



AN ONLINE RESOURCE FOR THE FLORA OF THE WESTERN INDIAN OCEAN REGION

Benny Bytebier

Andilyat Mohamed, Chantal Andrianarivo, Cláudia Baider, Peris Kamau, Itambo Malombe, Charles Morel, Mijoro Rakotoarinivo, Solo Hery Jean Victor Rapanarivo, Harizoly Razafimandimby, Thierry Paillet & Denis Filer

MADAGASCAR AND THE INDIAN OCEAN ISLANDS BIODIVERSITY HOTSPOT



CONSTRAINTS

- Incomplete botanical knowledge
- Limited local capacity to document
- Limited local capacity to disseminate
- Limited regional networking



SEYCHELLES

- Baker (1877) – Flora of Mauritius and the Seychelles
- Summerhayes (1931) – Enumeration of the Angiosperms
- Robertson (1989) – Flowering Plants of Seychelles
- Friedmann (1994, 2011) – Flores des Seychelles – Dicotylédones
- Robertson 1140 sp; 250 indigenous/endemic
- CEPF: 700 indigenous species
- 19 % endemism
- SEY; founded 1962; 5,000 specimens

MAURITIUS - RODRIGUES

- Bojer
- Baker (1877) – Flora of Mauritius and the Seychelles
- Flore des Mascareignes (1976 – ongoing)
 - Outstanding families: Poaceae, Cyperaceae, Orchidaceae
- Mauritius 700 sp.; Rodrigues 150 sp.
- CEPF: Mauritius/Rodrigues 700 sp.
- Endemism: 40 % Mauritius, 31 % Rodrigues
- MAU; founded 1960 (1821); 25,000 specimens

RÉUNION

- de Cordemoy (1891) - Flore de l'île de la Réunion
- Flore des Mascareignes (1976 – ongoing)
- CEPF: 900 taxa
- 26 % endemism
- REU; founded 1974; 10,000 specimens

COMOROS

- Flore de Madagascar et des Comores (1936 – ?ongoing)
- CEPF: ?2000 species
- Endemism ?9%
- HKM; founded 2010; 5,000 specimens

MADAGASCAR

- Flore de Madagascar et des Comores (1936 – ?ongoing)
- Catalogue of the vascular plants of Madagascar
 - Missouri Botanical Garden
 - eCatalogue
- CEPF: 11,200 species, 90 % endemism
- MBG: 10,613 sp; 84% endemism
- TAN; founded 1950; 250,000 specimens
- TEF; founded 1948; 70,000 specimens
- DBEV; founded 1972; 11,000 specimens
- CNARP; founded 1980; 20,000 specimens

NETWORK OF WIO HERBARIA

- 2015 FEDER Biodiversité Meeting - La Réunion
- Indian Ocean Commission/Commission de l'Océan Indien
- Coastal and Marine Biodiversity Management
- Thematic Centre Biodiversity



Financé par
l'Union européenne

OBJECTIVES

- Logistical and technical support for regional herbaria
- Training of herbarium curators
- Network meetings
- Setting up a Network of Virtual Herbaria/Reseau des Herbiers Virtuels (RHEV)

VIRTUAL HERBARIUM

- Consists of digitised specimen information
- Specimen images
- Freely available online for
 - Browsing
 - Searching
 - Downloading
- Specialised software that allows for flexible, user-friendly searches of the data and posting the data
- BRAHMS (Botanical Research and Herbarium Management System) and BOL (Brahms OnLine)

NETWORK OF VIRTUAL HERBARIA

- Each herbarium will establish its own BRAHMS database
- Each herbarium is in charge of its own data
- Each herbarium has its own searchable BOL website
- All WIO herbarium websites are linked in a common portal
- Queries can be directed towards an individual database or to the combined dataset of all herbaria

First Meeting of WIO Herbarium Curators

Regional BRAHMS Training Workshop

- 7-9 July 2015, Le Tampon
- University of La Réunion



PILOT PROJECT

- Digitisation and imaging of the herbarium specimens of the family Orchidaceae
- Taxonomic dataset (species names, synonymy, distribution) contributed by RBG Kew (R. Govaerts)
- World Checklist of Selected Plant Families filtered for Orchidaceae and Africa
- Setting up a common webportal (hosted by Oxford University)
- Uploading orchid data and images from partners
- <http://herbaria.plants.ox.ac.uk/bol/swioorchids>

