Primary biodiversity data on zooplankton, macroinvertebrates, and fish from freshwater ecosystems of Uganda

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ABSTRACT

Effective conservation requires reliable data and information on the status of biodiversity. The conservation of freshwater biodiversity lags behind terrestrial and marine biodiversity because data and information limitations are greatest in freshwater ecosystems. Given that freshwater ecosystems are inhabited by disproportionately more species than other ecosystems, the paucity of data and information is disadvantageous to many species and dependent ecosystem services. Data and information on freshwater biodiversity are limited mainly because few freshwater ecosystems are considered for regular monitoring. Existing data is also scattered and in non-user-friendly formats, limiting accessibility and use. It is desirable to make freshwater biodiversity data and information accessible everywhere to attain their full potential in guiding conservation. Here, we present 34 datasets, covering three major freshwater taxa (zooplankton, macroinvertebrates, and fish) in freshwater ecosystems in Uganda. The datasets provide occurrence records and corresponding abundance data, where applicable, for the three groups. The datasets which are available through the Global Biodiversity Information Facility (GBIF), cover many years (1971-2021) and have a total of 56,104 occurrence records. The datasets were mainly mobilized from archives of biodiversity surveys conducted at the National Fisheries Resources Research Institute (NaFIRRI) in Uganda. The surveys cover most of the water bodies in the country. The datasets are envisaged to increase accessibility to data for freshwater conservation research, decision making, and capacity building. Indeed, part of the data, especially on fish, has already been used to develop conservation tools and assess conservation status of species at both the global and national levels).

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INTRODUCTION

The paucity of data is a major hindrance to sustainable use and effective management of freshwater ecosystems (Cooke *et al*., 2016). Freshwater ecosystems support high species richness, with about 10% of all species living in freshwater, as well as ecosystem services that are vital for economic development and human well-being (Strayer and Dudgeon, 2010). Unsustainable use and ineffective management, therefore, threaten these functions and are a challenge to the sustainable development goals (Dudgeon *et al*., 2006; Reid *et al*., 2019). In developing countries, where development and population growth are accelerating, development projects pose a huge risk to freshwater resources as habitats are modified and polluted (Reid *et al*., 2019). These challenges could be addressed if conservation tools are incorporated into plans of development projects. Freshwater biodiversity data and information are required to accelerate the incorporation of the tools into the plans of development projects. In this paper, we present datasets on freshwater biodiversity in Uganda that are publicly available through the Global Biodiversity Information Facility (https://www.gbif.org/). Freshwater ecosystems in Uganda make up a significant part of the country, covering 17.2% of the total surface area (Nsubuga *et al*., 2014). The aquatic ecosystems support diverse fish species. For instance, esti-

mates indicate the presence of 501-600 fish species (NEMA, 2016; Pomeroy and Mwima, 2002), most of which are native with only a few species introduced (Froese and Pauly, 2022).

Aquatic ecosystems in Uganda are threatened by multiple stressors, including exploitation, habitat degradation, invasive species, and climate change (Hecky *et al*., 2010). Addressing these threats requires strong policies, which are currently missing. For instance, none of the existing Protected Areas in Uganda was gazetted primarily for the protection of aquatic ecosystems. The Protected Areas were gazetted for terrestrial biota although they offer incidental protection for some lakes, wetlands, and rivers lying within their extent. Aquatic biodiversity conservation in Uganda is also hindered by limited awareness about its status, caused by limited access to data and information, with most of the existing data scattered in different institutions and published manuscripts or grey literature, and in formats that are of little relevance to planning and management of biodiversity.

Here, we present 34 datasets comprising data that were mobilized on the freshwater biodiversity of Uganda. The datasets have information on taxa occurrences and abundance. The data has relevance in conservation research, decision making, and capacity building. For example, part of the data, especially on fish, has been used to develop a tool that can prioritize freshwater habitats for conservation when resources are limiting (Basooma *et al*., 2022), map fish species distributions, and conduct IUCN Red List assessments both at the global and national levels (Akoth *et al*., 2022). Available in the GBIF online database, the datasets altogether comprise 56,104 occurrence records, including 8,674 records published in 2022.

