaekela	Grootaert & Shamshev	2013	DRC	Diptera	
Drapetis congoensis	Grootaert & Shamshev	2013	DRC	Diptera	
Drapetis yaekelaensis	Grootaert & Shamshev	2013	DRC	Diptera	
Drapetis zamba	Grootaert & Shamshev	2013	DRC	Diptera	
Dwightla lancea	Xu & Zhang	2019	Central African Republic	Leafhopper	
Drapetis denticulata	Grootaert & Shamshev	2014	DRC	Diptera	
Drapetis yangambensis	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza albistylus	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza aseta	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza asquamata	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza dudui	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza elasii	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza kinshasensis	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza leponcei	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza pachystylus	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza pulchra	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza verheyeni	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza wetsii	Grootaert & Shamshev	2014	DRC	Diptera	
Elaphropeza baeloi	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza congoensis	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza excavata	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza furcata	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza infuscata	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza interrupta	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza juakalyi	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza kona	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza laudisoitae	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza mai	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza monoseta	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza motane	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza moyindo	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza nuda	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza yaekela	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza zamba	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza angulata	Grootaert & Shamshev	2013	DRC	Diptera	
Elaphropeza incerta	Grootaert & Shamshev	2013	DRC	Diptera	
Elattoneura aurifex	Dijkstra & Mézière	2015	Gabon, Republic of Congo	Dragonfly/ Damselfly	Goldsmith Threadtail
Gynacantha congolica	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Congo Duskhawker
Gynacantha pupillata	Dijkstra	2015	Cameroon, DRC, Republic of Congo	Dragonfly/ Damselfly	Spectacled Duskhawker
Hamma boulardi	Loudit, Durante & Susini	2014	Gabon	Hemiptera	
Hamma carlini	Loudit, Durante & Susini	2014	Gabon	Hemiptera	
Hamma franciscae	Loudit, Durante & Susini	2014	Gabon	Hemiptera	
Hapsimachogonia esociformae	Prozorov & Zolotuhin	2016	DRC	Moth	
Kamakonocoris carinata	Weirauch, Knyshov & Hoey-Chamberlain	2020	Cameroon	Hemiptera	
Leptometa adalensis	Prozorov et al	2023	DRC	Moth	
Leptometa editae	Prozorov et al	2023	DRC	Moth	
Leptometa knudlarseni	Prozorov et al	2023	DRC	Moth	

Species	Scientist(S)	Year	Distribution	Type	
Leptometa sophiae	Prozorov et al	2023	DRC	Moth	
Lestinogomphus calcaratus	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Spurred Fairytail
Lestinogomphus nefrens	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Small-Toothed Fairytail
Lestinogomphus venustus	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Lovely Fairytail
Lyroda centralafricana	Schmid-Egger & Al-Jahdhami	2021	Central African Republic	Wasp	
Malgassophlebia andzaba	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Redwater Leaftipper
Manota geniculata	Hippa, Søli & Kurina	2019	Gabon	Diptera	
Mckenziana ciani	Prozorov et al	2023	DRC	Moth	
Mckenziana roganae	Prozorov et al	2023	DRC	Moth	
Metapone africana	Taylor & Alpert	2016	Gabon	Ant	
Microborus angustatus	Jordal	2017	Cameroon	Bark beetle	
*Myrmarachne salongensis**	Pett, Iyomi & Mbende	2023	DRC	Spider	*WWF DRC species discovery (insert as footnote on page)
Neodythemis infra	Dijkstra, Diedericks & Mézière	2015	Gabon, Republic of Congo	Dragonfly/ Damselfly	Blackwater Junglewatcher
Neodythemis katanga	Dijkstra & Kipping	2015	DRC	Dragonfly/ Damselfly	Katanga Junglewatcher
Nimbarus nimbus	Szűts & Maddison	2021	Cameroon	Spider	
Notogomphus bosumbuli	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Congo Longleg
Notogomphus cobyae	Dijkstra	2015	Cameroon	Dragonfly/ Damselfly	Coby's Longleg
Notogomphus gorilla	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Gorilla Longleg
Notogomphus intermedius	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Katanga Longleg
Onychogomphus undecim	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Katanga Claspertail
Orientatractis brycini	Gonzalez-Solis & Mariaux	2017	Gabon	Nematode worm	
Orthetrum kafwi	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Bog Skimmer
Orthetrum lusinga	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Spring Skimmer
Orthetrum umbratum	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Shadow Skimmer
Orthobula marusiki	Haddad, Chi Jin & Platnick	2022	Cameroon, Central African Republic	Spider	
Pachyna arienne	Prozorov et al.	2023	DRC	Moth	
Pachyna stella	Prozorov et al.	2023	DRC	Moth	
Paragomphus clausnitzerorum	Dijkstra, Mézière & Papazian	2015	Gabon	Dragonfly/ Damselfly	Clausnitzers' Hooktail
Paragomphus darwalli	Dijkstra, Mézière & Papazian	2015	Gabon	Dragonfly/ Damselfly	Darwall's Hooktail
Paragomphus dispar	Dijkstra, Mézière & Papazian	2015	Gabon	Dragonfly/ Damselfly	Amazing Hooktail
Paranataretus albertinus	Gnezdilov	2023	DRC	Leafhopper	
Pentaphlebia mangana	Dijkstra, Lambret & Mézière	2015	Gabon, Republic of Congo	Dragonfly/ Damselfly	Black Relic
Pergalumna grebennikovi	Sergey, Ermilov & Starý	2018	Cameroon	Mite	
Phyllogomphus bongorum	Kipping, Mézière & Dijkstra	2015	Gabon	Dragonfly/ Damselfly	Bongo Leaftail
Platypalpus bolikoi	Grootaert & Shamshev	2014	DRC	Diptera	
Platypalpus ikoso	Grootaert & Shamshev	2014	DRC	Diptera	
Platypalpus lokonda	Grootaert & Shamshev	2014	DRC	Diptera	
Platypalpus manjano	Grootaert & Shamshev	2014	DRC	Diptera	
Platypalpus saffradi	Grootaert & Shamshev	2014	DRC	Diptera	
Platypalpus yangambensis	Grootaert & Shamshev	2014	DRC	Diptera	
Polychornum centroafricanum	Gnezdilov	2023	DRC	Leafhopper	
Porpax mezierei	Dijkstra & Kipping	2015	Gabon	Dragonfly/ Damselfly	Blue-Spotted Pricklyleg
Pseudagrion aureolum	Dijkstra, Mézière & Kipping	2015	Gabon	Dragonfly/ Damselfly	Nugget Sprite
Pseudagrion dactylidium	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Gabon Slim Sprite
Pseudagrion munte	Dijkstra	2015	DRC	Dragonfly/ Damselfly	Upemba Sprite
Rhynchobombyx anthonychristophereaton	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rhynchobombyx arijakefriend	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rhynchobombyx avadomenicarocchio	Prozorov, Saldaitis & Müller	2021	DRC	Moth	

Species	Scientist(S)	Year	Distribution	Type	
Rhynchobombyx gavinfilippone	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rhynchobombyx julianjameseaton	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rhynchobombyx madisonellafriend	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rhynchobombyx nicolasroberteaton	Prozorov, Saldaitis & Müller	2021	DRC	Moth	
Rimanannus camerunensis	Weirauch, Knyshov & Hoey-Chamberlain	2020	Cameroon	Hemiptera	
Sciophila tchabalensis	Kurina	2020	Cameroon	Diptera	
Scolytoplatypus unipilus	Jordal	2018	Gabon	Bark Beetle	
Smeringopina bamenda	Huber	2013	Cameroon	Spider	
Smeringopina bayaka	Huber	2013	Central African Republic, Republic of Congo	Spider	
Smeringopina belinga	Huber	2013	Gabon	Spider	
Sonitha sara	Prozorov et al	2023	DRC	Moth	
Sonitha sophia	Prozorov et al	2023	DRC	Moth	
Stilpon congoensis	Grootaert & Shamshev	2013	DRC	Diptera	
Stilpon variabilis	Grootaert & Shamshev	2013	DRC	Diptera	
Syndyas zamba	Grootaert & Shamshev	2013	DRC	Diptera	
Tialidia hama	Wang, Dietrich & Zhang	2018	Republic of Congo	Hemiptera	
Trithemis hinnula	Dijkstra, Mézière & Kipping	2015	Gabon	Dragonfly/ Damselfly	Mule Dropwing
Trithemis legrandi	Dijkstra, Kipping & Mézière	2015	Cameroon	Dragonfly/ Damselfly	Robust Dropwing
Typhonoya kravchenkoi	Prozorov, Müller & Zolotuhin	2021	DRC	Moth	
Umma gumma	Dijkstra, Mézière & Kipping	2015	Cameroon, DRC, Gabon, Republic of Congo	Dragonfly/ Damselfly	Robust Sparklewing
Urothemis venata	Dijkstra, Mézière & Kipping	2015	Gabon	Dragonfly/ Damselfly	Red-Veined Basker
Zygonyx denticulatus	Dijkstra & Kipping	2015	DRC	Dragonfly/ Damselfly	Pale Cascader
Zygonyx dionyx	Dijkstra & Mézière	2015	Gabon	Dragonfly/ Damselfly	Eastern Double-Hooked Cascader
TOTAL	**140**				

