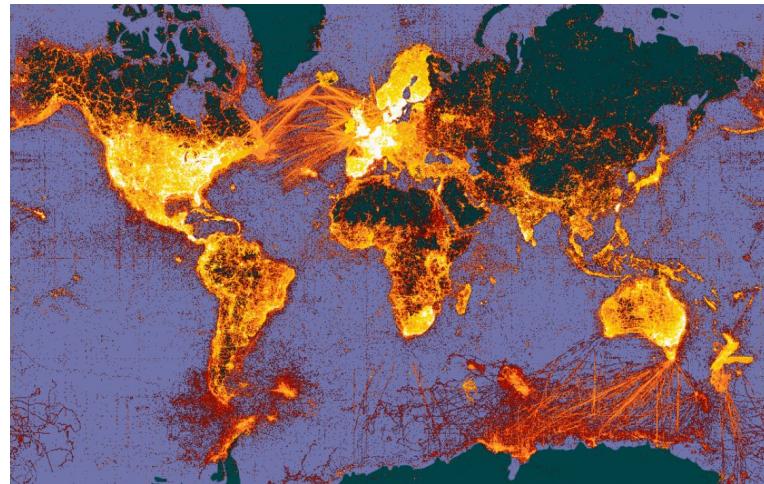




Гербарийді цифрлау және GBIF IPT арқылы деректерді жариялау
Оцифровка гербария и публикация данных через GBIF IPT
Herbarium data digitization and publishing through GBIF IPT

Портал GBIF - крупнейший мировой репозиторий открытых данных о биоразнообразии



Слайды CC BY:

Dag Endresen, GBIF Norway

Наталья Иванова,

Максим Шашков

Репозитории

Get data Share Tools Inside GBIF

GBIF | Global Biodiversity Information Facility

Свободный и открытый доступ к данным по биоразнообразию

OCCURRENCES SPECIES DATASETS PUBLISHERS RESOURCES

Search

WHAT IS GBIF? ABOUT GBIF RUSSIAN FEDERATION

Nymphaea micrantha observed in Oiseaux de Djoudi, Senegal by Julien Renoult. Photo

Occurrence records 1 339 174 962 Datasets 46 267 Publishing institutions 1 464 Peer-reviewed papers using data 3 896

News Data use News News

Five projects receive funding from 2019 Capacity Enhancement Support Programme 14 August 2019

Predicting the future of biodiversity using Essential Biodiversity Variables 12 September 2019

Belarus extends GBIF's European membership map eastward 16 July 2019

Programme seeks Biodiversity Open Data Ambassadors to expand best practices 10 July 2019

OBIS OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

HOME ABOUT DATA MANUAL MEDIA ACTIVITIES CONTACT

OBIS is a global open-access data and information clearing-house on marine biodiversity for science, conservation and sustainable development

Toxu Search OBIS

56,932,545 OCCURRENCES 2,885 DATASETS 125,665 SPECIES

BOLD SYSTEMS

DATABASES IDENTIFICATION TAXONOMY WORKBENCH RESOURCES LOGIN

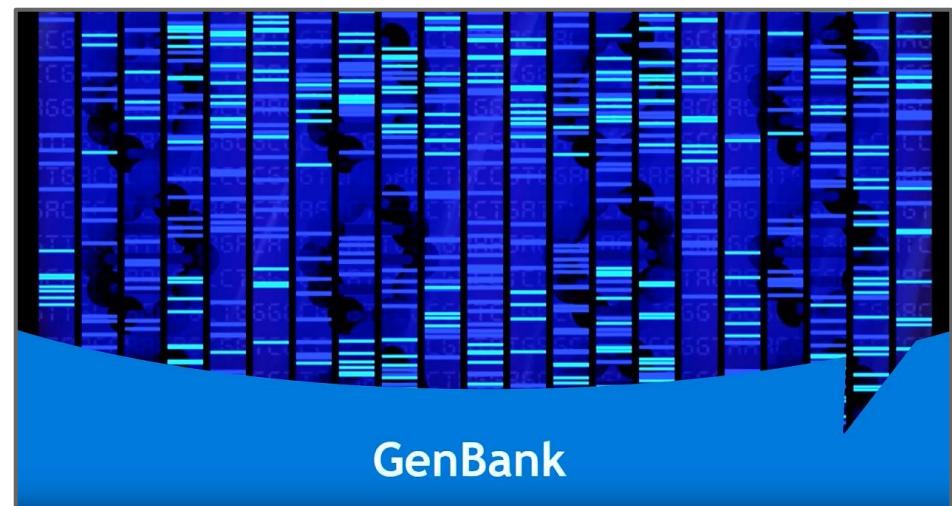
BARCODE OF LIFE DATA SYSTEM v4

Advancing biodiversity science through DNA-based species identification.

EXPLORE THE DATA

DESIGNED TO SUPPORT THE GENERATION & APPLICATION OF DNA BARCODE DATA

BOLD is a cloud-based data storage and analysis platform developed at the Centre for Biodiversity Genomics in Canada. It consists of four main modules, a data portal, an educational portal, a registry of BINs (putative species), and a data collection and analysis workbench.



Репозитории - систематика и таксономия

species 2000



2000



1996



ITIS

Integrated Taxonomic Information System

1996

Catalogue of Life



The most complete authoritative list of the world's species - maintained by hundreds of taxonomic experts.

2001

HOME



Browse the WFO Plant List



BRYOPHYTES

Mosses and liverworts



PTERIDOPHYTES

Ferns and fern allies



GYMNOSPERMS

Conifers, cycads and allies



ANGIOSPERMS

Flowering plants

AS CLASSIFIED
IN WFO SNAPSHOT
DECEMBER 2022
LATEST CLASSIFICATION FOR THIS TAXON
© PREVIOUS CLASSIFICATION

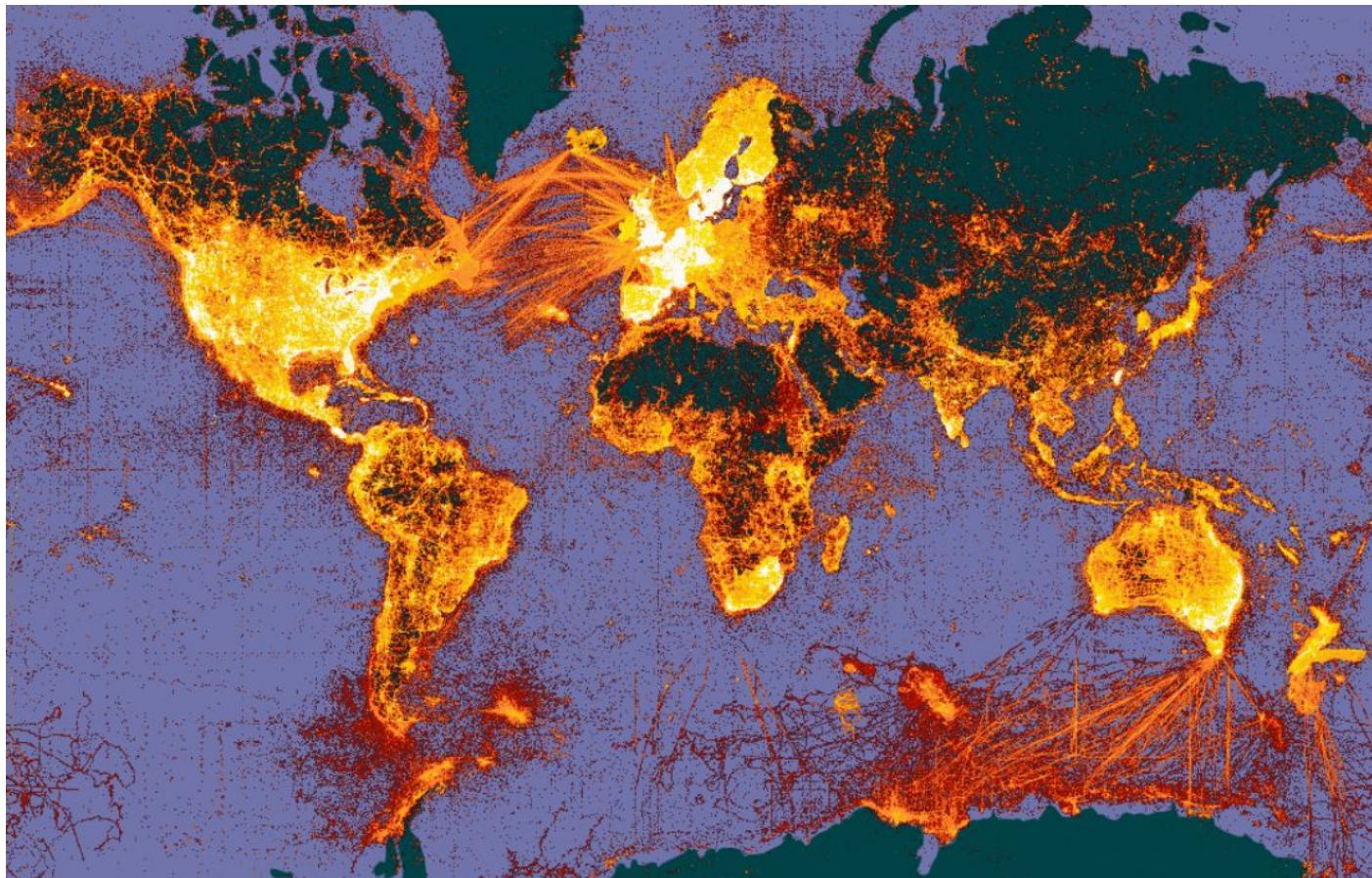
DriloBASE

World Earthworm Database



The database contains: 23 families – 398 genus – 5358 species – 4841 bibliographic items.