General description

The data in this paper was mobilized into user-friendly formats to increase its accessibility and utility in conservation research, decision-making, and capacity building.

Project description

The data in this paper was collected through numerous projects at the National Fisheries Resources Research Institute (NaFIRRI; https://www.firi.go.ug/). However, four biodiversity informatics projects at the NaFIRRI (Tab. 1) made it possible to mobilize the data into user-friendly formats and publish it through the GBIF.

Sampling methods

Sampling habitats and sites

The datasets comprise data from lakes, rivers, and wetlands in Uganda. Important to note is the variation in the sampling approach (sites sampled, frequency of sampling, and season) among datasets. The datasets were mobilized from numerous research projects with different objectives, hence different sampling approaches. Where applicable, detailed information on habitats or sites is given in the metadata for each dataset as well as in location remarks within each dataset. Nonetheless, there are aspects of sampling that are common to most datasets. For instance, in lakes, sampling for zooplankton, macroinvertebrates, and fish is done in sites at a specified distance from the shoreline, including nearshore, mid-shore, and offshore sites. The distances from the shoreline usually differ by the size of the water body, but generally, nearshore sites are normally 50m from the shoreline; mid-shore sites are 100-500m from the shoreline; and offshore sites are ≥500m from the shoreline (Wandera and Balirwa, 2010). In addition to this criterion, sites (in most cases) are selected to cover diverse habitats, including shallow and deep habitats, vegetated fringes, and rocky areas. In other habitats, such as rivers, multiple sites are selected for sampling, also to collect samples from a variety of habitats. Targeted habitats in rivers included fast-running waters, back-flowing waters, and rocky areas.

Tab. 1. Information on projects that supported data mobilized and publication of the datasets.

Project title	Duration	Project identifier	Funding Agency
Increasing capacity for conservation of threatened fish species through data mobilization and training	1 October 2017 - 28 February 2019	BID-AF2017-0206-SMA	European Union & GBIF
From the lab to the World: Unlocking Uganda's freshwater biodiversity data for sustainable development	August 1, 2018 - July 31, 2021	60710_JRS_NaFIRRI	JRS Biodiversity Foundation
Advancing freshwater biodiversity data access, utility and relevance for conservation decision-making in Uganda	1 April 2021 - 31 March 2023	BID-AF2020-145-USE	European Union & GBIF
Expanding spatial coverage of freshwater biodiversity monitoring indicators in the Lake Edward System, Uganda	18th May 2020 - 31st August 2021	R.1.3-1/2020/051	Royal Belgian Institute of Natural Sciences (RBINS)

Zooplankton

In lakes, zooplankton are mainly sampled using a conical plankton net (Nansen type; mesh size 60 µm or 100 µm; mouth diameter 0.25 m), towed vertically through the water column, as described by Mwebaza-Ndawula (1994). In wetlands and rivers with fast-moving water, sampling is mainly done using a Schindler trap with 5-litre capacity. Three hauls at each sampling site are usually combined to make a composite sample. The sample is then concentrated through a 53 µm and preserved with a 4% sugar-formalin solution. Sugar is added to formalin to stop the morphological ballooning of Cladocera. Each sample is washed with tap water in the laboratory over a 53 µm sieve to remove the preservative and then diluted to a suitable volume, depending on the concentration of organisms in each sample. Sub-samples of 2, 2, 5 and 10 mL are usually taken with a wide-bore automatic pipette from a well agitated sample. The sub-sample series are performed to consider the most abundant organisms in 2, 2 mL series, and the rarer organisms in 2, 2, 5, 10 mL series. Each sub-sample is put into a counting chamber and examined under an inverted microscope (Hund, Wetzlar, Germany) at X100 magnification for taxonomic identification, and X40 for counting. The major taxonomic keys that are used to identify the zooplankton are Sars (1895), Pennak (1953), Ruttner-Kolisko (1974), Koste (1978), Boxshall & Braide (1991), and Kořínek (1999).