FISH

Species	Scientist(s)	Year	Distribution	Type
Alestion rapax	Roberts	2019	DRC	Fish
Amphilius frieli	Thomson, Page & Hilber	2015	DRC	Fish
Aphyosemion aurantiacum	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion barakoniense	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion bitteri	Valdesalici & Eberl	2016	Gabon	Fish
Aphyosemion cryptum	van der Zee, Walsh, Boukaka Mikembi, Jonker, Alexandre & Sonnenberg	2018	Republic of Congo	Fish
Aphyosemion cyanoflavum	van der Zee, Walsh, Boukaka Mikembi, Jonker, Alexandre & Sonnenberg	2018	Republic of Congo	Fish
Aphyosemion fellmanni	Van der Zee & Sonnenberg	2018	Republic of Congo	Fish
Aphyosemion flammulatum	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion flavocyaneum	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion grelli	Valdesalici & Eberl	2013	Gabon	Fish
Aphyosemion mandoroense	van der Zee, Walsh, Boukaka Mikembi, Jonker, Alexandre & Sonnenberg	2018	Republic of Congo	Fish
Aphyosemion mengilai	Valdesalici & Eberl	2014	Gabon	Fish
Aphyosemion pamaense	Agnèse, Legros, Cazaux & Estivals	2013	Cameroon	Fish
Aphyosemion pusillum	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion rubrogaster	Agnèse, Chirio, Legros, Oslisly & Bhé	2018	Gabon	Fish
Aphyosemion mitemelense	Malumbres, Sonnenberg & Van der Zee	2022	Equatorial Guinea	Fish

Species	Scientist(s)	Year	Distribution	Type
Apletodon gabonensis	Fricke & Wirtz	2018	Gabon	Fish
Bathyaethiops baka	Moritz & Schliewen	2016	Cameroon	Fish
Bathyaethiops flammeus	Moritz & Schliewen	2016	DRC	Fish
Brycinus epuluensis	Decru, Vreven, Sadio & Snoeks	2016	DRC	Fish
Chiloglanis mongoensis	Schmidt & Barrientos	2019	Equatorial Guinea	Fish
Chiloglanis msirii	Kashindye, Katemo Manda, Friel, Chakona & Vreven	2021	DRC	Fish
Clarias monsembulai	Bernt & Stiassny	2022	DRC	Fish
Clypeobarbus breviclipeus	Stiassny & Sakharova	2016	DRC	Fish
Congochromis rotundiceps	Wingi, Schedel &Schliewen	2022	DRC	Fish
Cryptomyrus ogoouensis	Sullivan, Lavoué & Hopkins	2016	Gabon	Fish
Cryptomyrus ona	Sullivan, Lavoué & Hopkins	2016	Gabon	Fish
Cyphomyrus lufirae	Mulelenu, Manda, Decru, Manda & Vreven	2020	DRC	Fish
Distichodus ingae	Moelants, Snoeks & Vreven	2018	DRC	Fish
Distichodus kasaiensis	Moelants, Snoeks & Vreven	2018	DRC	Fish
Distichodus mbiniensis	Schmidt, Knobloch & Barrientos	2021	Equatorial Guinea, Gabon	Fish
Distichodus microps	Schmidt, Knobloch & Barrientos	2021	Equatorial Guinea	Fish
Distichodus polli	Abwe, Snoeks, Manda & Vreven	2019	DRC	Fish
Doumea skeltoni	Ferraris & Vari	2013	Republic of Congo	Fish
Enteromius pinnimaculatus	Mipounga, Cutler, Mve Beh, Adam & Sidlauskas	2019	Gabon	Fish
Enteromius radari	Kisekelwa, Snoeks, Decru, Schedel, Isumbisho & Vreven	2022	DRC	Fish
Enteromius thespesios	Manda, Snoeks, Decru, Bills & Vreven	2020	DRC	Fish
Enteromius validus	Stiassny, Liyandja & Iyaba	2016	DRC	Fish
Enteromius walshae	Mamonekene, Zamba & Stiassny	2018	Republic of Congo	Fish
Epiplatys atratus	Van der Zee, Munene, Mbimbi & Sonnenberg	2013	DRC	Fish
Eugnathichthys virgatus	Stiassny, Denton & Iyaba	2013	DRC, Republic of Congo	Fish
Hemichromis camerounensis	Bitja-Nyom, Agnèse, Pariselle, Bilong-Bilong, Gilles & Snoeks	2021	Cameroon	Fish
Hylopanchax leki	van der Zee, Sonnenberg & Schliewen	2013	DRC	Fish
Hylopanchax moke	van der Zee, Sonnenberg & Schliewen	2013	DRC	Fish
Hylopanchax multisquamatus	Bragança, van der Zee, Sonnenberg & Vreven	2021	Gabon	Fish
Hylopanchax ndeko	van der Zee, Sonnenberg & Schliewen	2013	DRC	Fish
Hylopanchax paucisquamatus	Sonnenberg, Friel & Van der Zee	2014	Republic of Congo	Fish
Hylopanchax thysi	Bragança, van der Zee, Sonnenberg & Vreven	2021	Gabon	Fish
Hypsopanchax stiassnyae	Bragança, van der Zee, Sonnenberg & Vreven	2015	DRC	Fish
Labeobarbus nzadimalawu	Vreven, Musschoot, Decru, Lunkayilakio, Obiero, Cerwenka & Schliewen	2018	DRC	Fish
Labeobarbus nzadinkisi	Vreven, Musschoot, Decru, Lunkayilakio, Obiero, Cerwenka & Schliewen	2018	DRC	Fish
Lacustricola nitida	Nagy & Manda	2020	DRC	Fish
Lamprologus markerti	Tougas & Stiassny	2014	DRC	Fish
Marcusenius kaningini	Kisekelwa, Boden, Snoeks & Vreven	2016	DRC	Fish
Marcusenius verheyenorum	Baba, Kisekelwa, Mizani, Decru & Vreven	2020	DRC	Fish
Marcusenius wamuinii	Decru, Sullivan & Vreven	2019	DRC	Fish
Mastacembelus kadeiensis	Roberts	2020	Central African Republic	Fish
Mastacembelus ubangipaucispinis	Roberts	2020	Central African Republic	Fish
Mesoaphyosemion losantosi	Malumbres, Sonnenberg & Van der Zee	2022	Equatorial Guinea	Fish
Mesoaphyosemion montealenense	Malumbres, Sonnenberg & Van der Zee	2022	Equatorial Guinea	Fish
Micropanchax petnehazyi	Malumbres, Sonnenberg & Van der Zee	2018	DRC	Fish
Monopterus luticolus	Britz, Doherty-Bone, Kouete, Sykes & Gower	2016	Cameroon	Fish
Monsembula Iyaba	Stiassny, Liyandja & MonseIyaba	2016	DRC	Fish
Nannocharax chochamandai	Manda, Snoeks, Decru, Brecko & Vreven	2023	DRC	Fish
Nannocharax dageti	Jerep, Vari & Vreven	2014	DRC	Fish
Nannocharax hadros	Manda, Snoeks, Manda & Vreven	2021	DRC	Fish