GBIF - крупнейший агрегатор данных о биоразнообразии



1 339 174 017
находок

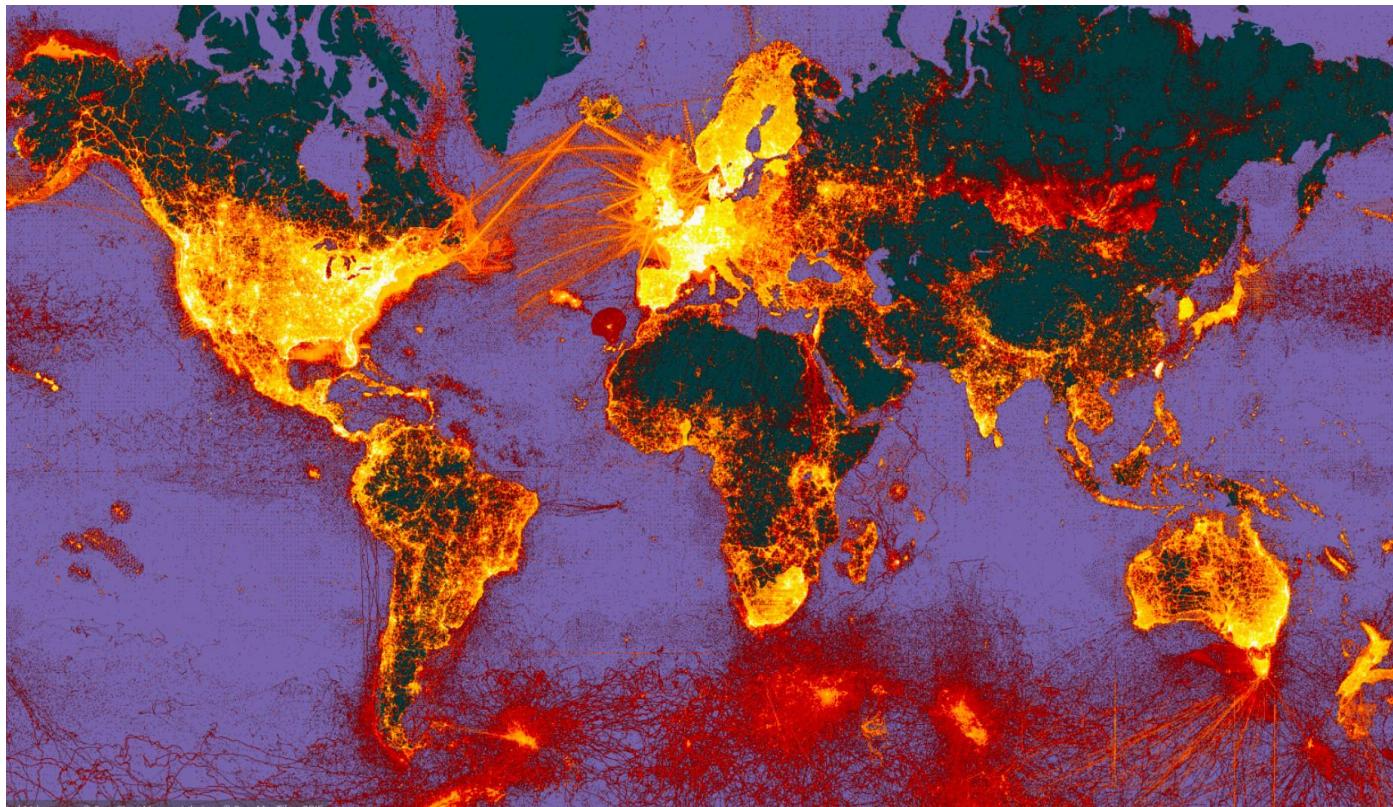
46 267
наборов данных

1464
организаций

3896 статей с
использованием
данных GBIF

15 сентября 2019 г.

GBIF - крупнейший агрегатор данных о биоразнообразии



2 285 945 722
находки

83 105
наборов данных

1969
организаций

8420 статей с
использованием
данных GBIF

13 марта 2023 г.

SPECIES OCCURRENCE RECORDS WITH MULTIMEDIA EVIDENCE

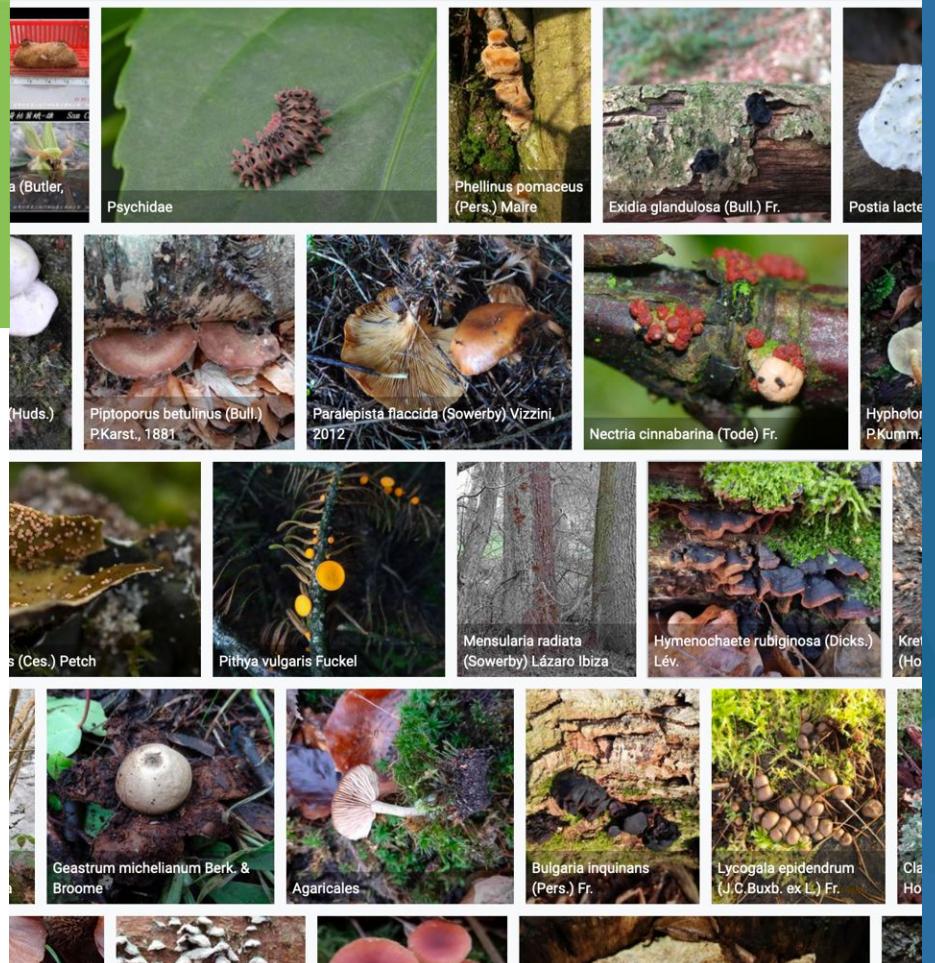
31 Dec 2022

130 million records with taxonomically identified images

- 76 million human observations
- 49.7 million specimens
- 2.3 million material samples
- 1.4 million fossil specimens

1,054,740 audio files

3,704 videos



Казахстан в GBIF

DATA ABOUT KAZAKHSTAN

337,616

Occurrences

756

Datasets

39

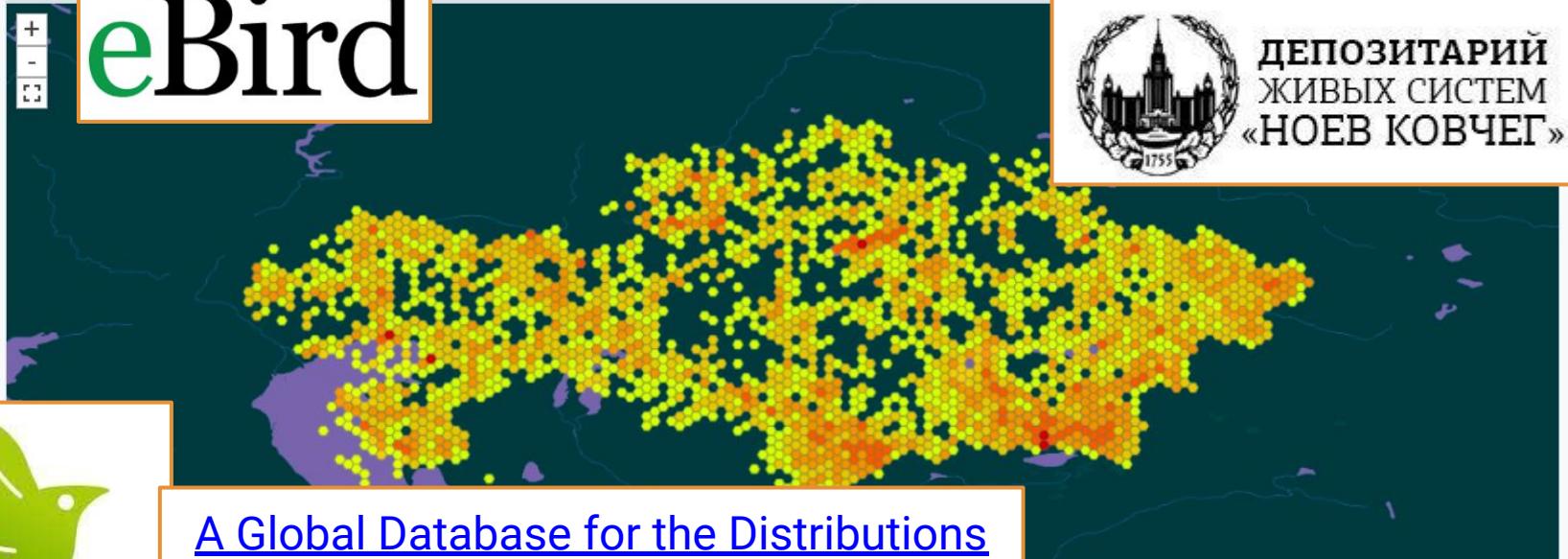
Countries and areas contribute
data

252

Publishers



eBird



ДЕПОЗИТАРИЙ
ЖИВЫХ СИСТЕМ
«НОЕВ КОВЧЕГ»
1755



iNaturalist

[A Global Database for the Distributions
of Crop Wild Relatives](#)

2022

[Hymenoptera Specimen
Database of Kyushu University](#)