Macroinvertebrates

Sampling for macroinvertebrates is mainly done using a ponar grab with an open jaw area of 238 cm^2 to take sediment samples. Similar to sampling for zooplankton, three spread hauls are usually taken at each sampling point. The three hauls from a sampling point are then concentrated into one sample, placed in labeled sample bottles and preserved in 5% formalin solution for laboratory analysis. In the laboratory, each sample is rinsed with water to remove the formalin and then placed on a white flat-bottomed tray. Using a pair of forceps, all macro-invertebrates are sorted from the sediment and the individual taxa are identified to the lowest possible taxonomic level using identification manuals (Mandahl-Barth, 1954; Pennak, 1953; Merritt *et al*., 1996; De Moor *et al*., 2003) and a dissecting binocular microscope at 4 x 25 magnification. All taxa are recorded, and individuals of each taxon are enumerated to estimate their abundance (number of individuals per square meter).

Fish

Sampling for fish is mainly done using multiple fishing gears, including gillnets, hooks, fyke nets, basket traps, minnow traps, electro-fisher and beach seines. However, most of the data in this paper is from gillnets. In lakes, gillnets are usually set at a specified distance from the shoreline (Wandera and Balirwa, 2010). In rivers, the gillnets are usually set to cover different habitats. The gillnets usually comprise multiple sets of nets withs mesh sizes ranging from 1 to 8 inches. To make a fleet, the smaller nets of 1 to 5.5 inches are joined at half-inch intervals while the larger nets (6 to 8 inches) are joined at intervals of one inch. The dimensions of the nets vary, but typical gillnets that are used at the NaFIRRI are 90 m long and 26-52 meshes deep. The nets are normally set in the evening and retrieved the following morning. Multiple habitats, including the shoreline, open waters, rocky, sandy, vegetated areas, river mouths, lagoons, and bays are usually targeted. A description of a typical fish sampling procedure used in the surveys is provided by Wandera and Balirwa (2010). Once captured, fish are identified to the lowest taxonomic level possible, weighed, and enumerated by taxa.

Quality control

Appropriate taxonomic keys are normally used to identify the taxa in the samples to the highest possible level. However, before publication, scientific names for zooplankton and macroinvertebrates were cross-checked using the World Register of Marine Species (WoRMS Editorial Board, 2023). For fish, scientific names and distribution of fish species were verified using FishBase and Eschmeyer's Catalog of Fishes (Froese and Pauly, 2022; Fricke *at al*., 2022). FishBase is an authoritative and comprehensive database with a list of names of marine and freshwater fishes, including information on synonymy, hence it was considered the best reference for scientific names. By cross-referencing the given taxon names to the widely accepted FishBase taxonomic names, it was possible to rule out spelling variations and synonyms, but more importantly, invalid names that were possibly regarded as valid at the first time of identification and data capture.

All the geographic coordinates were verified by plotting them first in Google Earth to ensure conformity to the mentioned localities. Occurrences that had no coordinates were georeferenced where possible, based on information in the recorded field notes, locality, waterbody, and location remarks, using Google Earth Pro. Canadensys coordinate conversion tool (http://data.canadensys.net/tools/ coordinates) was used to convert the geographic coordinates from other formats to decimal degrees.

Basis of record

Human observation

Geographic coverage

The occurrence records cover most of the freshwater aquatic ecosystems in Uganda, East Africa (Fig. 1).

Uganda is endowed with five major lakes i.e., Victoria, Kyoga, Albert, Edward and George and several other small lakes (about 160). These have associated rivers and wetlands. The occurrence records cover all the major water bodies and a substantial number of small lakes, rivers, and wetlands.

Coordinates

Bounding box: longitude 29.38293 to 34.95849; latitude -1.47200 to 4.25876.

Taxonomic coverage

General taxonomic coverage description: The datasets contain taxa of three major freshwater biodiversity taxa: Zooplankton, macroinvertebrates, and fish.