Species	Scientist(s)	Year	Distribution	Type
Nannocharax hastatus	MonseIyaba & Stiassny	2013	DRC	Fish
Nannocharax rubensteini	Jerep & Vari	2013	Republic of Congo	Fish
Nothobranchius chochamandai	Nagy	2014	DRC	Fish
Nothobranchius ditte	Nagy	2018	DRC	Fish
Nothobranchius flagrans	Nagy	2014	DRC	Fish
Notoglanidium pembetadi	Vreven, Zamba, Mamonekene & Geerinckx	2013	Republic of Congo	Fish
Orthochromis gecki	Schedel, Vreven, Manda, Abwe, Manda & Schliewen	2018	DRC	Fish
Orthochromis indermauri	Schedel, Vreven, Manda, Abwe, Manda & Schliewen	2018	DRC	Fish
Orthochromis katumbii	Schedel, Vreven, Manda, Abwe, Manda & Schliewen	2018	DRC	Fish
Orthochromis kimpala	Schedel, Vreven, Manda, Abwe, Manda & Schliewen	2018	DRC	Fish
Orthochromis mporokoso	Schedel, Vreven, Manda, Abwe, Manda & Schliewen	2018	DRC	Fish
Parakneria alytogrammus	Mutambala, Abwe, Schedel, Manda, Schliewen & Vreven	2022	DRC	Fish
Paramormyrops ntotom	Rich, Sullivan & Hopkins	2017	Gabon	Fish
Parananochromis elobatus	Lamboj	2014	Cameroon	Fish
Parananochromis orsorum	Lamboj	2014	Cameroon	Fish
Parauchenoglanis zebratus	Sithole, Musschoot, Huyghe, Chakona & Vreven	2023	Republic of Congo	Fish
Petrocephalus arnegardi	Lavoué & Sullivan	2014	DRC, Republic of Congo	Fish
Petrocephalus boboto	Lavoué & Sullivan	2014	DRC	Fish
Petrocephalus leo	Lavoué & Sullivan	2016	Central African Republic	Fish
Phenacogrammus concolor	Stiassny, Alter, Iyaba & Liyandja	2021	DRC	Fish
Phenacogrammus flexus	Stiassny, Alter, Iyaba & Liyandja	2021	DRC	Fish
Plataplochilus eliasi	Walsh, de Bragança & van der Zee	2022	Republic of Congo	Fish
Poropanchax pepo	van der Zee, Bernotas, Bragança & Stiassny	2019	DRC	Fish
Raiamas brachyrhabdotos	Manda, Snoeks, Manda & Vreven	2018	DRC	Fish
Raiamas marqueti	Manda, Snoeks, Manda & Vreven	2018	DRC	Fish
Serranus inexpectatus	Wirtz & Iwamoto	2018	Gabon	Fish
Synodontis denticulatus	Ilunga, Abwe, Decru, Manda & Vreven	2020	DRC	Fish
Teleogramma obamaorum	Stiassny & Alter	2015	DRC	Fish
Thysochromis emili	Walsh, Lamboj & Stiassny	2020	Republic of Congo	Fish
TOTAL	**96**			

AMPHIBIANS

Species	**Scientist(s)**	**Year**	**Distribution**	**Type**
Afrixalus phantasma	Greenbaum, Portik, Allen, Vaughan, Badjedjea, Barej, Behangana, Conkey, Dumbo, Gonwouo, Hirschfeld, Hughes, Igunzi, Kusamba, Lukwago, Masudi, Penner, Reyes, Rödel, Roelke, Soraya Romero & Dehling	2022	DRC	Spiney Reed Frog
Afrixalus lacustris	Greenbaum, Portik, Allen, Vaughan, Badjedjea, Barej, Behangana, Conkey, Dumbo, Gonwouo, Hirschfeld, Hughes, Igunzi, Kusamba, Lukwago, Masudi, Penner, Reyes, Rödel, Roelke, Soraya Romero & Dehling	2022	DRC	Spiney Reed Frog
Cardioglossa annulata	Hirschfeld, Blackburn, Burger, Greenbaum, Zassi-Boulou & Rödel	2015	Republic of Congo	Annulated Long-Fingered Frog
Cardioglossa congolia	Hirschfeld, Blackburn, Burger, Greenbaum, Zassi-Boulou & Rödel	2015	DRC	Congolian Long-Fingered Frog
Congolius robustus	Nečas, Badjedjea, Vopálenský & Gvoždík	2021	DRC	Africa Reed Frog
Hyperolius jacobseni	Channing, Hillers, Loetters, Rödel, Schick, Conradie, Roedder, Mercurio, Wagner, Dehling, Du Preez, Kielgast & Burger	2013	Central African Republic	Jacobsen's Long Reed Frog
Hyperolius rwandae	Channing, Hillers, Loetters, Rödel, Schick, Conradie, Roedder, Mercurio, Wagner, Dehling, Du Preez, Kielgast & Burger	2013	DRC	Rwanda Long Reed Frog
Leptopelis anebos	Portillo & Greenbaum	2014	DRC	Itombwe Forest Treefrog
Leptopelis mtoewaate	Portillo & Greenbaum	2014	DRC	Kabembe Treefrog
Phrynobatrachus amieti	Dolinay, Nečas, Zimkus, Schmitz, Fokam, Lemmon, Lemmon & Gvoždík	2021	Cameroon	Amiet's Puddle Frog

Species	Scientist(s)	Year	Distribution	Type
Phrynobatrachus arcanus	Gvoždík, Nečas, Dolinay, Zimkus, Schmitz, & Fokam	2020	Cameroon	Hidden Puddle Frog
Phrynobatrachus horsti	Roedel, Burger, Zassi-Boulou, Emmrich, Penner & Barej	2015	Gabon, Republic of Congo	Horst's Puddle Frog
Phrynobatrachus jimzimkusi	Zimkus & Gvozdik	2013	Cameroon	Jim Zimkus' Puddle frog
Phrynobatrachus mayokoensis	Roedel, Burger, Zassi-Boulou, Emmrich, Penner & Barej	2015	Gabon, Republic of Congo	Mayoko Puddle frog
Phrynobatrachus mbabo	Gvoždík, Nečas, Dolinay, Zimkus, Schmitz & Fokam	2020	Cameroon	Tchabal Mbabo Puddle Frog
Phrynobatrachus njiomock	Zimkus & Gvozdik	2013	Cameroon	Lake Oku Puddle Frog
Xenopus allofraseri	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon, DRC, Equatorial Guinea	False Fraser's Clawed Frog
Xenopus eysoole	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon	Bamiléké Clawed Frog
Xenopus fischbergi	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon, Central African Republic, DRC	Fischberg's Clawed Frog
Xenopus kobeli	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon	Kobel's Clawed Frog
Xenopus mellotropicalis	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon, Central African Republic, DRC, Equatorial Guinea, Gabon, Republic of Congo	Gabonese Clawed Frog
Xenopus parafraseri	Evans, Carter, Greenbaum, Gvoždík, Kelley, McLaughlin, Pauwels, Portik, Stanley, Tinsley, Tobias & Blackburn	2015	Cameroon, Gabon, Republic of Congo	Upland Clawed Frog
TOTAL	**22**			

REPTILES

Species	Scientist(s)	Year	Distribution	Type
Afrotyphlops chirioi	Trape	2019	Central African Republic	Snake
Afrotyphlops rouxestevae	Trape	2019	Cameroon	Snake
Atheris hetfieldi	Ceríaco, Marques & Bauer	2020	Equatorial Guinea	Snake, Bush Viper
Atheris mongoensis	Collet & Trape	2020	DRC	Snake, Bush Viper
Boaedon fradei	Hallermann, Ceríaco, Schmitz, Ernst, Conradie, Verburgt, Marques & Bauer	2020	DRC	Snake
Boaedon littoralis	Trape & Mediannikov	2016	Gabon, Republic of Congo	Snake
Boaedon longilineatus	Trape & Mediannikov	2016	Cameroon	Snake
Boaedon montanus	Trape, Mediannikov, Hinkel & Hinkel	2022	DRC	Snake
Boaedon paralineatus	Trape & Mediannikov	2016	Central African Republic	Snake
Boaedon perisilvestris	Trape & Mediannikov	2016	Cameroon, Central African Republic, DRC, Gabon, Republic of Congo	Snake
Boaedon radfordi	Greenbaum, Portillo, Jackson & Kusamba	2015	DRC	Snake
Boaedon subflavus	Trape & Mediannikov	2016	Cameroon	Snake
Dasypeltis congolensis	Trape, Mediannikov, Chirio & Chirio	2021	DRC, Gabon, Republic of Congo	Snake
Echis romani	Trape	2018	Cameroon, Central African Republic	Snake
Hemidactylus biokoensis	Wagner, Leaché & Fujita	2014	Equatorial Guinea	Lizard, Gecko
Hemidactylus coalescens	Wagner, Leaché & Fujita	2014	Cameroon, Equatorial Guinea, Gabon, Republic of Congo	Lizard, Gecko
Hemidactylus eniangii	Wagner, Leaché & Fujita	2014	Cameroon	Lizard, Gecko
Hemidactylus gramineus	Ceríaco, Bauer, Kusamba, Agarwal & Greenbaum	2021	DRC	Lizard, Gecko
Kinyongia itombwensis	Hughes, Kusamba, Behangana & Greenbaum	2017	DRC	Lizard, Chameleon