Казахстан в GBIF

DATA FROM KAZAKHSTAN

94,762

Published occurrences

1

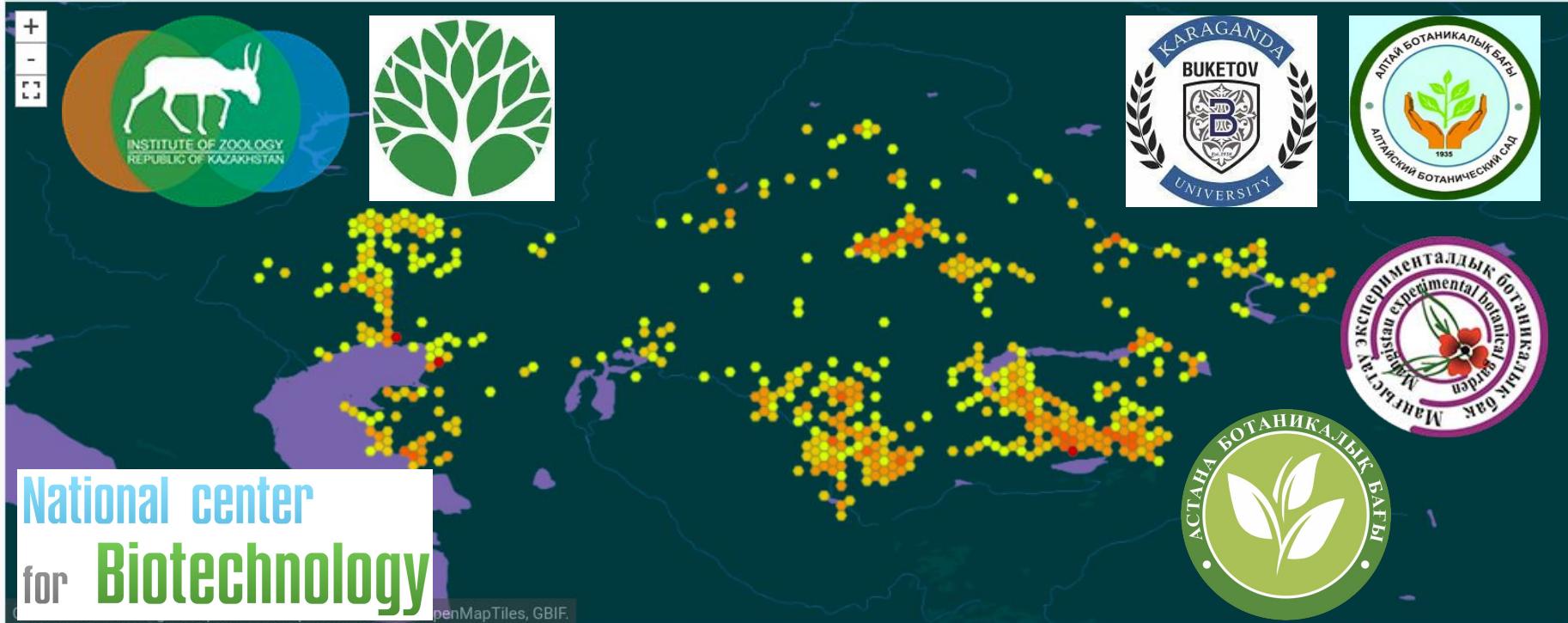
Published datasets

1

Countries and areas covered by
data from Kazakhstan

7

Publishers from Kazakhstan



Первый набор данных

OCCURRENCE DATASET | REGISTERED OCTOBER 13, 2022

Distribution of marsh frogs (*Pelophylax ridibundus* complex) in Kazakhstan

Published by [Institute of Zoology of the Republic of Kazakhstan](#)

Dujsebayeva T • Kaptyonkina A • Arifulova I • Ualiyeva D • Akhmedenov K • Ivanov A • Khromov V • Krainyuk V • Sarzhanov F • Tarasovskaya N • Titov S • Timoshenko A • Ermakov O • Malakhov D • Starikov S • Morozov V

DATASET

METRICS

ACTIVITY

DOWNLOAD

HOME PAGE

110 OCCURRENCES

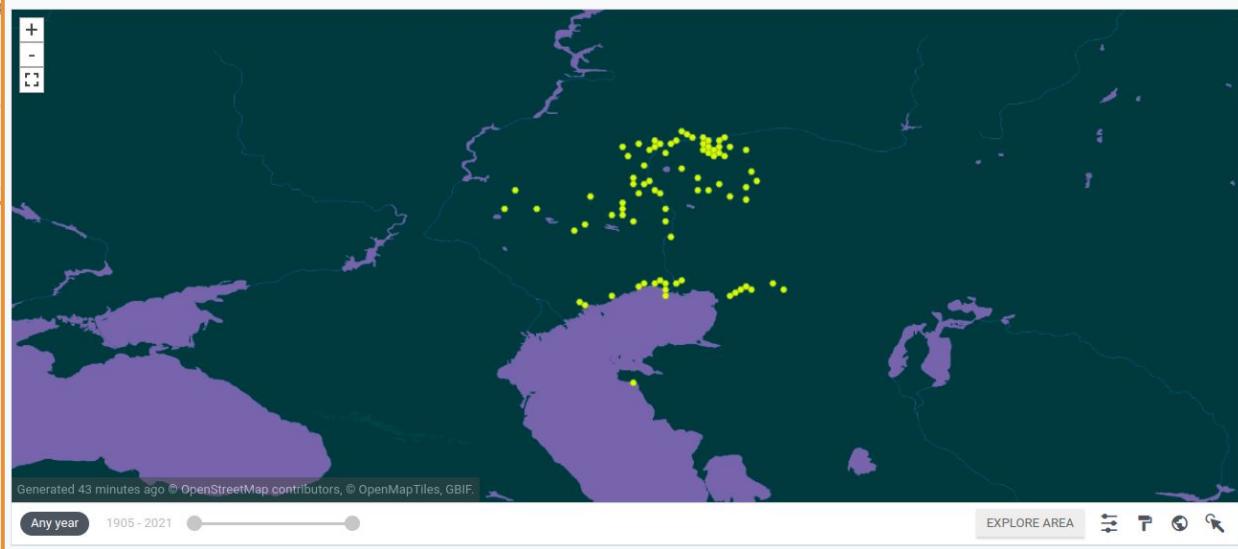
The presented data are the result of the generalization and reconciliation of literary, museum, and archival information on the distribution of lake frogs of the *P. ridibundus* complex in Kazakhstan, and new fieldwork in 2021-2022. Based on the collected material, a database has been compiled today for the period from the end of the XX century to the present.

Publication date: October 13, 2022

110
Occurrences

100%
With taxon match

110 GEOFERENCED RECORDS



Литературные сведения

Данные собственных наблюдений

Элементарный объем информации

Нахodka (Occurrence) - Что, где, когда и кем было собрано (отмечено / записано / сфотографировано ...)

OCCURRENCE | 2 JULY 2020

Alisma plantago-aquatica L.

American waterplantain In English Collected in Russian Federation

Plantae > Tracheophyta > Liliopsida > Alismatales > Alismataceae > *Alisma*

<https://www.gbif.org/occurrence/3004106490>

Occurrence

Term	
Disposition	in collection
Associated media	https://plant.dep...mg/0.jpg
Catalogue number	MW0952835
Occurrence ID	MW0952835
Occurrence status	present
Preparations	herbarium specimen
Recorded by	N. Tihomirov



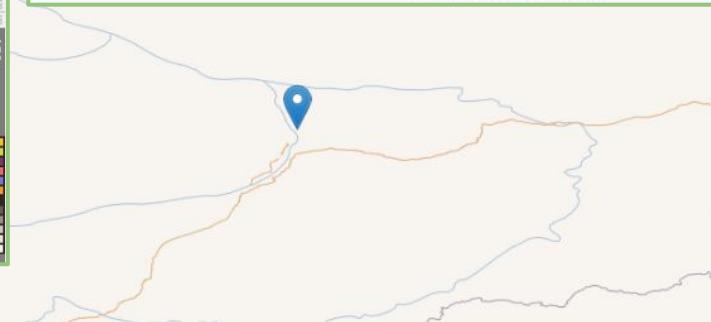
Herbarium MW

150 mm

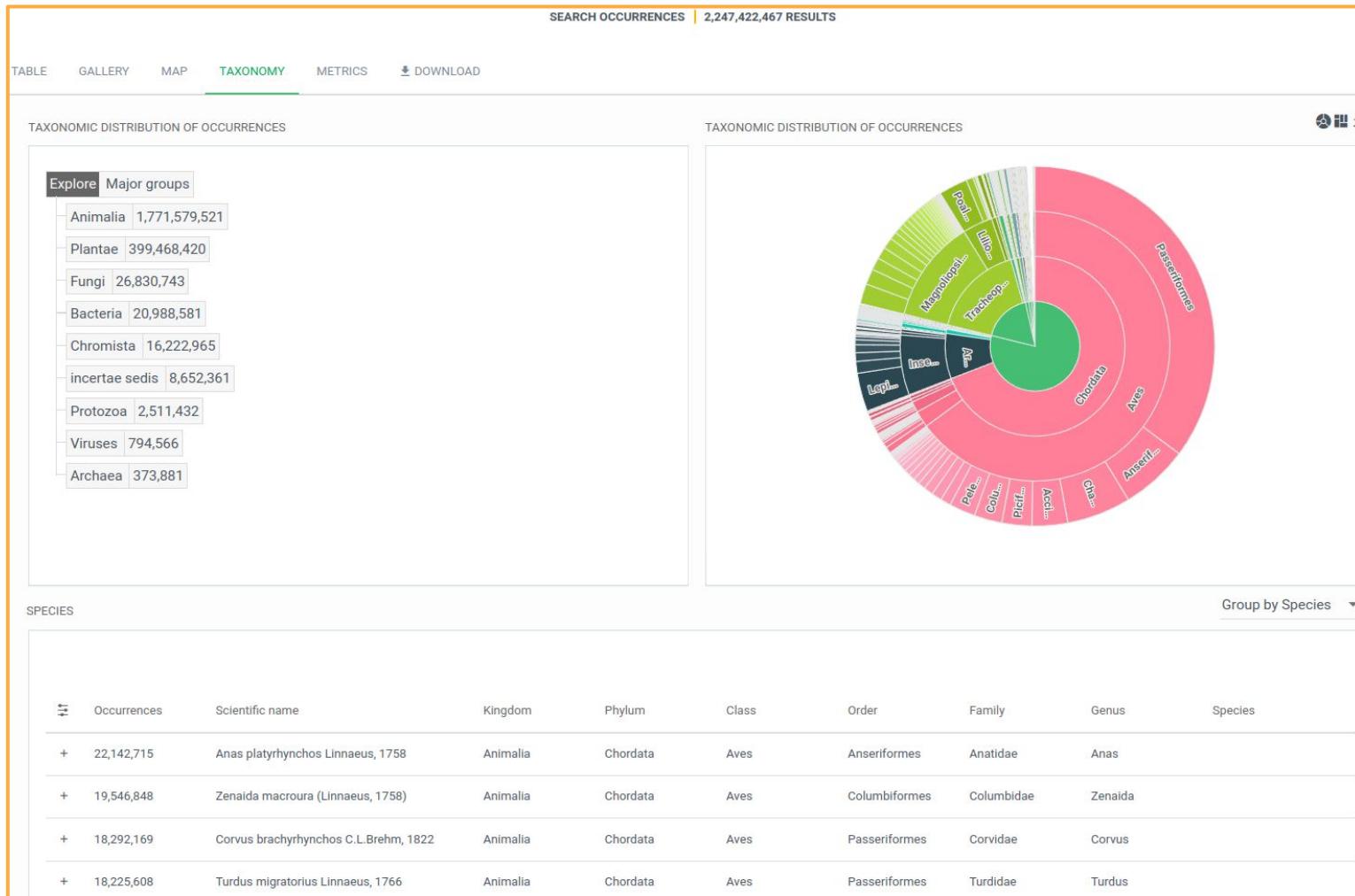
Alisma plantago-aquatica L.
Япония, Университетский парк, правый берег р. Гима,
15 м от устья, в зарослях, в солнечном месте
2020-07-02 13:04'00"E 62.5219'N
N. Tihomirov, N. Kostrov

Location

Term	
Country or area	Russia
Country code	RU
County	Ust'-Aldanskii raion
Decimal latitude	62.52519
Decimal longitude	130.04106
Geodetic datum	WGS84
Georeference remarks	no label data
Georeference verification status	manual verification
Georeferenced by	Kollektor
Higher geography	Siberia Yakutia Russia Sakha Ust'-Aldanskii raion



Что?