Taxonomic ranks

Zooplankton

Kingdom: Animalia
Phylum: Arthropoda, Rotifera
Class: Branchiopoda, Copepoda, Eurotatoria
Order: Calanoida, Cyclopoida, Anomopoda, Flosculariaceae, Harpacticoida, Ploima
Family: Asplanchnidae, Bosminidae, Brachionidae, Calanidae, Chydoridae, Cyclopidae, Daphniidae, Diaptomidae, Euchlanidae, Gastropodidae, Hexarthridae, Lecanidae, Lepadellidae, Macrothricidae, Moinidae, Notommatidae, Sididae, Synchaetidae, Testudinellidae, Trichocercidae, Trichotriidae, Trochosphaeridae.
Genus: *Afrocyclops, Alona, Ascomorpha, Asplanchna, Beauchampiella, Bosmina, Brachionus, Cephalodella, Ceriodaphnia, Chydorus, Daphnia, Diaphanosoma, Euchlanis, Eucyclops, Filinia, Hexarthra, Keratella, Lecane, Lepadella, Macrochaetus, Macrothrix, Mesocyclops, Moina, Plationus, Platyias, Polyarthra, Simocephalus, Synchaeta, Testudinella, Thermocyclops, Thermodiaptomus, Trichocerca, Tropocyclops, Tropodiaptomus*