Species	Scientist(s)	Year	Distribution	Type
Kinyongia mulyai	Tilbury & Tolley	2015	DRC	Lizard, Chameleon
Letheobia weidholzi	Wallach & Gemel	2018	Cameroon	Snake
Lycophidion chirioi	Trape	2021	Central African Republic	Lizard, Gecko
Lycophidion tchadensis	Trape	2021	Central African Republic	Snake
Lygodactylus gamblei	Lobón-Rovira, Bauer, Pinto, Trape, Conradie, Kusamba, Júlio, Cael, Stanley, Hughes, Behangana, Masudi, Pauwels & Greenbaum	2023	DRC	Lizard, Gecko
Lygodactylus karamoja	Lobón-Rovira, Bauer, Pinto, Trape, Conradie, Kusamba, Júlio, Cael, Stanley, Hughes, Behangana, Masudi, Pauwels & Greenbaum	2023	DRC	Lizard, Gecko
Lygodactylus kibera	Lobón-Rovira, Bauer, Pinto, Trape, Conradie, Kusamba, Júlio, Cael, Stanley, Hughes, Behangana, Masudi, Pauwels & Greenbaum	2023	DRC	Lizard, Gecko
Lygodactylus leopardinus	Lobón-Rovira, Bauer, Pinto, Trape, Conradie, Kusamba, Júlio, Cael, Stanley, Hughes, Behangana, Masudi, Pauwels & Greenbaum	2023	DRC	Lizard, Gecko
Lygodactylus mirabundus	Lobón-Rovira, Bauer, Pinto, Trape, Conradie, Kusamba, Júlio, Cael, Stanley, Hughes, Behangana, Masudi, Pauwels & Greenbaum	2023	DRC	Lizard, Gecko
Mecistops leptorhynchus	Shirley, Carr, Nestler, Vliet & Brochu	2018	Cameroon, Central African Republic, DRC, Equatorial Guinea, Gabon, Republic of Congo	Crocodile
Myriopholis occipitalis	Trape & Chirio	2019	Central African Republic	Snake
Naja nana	Collet & Trape	2020	DRC	Snake, Cobra
Naja savannula	Broadley, Trape, Chirio & Wüster	2018	Cameroon	Snake, Cobra
Pelomedusa schweinfurthi	Petzold, Vargas-Ramírez, Kehlmaier, Vamberger, Branch, Du Preez, Hofmeyr, Meyer, Schleicher, Široký & Fritz	2014	Central African Republic	Turtle
Philothamnus chifunderai	Greenbaum, Pauwels, Gvoždík, Vaughan, Chaney, Buontempo, Aristote, Muninga & Engelbrecht	2023	Cameroon, DRC	Snake
Philothamnus mayombensis	Trape, Collet, Hughes & Mediannikov	2021	DRC	Snake
Polemon ater	Portillo, Branch, Tilbury, Nagy, Hughes, Kusamba, Muninga, Aristote, Behangana & Greenbaum	2019	DRC	Snake
Rhampholeon hattinghi	Tilbury & Tolley	2015	DRC	Lizard, Chameleon
Toxicodryas adamanteus	Greenbaum, Allen, Vaughan, Pauwels, Wallach, Kusamba, Muninga, Aris-Tote, Mali, Badjedjea, Penner, Rödel, Rivera, Sterkhova, Johnson, Tapondjou & Brown	2021	DRC, Equatorial Guinea	Snake
Toxicodryas vexator	Greenbaum, Allen, Vaughan, Pauwels, Wallach, Kusamba, Muninga, Aris-Tote, Mali, Badjedjea, Penner, Rödel, Rivera, Sterkhova, Johnson, Tapondjou & Brown	2021	DRC	Snake
Trachylepis gonwouoi	Allen, Tapondjou, Welton & Bauer	2017	Cameroon, DRC	Lizard, Skink
Trachylepis raymondlaurenti	Marques, Ceríaco, Bandeira, Pauwels & Bauer	2019	DRC	Lizard, Skink
Tricheilostoma kongoensis	Trape	2019	DRC	Snake
TOTAL	**42**			

BIRDS

Species	Scientist(s)	Year	Distribution	Type
Otus bikegila	Melo, Freitas, Verbelen, Da Costa, Pereira, Fuchs, Sangster, Correia, De Lima & Crottini	2022	Príncipe Island, Gulf of Guinea off coast of Equatorial Guinea	Principe Scops-Owl
Stiphrornis rudderi	Voelker, Tobler, Prestridge, Duijm, Groenenberg, Hutchinson, Martin, Nieman, Roselaar & Huntley	2016	DRC	Rudder's Forest Robin
TOTAL	**2**			

MAMMALS

Species	Scientist(s)	Year	Distribution	Type
Cercopithecus lomamiensis	Hart, Detwiler, Gilbert, Burrell, Fuller, Emetshu, Hart, Vosper, Sargis & Tosi	2012	DRC	Lesula Monkey
Colomys lumumbai	Kerbis Peterhans, Giarlac & Demos	2020	DRC	Semi-Aquatic Mouse
Crocidura fingui	Ceríaco, Marques, Jacquet, Nicolas, Colyn, Denys, Sardinha & Bastos-Silveira	2015	Príncipe Island, Gulf of Guinea off coast of Equatorial Guinea	Fingu's Shrew
Crocidura lwiroensis	Kerbis Peterhans & Hutterer	2013	DRC	Misotshi-Kabogo Shrew
Hylomyscus pygmaeus	Kerbis Peterhans, Hutterer & Demos	2020	DRC	Pygmy Wood Mouse
Hylomyscus thornesmithae	Kerbis Peterhans, Hutterer & Demos	2020	DRC	Mother Ellen's Wood Mouse
Myosorex kabogoensis	Kerbis Peterhans & Hutterer	2013	DRC	Kabogo Mouse Shrew
Rhinolophus kahuzi	Fahr & Kerbis Peterhans	2013	DRC	Kahuzi Horseshoe Bat
Rhinolophus willardi	Fahr & Kerbis Peterhans	2013	DRC	Willard's Horseshoe Bat
Scutisorex thori	Stanley et al	2013	DRC	Thor's Hero Shrew
TOTAL	**10**			

TOTALS BREAKDOWN

	Plants	Invertebrates	Fish	Amphibians	Reptiles	Birds	Mammals	TOTAL
Cameroon	190	19	6	11	12	0	0	**238**
Central African Republic	6	5	2	3	9	0	0	**25**
Democratic Republic of Congo	73	89	52	10	25	1	9	**259**
Equatorial Guinea	44	0	6	2	5	1	1	**59**
Gabon	206	30	18	3	5	0	0	**262**
Republic of Congo	32	8	15	5	5	0	0	**65**

Plants	430
Invertebrates	140
Fish	96
Amphibians	22
Reptiles	42
Birds	2
Mammals	10
TOTAL	**742**

REFERENCES

1 WWF's forest trade network https://www.worldwildlife.org/initiatives/forests-forward

2 The wildlife trade monitoring network www.traffic.org

3 "Describing" a new species refers to the official scientific process by which a species is formally introduced and "described" by scientists for the first time in a peer-reviewed scientific journal.