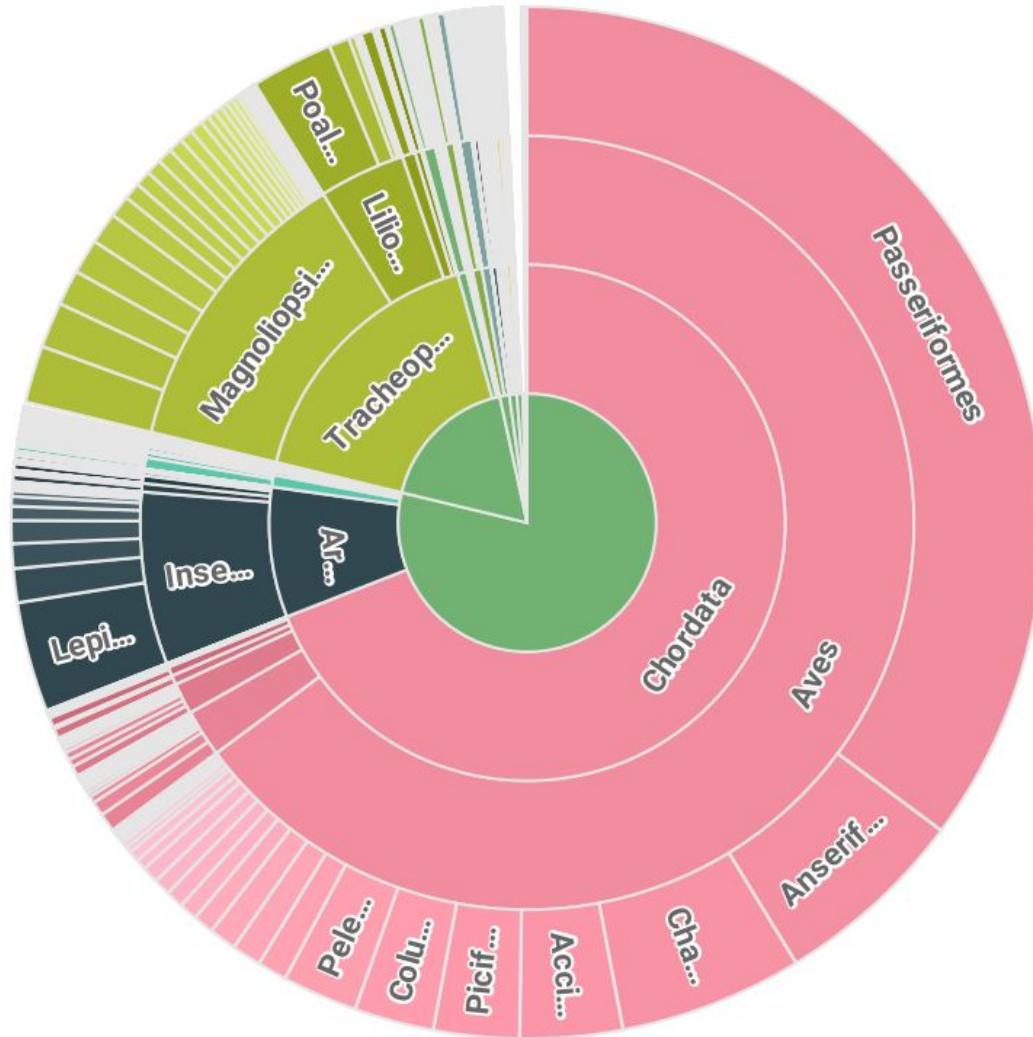
Что ?

три основные группы:

Птицы

Сосудистые растения

Насекомые



GBIF Taxonomy Backbone

CHECKLIST DATASET | REGISTERED MARCH 2, 2011

GBIF Backbone Taxonomy

Published by [GBIF Secretariat](#)

DATASET

TAXONOMY

CONSTITUENTS

METRICS

 DOWNLOAD

 HOME PAGE

6,783,300 RECORDS

78 CITATIONS

The GBIF Backbone Taxonomy is a single, synthetic management classification with the goal of covering all names GBIF is dealing with. It's the taxonomic backbone that allows GBIF to integrate name based information from different resources, no matter if these are occurrence datasets, species pages, names from nomenclators or external sources like EOL, Genbank or IUCN. This backbone allows taxonomic search, browse and reporting operations across all those resources in a consistent way an... [More](#)



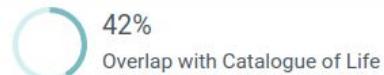
Publication date: November 26, 2021

Metadata last modified: December 9, 2021

Hosted by: [GBIF Secretariat](#)

Licence: CC BY 4.0

 How to cite  DOI 10.15468/39omei



главный Checklist и, наверно, самый большой из всех существующих 100 источников (таксономических списков)
7 477 317 записей

GBIF Taxonomy Backbone

Catalogue of Life



4 598 400 записей



Integrated
Taxonomic
Information
System
1996



Barcode Index Numbers (BINs) -
620 554 записей

Systema Dipterorum

The BioSystematic Database of World Diptera



13 547 записей



236 791 записей



The Paleobiology Database
219 888 записей

Species Matching



Frank Bisby (1945 - 2011)

BIOINFORMATICS FOR BIODIVERSITY
VIEWPOINT

The Quiet Revolution: Biodiversity Informatics and the Internet

Frank A. Bisby

The massive development of biodiversity-related information systems on the Internet has created much that appears exciting but chaotic, a diversity to match biodiversity itself. This richness and the arrays of new sources are counterbalanced by the maddening difficulty in knowing what is where, or of comparing like with like. But quietly, behind the first waves of exuberance, biologists and computer scientists have started to pull together in a rising tide of coherence and organization. The fledgling field of biodiversity informatics looks set to deliver major advances that could turn the Internet into a giant global biodiversity information system.

Australia (7) and by the European Natural History Specimen Information Network (ENHSIN) team in Europe (8).

A second area for networking and interoperability is the taxonomic framework itself. Again, there are centralized models from the 1990s where organizations bring together taxonomic treatments from authors and institutions to provide a centrally collated system.

Проекты ITIS, Species 2000, European Register of Marine Species и многие другие были организованы в конце XX века.

Для разработки стандартов было создано сообщество TDWG **Taxonomic Database Working Group**. Первая конференция - 1985

TDWG - Biodiversity Information Standards

working groups

		
Biodiversity Data Quality	Biodiversity Informatics Curriculum	Biodiversity Services and Clients
		
Biological Interactions Data	Citizen Science	Collection Descriptions
		
Darwin Core	Earth Sciences and Paleobiology	Genomic Biodiversity
		
Machine Observations	Observations & specimens	Process

Conferences

		
TDWG 2021 - Virtual Annual Conference	TDWG 2020 - A Virtual Conference	2019 - Leiden, The Netherlands
		
2018 - Dunedin, New Zealand	2017 - Ottawa, Canada	2016 - Santa Clara de San Carlos, Costa Rica
		
2015 - Nairobi, Kenya	2014 - Jönköping, Sweden	2013 - Florence, Italy
		
2012 - Beijing, China	2011 - New Orleans, Louisiana, USA	2010 - Woods Hole, Massachusetts, USA

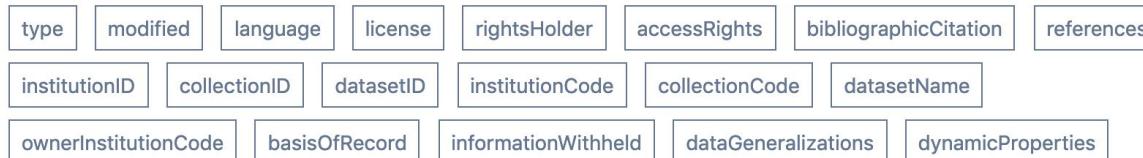
Стандарт Darwin Core (DwC)

TDWG Home Terms Guides ▾ Namespace policy

Darwin Core quick reference guide

This page provides a list of all currently recommended terms of the Darwin Core standard. Categories such as Occurrence or Event correspond to Darwin Core classes which group other terms. Convenient files of these terms and their full history can be found in the Darwin Core repository.

Record-level



Record-level
Occurrence
Organism
MaterialSample
Event
Location
GeologicalContext
Identification
Taxon
MeasurementOrFact
ResourceRelationship

