

## Think bigger, GBIF prize winner urges biologists

A scientist from Portugal designing large-scale experiments to uncover the processes behind patterns of species distribution is the 2013 winner of the prestigious Ebbe Nielsen Prize, awarded annually by GBIF.

Miguel Bastos Araújo will use the €30,000 prize towards developing an 'Ecotron' experimental facility to test predictions for how environmental change will affect the combination of species found in different locations – helping to inform conservation decisions.



Araújo is a research scientist at the Spanish Research Council's National Museum of Natural Sciences, and visiting professor at the University of Évora, Portugal, and the University of Copenhagen, Denmark.

Making the selection from the nominees forwarded by GBIF national Participants, the GBIF Science Committee recognized Araújo's groundbreaking research in deploying biodiversity informatics to model and

forecast environmental phenomena, specifically the effects of different climate change scenarios on regional and global biodiversity patterns.

In comments published on the GBIF website, Araújo urged biologists to 'think bigger' and collaborate on large-scale projects to answer critical questions relating to life on Earth.

[Read more...](#)

[Hear an audio interview with Miguel Araújo...](#)

The Science Committee also announced the winners of the 2013 GBIF Young Researchers Award. For details, see p 2.

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## SCIENCE AND POLICY

### Young Researchers Award winners announced

The GBIF Science Committee has announced the two winners of the €4,000 Young Researchers Award, which fosters innovative research and discovery by graduate students at universities in countries participating in the GBIF network.

Emma Gomez-Ruiz, a Mexican PhD student currently based at Texas A&M University in the United States, plans to map the 'nectar corridor', the migratory path of the endangered Mexican long-nosed bat (*Leptonycteris nivalis*), using models derived from GBIF-mediated data. The nectar-feeding bats follow agave blooms during their annual migration from central Mexico to the southern United States, and are important pollinators for several plant species. Gomez-Ruiz aims to improve understanding of the corridor including the effects of climate change, to support conservation of the species.



Nathan Ranc, a French master's student at Stockholm University in Sweden, will assess biases in GBIF-mediated data by comparing records for 269 mammal species in the Mediterranean region, available through the GBIF network, with a database that he plans to draw up independently. Ranc's project, in association with La Sapienza University of Rome, Italy, will help design data mobilization strategies by identifying species and areas for which there is little available data.



### GBits Science Supplement

As usual, the GBits Science Supplement is also published alongside this newsletter. Among the research highlighted in the current issue is a high-profile study in Nature Climate Change using GBIF-mediated biodiversity records to forecast major reductions in the geographic ranges of thousands of common plant and animal species due to climate change. The study received worldwide media coverage, and was featured in a news release on the GBIF website.

Also featured in the current Science Supplement are studies on the 'dirty dozen' high-risk aquatic invasive species in the United Kingdom; on the effectiveness of protected areas in Brazil's seasonally-dry forests; and on the importance of conserving rare species to protect critical functions of ecosystems.

[Download GBits Science Supplement...](#)

## GBIF PARTICIPATION

### Israel joins GBIF

The state of Israel has become the latest Participant in GBIF.

The director of the Israel Nature and Parks Authority (INPA), Shaul Goldstein, signed the GBIF Memorandum of Understanding (MoU) which sets out steps to promote and facilitate free and open access to biodiversity data to support research and policy.

Commenting on the announcement, the chief scientist at INPA, Yehoshua Shkedy said: "This step represents Israel's commitment to global efforts in biodiversity conservation and management. The rich scientific activity on biodiversity in Israel including museum collections and ecological research make the formal association of Israel to GBIF a real contribution to enhancing the availability and usage of biodiversity data, and to international collaboration on nature conservation and research."

Israel has already made progress in coordinating biodiversity data, with the development of [BioGIS](#), [the Israel Biodiversity Website](#), a joint project integrating biodiversity data from different institutes. The site provides advanced tools for querying, analysing, modelling and visualizing patterns of species distributions.