4 Burgess, Neil, Jennifer D'Amico Hales, Emma Underwood (2004). Terrestrial Ecoregions of Africa and Madagascar: A Conservation Assessment. Island Press, Washington DC; Spalding, Mark D., Helen E. Fox, Gerald R. Allen, Nick Davidson et al. "Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas". Bioscience Vol. 57 No. 7, July/August 2007, pp. 573-583.; Thieme, Michelle L. (2005). Freshwater Ecoregions of Africa and Madagascar: A Conservation Assessment. Island Press, Washington DC.; Toham, Andre Kamdem et al., eds. (2006). A Vision for Biodiversity Conservation in Central Africa: Biological Priorities for Conservation in the Guinean-Congolian Forest and Freshwater Region. World Wildlife Fund, Washington DC. Page A-52.

5 Dinerstein, E., Olson, D., Joshi, A., Vynne, C., Burgess, N. D., Wikramanayake, E., Hahn, N., Palminteri, S., Hedao, P., & Noss, R. (2017). An ecoregion-based approach to protecting half the terrestrial realm. Bioscience, 67(6), 534–545.

6 Olson, D. M., Dinerstein, E., Wikramanayake, E. D., Burgess, N. D., Powell, G. V., Underwood, E. C., D'amico, J. A., Itoua, I., Strand, H. E., & Morrison, J. C. (2001). Terrestrial ecoregions of the world: A new map of life on earth: A new global map of terrestrial ecoregions provides an innovative tool for conserving biodiversity. Bioscience, 51(11), 933–938.

7 Fonteyn, D., Vermeulen, C., Gorel, A.-P., Silva de Miranda, P. L., Lhoest, S., Fayolle, A. (2023). Biogeography of central African forests: Determinants, ongoing threats and conservation priorities of mammal assemblages. *Diversity and Distributions,* 29, 698–712.

8 Deep Into The Congo (2011). Science Illustrated, [online] Nov/Dec., pp.36–41. Available at: www.scienceillustrated.com [Accessed 22 Jun. 2024].

9 dbpedia.org. (n.d.). About: Languages of the Democratic Republic of the Congo. [online] Available at: https://dbpedia.org/page/Languages_of_the_Democratic_Republic_of_the_Congo [Accessed 19 Jun. 2024].

10 Ethnologue (Free All). (n.d.). Democratic Republic of the Congo | Ethnologue Free. [online] Available at: https://www.ethnologue.com/country/CD/ [Accessed 21 Jun. 2024].

11 GCF. (2024). Africa's green treasure. [online] Available at: https://www.fao.org/gcf/news-and-events/news-detail/africa%27s-green-treasure/en#:~:text=The%20Congo%20Basin%20is%20also [Accessed 19 Jun. 2024].

12 Sosef, M.S.M., Dauby, G., Blach-Overgaard, A. et al. Exploring the floristic diversity of tropical Africa. BMC Biol 15, 15 (2017).

13 Sosef, M.S.M., Dauby, G., Blach-Overgaard, A. et al. Exploring the floristic diversity of tropical Africa. BMC Biol 15, 15 (2017).

14 theecologist.org. (n.d.). Megabiodiversity in the Congo Basin. [online] Available at: https://theecologist.org/2019/apr/30/megabiodiversity-congo-basin.

15 Kreft, H., & Jetz, W. (2010). A framework for delineating biogeographical regions based on species distributions: Global quantitative biogeographical regionalizations. Journal of Biogeography, 37(11), 2029–2053.

16 Linder, H. P., de Klerk, H. M., Born, J., Burgess, N. D., Fjeldså, J., & Rahbek, C. (2012). The partitioning of Africa: Statistically defined biogeographical regions in sub-Saharan Africa: African regionalization. Journal of Biogeography, 39(7), 1189–1205.

17 Wilson, D. E., & Mittermeier, R. A. (2009). Handbook of the mammals of the world. Vol. 1. Carnivores. Lynx Edicions.

18 Mittermeier, R. A., Rylands, A. B., & Wilson, D. E. (2013). Handbook of the mammals of the world. Vol. 3. Primates. Lynx Edicions.

19 Wilson, D. E., & Mittermeier, R. A. (2011). Handbook of the mammals of the world. Vol. 2. Hoofed mammals. Lynx Edicions.

20 Mittermeier, R. A., Mittermeier, C. G., Brooks, T. M., Pilgrim, J. D., Konstant, W. R., Da Fonseca, G. A. B., & Kormos, C. (2003). Wilderness and biodiversity conservation. PNAS, 100(18), 10309–10313.

21 Potapov, P., Hansen, M. C., Laestadius, L., Turubanova, S., Yaroshenko, A., Thies, C., Smith, W., Zhuravleva, I., Komarova, A., & Minnemeyer, S. (2017). The last frontiers of wilderness: Tracking loss of intact forest landscapes from 2000 to 2013. Science Advances, 3(1), e1600821.

22 Verbeeck, H., Boeckx, P., & Steppe, K. (2011). Tropical forests: Include Congo basin. Nature, 479(7372), 179.

23 Hart, J. A., Detwiler, K. M., Gilbert, C. C., Burrell, A. S., Fuller, J. L., Emetshu, M., Hart, T. B., Vosper, A., Sargis, E. J., & Tosi, A. J. (2012). Lesula: A new species of Cercopithecus monkey endemic to the Democratic Republic of Congo and implications for conservation of Congo's central basin. PLoS One, 7(9), e44271.

24 Dijkstra, Klaas-Douwe B.; Kipping, Jens; Mézière, Nicolas (2015). "Sixty new dragonfly and damselfly species from Africa (Odonata)" (PDF). Odonatologica. 44 (4): 447–678.

25 The International Union for Conservation of Nature (IUCN) Red List of Threatened Species, also known as the IUCN Red List or Red Data Book, founded in 1964, is an inventory of the global conservation status and extinction risk of biological species. www.iucnredlist.org

26 Dijkstra, Klaas-Douwe B.; Kipping, Jens; Mézière, Nicolas (2015). "Sixty new dragonfly and damselfly species from Africa (Odonata)" (PDF). Odonatologica. 44 (4): 447–678.

27 Angraecum biteaui M.Simo & Stévart. First published in Phytotaxa 280: 92 (2016)

28 IUCN 2024. The IUCN Red List of Threatened Species. Version 2023-1. <https://www.iucnredlist.org>

29 Conchogracecum geerinckianum (Stévart & Jecmenica) Szlach., Grochocka, Oledrz. & Mytnik. First published in Richardiana, N.S. 2: 92 (2018)

30 Bulbophyllum pauwelsianum Stévart & Droissart. First published in Phytotaxa 177: 27 (2014)

31 Grangea ogoouensis O.Lachenaud & Beentje. First published in Candollea 75: 315 (2020)

32 Greenwayodendron glabrum Lissambou, O.J.Hardy & Couvreur. First published in PhytoKeys 114: 66 (2018)

33 Janssens, Steven & Sonké, Bonaventure & Lachenaud, Olivier & Lemaire, Benny & Simo-Droissart, Murielle & Smets, Erik. (2015). Morphology, molecular phylogenetics and biogeography of Impatiens akomensis (Balsaminaceae), a new species from Cameroon. Plant Ecology and Evolution. 148. 397-408. 10.5091/plecevo.2015.965.

34 Cheek, Martin & Osborne, Jo & Burgt, Xander & Darbyshire, Iain & Jean Michel, Onana. (2022). Impatiens banen and Impatiens etugei (Balsaminaceae), new threatened species from lowland of the Cross-Sanaga Interval, Cameroon. Kew Bulletin. 78. 10.1007/s12225-022-10073-w.

35 Couvreur, Thomas L.P.; Niangadouma, Raoul; Sonké, Bonaventure; Sauquet, Hervé (2015). "Sirdavidia, an extraordinary new genus of Annonaceae from Gabon". PhytoKeys (46): 1–19.

36 The International Institute for Species Exploration (IISE), Syracuse, New York. ESF Office of Communications (2019). ESF | SUNY ESF | College of Environmental Science and Forestry. [online] Esf.edu. Available at: https://www.esf.edu/.