basisOfRecord

Property

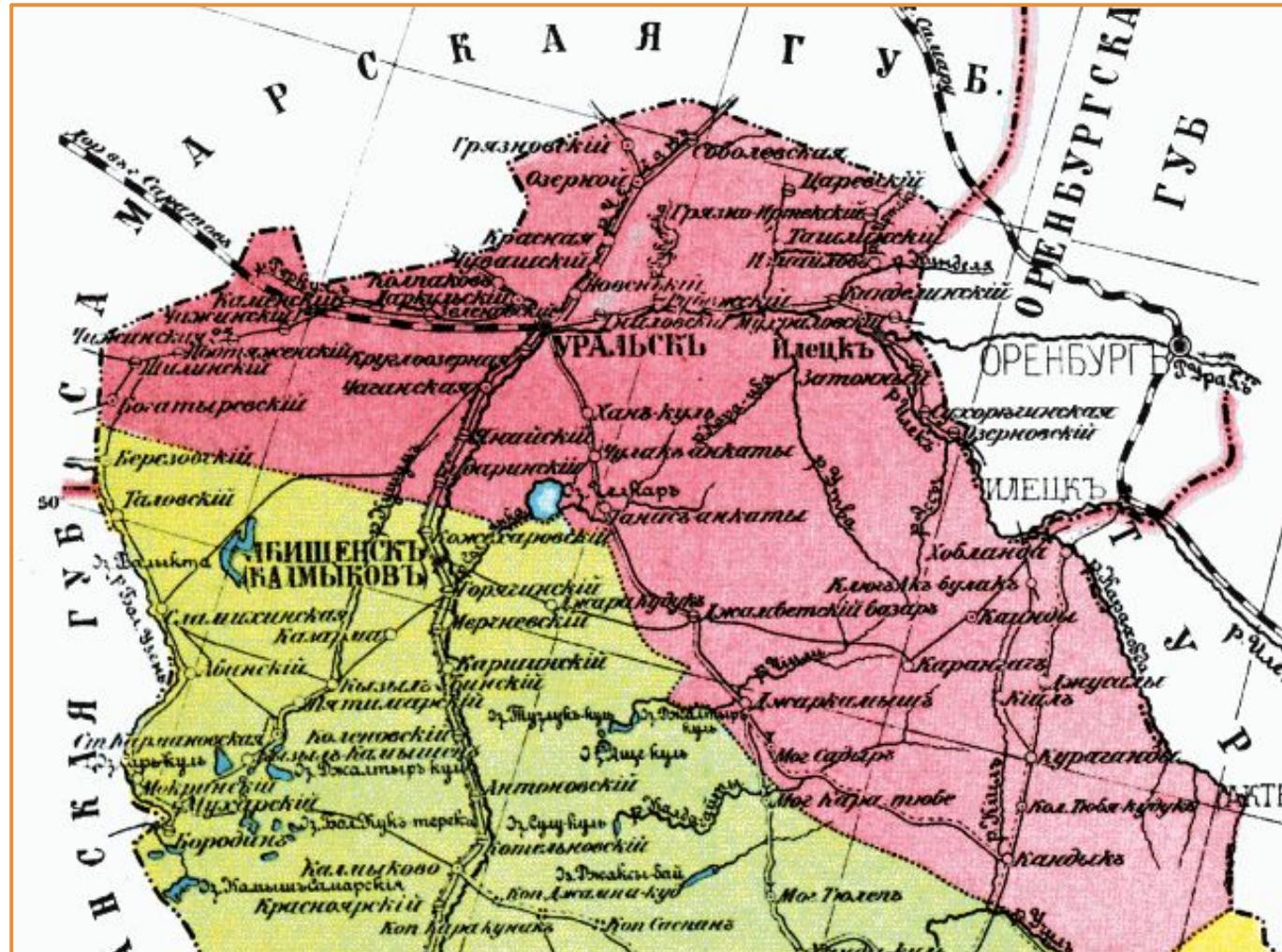
Identifier	http://rs.tdwg.org/dwc/terms/basisOfRecord
Definition	The specific nature of the data record.
Comments	Recommended best practice is to use the standard label of one of the Darwin Core classes.
Examples	PreservedSpecimen , FossilSpecimen , LivingSpecimen , MaterialSample , Event , HumanObservation , MachineObservation , Taxon , Occurrence , MaterialCitation

Где?

Более 90 % имеют географическую привязку

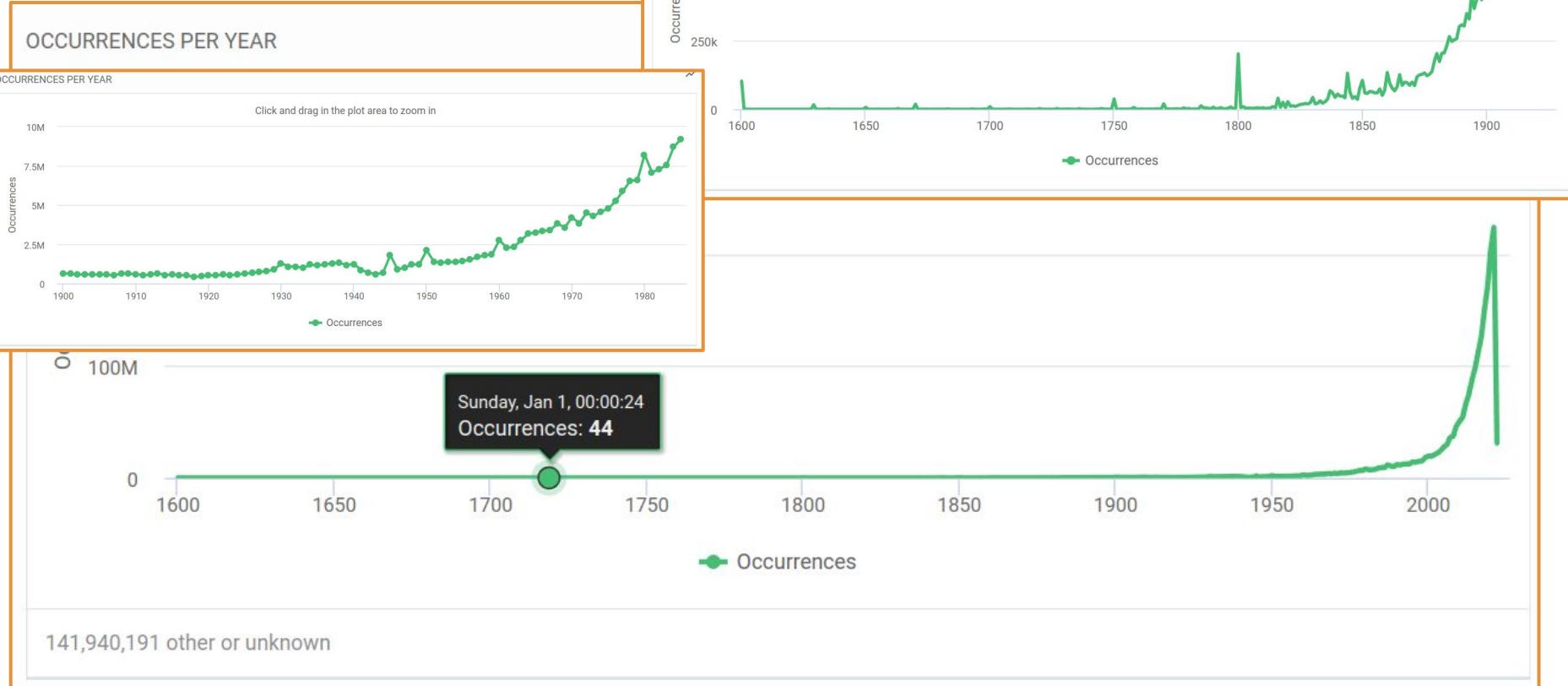
но только 745 млн (33 %) имеют оценку точности привязки

точность привязки до 100 м - менее 10%



Когда?

первый миллион находок 1600-1833 гг.



Точки отсутствия

[Get data](#)[How-to](#)[Tools](#)[Community](#)[About](#)

Occurrences



1

 Search all fields[Simple](#)[Advanced](#)

Occurrence status

[Everything](#)[Present](#)[Absent](#)

'Absent' is applied to an occurrence record when a survey of a taxon at a specific time and place encounters no specimens

Licence

Scientific name

Verbatim scientific name

[SEARCH OCCURRENCES](#) | 28,276,367 RESULTS[TABLE](#)[GALLERY](#)[MAP](#)[TAXONOMY](#)[METRICS](#)[DOWNLOAD](#)

Scientific name

Country or area

Coordinates

Month & year

Tachybaptus ruficollis (Pallas, 1764)

Norway

59.1N, 9.6E

2022 January

Turdus pilaris Linnaeus, 1758

Norway

69.6N, 18.9E

2022 January

Fringilla montifringilla Linnaeus, 1758

Norway

63.6N, 10.7E

2022 January

Periparus ater (Linnaeus, 1758)

Norway

59.9N, 6.6E

2022 January

Corythornis cristatus (Pallas, 1764)

South Africa

25.1S, 27.8E

2022 January

Dendrocopos major (Linnaeus, 1758)

Norway

62.4N, 11.0E

2022 January

Кем?

[recordedBy](#), [recordedByID](#) - собрано

[georeferencedBy](#) - привязано в пространстве

[identifiedBy](#), [identifiedByID](#) - определено

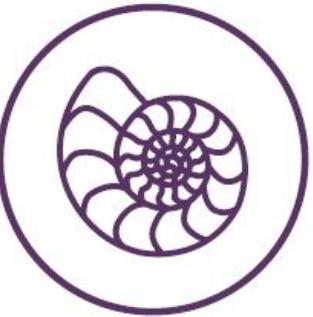
[measurementDeterminedBy](#) - измерили или оценили какие-то дополнительные значения (биомасса, размеры организма, значения факторов среды)

для каждой роли может быть указан один специалист или несколько, а также группа (лаборатория) или организация

Типы данных, публикуемых через GBIF



Specimen



Fossil



Observation
Human observation
Living specimen



Literature occurrence



Material sample



Machine observation

Метаданные - данные о данных

Название набора данных

Тип данных

Объем (число записей)

Краткое описание

Таксономические группы

Географический охват

Временной диапазон

.....



Типы наборов данных

Описание набора данных

Список видов

Отдельные находки (количественные характеристики)

Характеристики сборов

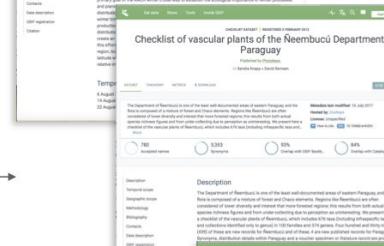
Metadata only dataset

No data content required.
You know what is in your collection and you can describe its content and scope but you cannot make the data content available on GBIF.



Checklist

- Scientific names of organisms sharing a common theme or feature (for example: medicinal use).



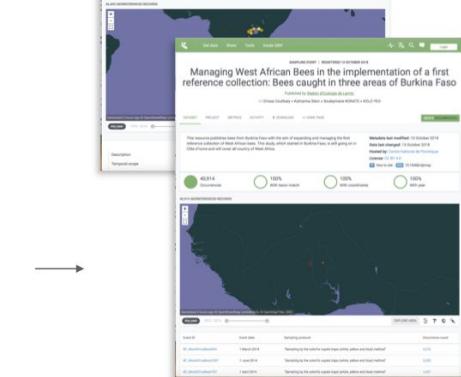
Occurrence Dataset

- Scientific names of organisms observed or specimens collected,
 - Observation or sampling date (year),
 - Observation or sampling location (at least country).