Initially, Israel joins GBIF as an Associate Participant, with the option of moving within five years to Voting Participant status.

[Read more...](#)



In another change to GBIF participation, Andorra has moved from Associate Participant status to that of Voting Participant.

## INFORMATICS

### IPT v2.0.5 released

A new version of the GBIF Integrated Publishing Toolkit (IPT) is now available for use. Enhancements include a version in Portuguese, the ability to configure datasets for automatic publishing, easier customizations and a number of bug fixes.

[For details, read our developers' blog post...](#)

The IPT was translated into Portuguese thanks to the efforts of volunteers at the [Research Center on Biodiversity and Computing](#), Universidade de São Paulo, Brazil.

## AROUND THE NETWORK

### US launches new biodiversity data system

The US Geological Survey (USGS), which hosts the GBIF node for the United States, has launched a new web portal offering access to more than 100 million records of nearly every species occurring in the country.

Much of the data included in the [Biodiversity Information Serving Our Nation \(BISON\) portal](#) and associated web services comes from institutions publishing datasets through the GBIF global network.

The website includes interactive maps that enable users to visualize species occurrence records alongside more than 50 additional map layers of environmental information.

### New web portal maps ant species in Belgium

The [Belgian Biodiversity Platform](#), host of the GBIF national node, has launched a new digital atlas to help visualize the distribution of ant species in Belgium.

[The portal](#) provides access to the 'Formidabel' database including over 27,000 records of 76 native and nine introduced ant species in the country. Data come from field research, museum collections and literature. The oldest occurrence record goes back to May 1866, and the most recent is from August 2012.

Formidabel (FORMIcidaeDAtabaseBELgium) is the result of a collaboration between the Belgian Biodiversity Platform and two working groups on Flemish and Wallonian ants.

The [data from the atlas](#) have been published to GBIF, and are described in a [data paper published in Zookeys](#) journal.

### First Spanish data paper published

A [peer-reviewed data paper describing the collection of Odonata](#) – dragonflies and damselflies - at the University of Oviedo, Spain, has been published in the journal ZooKeys.

The manuscript was generated as part of a workshop on publishing data papers, organized by GBIF Spain in Madrid in March. The event gathered 21 participants from institutes publishing data through GBIF, and more data papers produced during the workshop are under preparation or review.

The workshop was among [three co-ordinated projects](#) supported by GBIF core funds to stimulate authoring of detailed dataset descriptions (metadata) and publishing them as data papers in academic journals.

[More information on the workshop...](#)

### Bioblitzes mark World Biodiversity Day

A number of GBIF national node organizations organized bioblitzes to mark the 2013 International Day for Biological Diversity on 22 May, adopted by the United Nations General Assembly in 2000 to increase understanding and awareness of biodiversity issues.

In a bioblitz, members of the public join volunteer scientists in designated locations to record species over a given period, usually 24 hours. The records can then be made available online including through the GBIF network.

**In Ireland:** more than 260 people gathered on 25 May for the annual bioblitz organized by the National Biodiversity Data Centre. It involves a friendly competition between four locations, in the Irish Republic and in Northern Ireland, each seeking a prize for the greatest number of recorded species. Colebrooke Estate, a private estate in County Fermanagh, Northern Ireland, emerged as the winner with recorders tallying 1,086 species over the 24-hour period. Part of the bioblitz was broadcast live on the national television channel RTÉ One. [More on Ireland's 2013 bioblitz...](#)

**In Costa Rica:** citizen scientists counted 236 species during a bioblitz on 26-27 May at INBioparque, an ecological park near the capital San Jose, owned by the host of GBIF's national node INBio. The bioblitz recorded species from 17 insect families not previously encountered in the park, including: seven new families of *Coleoptera* (beetles), four new families of *Diptera* (flies and mosquitos), three new

families of bedbugs, and one new family each of *Lepidoptera* (butterflies), *Neuroptera* (ant lions) and dragonflies.