37 Hibiscus minkebeensis Burg First published in Fl. Gabon 45: 59 (2013)

38 Hibiscus ngokbanakii Burg First published in Fl. Gabon 45: 62 (2013)

39 Coffea rizetiana Stoff. & Noirot First published in Adansonia, sér. 3, 43: 281 (2021)

40 Lachenaud, O., Droissart, V., Dessein, S., Stévart, T., Simo, M., Lemaire, B., Taedoumg, H., & Sonké, B. (2013). New records for the flora of Cameroon, including a new species of Psychotria (Rubiaceae) and range extensions for some rare speciesPlant Ecology and Evolution, 146(1), 121-133

41 IUCN 2024. The IUCN Red List of Threatened Species. Version 2023-1. <https://www.iucnredlist.org>

42 Palisota leewhitei Burg, O.Lachenaud & E.Bidault. First published in Candollea 74: 189 (2019)

43 Pauridiantha gracilipes O.Lachenaud & Ntore. First published in Adansonia, sér. 3, 41: 35 (2019)

44 Pers. Commun. Dr Olivier Lachenaud, Plantentuin Meise, Belgium. 2 June 2024.

45 Extinction risk predictions for the world's flowering plants to support their conservation (2024). Bachman, S.P., Brown, M.J.M., Leão, T.C.C., Lughadha, E.N., Walker, B.E. https://nph.onlinelibrary.wiley.com/doi/full/10.1111/nph.19592

46 Englerophytum gigantifolium O.Lachenaud & L.Gaut. First published in Candollea 71: 293 (2016)

47 Globimetula agelanthoides O. Lachenaud & Ndolo Ebika, S.T. 2023

48 Virectaria salicoides (C.H.Wright) Bremek. First published in Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2, 48(2): 21 (1952)

49 Psychotria gaboonensis Ruhsam First published in Bot. J. Linn. Soc. 157: 116 (2008)

50 Ceropegia letestui (Pellegr.) Bruyns First published in S. African J. Bot. 112: 434 (2017)

51 Pers. Commun. Dr Olivier Lachenaud, Plantentuin Meise, Belgium. 2 June 2024.

52 'Bumper year' for botanical finds. (2009). news.bbc.co.uk. [online] 22 Dec. Available at: http://news.bbc.co.uk/1/hi/sci/tech/8424817.stm [Accessed 18 Jun. 2024].

53 Fanti, Fabrizio, Pankowski, Maximilian G. (2022): A new species of Afrodiaphanes Geisthardt, 2007 (Coleoptera, Lampyridae), the first firefly described from the Central African Republic. Zootaxa 5200 (2): 191-195.

54 Deep Into The Congo (2011). Science Illustrated, [online] Nov/Dec., pp.36–41. Available at: www.scienceillustrated.com [Accessed 22 Jun. 2024].

55 Dijkstra, Klaas-Douwe B.; Kipping, Jens; Mézière, Nicolas (2015). "Sixty new dragonfly and damselfly species from Africa (Odonata)" (PDF). Odonatologica. 44 (4): 447–678.

56 Dijkstra, Klaas-Douwe B.; Kipping, Jens; Mézière, Nicolas (2015). "Sixty new dragonfly and damselfly species from Africa (Odonata)" (PDF). Odonatologica. 44 (4): 447–678.

57 The International Institute for Species Exploration (IISE), Syracuse, New York. ESF Office of Communications (2019). ESF | SUNY ESF | College of Environmental Science and Forestry. [online] Esf.edu. Available at: https://www.esf.edu/.

58 Dijkstra, Klaas-Douwe B.; Kipping, Jens; Mézière, Nicolas (2015). "Sixty new dragonfly and damselfly species from Africa (Odonata)" (PDF). Odonatologica. 44 (4): 447–678.

59 Grootaert, P., & Shamshev, I. (2013). The flies of the family Hybotidae (Diptera, Empidoidea) collected during the Boyekoli Ebale Congo 2010 Expedition in Democratic Republic of Congo. Zootaxa, 3603(1), 1–61. https://www.mapress.com/zootaxa/2013/f/z03603p061f.pdf

60 Grootaert P. & Shamshev I. (2014). New species of Platypalpus (Diptera: Hybotidae) from the Democratic Republic of the Congo. European Journal of Taxonomy 103: 1–20. http://dx.doi.org/10.5852/ejt.2014.103

61 Grootaert, Patrick & Shamshev, Igor. (2014). New Tachydromiinae (Diptera: Empidoidea: Hybotidae) from different types of forests along the Congo river (D. R. of the Congo). Belgian Journal of Entomology. 18. 1–34.

62 Pers. Commun. Dr Alexey Prozorov, University of Sciences, Techniques and Technology of Bamako, Mali. 29 May 2024.

63 Prozorov, Alexey & Prozorova, Tatiana & Cipolla, Alexandre & Volkova, Julia & Yakovlev, Roman & Saldaitis, Aidas & Sulak, Harald & Muller, Gunter. (2023). Four new species of Leptometa Aurivillius from African tropical forests (Lepidoptera, Lasiocampidae). Spixiana. 46. 55-74.

64 Pers. Commun. Dr Christian Schmid-Egger, Entomologist, Germany. 28 May 2024.

65 Pers. Commun. Dr Christian Schmid-Egger, Entomologist, Germany. 28 May 2024.

66 Pers. Commun. Dr Christian Schmid-Egger, Entomologist, Germany. 28 May 2024.

67 Jordal, Bjarte, 2021, Small, uniform, and rarely collected-an integrated taxonomic revision of Afromicracis bark beetles (Coleoptera, Scolytinae), Zootaxa 4981 (1), pp. 70-88 : 78.

68 Gnezdilov, Vladimir M., (2023). A new species of the genus Paranataretus El-Sonbati, 2023 (Hemiptera: Cicadellidae: Deltocephalinae) from the continental Africa, pp. 135-139 in Zootaxa 5389 (1) on page 136, DOI: 10.11646/zootaxa.5389.1.8, http://zenodo.org/record/10404698

69 Haddad, Charles R., Jin, Chi & Platnick, Norman I., (2022). A revision of the spider genus Orthobula Simon, 1897 (Araneae: Trachelidae) in the Afrotropical Region. I. Continental species, Zootaxa 5133 (3), pp. 355-382 : 371-374

70 Pett B.L., Iyomi Di.M.M.,Mbende M. (2023). Myrmarachnini (Araneae: Salticidae: Salticinae: Astioida) of Salonga National Park, D.R. Congo, with description of a new species and two new species records // Arthropoda Selecta. Vol.32. No.4. P.466–473. doi: 10.15298/arthsel. 32.4.11

71 Pett B.L., Iyomi Di.M.M.,Mbende M. (2023). Myrmarachnini (Araneae: Salticidae: Salticinae: Astioida) of Salonga National Park, D.R. Congo, with description of a new species and two new species records // Arthropoda Selecta. Vol.32. No.4. P.466–473. doi: 10.15298/arthsel. 32.4.11

72 Agnèse J.-F., Chirio L., Legros O., Oslisly R. & Mvé Bhé H. 2018. Unexpected discovery of six new species of Aphyosemion (Cyprinodontiformes, Aplocheilidae) in the Wonga-Wongué Presidential Reserve in Gabon. European Journal of Taxonomy 471: 1–28.

73 Agnèse J.-F., Chirio L., Legros O., Oslisly R. & Mvé Bhé H. 2018. Unexpected discovery of six new species of Aphyosemion (Cyprinodontiformes, Aplocheilidae) in the Wonga-Wongué Presidential Reserve in Gabon. European Journal of Taxonomy 471: 1–28.

74 Lavoué, S.; Sullivan, J.P. (2014). “Petrocephalus boboto and Petrocephalus arnegardi, two new species of African electric fish (Osteoglossomorpha, Mormyridae) from the Congo River basin”. ZooKeys (400): 43–65. doi:10.3897/zookeys.400.6743. PMC 4023242. PMID 24843255.

75 Staff, N. (2014). Two New Electric Fish Species Discovered in Democratic Republic of Congo | Sci.News. [online] Sci.News: Breaking Science News. Available at: https://www.sci.news/biology/science-new-electric-fish-species-democratic-republic-congo-01847.html [Accessed 20 Jun. 2024].

76 Maxwell J. Bernt & Melanie L.J. Stiassny (2022). “A New Species of Air-Breathing Catfish (Clariidae: Clarias) from Salonga National Park, Democratic Republic of the Congo”. American Museum Novitates 2022(3990). Bernt, Maxwell J. & Stiassny, Melanie L.J. Retrieved 11 April 2023.