Sampling-Event Dataset

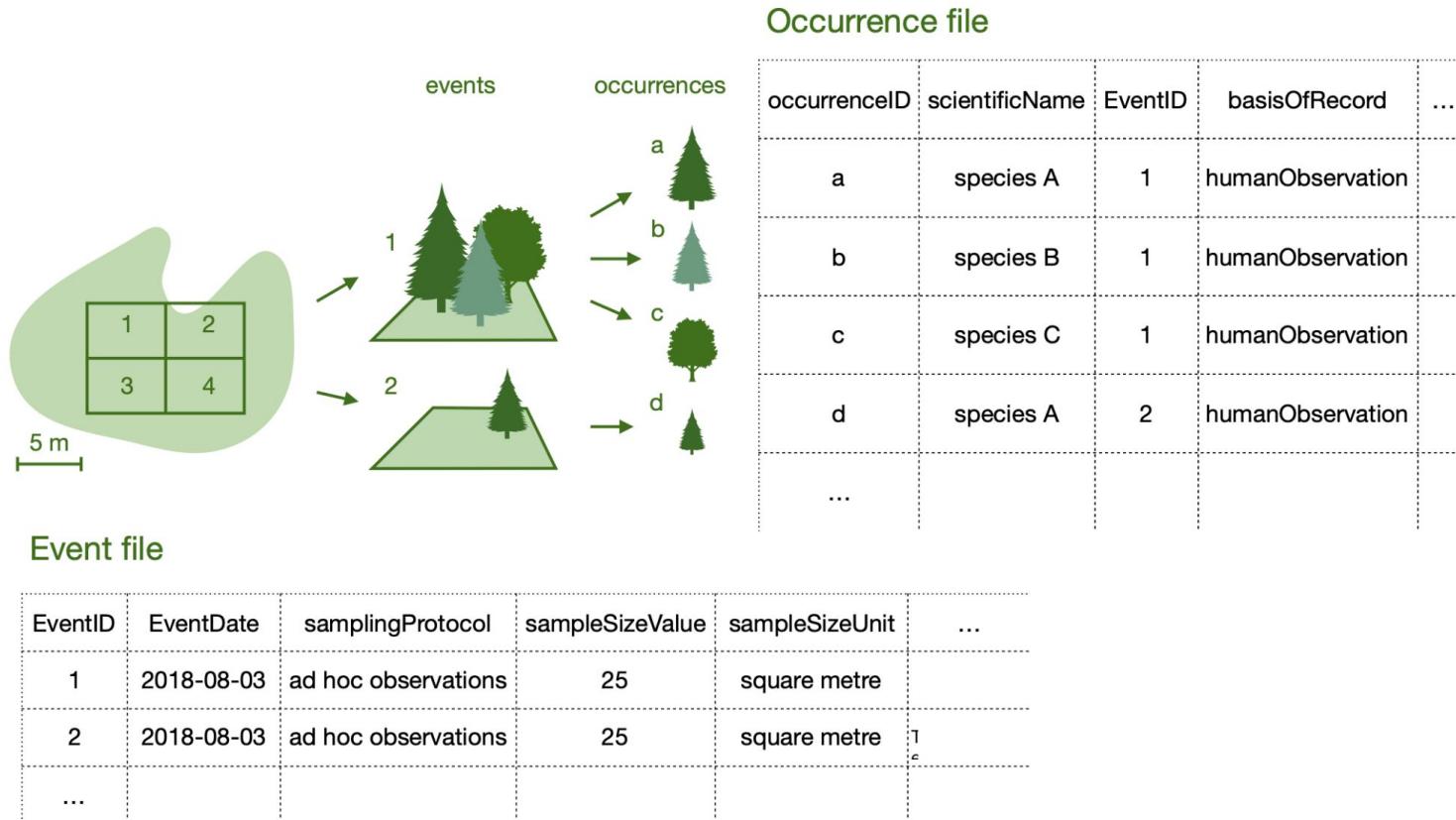
- Scientific names of organisms observed or specimens collected,
 - Sampling date,
 - Observation or sampling location,
 - Sampling protocol.



Подробность и варианты Occurrence dataset

- Присутствие или отсутствие вида
- Число экземпляров вида в данной точке
- Если есть характеристики каждого экземпляра, которые отличают его от другого: онтогенетическое состояние, биомасса и проч., то в качестве находки можно указывать экземпляр
- Перемещение отдельного экземпляра в пространстве - автоматическая фиксация координат через определенные промежутки времени

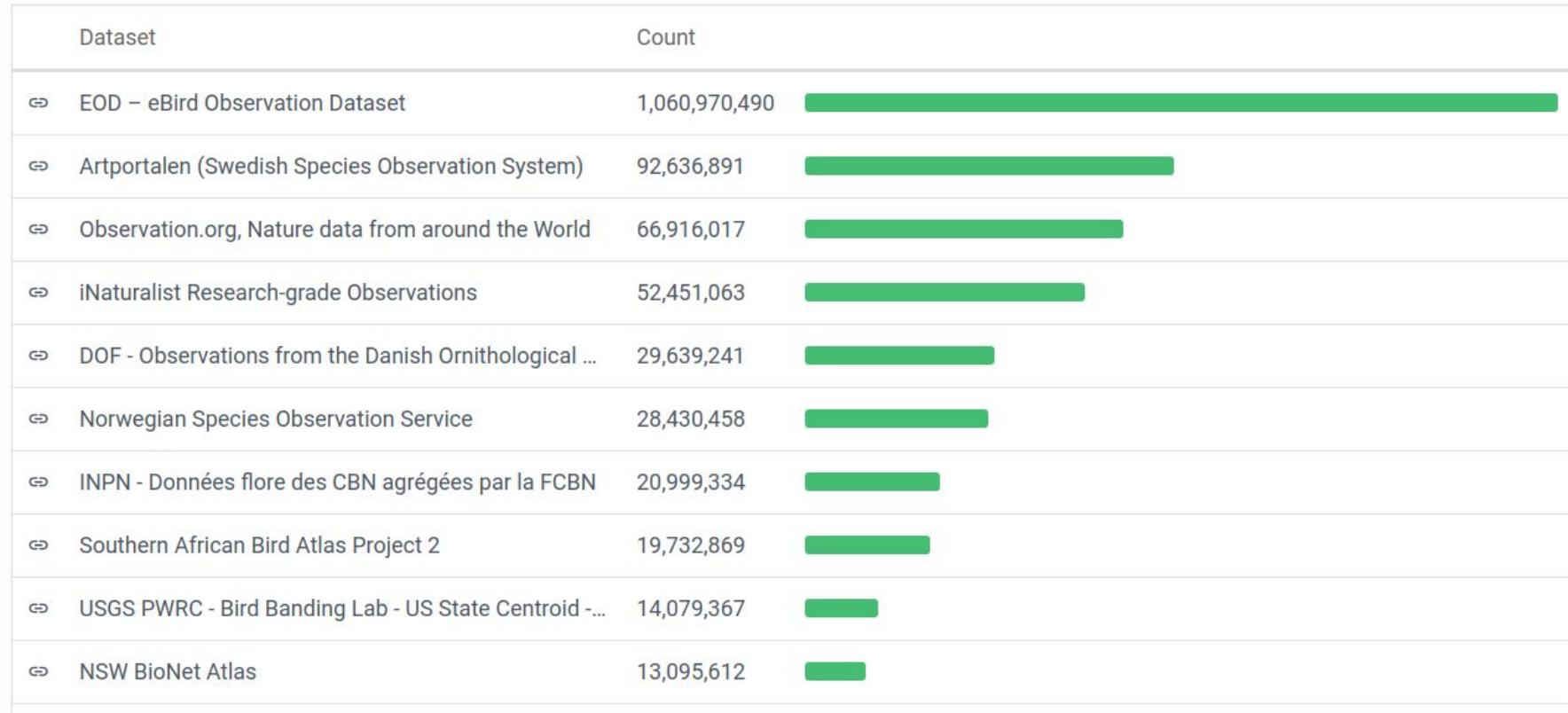
Sampling Event dataset



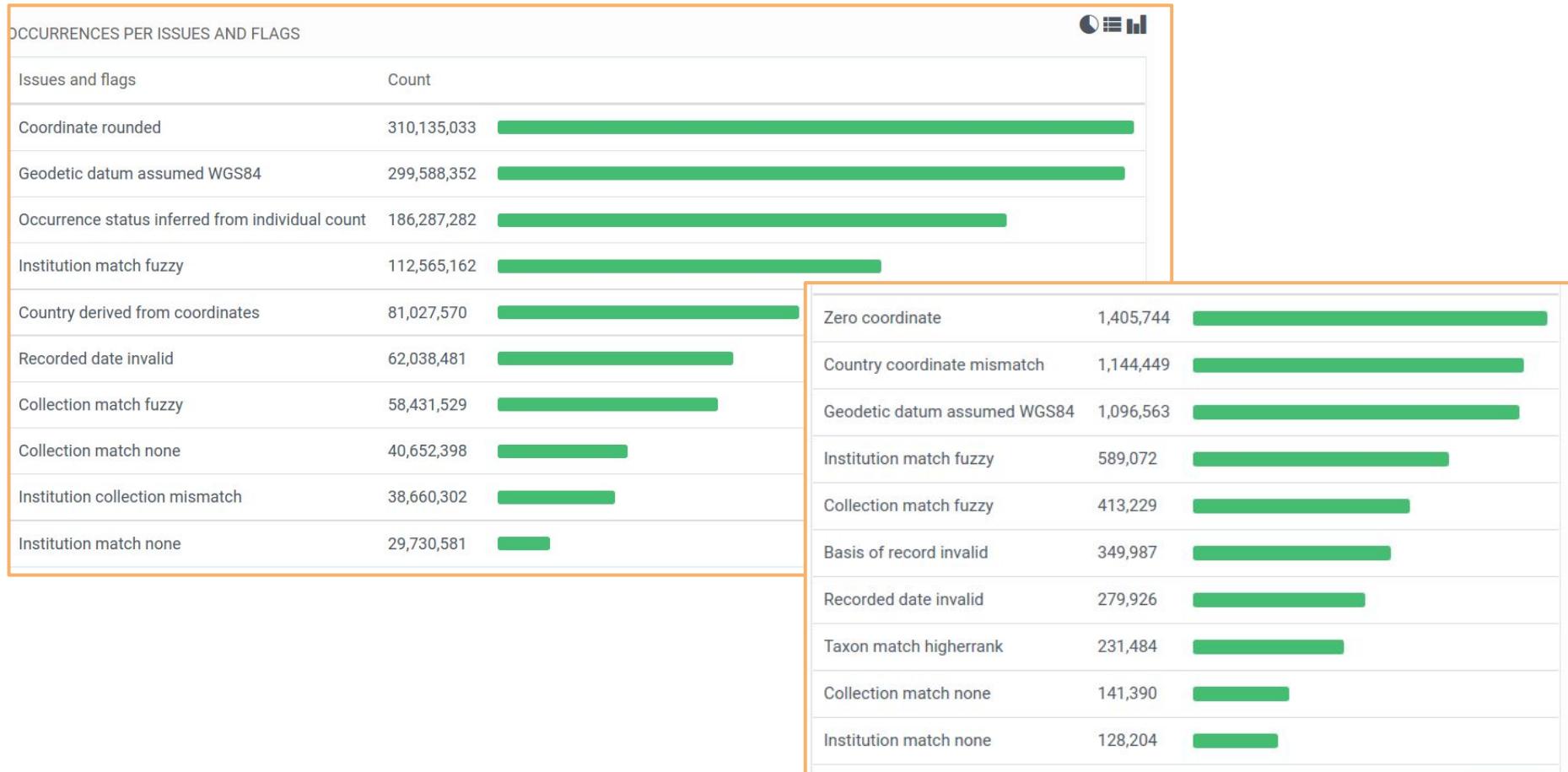
<https://data-blog.gbif.org/post/choose-dataset-type>

Источники данных

OCCURRENCES PER DATASET



Качество данных - Data Quality



Occurrence-only datasets

Learn more about occurrence-only and other classes of datasets currently supported.