**In Denmark:** the Danish Biodiversity Information Facility (DanBIF) joined forces with the University of Copenhagen's Natural History Museum to organize a [bioblitz on 17 May in Østre Anlæg](#), a public park in the capital Copenhagen. The event involved around 200 schoolchildren and 28 experts in various taxonomic groups. The tally at the end of the day was 357 species.

### New portal on biodiversity of the Albertine Rift

The Albertine Rift Biodiversity Monitoring and Information System (ARBMISS) has launched a [new portal](#) giving information about the unique biodiversity of this region of eastern Africa. The Albertine Rift Conservation Society (ARCOS), a GBIF Associate Participant, has collaborated with other partners in the region to develop the portal, which is funded by the [JRS Biodiversity Foundation](#).

The Albertine Rift, part of a mountain biodiversity hotspot, falls across portions of Rwanda, Burundi, Uganda, Tanzania and the Democratic Republic of Congo. The mountains in the area are volcanic in origin, and include the Virunga National Park, home to mountain gorillas.

[Read more...](#)

### OpenUp! reaches one million mark

The European Union project [OpenUp!](#), which has been running for two years, has now made over a [million multimedia objects](#) available through the European digital library Europeana. The objects

include high quality photos, videos, audio recordings, and natural history artworks.

The project has also published over 300 documents such as handbooks, videos and slide presentations related to the project, as well as other [publications of interest](#) to the biodiversity information and digital library domains.

OpenUp! is one of a number of EU-funded projects in which GBIF nodes collaborate. The Botanic Garden and Botanical Museum Berlin-Dahlem (BGBM), which coordinates the GBIF nodes in Germany, leads the project.

News updates and content highlights are available through the [Open-Up blog](#).

## REGIONAL COLLABORATION

### African nodes identify priorities for data mobilization and research

The GBIF Participant nodes in Africa have identified invasive alien species, endemics, marine data, genetically-modified organisms (GMOs) and medicinal plants as key themes to guide data mobilization and research in the region.

Twelve GBIF national nodes and international organizations from Africa discussed these priorities at a regional meeting held in Pretoria in April. Participants from Angola and Namibia, not yet members of GBIF, took part in the meeting as strategic partners.

The African nodes also established a task team to identify a regional project on invasive alien species

### GBIF 2012 Annual Report and Science Review

GBIF is pleased to announce publication of the 2012 Annual Report. For the first time, this is accompanied by a new annual Science Review, documenting more than 230 peer-reviewed research studies making use of GBIF-mediated data in 2012. Both publications can be accessed online and printed copies are available on request.

[Download 2012 Annual Report...](#)

[Download 2012 Science Review...](#)





to demonstrate the data-science interface. The [South African National Biodiversity Institute](#), which hosts the GBIF national node, will appoint a regional coordinator, funded through the [JRS Biodiversity Foundation](#), to develop a Biodiversity Data Assessment and Action Plan for southern Africa and current GBIF nodes.

## Strengthening capacity in Latin America

The hosts of GBIF nodes in Spain, Costa Rica and Mexico co-organized a workshop in April to strengthen regional capacity in Latin America to use data and information technologies for biodiversity conservation.

The five-day training event brought together 31 participants from nine countries – Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Nicaragua, Venezuela and Spain, at La Selva Biological Station in Puerto Viejo de Sarapiquí, Costa Rica.

The event was funded by the [Ibero-American Programme for Science, Technology and Development](#) (CYTED), an Associate Participant of GBIF. It was the second in a series of regional workshops under the [Iberoamerican Infrastructure for Biodiversity Information](#) (I3B) project, with further events planned for Mexico in 2014 and Brazil in 2015.