Second Meeting of WIO Herbarium Curators

Regional BRAHMS Training Workshop

11-13 May 2017, Nairobi

- East African Herbarium





Welcome to The Mauritius Herbarium Database



Welcome to the Mauritius Herbarium database

The **Mauritius Herbarium** focuses on the plants of the Mascarene Islands (Mauritius, Réunion and Rodrigues) and other territories belonging to Mauritius (Agalega, St Brandon and Chagos). The Mauritius Herbarium was created in 1960 but its origin dates back to the 1830.

This database is being developed using BRAHMS and it is made available for scientific purposes solely. It may not be sold or used for commercial purposes.

Contact:
The Mauritius Herbarium

The Mascarenes



The Mascarenes are composed of the islands of Réunion and Mauritius and Rodrigues. Together with Madagascar, Comoros and the Seychelles, it forms part of the Western Indian Ocean Islands Biodiversity Hotspot. The islands are volcanic in origin, formed between 3 (Réunion) and 8-10 million years ago (Mauritius and Rodrigues). Rodrigues, the smallest of the three islands, is only 109 km² and is very much eroded with the highest peak reaching 398 m (Mt Limon). Mauritius, 1865 km², has large plains surrounded by steep mountains, the remnants of an old caldera reaching no more than 828 m high. Réunion is the largest of the three islands (2512 km²), with a dramatic landscape (max. altitude of 3070 m) and an still with an active volcano (Piton de la Fournaise).

The Mascarenes flora

The angiosperm flora of the region is generally well known. This is partly due to a long tradition of botanical studies particularly of the flora of Mauritius and Réunion which were systematically surveyed in the late 18th century by P. Commerson (1768-1773). However, Rodrigues was first botanised only in 1874, when unfortunately much of the native vegetation had already been destroyed. The flora of the Mascarenes is being thoroughly updated through the "Flore des Mascareignes" project (collaboration between the MSIRI, the IRD-Muséum national d'Histoire naturelle, Paris and the Royal Botanic Gardens, Kew). The project was initiated in the early 1970's and is about to be completed with only three families (Cyperaceae, Poaceae and Orchidaceae) remaining to be published.

Rodrigues has the smallest native angiosperm flora of the Mascarenes with 150 species. Réunion has about 550 species and Mauritius 691 species. Single island endemism is high, ranging between 30% (Réunion) to 39.5% (Mauritius). Each island





The Flora of the South West Indian Ocean

This is a collaborative project between the herbaria of Comores, Madagascar, Mauritius, Reunion and the Seychelles, supported by the Indian Ocean Commission (IOC). bringing together data and images from the herbaria of the South West Indian Ocean region, promoting sustainable biodiversity in the region. In its pilot phase, the focus is on the Orchidaceae.

Project news in [English](#) and [French](#).

The Indian Ocean region is home to great biodiversity including several hotspots. Among the flowering plants, the orchid family constitutes more than 10% of the species level diversity. The regions of Madagascar and surrounding islands, the East African coast and South Africa has more than two thousand orchid taxa. Knowledge about the geographic distribution and ecology of these species is dispersed among the various national and regional herbarium of the area. This complicates many aspects of reserch and conservation of this emblematic group of plants .





Tree Filters Manage Filters (1/1 active)

Collectors (+)

Geography (+)

Taxa (-)

Species Search: cynorkis

Families

- Indet (1)
- Orchidaceae (88)

Collapse All Filter:

Species List **Advanced Grid** Images Maps Help

View: **Botanical Records** Filter: Collection number.