Качество данных - Data Quality

Darwin Core record details

Term	Status
occurrenceID	Required
basisOfRecord	Required
scientificName	Required
eventDate	Required
countryCode	Required

taxonRank	Strongly recommended
kingdom	Strongly recommended
decimalLatitude & decimalLongitude	Strongly recommended
geodeticDatum	Strongly recommended
coordinateUncertaintyInMeters	Strongly recommended
individualCount, organismQuantity & organismQuantityType	Strongly recommended

informationWithheld	Share if available
dataGeneralizations	Share if available
eventTime	Share if available
country	Share if available

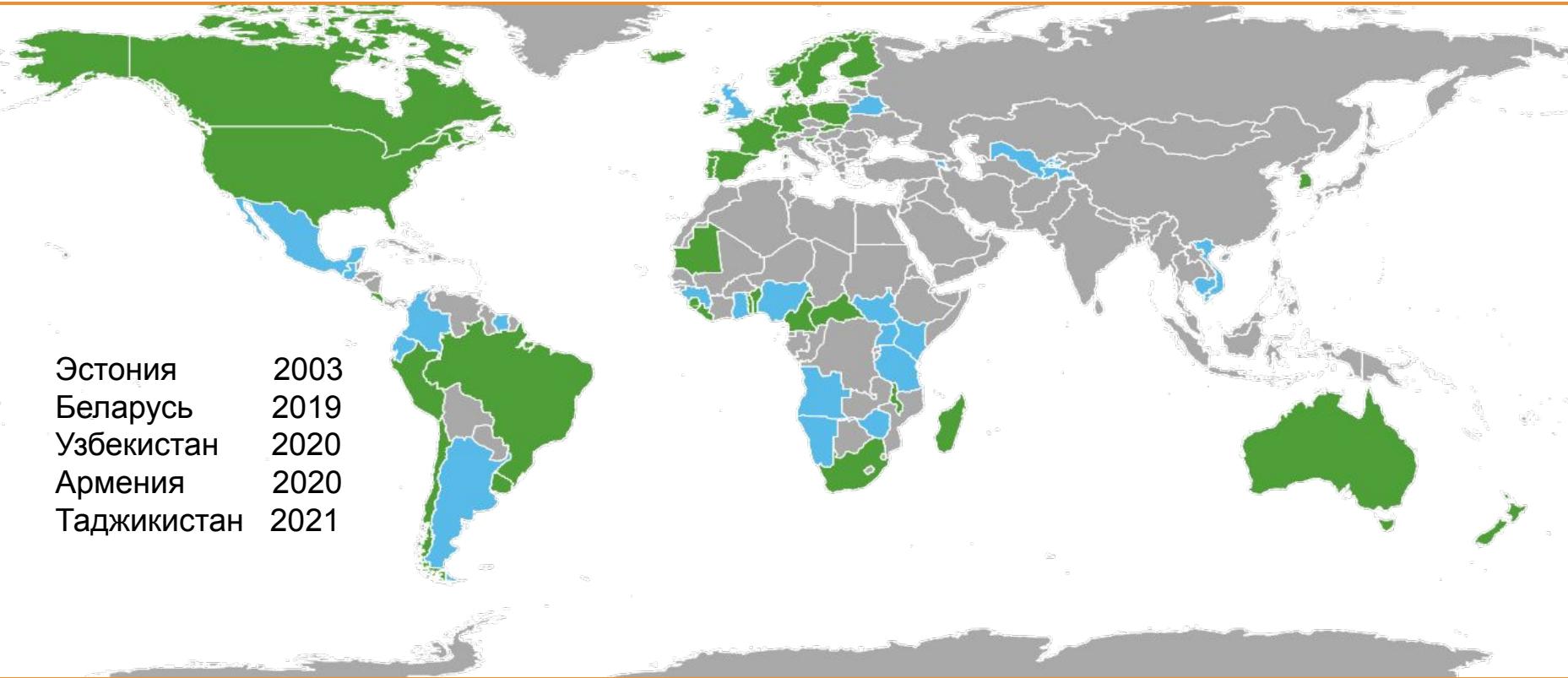


Checklist datasets

taxonID	Required
scientificName	Required
taxonRank	Required
kingdom	Strongly recommended
parentNameUsageID	Strongly recommended
acceptedNameUsageID	Strongly recommended
vernacularName	Share if available

<https://www.gbif.org/data-quality-requirements>

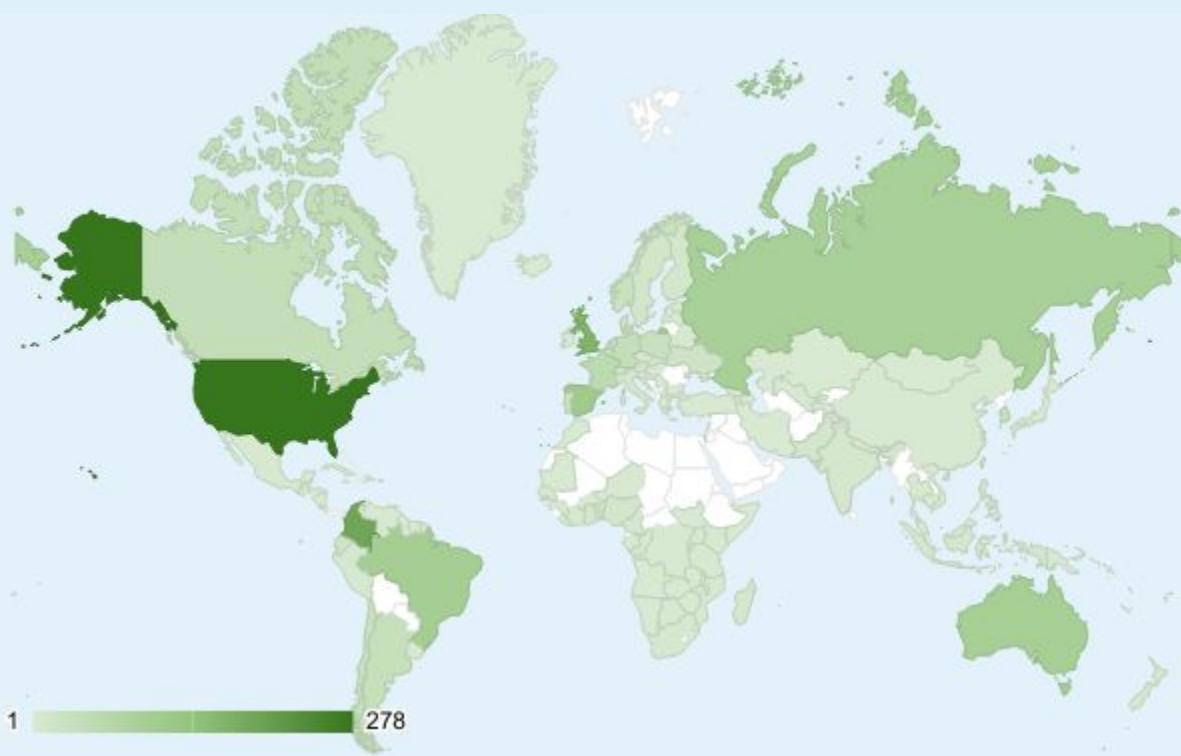
GBIF - не только портал



Эстония 2003
Беларусь 2019
Узбекистан 2020
Армения 2020
Таджикистан 2021

GBIF NETWORK OF DATA PUBLISHING INSTITUTIONS

31 December 2022



134

countries/territories
with institutions
sharing data
through GBIF

Top 10 countries: number of data publishers

1	United States	278
2	Colombia	192
3	United Kingdom	164
4	Spain	114
5	Brazil	102
6	Australia	99
7	Russian Federation	95
8	France	56
9	Canada	44
10	Netherlands	40

Новости портала GBIF

Вебинары

Учебные курсы

Конкурсы поддержки
проектов

Премии для молодых
учёных

[Webinar | Data papers:
Bringing more data to light](#)