[More information on the workshop...](#)

## Workshop surveys species list status in East Asia

Participants including GBIF node managers from Japan, Korea and Chinese Taipei identified gaps in digitized lists of threatened species (Red List), invasive alien species and checklists from the East and Southeast Asia region, at a workshop held in Japan in March. Standardizing data content and options for publishing data from the region to GBIF were also explored.

The event was organized as part of a collaborative initiative among Asian nodes on mobilizing checklist data, and was held at the National Museum of Nature and Science in Ibaraki, Japan, which hosts the national GBIF node.

## NEW DATA

### Canada

The [Royal Ontario Museum](#), based in Toronto, Canada has published nearly a third of a million records of birds (<http://data.gbif.org/datasets/resource/14791>, <http://data.gbif.org/datasets/resource/14794>),

[amphibians and reptiles](#), and [mammals](#) from its collections. The museum hosts important historical collections including that of ornithologist James Henry Fleming, which was once considered the most comprehensive private collection of birds in North America. Skins of extinct bird species, including New Zealand Huia, Labrador Duck, Great Auk, Carolina Parakeet and 132 passenger pigeon specimens are part of the museum's holdings. The museum also holds skins of the highly endangered Hawaiian Honeycreepers and Darwin's finches.

### United States

Two new publishers – the [Georgia Southern University](#) and the [Perot Museum of Nature and Science](#) in Dallas, Texas – have shared records through GBIF.

[Data published](#) by the Georgia Southern University are from the herpetology collection of the Savannah Science Museum. The collection's 35,000 specimens contain representations of 95 per cent of the reptiles and amphibians of Georgia.

The Perot Museum, begun by the Dallas Museum of Natural History in the 1930s, published [data records from the southern United States](#) ranging from paleontological specimens to recent zoological records.

Both datasets are [hosted by VertNet](#), a project funded by the National Science Foundation in the United States to mobilize data from vertebrate collections.

### Colombia

Data on [plants](#), [birds](#) and [ants](#) from Colombia's coffee-growing landscapes are among some 90,000 new records published from the country. The [National Federation of Coffee Growers of Colombia](#) published the survey records as part of a project to incorporate biodiversity into areas used for coffee production.

Other new datasets from Colombia include [plants surveyed from a wetland restoration project](#) involving local fishing communities in the Magdalena River basin and [specimens from the Colombian Amazon herbarium](#), located at the Amazon Institute of Scientific Research (SINCHI).

### Venezuela

Data covering nearly 1,000 insect species from South and Central America, from a collection held in Caracas, Venezuela, are now accessible through the GBIF portal. Venezuela is not currently a member of GBIF, but the [Universidad Central de Venezuela](#) published the [27,500 insect records](#) from the [Museo del Instituto de Zoología Agrícola](#) (MIZA) through endorsement from the Inter-American Biodiversity Information Network (IABIN), a GBIF Associate Participant.

## Nicaragua

The [Entomological Museum of León](#), a private collection based in Nicaragua, has published [126,500 records of insects](#) from Central America and around the world. Nicaragua is not currently a member of GBIF and the publisher was endorsed by the [Ibero-American Programme for Science, Technology and Development](#) (CYTED), another GBIF Associate Participant.

## Germany

More than half a million records of fossil marine plankton species from around the world are published by the [Museum für Naturkunde Berlin](#). The [records](#) are from the Neptune Deep-Sea Microfossil Database, which brings together records from sediment cores collected over several decades in three major ocean drilling programmes.

Another fossil dataset is published by the [Freie Universität Berlin](#) which has shared over [6,000 records](#) from its paleontological collection used for teaching and independent study.

An [atlas of robber flies](#) (*Asilidae*) in Germany is published as a [new dataset](#) by the Senckenberg museum in Frankfurt. The dataset, consisting of nearly 15,000 records, includes data on all of the 81 species in the family with confirmed records in Germany.