77 Tougas, S. & Stiassny, M.L.J. (2014): Lamprologus markerti, a new lamprologine cichlid (Teleostei: Cichlidae) endemic to the lower Congo River in the Democratic Republic of Congo, west-central Africa. Zootaxa, 3852 (3): 391–400.

78 Stiassny, Melanie L. J.; Alter, S. Elisabeth (2015). “Phylogenetics of Teleogramma, a riverine clade of African cichlid fishes, with a description of the deepwater molluskivore — Teleogramma obamaorum — from the lower reaches of the middle Congo River” (PDF). American Museum Novitates (3831): 1–18. doi:10.1206/3831.1. S2CID 86288518.

79 Schiffman, Richard (11 July 2015). “This snail-eating fish was named after the Obamas”. Grist.

80 World Bank. (2019). Africa Program for Fisheries. [online] Available at: https://www.worldbank.org/en/programs/africa-program-for-fisheries.

81 Hirschfeld, Mareike; Burger, Marius; Blackburn, David C.; Greenbaum, Eli; Zassi-Boulou, Ange-Ghislain (2015). “Two new species of long-fingered frogs of the genus Cardioglossa (Anura: Arthroleptidae) from Central African rainforests”. African Journal of Herpetology.

82 Hirschfeld, Mareike; Burger, Marius; Blackburn, David C.; Greenbaum, Eli; Zassi-Boulou, Ange-Ghislain (2015). “Two new species of long-fingered frogs of the genus Cardioglossa (Anura: Arthroleptidae) from Central African rainforests”. African Journal of Herpetology.

83 IUCN SSC Amphibian Specialist Group (2020) [amended version of 2018 assessment]. “Cardioglossa annulata”. IUCN Red List of Threatened Species. 2020:

84 IUCN 2024. The IUCN Red List of Threatened Species. Version 2023-1. <https://www.iucnredlist.org>

85 Nečas, T., Badjedjea, G., Vopálenský, M. et al. Congolius, a new genus of African reed frog endemic to the central Congo: A potential case of convergent evolution. Sci Rep 11, 8338 (2021). https://doi.org/10.1038/s41598-021-87495-2

86 Pers. Commun. Dr Václav Gvoždík, Czech Academy of Sciences. 4 June 2024.

87 Evans BJ, Carter TF, Greenbaum E, Gvoždík V, Kelley DB, McLaughlin PJ, Pauwels OSG, Portik DM, Stanley EL, Tinsley RC, Tobias ML, Blackburn DC. 2015. Genetics, Morphology, Advertisement Calls, and Historical Records Distinguish Six New Polyploid Species of African Clawed Frog (Xenopus, Pipidae) from West and Central Africa. PLoS One DOI: 10.1371/journal.pone.0142823

88 Evans, B. J., T. F. Carter, E. Greenbaum, V. Gvoždík, D. B. Kelley, P. J. McLaughlin, O. S. G. Pauwels, D. M. Portik, E. L. Stanley, R. C. Tinsley, M. L. Tobias, D. C. Blackburn. (2015). Genetics, Morphology, Advertisement Calls, and Historical Records Distinguish Six New Polyploid Species of African Clawed Frog (Xenopus, Pipidae) from West and Central Africa. PLoS ONE. DOI: 10.1371/journal.pone.0142823.

89 Evans, B. J., T. F. Carter, E. Greenbaum, V. Gvoždík, D. B. Kelley, P. J. McLaughlin, O. S. G. Pauwels, D. M. Portik, E. L. Stanley, R. C. Tinsley, M. L. Tobias, D. C. Blackburn. (2015). Genetics, Morphology, Advertisement Calls, and Historical Records Distinguish Six New Polyploid Species of African Clawed Frog (Xenopus, Pipidae) from West and Central Africa. PLoS ONE. DOI: 10.1371/journal.pone.0142823.

90 Eugene R. Vaughan, Mark S. Teshera, Chifundera Kusamba, Theresa R. Edmonston & Eli Greenbaum (2019) A remarkable example of suspected Batesian mimicry of Gaboon Vipers (Reptilia: Viperidae: Bitisgabonica) by Congolese Giant Toads (Amphibia: Bufonidae: Sclerophryschanningi), Journal of Natural History, 53:29-30, 1853-1871, DOI: 10.1080/00222933.2019.1669730

91 Noble, G.K. (1924). ‘’Article II. Contributions to the herpetology of the Belgian Congo based on the collection of the American Museum Congo Expedition, 1909-1915, Part III. Amphibia.’’ Bulletin of the American Museum of Natural History, 49, 147-347.

92 Shirley, Matthew H.; Carr, Amanda N.; Nestler, Jennifer H.; Vliet, Kent A.; Brochu, Christopher A. (24 October 2018). “Systematic revision of the living African Slender-snouted Crocodiles (Mecistops Gray, 1844)”. Zootaxa. 4504 (2).

93 Animals. (2018). New crocodile species found hiding in plain sight. [online] Available at: https://www.nationalgeographic.com/animals/article/crocodile-new-species-slender-snouted-africa-news [Accessed 18 Jun. 2024].

94 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has three appendices that classify species based on their conservation status and the level of protection they require. Appendix II: These species are not critically endangered, but their trade is monitored to prevent overexploitation and maintain their populations.

95 Petzold A, Vargas-Ramírez M, Kehlmaier C, Vamberger M, Branch W R, Preez L D, Hofmeyr M D, Meyer L, Schleicher A, Široký P, Fritz U, (2014). A revision of African helmeted terrapins (Testudines: Pelomedusidae: Pelomedusa), with descriptions of six new species. Plazi.org taxonomic treatments database. Checklist dataset https://doi.org/10.11646/zootaxa.3795.5.2

96 Schweinfurth, G.A. (1874). The Heart of Africa: Three Years' Travels and Adventures in the Unexplored Regions of Central Africa, from 1868 to 1871. [online] Google Books. Harper & Brothers. Available at: https://books.google.co.uk/books/about/The_Heart_of_Africa.html?id=qqHoP5JkdB0C&redir_esc=y [Accessed 20 Jun. 2024].

97 Trape, J.F; Collet, M (2020). "A new and remarkable species of semi-aquatic naja (Elapidae, subgenus Boulengerina Dollo, 1886) from the Democratic Republic of Congo". Bulletin de la Société Herpétologique de France. 173: 41–52.

98 The Ramsar Convention on Wetlands of International Importance is an international treaty for the conservation and sustainable use of Ramsar wetland sites. It is also known as the Convention on Wetlands. www.ramsar.org

99 Chippaux, J.P; Jackson, K (18 June 2019). Snakes of Central and Western Africa. United States: Johns Hopkins University Press. p. 448.

100 Greenbaum, E., Allen, K. E., Vaughan, E. R., Pauwels, O. S., Wallach, V. A. N., Kusamba, C., ... & Brown, R. M. 2021. Night stalkers from above: A monograph of Toxicodryas tree snakes (Squamata: Colubridae) with descriptions of two new cryptic species from Central Africa. Zootaxa 4965 (1): 1-44

101 Ceríaco, Luis M. P.; Marques, Mariana P.; Bauer, Aaron M. (2020). "The Bush Vipers, genus Atheris Cope, 1862 (Squamata: Viperidae) of Bioko Island, Gulf of Guinea, with the description of a new species". Zootaxa. 4838 (4): 581–593.

102 Collet, Marcel & Jean-Francois Trape (2020). Une nouvelle espèce du genre Atheris Cope, 1862, de la province de l'Équateur en République Démocratique du Congo (Squamata: Viperidae). Bull. Soc. Herp. France 173: 27-40.

103 Trape, Jean-François (2019). Scolecophidiens (Squamata: Ophidia) nouveaux d'Afrique centrale. Bull. Soc. Herp. France 169: 27-44 - get paper here

104 Trape, Jean-François (2019). Scolecophidiens (Squamata: Ophidia) nouveaux d'Afrique centrale. Bull. Soc. Herp. France 169: 27-44 - get paper here

105 Greenbaum, E. In press. *Venomous River: A Zoologist's Search for New Species Along the Congo.* The University of New Mexico Press, Albuquerque.