Macroinvertebrates

Kingdom: Animalia
Phylum: Annelida, Arthropoda, Mollusca, Nematoda

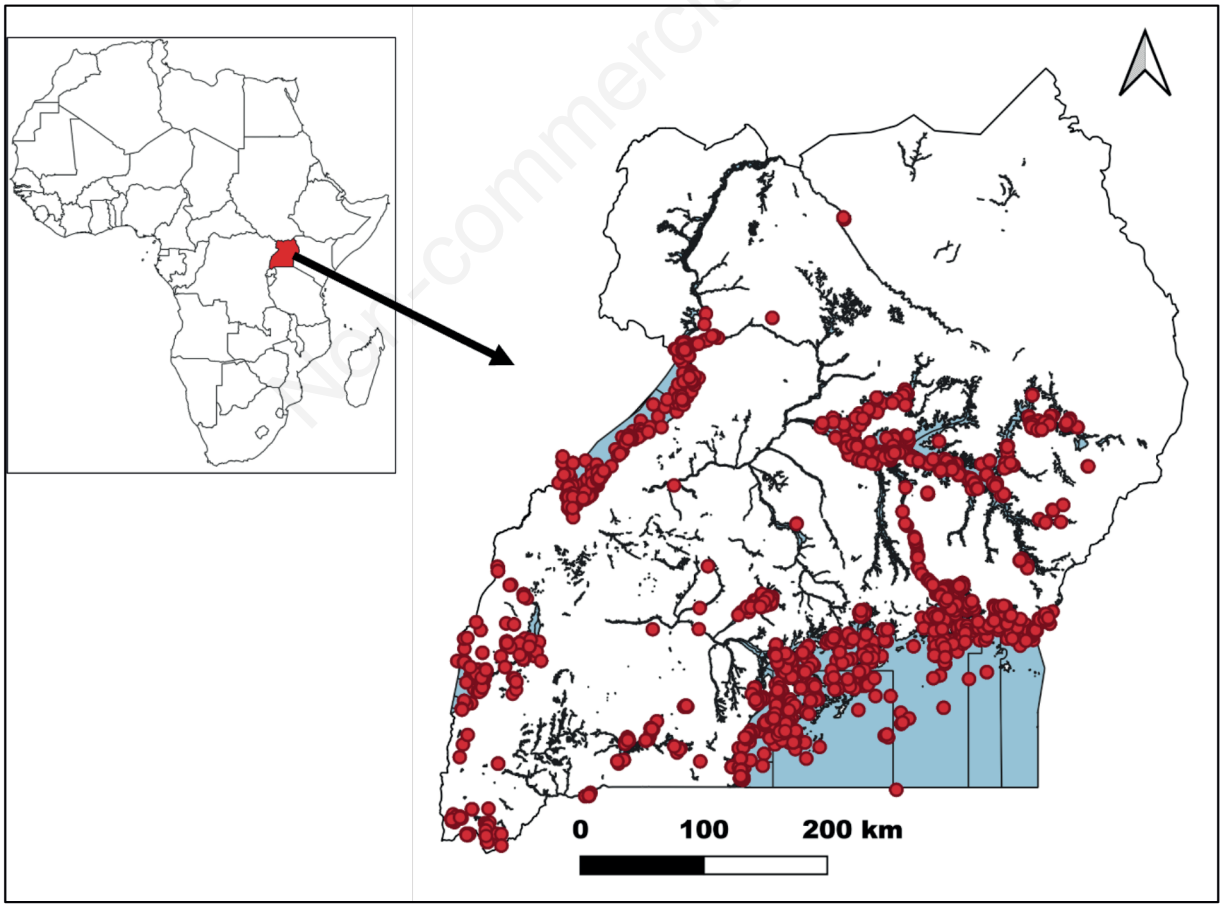

Fig. 1. Geographical distribution of occurrence records in all the datasets. Inset is a map of Africa showing the location of Uganda.

Class: Arachnida, Bivalvia, Branchiopoda, Clitellata, Gastropoda, Insecta, Malacostraca, Ostracoda
Order: Architaenioglossa, Coleoptera, Conchostraca, Decapoda, Diplostraca, Diptera, Ephemeroptera, Hemiptera, Lepidoptera, Littorinimorpha, Odonata, Plecoptera, Rhynchobdellida, Sphaeriida, Trichoptera, Trombidiformes, Tubificida, Unionida, Venerida
Family: Aeshnidae, Ampullariidae, Atyidae, Baetidae, Barleeiidae, Bithyniidae, Brachyceridae, Bulinidae, Caenidae, Cambaridae, Ceratopogonidae, Chaoboridae, Chironomidae, Corduliidae, Corixidae, Crambidae, Cyrenidae, Dipseudopsidae, Ecnomidae, Elmidae, Ephemerellidae, Ephemeridae, Ephemerythidae, Etheriidae, Glossiphoniidae, Gomphidae, Gyrinidae, Heptageniidae, Iridinidae, Leptoceridae, Leptophlebiidae, Libellulidae, Limnephilidae, Naididae, Naucoridae, Paludomidae, Perlidae, Philopotamidae, Planorbidae, Polycentropodidae, Polymitarcyidae, Sphaeriidae, Thiaridae, Tricorythidae, Unionidae, Viviparidae
Genus: *Ablabesmyia, Afrogyrorbis, Afropisidium, Anisoptera, Aspatharia, Atrichopogon, Baetis, Bellamya, Biomphalaria, Bulinus, Byssanodonta, Caelatura, Caenis, Caridina, Chaoborus, Chimarra, Chironomus, Cleopatra, Clinotanypus, Cloeon, Coelatura, Corbicula, Cryptochironomus, Cryptotendipes, Culicoides, Dicrotendipes, Dipseudopsis, Ecnomus, Ephemerella, Ephemerythus, Etheria, Eupera, Euthraulus, Gabbia, Gabbiella, Hesperophylax, Ictinogomphus, Lanistes, Lentorbis, Melanoides, Mutela, Neochetina, Neoperla, Neurocordulia, Nitia, Orectogyrus, Palpomyia, Petrophila, Phyllomacromia, Pila, Pisidium, Povilla, Procambarus, Procladius, Progomphus, Pseudoneureclipsis, Segmentorbis, Sphaerium, Tanypus, Tanytarsus, Tricorythus, Trithemis, Tubifex*

Fish

Kingdom: Animalia
Phylum: Chordata
Class: Actinopterygii, Sarcopterygii
Order: Ceratodontiformes, Characiformes, Cypriniformes, Cyprinodontiformes, Osteoglossiformes, Perciformes, Polypteriformes, Siluriformes, Synbranchiformes
Family: Alestidae, Amphiliidae, Anabantidae, Bagridae, Cichlidae, Citharinidae, Clariidae, Claroteidae, Cyprinidae, Distichodontidae, Latidae, Mastacembelidae, Mochokidae, Mormyridae, Poeciliidae, Polypteridae, Protopteridae, Schilbeidae
Genus: *Alestes, Amphilius, Aplocheilichthys, Astatoreochromis, Astatotilapia, Auchenoglanis, Bagrus, Brycinus, Citharinops, Clarias, Coptodon, Ctenopoma, Distichodus, Engraulicypris, Enteromius, Garra, Gaurochromis, Gnathonemus, Haplochromis, Harpagochromis, Hippopotamyrus, Hydrocynus, Hyperopisus, Labeo, Labeobarbus, Lacustricola, Lates, Leptocypris, Lithochromis, Marcusenius, Mastacembelus, Mbipia, Mormyrops, Mormyrus, Nannocharax, Neochromis, Oreochromis, Paralabidochromis, Petrocephalus, Platypanchax, Platytaeniodus, Pollimyrus, Polypterus, Protopterus, Pseudocrenilabrus, Ptyochromis, Pundamilia, Raiamas, Rastrineobola, Sarotherodon, Schilbe, Synodontis, Thoracochromis, Xenoclarias, Yssichromis*