DB	Collector	Number	Family	Species	DD	MM	YYYY	Country	Major
MAUDB	Bouton, L.	s.n.	Orchidaceae	Cynorkis squamosa	0	0	0	Mauritius	Mauritius
DBEVDB	Jeannoda, V.	640	Orchidaceae	Cynorkis angustipetala	0	2	1984	Madagascar	Analamanga
TANDB	Goldblatt, P.	9015	Orchidaceae	Cynorkis cuneilabia	31	3	1989	Madagascar	Antananarivo
TANDB	Cremers, G.	1427	Orchidaceae	Cynorkis catatii	16	2	1971	Madagascar	Toamasina
TANDB	Nicoll, M.	244	Orchidaceae	Cynorkis quinqueloba	12	1	1987	Madagascar	Fianarantsoa
DBEVDB	Rafidison, V.	9007	Orchidaceae	Cynorkis gibbosa	0	2	1989	Madagascar	Analamanga
DBEVDB	Rasolondraibe, B.A.	s.n.	Orchidaceae	Cynorkis gibbosa	26	1	1990	Madagascar	Analamanga
TANDB	Humbert, H.	25759	Orchidaceae	Cynorkis hologlossa var. g...	18	3	1951	Madagascar	Antsiranana
TANDB	Antilahimena, P.	5679	Orchidaceae	Cynorkis uncinata	24	7	2007	Madagascar	Toamasina
SEYDB	Senterre, B.	6417	Orchidaceae	Cynorkis seychellarum	21	12	2012	Seychelles	Praslin
TEFDB	Razakamalala, R.	824	Orchidaceae	Cynorkis	11	10	2003	Madagascar	Toamasina
TANDB	Humbert, H.	24571	Orchidaceae	Cynorkis coccinelloides	18	3	1951	Madagascar	Antsiranana
TEFDB	Du Puy, D.J.	M670	Orchidaceae	Cynorkis	26	11	1993	Madagascar	Fianarantsoa
TANDB	Humbert, H.	25237	Orchidaceae	Cynorkis tsaratananae	19	1	1951	Madagascar	Antsiranana
TANDB	Humbert, H.	25401	Orchidaceae	Cynorkis tryphioides	20	2	1951	Madagascar	Mahajanga
MAUDB	Pynee, K.	s.n.	Orchidaceae	Cynorkis fastigiata	4	2	2016	Mauritius	Mauritius
MAUDB	Victor, F.	s.n.	Orchidaceae	Cynorkis fastigiata	4	9	1959	Mauritius	Mauritius
DBEVDB	Rafidison, V.	9008	Orchidaceae	Cynorkis angustipetala	0	0	0	Madagascar	Analamanga

Ready: Total = 107 records



Tree Filters Manage Filters (1/1 active)

Collectors (+)

Geography (+)

Taxa (-)

Species Search: eulophia (x)

















Families

- Indet (1)
- Orchidaceae (86)

Collapse All Filter: (x)

Species List | Advanced Grid | **Images** | Maps | Help

Page 1 of 1 | Type Highlights | Hide Image | Thumb size: | Thumbs per page:

 Eulophia sp.	 Eulophia beravensis	 Eulophia beravensis	 Eulophia beravensis
 Eulophia beravensis	 Eulophia beravensis	 Eulophia decaryana	 Eulophia fitbilla
 Eulophia livingstoneana	 Eulophia livingstoneana	 Eulophia livingstoneana	 Eulophia livingstoneana
 Eulophia livingstoneana	 Eulophia livingstoneana	 Eulophia livingstoneana	 Eulophia livingstoneana

Open in new window

Orchidaceae *Eulophia beravensis*

Tree Filters Manage Filters (0)