30 марта



News

GBIF Secretariat seeks contractor to cross-link data on malaria vectors



News

Call for data papers to fill gaps on freshwater species



News

Liam Lysaght elected as new chair of GBIF Governing Board



Diversifying the data model

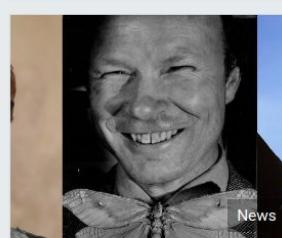
Exploring camera-trap data

Webinar Event



News

Second call for data papers describing datasets on vectors of human diseases



News

GridDER and bdc share top honors in 2022 GBIF Ebbe Nielsen Challenge



Christopher Schiller wins 2022 GBIF Young Researchers Award

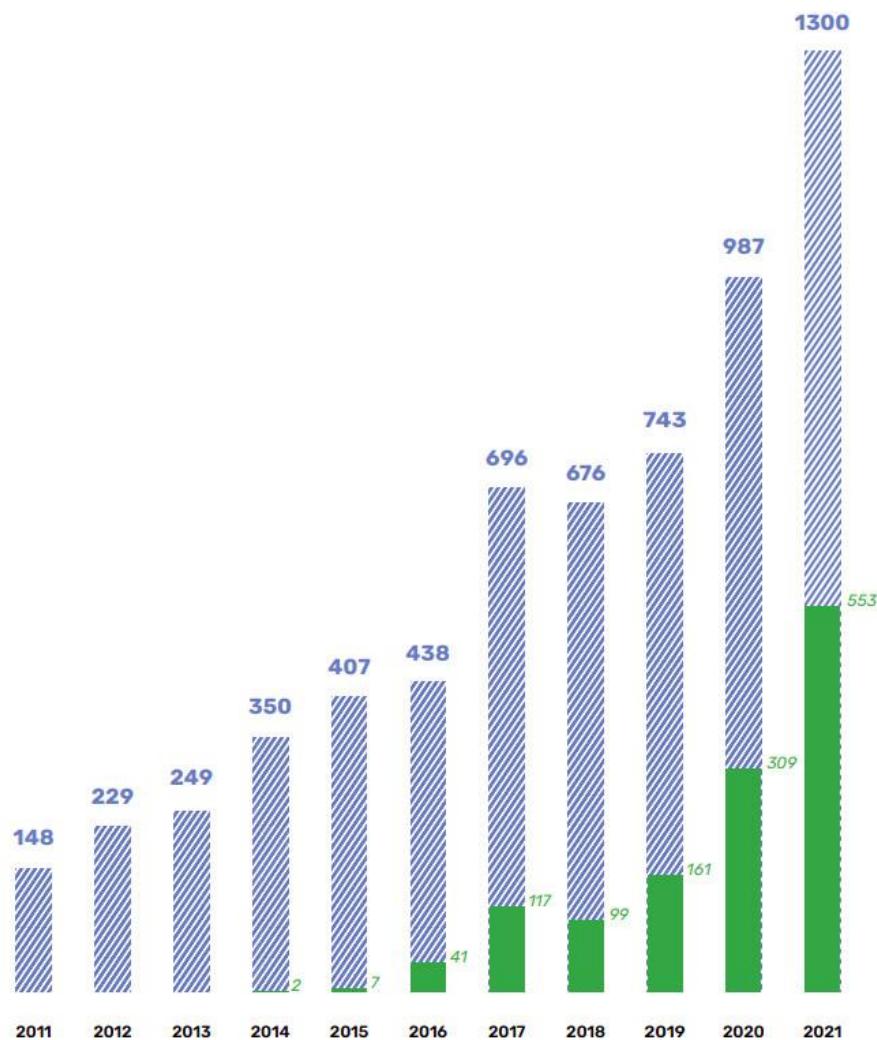
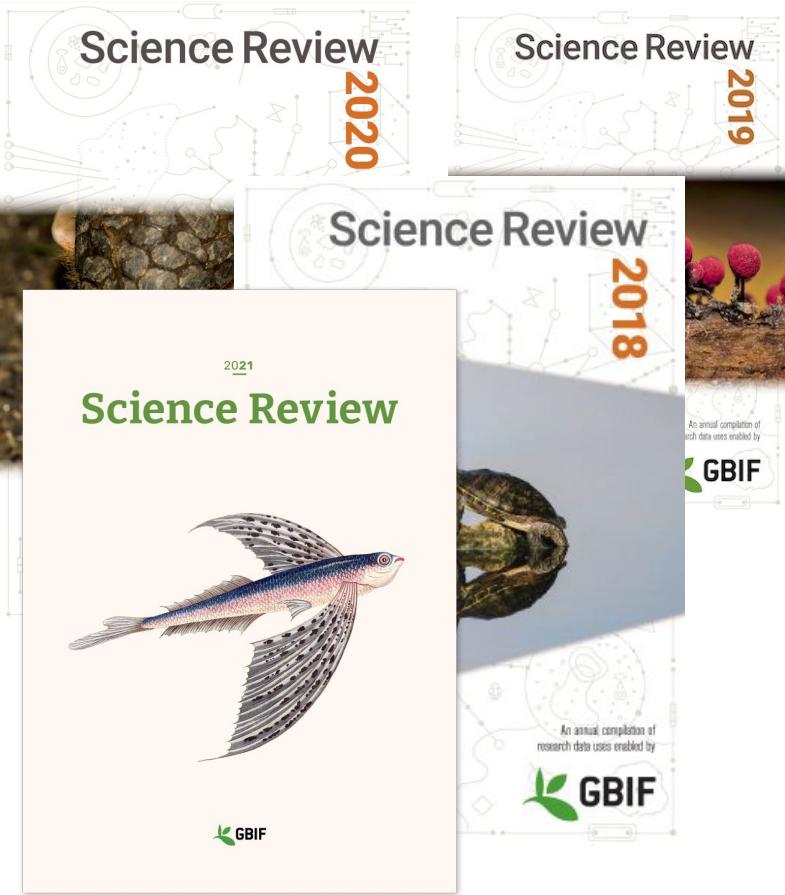


Armand Rausell-Moreno wins 2022 GBIF Young Researchers Award

[Exploring camera-trap data](#)

9 November 2022
15:00 - 17:00 CET

GBIF Scientific Review



Исследования с использованием данных GBIF о Казахстане или (и) выполненные авторами из Казахстана

Biodiversity and Conservation (2021) 30:1705–1730
<https://doi.org/10.1007/s10531-021-02165-z>

ORIGINAL PAPER



Central Asian wild tulip conservation requires a regional approach, especially in the face of climate change

Brett Wilson¹ · Aibek Dolotbakov² · Benjamin J. Burgess³ · Colin Clubbe⁴  · Georgy Lazkov² · Kairyl Shalpykov²  · Myskalai Ganybaeva² · Ormon Sultangaziev² · Samuel F. Brookington¹

Received: 16 November 2020 / Revised: 2 March 2021 / Accepted: 9 March 2021 / Published online: 27 March 2021
© The Author(s) 2021

УДК 597.8: 591.9 (574)

Труды Зоологического института РАН
Том 326, № 3, 2022, с. 211–238
[10.31610/trudzgin/2022.326.3.211](https://doi.org/10.31610/trudzgin/2022.326.3.211)



Ареал озёрных лягушек (комплекс *Pelophylax ridibundus*, Amphibia, Ranidae) в Казахстане: прогрессивное расселение или циклические колебания?

А.Г. Каптёнкина¹, Т.Н. Дүйсебаева^{1*}, К.М. Ахмеденов², В.А. Хромов³, В.Н. Крайнюк⁴, Ф. Саржанов⁵, С.В. Стариков⁶, Н.Е. Тарасовская⁷, А.Ю. Тимошенко⁸ и С.В. Титов^{1,9}

¹ Институт зоологии Министерства образования и науки РК, пр. аль-Фараби 93, 050060 Алматы, Казахстан; e-mail: alyonakaptynkina@gmail.com; tatjana.dujesbayeva@zool.kz, dujebayeva@mail.ru

² Западно-Казахстанский университет им. М. Утемисова, просп. Назарбаева 162, 090000 Уральск, Казахстан; e-mail: kazhmutra78@mail.ru

³ Университет им. Шакарима г. Семей, Казахстан, 071412, Семей, ул. Глинки, 20A; e-mail: khrumov-victor1955@yandex.kz

⁴ Северный филиал Научно-производственного центра рыбного хозяйства, ул. Кенесары, 43, 010000 Нур-Султан, Казахстан; e-mail: karagan-d@mail.ru

⁵ Международный Казахско-Турецкий университет им. Ходжа Ахмеда Ясави, ул. Б. Саттарханова, 161200 Туркестан, Казахстан; e-mail: fakhreddin.sarjanov@gmail.com

⁶ Восточно-Казахстанский областной историко-краеведческий музей, ул. К. Кацисенова 40, 070004 Усть-Каменогорск, Казахстан; e-mail: starikov60@mail.ru

⁷ Павлодарский педагогический институт им. Мира 60, 140000 Павлодар, Казахстан;



Article

Predictions Based on Different Climate Change Scenarios: The Habitat of Typical Locust Species Is Shrinking in Kazakhstan and Xinjiang, China

Rui Wu¹, Jing-Yun Guan^{1,2} , Jian-Guo Wu³, Xi-Feng Ju¹, Qing-Hui An¹ and Jiang-Hua Zheng^{1,*}

¹ Key Laboratory of Oasis Ecology of Xinjiang, Institute of Arid Ecology and Environment, College of Geography and Remote Sensing Science, Xinjiang University, Urumqi 830046, China

² College of Tourism, Xinjiang University of Finance and Economics, Urumqi 830012, China

³ Locust and Rodent Control Headquarters of Xinjiang Uygur Autonomous Region, Urumqi 830001, China

* Correspondence: zheng.jianghua@xju.edu.cn

Keywords *Tulipa* · Wild tulips · Climate change · Species distribution · MaxEnt · Central Asia



Original Paper | Published: 21 October 2022

Predicting the changes in suitable habitats for six common woody species in Central Asia

Zexing Tao 

[International Journal of Biometeorology](#) (2022) | [Cite this article](#)

70 Accesses | 1 Altmetric | [Metrics](#)

Журналы (первые 10)

PLOS ONE	3.752	Q1	Global Ecology and Biogeography	6.909	Q1
Journal of Biogeography	4.810	Q1	Biological Conservation	7.497	Q1
Ecology and Evolution	3.17	Q1	Biological Invasions	3.906	Q1
Scientific Reports	4.996	Q1	Global Ecology and Conservation	3.969	Q1
Diversity and Distributions	5.717	Q1	Biodiversity and Conservation	4.416	Q1

Новости о вышедших статьях на портале GBIF

Get data How-to Tools Community About

SEARCH RESOURCES | 462 RESULTS

ALL NEWS DATA USE EVENTS PROJECTS PROGRAMMES TOOLS DOCUMENTS LITERATURE

RSS

Spice cargo reveals historical trade patterns and shipping routes

Archaeobotanical study of organic material from a fifteenth century Indonesian shipwreck elucidates pre-European maritime spice trade in Asia ... Star anise (*Illicium verum*) is a spice widely used in ...

Published November 11, 2022

Gaps in North American butterfly inventory knowledge

Study assessing inventory completeness of butterflies in Canada, the US and Mexico reveals narrowing data gaps, but increasing bias ... Gaps in openly-accessible biodiversity data limit attempts to add...

Published October 28, 2022

Predicting hotspots for invasive species introduction in Europe

Study uses machine-learning approach to produce risk hotspot maps for pest introductions with high predictive accuracy ... Invasive plant pests have a massive social impact in Europe, costing billions ...

Published October 27, 2022

Automated species identification using 19th-century zoological illustrations

Study explores large-scale zero-shot learning for automated classification of scientific illustrations to reduce time needed for digitization ... Scientific illustrations have historically served as pe...

Published October 27, 2022

Urban greenery facing climate risks

Search

Country or area of researcher

Country or area of coverage

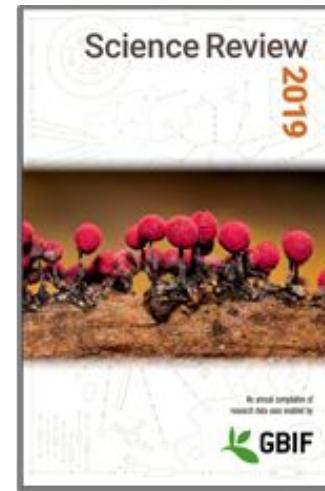
Topic

Search for news, events, documents and much more. If you are looking for species occurrences then try our occurrence search.

OCCURRENCE SEARCH

<https://www.gbif.org/resource/search?contentType=dataUse>

GBIF Science Review: ежегодный отчет о самых интересных исследованиях, выполненных с использованием GBIF-данных



Назарларыңызға раҳмет!