TEMPORAL SCOPE

Formation period: 1971-2021

The temporal scope for individual datasets is given in Tab. 2.

USAGE LICENSE

DATA RESOURCES

The total number of datasets is 34. The data format for all the datasets is Darwin Core Archive (https://dwc.tdwg.org/). Tab. 2 presents key information on all the datasets.

Tab. 2. Information on the data resources available in the Global Biodiversity Information Facility. Dataset type is occurrence for all the datasets apart from those with an asterisk (*), which are sampling event datasets.

Dataset name	Taxa	Year published	Number of records	Short description	Temporal coverage	URL/DOI
Zooplankton occurrences and abundance in the Lake Kyoga system, Uganda	Zooplankton	2022	3,488	The dataset presents occurrences and abundance of zooplankton taxa from different surveys conducted over 12 years in different waterbodies and habitat types within the Lake Kyoga system	1998-2017	https://doi.org/10.15468/kc6dy5

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Tab. 2. Continued from previous page.

Dataset name	Taxa	Year published	Number of records	Short description	Temporal coverage	URL/DOI
Zooplankton occurrences and abundance in the Lake Albert system, Uganda	Zooplankton	2022	1,482	Occurrences and abundance of zooplankton taxa from different surveys conducted between 2002 and 2020 in the Lake Albert system	2002-2020	https://doi.org/10.15468/wq98m3
Composition and abundance of benthic macroinvertebrates in Lake Albert, Uganda	Macroinvertebrates	2022	1,050	Occurrence and abundance of benthic macro-invertebrates from numerous biodiversity surveys conducted in Lake Albert, Uganda	2002-2020	https://doi.org/10.15468/ahpwv8
Composition and abundance of benthic macroinvertebrates in Lake Kyoga system, Uganda	Macroinvertebrates	2022	1,217	Occurrence and composition of benthic macro-invertebrates from numerous biodiversity surveys conducted in the Lake Kyoga system, Uganda	1999-2017	https://doi.org/10.15468/3he8de
Diversity, distribution and abundance of macro-invertebrates in areas with different pollution levels in Lake Victoria	Macroinvertebrates	2022	680	A dataset of macroinvertebrate taxa collected in sites with varying levels of pollution in Lake Victoria, Uganda	2011-2013	https://doi.org/10.15468/j8qbhw
Composition and abundance of benthic macroinvertebrates in satellite lakes of Lake Victoria, Uganda	Macroinvertebrates	2022	330	Occurrence and abundance of benthic macro-invertebrates from numerous biodiversity surveys conducted in the satellite lakes of Lake Victoria, Uganda	1999-2003	https://doi.org/10.15468/s5g8v5
Taxa occurrences and composition of benthic macroinvertebrates in the Lake Edward system, Uganda	Macroinvertebrates	2022	280	Occurrence and abundance of benthic macro-invertebrates from numerous biodiversity surveys conducted in the Lake Edward system, Uganda	2011-2021	https://doi.org/10.15468/puth4m
Fish Biodiversity Assessments for Conservation and Hydropower Developments	Fish	2022	87	Data from two surveys conducted to monitor the development of small hydropower development projects	2020-2021	https://doi.org/10.15468/js65th
Fish species observations from a monitoring survey of two Lake Victoria affluent rivers (Rivers Kagera and Sio)	Fish	2022	60	Observations made in a study to identify local user communities (LUCs) and indigenous knowledge (IK) about Ningu (Labeo victorianus) home range	April 29, 2021 May 2, 2021	https://doi.org/10.15468/wsxmk6
Zooplankton occurrences and abundance in the Lake Edward system, Uganda	Zooplankton	2021	1,492	Occurrences and abundance of zooplankton taxa obtained from different surveys conducted between 1998 to 2020 in the Lake Edward system	1998-2020	https://doi.org/10.15468/tpffw8
Macro-invertebrates of Lake Wamala, 1999-2003	Macroinvertebrates	2021	88	This resource comprises occurrences and abundance of macroinvertebrates of Lake Wamala, 1999-2003	1999-2003	https://doi.org/10.15468/xx3mgq
Fish species occurrences mobilized from various Environmental Impact Assessments	Fish	2021	595	Occurrences from surveys conducted as part of Environmental Impact Assessments associated with development projects in Uganda	2016-2020	https://doi.org/10.15468/vrx2du