Collectors

Geography

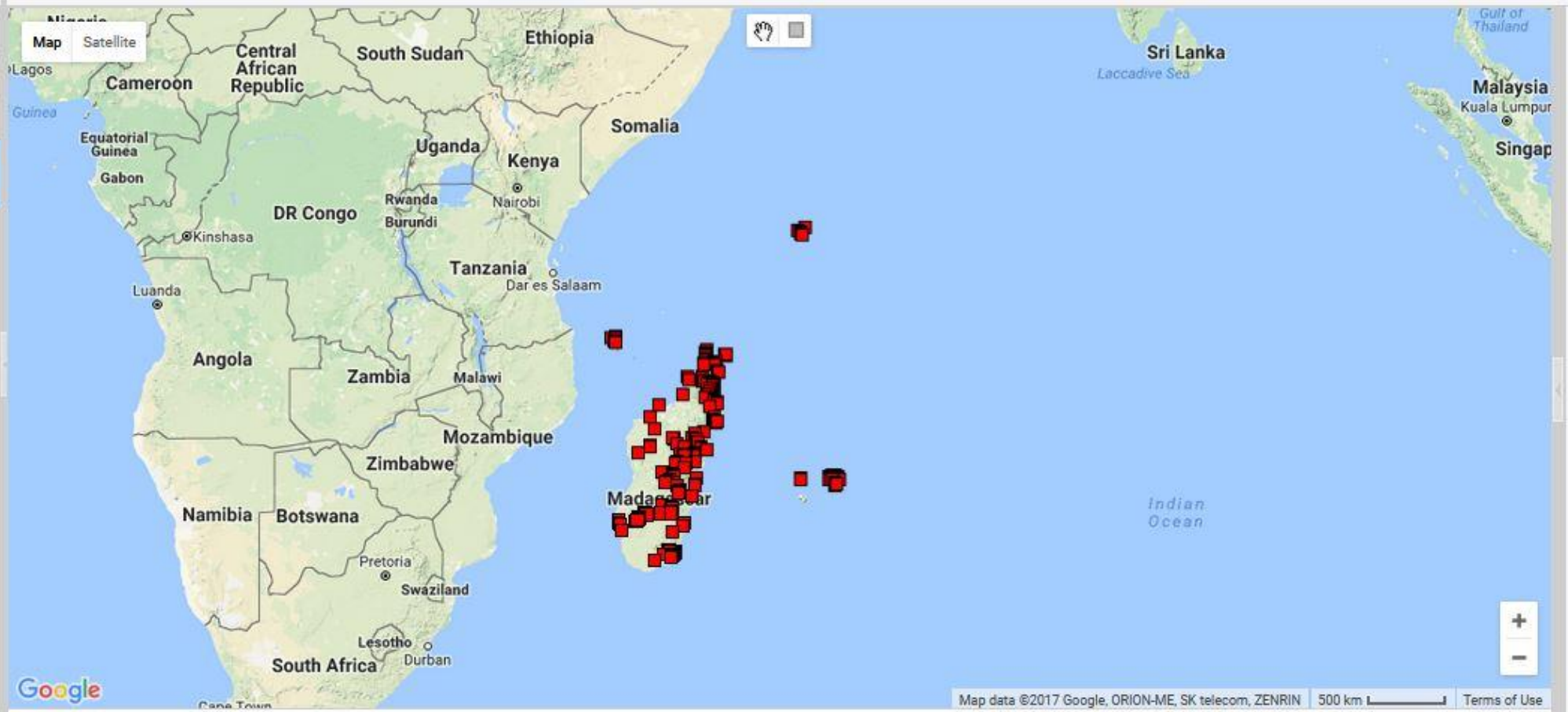
Taxa

Species Search: Enter Genus + Species

- Families
- Indet (1)
 - Orchidaceae (66)

Collapse All Filter:

Species List Advanced Grid Images Maps Help



Map data ©2017 Google, ORION-ME, SK telecom, ZENRIN 500 km Terms of Use

Reset Map



Home

Partners -

Search database

Advanced search



The Flora of the South West Indian Ocean

Barcode:

Collector name starts:

Collection number includes:

YYYY:

From: To: (inc.)

Family name starts:

Genus name starts:

Species name includes:

Country name starts:

PLANNED FUTURE ACTIVITIES

- Digitisation and imaging of the herbarium specimens of all other families
- Booklet on the common orchids of the WIO islands
- Expansion of the common webportal
- Webportals for each of the partners
- Site visits to customize and trouble shoot Brahms database set up
- Third meeting in Madagascar
- <http://herbaria.plants.ox.ac.uk/bol/swioorchids>

ACKNOWLEDGMENTS

- Indian Ocean Commission/Commission de l'Océan Indien
- European Union
- University of Oxford, La Réunion and KwaZulu-Natal
- National Museums of Kenya