## Austria

The [Tiroler Landesmuseum Ferdinandeum](#), located in Innsbruck, Austria, has published nearly [100,000 records](#) of moths and butterflies from parts of Austria, Germany, Italy and Slovenia.

## France

The [National Museum of Natural History](#), which hosts the GBIF node in the country, has published [54,300 records](#) from a survey of freshwater fish in France. The aim of the project was to collect distribution data and revise an atlas of freshwater fish in the country.

## Netherlands

Plant data covering four decades of research in the alpine tundra landscapes in the Andes have been published by the [Institute for Biodiversity and Ecosystem Dynamics](#) (IBED) at the University of Amsterdam. The institute has shared [15 datasets](#) including nearly 45,000 records from the Páramo

ecosystems, located mainly in Venezuela, Colombia, Peru and Ecuador, where its researchers have been working since 1970.

Other new records published from the Netherlands include a dataset published by the [Natural History of Rotterdam](#) of over [135,000 observations of moths](#) in the country, covering over 400 species, gathered in 1964.

## Spain

GBIF Spain has published 283,000 records contained in 10 datasets. One of the datasets is from the [Spanish Institute of Oceanography](#) with records for fish species captured between 100 and 2000 metres depth off the Mauritanian coast. Records of more than 150 species from 71 families are captured in the dataset.

Other records published by GBIF Spain include plant data from five herbaria, [records of crustaceans](#), and [data from the palaeontological collection](#) of the [Museum of Natural History in Barcelona](#).

## Japan

The [National Institute of Genetics](#) has published [32,600 records of beetles](#) from the database of ground beetles of Japan.

## Republic of Korea

Nearly one million new records have been published from the Republic of Korea. They include a dataset of [green algae records](#) from the Korean Biological Resources Centre and three datasets from the Korea Forest Service including [birds](#), [plants](#), and nearly [360,000 records](#) from South Korea's largest insect specimen database.

## GBIF APPLICATIONS

### Upgraded Map of Life now uses all GBIF-mediated records

The [Map of Life](#) has upgraded its portal to include all georeferenced records served through GBIF. The project developed in the United States to build up a global knowledge base on the distribution of species, previously used only vertebrate records.

[Read more about the upgrade...](#)



## GBIF IN THE NEWS

GBIF was featured on the Science in Action programme on BBC World Service Radio in May.  
[Listen to it...](#)

A special feature in the Financial Times included a report on Colombia's biodiversity, with information from SiB Colombia, the GBIF national node.  
[Read the report here...](#)

The [web portal on biodiversity in the transboundary Greater Region](#) – situated between the Rhine, Moselle, Saar and Meuse rivers – was presented at a press conference held on 23 May in Trier, Germany. The portal provides information about the distribution of more than 300 animal and plant species in the area.

For more information on the portal, please contact André Heughebaert, GBIF Belgium at [a.heughebaert@biodiversity.be](mailto:a.heughebaert@biodiversity.be).

## UPCOMING EVENTS

### Meetings and workshops

Webinar: Digitization through DNA barcoding and informatics  
*10-11 July 2013, online*  
Associated with the 12th Pacific Science Inter-Congress, Suva, Fiji  
[More information...](#)

### Training events

Workshop on the promotion of metadata use and data paper publication by GBIF India  
*19-21 June 2013, Pune, India*  
[More information...](#)

VertNet Biodiversity Informatics Training Workshop II  
*24-28 June 2013, Boulder, USA*  
[More information...](#)

Summer Course Modelling and Mapping Species Distributions  
*1-4 July 2013, Amsterdam, Netherlands*  
[More information...](#)

Building Biodiversity Informatics Institutions Course  
*23-26 July 2013, Cape Town, South Africa*  
[More information...](#)

Biodiversity Informatics Data Analysis Training Course  
*29 July - 2 August 2013, Cape Town, South Africa*  
[More information...](#)

*VISION OF GBIF: A world in which biodiversity information is freely and universally available for science, society, and a sustainable future.*

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