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Tab. 2. Continued from previous page.

Dataset name	Taxa	Year published	Number of records	Short description	Temporal coverage	URL/DOI
Procambarus clarkii in water bodies of Western Uganda	Macroinvertebrates	2021	6	Observations of invasive *Procambarus clarkii* in water bodies of Western Uganda	2018-2020	https://doi.org/10.15468/u7u3w4
Fish species recorded in two small rivers (Nabongo and Muyembe) in Eastern Uganda	Fish	2021	17	This dataset presents occurrences of fish species recorded in two small rivers within the Lake Kyoga system	2020	https://doi.org/10.15468/fvm4z4
Fish species occurrence and composition in Lakes Edward and George, 2016	Fish	2021	229	Occurrence records and composition of fish species collected in lakes Edward and George, Uganda	2016	https://doi.org/10.15468/uknkek
Taxa occurrences and (2001-2006) composition of benthic macroinvertebrates from biodiversity surveys on Lake Victoria, Uganda	Macroinvertebrates	2021	860	Occurrence, distribution, and abundance or composition of benthic macro-invertebrates collected through various biodiversity surveys conducted in Lake Victoria, Uganda	2001-2006	https://doi.org/10.15468/vusn5p
Additional fish species occurrence records for Uganda	Fish	2020	3,348	Occurrence records and associated abundance (number of individuals and weight) data when available	1971-2015	https://doi.org/10.15468/yx4qaz
Fish species occurrence records for Uganda mobilized from observation archives	Fish	2020	7,214	Occurrence records for Uganda mobilized from unpublished archives	1996-2017	https://doi.org/10.15468/ywx440
Zooplankton occurrences and community structure in Lakes Victoria and Nabugabo	Zooplankton	2020	5776	Zooplankton taxa presence and absence occurrence records from surveys conducted from 1992 to 2012 in different habitat types with varying depths in lakes Victoria and Nabugabo	1992-2012	https://doi.org/10.15468/juznnb
Zooplankton taxa occurrences and composition associated with a cage aquaculture farm on Lake Victoria, Uganda	Zooplankton	2020	4,344	Zooplankton taxa presence and absence occurrence records from a cage fish culturing farm in the northern Lake Victoria for the years 2011-2020	2011-2020	https://doi.org/10.15468/s5wjps
Fish species distribution, with emphasis on haplochromine cichlids, in different habitats of the Ugandan portion of Lake Victoria	Fish	2020	447	Haplochromine cichlids and other fish taxa from diverse habitats (rocky, muddy, vegetated, sandy, open water, aquaculture sites) in the northern portion of Lake Victoria (Uganda)	2017	https://doi.org/10.15468/cezng8
Fish species occurrences from selected nearshore and riverine habitats in Lake Edward (2019)	Fish	2020	243	Occurrences observed in Lake Edward. Fishes were collected using gillnets from sheltered, riverine and rocky habitats in March and July 2019	2019	https://doi.org/10.15468/rkv45e

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Tab. 2. Continued from previous page.