106 Tilbury, Colin R.; Tolley, Krystal A. (2015). "Contributions to the herpetofauna of the Albertine Rift: Two new species of chameleon (Sauria: Chamaeleonidae) from an isolated montane forest, south eastern Democratic Republic of Congo". Zootaxa. 3905 (3): 345. doi:10.11646/zootaxa.3905.3.2. ISSN 1175-5334. PMID 25661215.

107 Tolley, K.; Tilbury, C. (2015). "Kinyongia mulyai". IUCN Red List of Threatened Species. 2015: e.T75976903A75976914. doi:10.2305/IUCN.UK.2015-4.RLTS.T75976903A75976914.en. Retrieved 11 November 2021.

108 Frank Glaw and the Nomenclatures Specialist on the Animals Committee (CITES). "New species and other proposed taxonomic changes resulting from the new checklists for Chamaeleonidae species and the Phelsuma spp." Retrieved 2017-09-01.

109 Hughes, Daniel F.; Kusamba, Chifundera; Behangana, Mathias & Greenbaum, Eli (2017). "Integrative taxonomy of the Central African forest chameleon, Kinyongia adolfifriderici (Sauria: Chamaeleonidae), reveals underestimated species diversity in the Albertine Rift". Zoological Journal of the Linnean Society. 181: 400–438. doi:10.1093/zoolinnean/zlx005.

110 Voelker, G.; Tobler, M.; Prestridge, H. L.; Duijm, E.; Groenenberg, D.; Hutchinson, M. R.; Martin, A. D.; Nieman, A.; Roselaar, C. S.; Huntley, J. W. (2016). "Three new species of Stiphrornis (Aves: Muscicapidae) from the Afro-tropics, with a molecular phylogenetic assessment of the genus". Systematics and Biodiversity. 15 (2): 87–104

111 Melo, Martim; Freitas, Bárbara; Verbelen, Philippe; Da Costa, Sátiro R.; Pereira, Hugo; Fuchs, Jérôme; Sangster, George; Correia, Marco N.; De Lima, Ricardo F.; Crottini, Angelica (2022). "A new species of scops-owl (Aves, Strigiformes, Strigidae, Otus) from Príncipe Island (Gulf of Guinea, Africa) and novel insights into the systematic affinities within Otus". ZooKeys (1126): 1–54.

112 Freitas, Bárbara; Melo, Martim; Do Bom Jesus, Ceciliano; Da Costa, Sátiro R.; Dos Santos, Yodiney; Crottini, Angelica; De Lima, Ricardo Faustino (2022). "The recently discovered Principe Scops-owl is highly threatened: Distribution, habitat associations, and population estimates". Bird Conservation International. 33: 1–10.

113 Schouteden, H. (1933) Revue de Zoologie et de Botanique Africaines.

114 Ly, C. (2024). Magnificent yellow-crested bird photographed for the first time. [online] New Scientist. Available at: https://www.newscientist.com/article/2418327-magnificent-yellow-crested-bird-photographed-for-the-first-time/ [Accessed 25 Jun. 2024].

115 Hart, John A.; Detwiler, Kate M.; Gilbert, Christopher C.; Burrell, Andrew S.; Fuller, James L.; Emetshu, Maurice; Hart, Terese B.; Vosper, Ashley; Sargis, Eric J.; Tosi, Anthony J. (2012). "Lesula: A New Species of Cercopithecus Monkey Endemic to the Democratic Republic of Congo and Implications for Conservation of Congo's Central Basin". PLOS ONE. 7 (9): e44271.

116 The International Institute for Species Exploration (IISE), Syracuse, New York. ESF Office of Communications (2019). ESF | SUNY ESF | College of Environmental Science and Forestry. [online] Esf.edu. Available at: https://www.esf.edu/.

117 Alempijevic D, Hart JA, Hart TB, Detwiler KM. Using local knowledge and camera traps to investigate occurrence and habitat preference of an Endangered primate: the endemic dryas monkey in the Democratic Republic of the Congo. Oryx. 2022;56(2):260-267.

118 Pers. commun. Dr Kate Detwiler, Florida Atlantic University. 23 May 2024.

119 Pers. commun. Dr Kate Detwiler, Florida Atlantic University. 23 May 2024.

120 Pangolins, scaly anteaters, are the most trafficked mammal in the world and are Endangered and listed on CITES Appendix I.

121 Frankfurt Zoological Society. (2021). Lomami National Park. [online] Available at: https://fzs.org/en/projects/democratic-republic-of-the-congo/lomami-national-park/.

122 Kerbis Peterhans, J. C.; Fahr, J.; Huhndorf, M. H.; Kaleme, P.; Plumptre, A. J.; Marks, B. D.; Kizungu, R. 2013. "Bats (Chiroptera) from the Albertine Rift, eastern Democratic Republic of Congo, with the description of two new species of the *Rhinolophus maclaudi* group". *Bonn Zoological Bulletin,* 62: 186-202

123 Monadjem, A. (2020). "Rhinolophus willardi". IUCN Red List of Threatened Species. 2020: e.T82346260A82347169. doi:10.2305/IUCN.UK.2020-2.RLTS.T82346260A82347169.en. Retrieved 20 November 2021.

124 Giarla, Thomas & Demos, Terrence & Monadjem, Ara & Hutterer, Rainer & Dalton, Desire & Mamba, Mnqobi & Roff, Emily & Mosher, Frank & Mikeš, Václav & Kofron, Christopher & Kerbis, Julian. (2020). Integrative taxonomy and phylogeography of Colomys and Nilopegamys (Rodentia: Murinae), semi-aquatic mice of Africa, with descriptions of two new species. Zoological Journal of the Linnean Society. 10.1093/zoolinnean/zlaa108/5918308.

125 Puiu, T. (2020). Rare and elusive semi-aquatic mice discovered in Africa. [online] ZME Science. Available at: https://www.zmescience.com/science/news-science/rare-and-elusive-semi-aquatic-mice-discovered-in-africa/ [Accessed 25 Jun. 2024].

126 J.C. Kerbis Peterhans; M.H. Huhndorf; A.J. Plumptre; R. Hutterer; P. Kaleme; B. Ndara (2013). “Mammals, other than bats, from the Misotshi-Kabogo highlands (eastern Democratic Republic of Congo), with the description of two new species (Mammalia: Soricidae)”

127 Vizzuality (2023). Democratic Republic of the Congo Deforestation Rates & Statistics | GFW. [online] www.globalforestwatch.org. Available at: https://www.globalforestwatch.org/dashboards/country/COD/.

128 Livingplanetindex.org. (2020). Available at: https://www.livingplanetindex.org/ [Accessed 20 Jun. 2024].

129 Mongabay Environmental News. (2019). Logging road construction has surged in the Congo Basin since 2003. [online] Available at: https://news.mongabay.com/2019/06/logging-road-construction-surged-in-the-congo-basin-since-2003/.

130 Wang, Y., Sun, X. and Zhu, C. (2023). China’s wood-based forest product imports and exports: trends and implications. International Forestry Review, [online] 25(4), pp.503–516. doi:https://doi.org/10.1505/146554823838028184.

131 The International Union for Conservation of Nature and Natural Resources (IUCN) provides a breakdown of the totals as follows: Cameroon 344 species, Central African Republic 50 species, Equatorial Guinea 127 species, Gabon 136 species, Democratic Republic of Congo 302 species and 123 species in the Republic of Congo.

132 IUCN 2024. The IUCN Red List of Threatened Species. Version 2023-1. <https://www.iucnredlist.org>

133 Tensions grow as China ramps up global mining for green tech. (2024). BBC News. [online] 29 Apr. Available at: https://www.bbc.co.uk/news/world-68896707.

134 Megacities: Kinshasa. (2022). France24. [online] 01 August. Available at: https://www.youtube.com/watch?v=bgljcixHvAU.

135 McBride, J., Berman, N. and Chatzky, A. (2023). China’s Massive Belt and Road Initiative. [online] Council on Foreign Relations. Available at: https://www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative.

136 Post-COVID, China is back in Africa and doubling down on minerals. (2024). Reuters. [online] 29 May. Available at: https://www.reuters.com/markets/commodities/post-covid-china-is-back-africa-doubling-down-minerals-2024-05-28/

Working to sustain the natural world for the benefit of people and wildlife.

together possible™

panda.org