Dataset name	Taxa	Year published	Number of records	Short description	Temporal coverage	URL/DOI
Fish species occurrences in lakes Bisina and Opeta, and rivers Manafwa and Namatala, Lake Kyoga system	Fish	2020	282	Occurrences from two small lakes (Bisina and Opeta) and two rivers (Manafwa and Namatala) in the Lake Kyoga system, Eastern Uganda	2013	https://doi.org/10.15468/qvcudn
Characterization of Habitats and Haplochromine Diversity to Guide Conservation of Biodiversity amidst Hydropower Developments along the Upper Victoria Nile	Fish	2020	146	Haplochromine cichlids from diverse habitats in the Upper Victoria Nile, a stretch of River Nile connecting lakes Victoria and Kyoga (Uganda)	2019	https://doi.org/10.15468/5pvt73
Fish species occurrences in selected rivers in western Uganda	Fish	2020	405	Records of fish species collected in selected rivers in western Uganda in surveys conducted as Environmental and Social Impact Assessments (ESIA) for hydro-electric dams operated or planned along the rivers	2013-2019	https://doi.org/10.15468/kd7gwj
Abundance and composition of fish in sites with varying degradation levels in Lake Wamala	Fish	2020	126	Occurrences and abundance of fish in Lake Wamala. Data was collected in sites with varying bordering land/islands with degradation levels	2016-2017	https://doi.org/10.15468/nli4a4
The abundance of macroinvertebrates in sites with varying degradation levels in Lake Wamala	Macroinvertebrates	2020	342	Macroinvertebrates in Lake Wamala. Data was collected in sites bordering land/islands with varying land degradation levels	2016-2017	https://doi.org/10.15468/va97uo
Macroinvertebrates of Lake Wamala, 2012-2013	Macroinvertebrates	2020	141	Occurrences and abundance of macroinvertebrates collected in Lake Wamala in 2012 and 2013	2012-2013	https://doi.org/10.15468/vbdsc6
Taxa occurrence (presence/absence) and composition of benthic macroinvertebrates from trawl surveys (2003-2017) conducted on Lake Victoria, Uganda	Macroinvertebrates	2019	10,107	The dataset provides the occurrence, distribution, and abundance or composition of benthic macro-invertebrates collected through trawl surveys conducted on Lake Victoria, Uganda	2003-2017	https://doi.org/10.15468/tahwak
Fish species occurrence and composition in selected Ugandan water bodies, 2001-2003	Fish	2019	2,090	Occurrence records and composition of fish species collected from the Lake Victoria and Kyoga basins between 2001 and 2003	2001-2003	https://doi.org/10.15468/a3wg62
Fish species occurrence and composition in shallow (wetland) habitats of Northern Lake Victoria (Uganda)	Fish	2019	1,525	Occurrence records and composition of fish species collected in shallow habitats of different vegetation fringes in Lake Victoria, Uganda	1993-1996	https://doi.org/10.15468/qof2qv

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Tab. 2. Continued from previous page.

Dataset name	Taxa	Year published	Number of records	Short description	Temporal coverage	URL/DOI
*Occurrence (present/absence) and abundance of zooplankton in Murchison Bay, Lake Victoria	Zooplankton	2019	2,184	Zooplankton taxa occurrences and abundance in Murchison Bay, Northern Lake Victoria, Uganda. The data was obtained through a survey conducted in 2012 and 2013	2012-2013	https://doi.org/10.15468/xxdflt
*Benthic macroinvertebrate taxa occurrences and composition associated with a cage aquaculture farm on Lake Victoria, Uganda	Macroinvertebrates	2019	1,462	Occurrences and abundance of macroinvertebrate taxa recorded in sites in relation to a cage fish farm in Lake Victoria, Uganda	2011-2019	https://doi.org/10.15468/belopr
*Zooplankton occurrences (present/absent) and community structure in three habitat types in northern Lake Victoria, Uganda	Zooplankton	2019	3,961	The dataset presents zooplankton taxa occurrence records and abundance. The data was from a zooplankton survey conducted from October 2009 to January 2010 in three habitat types with varying environmental conditions on Lake Victoria, Uganda	2009-2010	https://doi.org/10.15468/myjghm

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