Catalogue of the Vascular Plants of Madagascar (MadCat):

an authoritative, integrated information resource for biodiversity research and conservation

Sylvie Andriambololonera, Marina Rabarimanarivo, Porter P. Lowry and Peter B. Phillipson.

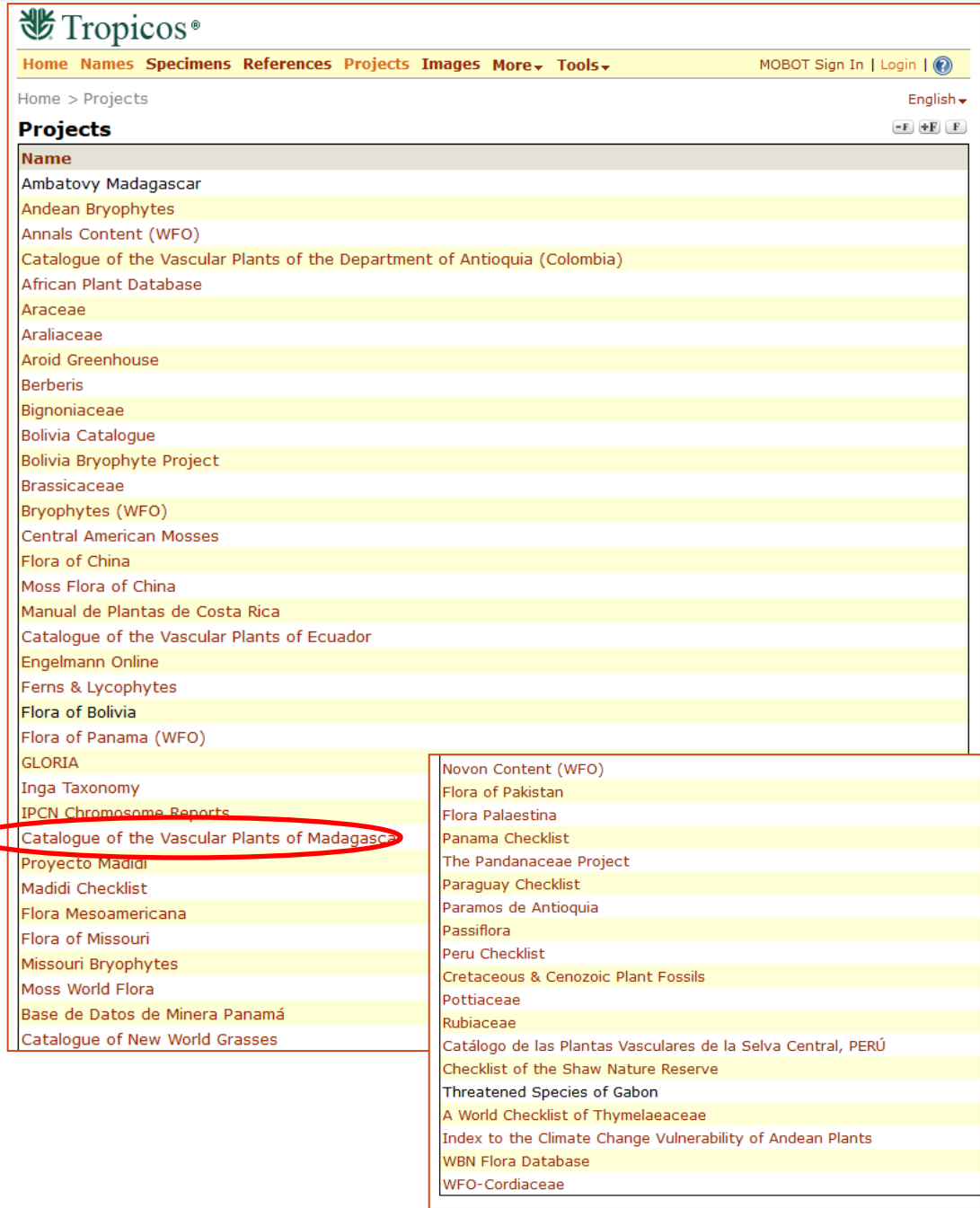
Missouri Botanical Garden

FOFIFA

MadBIF Symposium, 7th October , Antananarivo

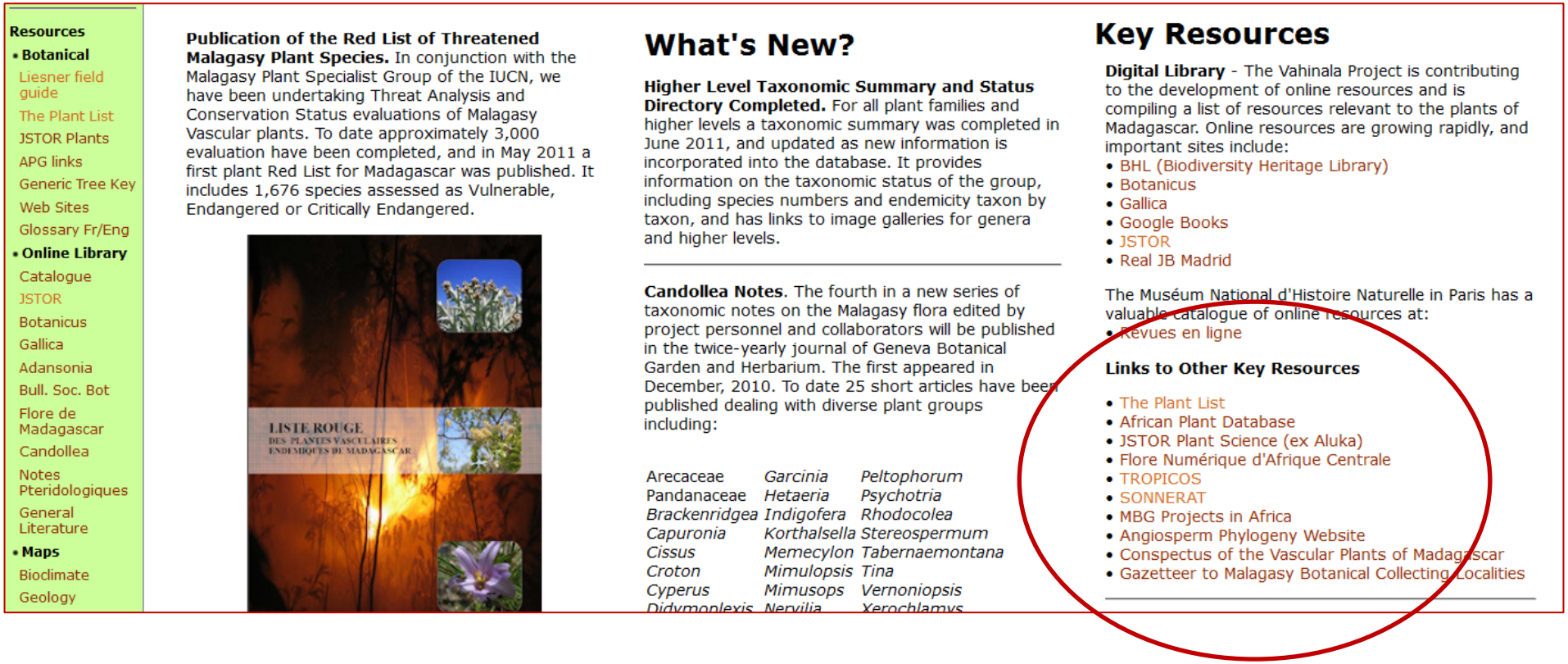
MADCAT: CONTEXT

- Online up-to-date synthesis of information on the flora of Madagascar
- Subset of TROPICOS with layers of project-specific data:
  - Conservation project
  - Project aims to support our understanding of the classification and taxonomy of each plant group



MADCAT: CONTEXT

- Reliable source on accepted names and synonyms (taxonomic assessment of all species), available specimens and associated images, geographical and ecological distribution, presence in Protected Areas , vernacular names, etc.
- Linkage with other databases and information sources



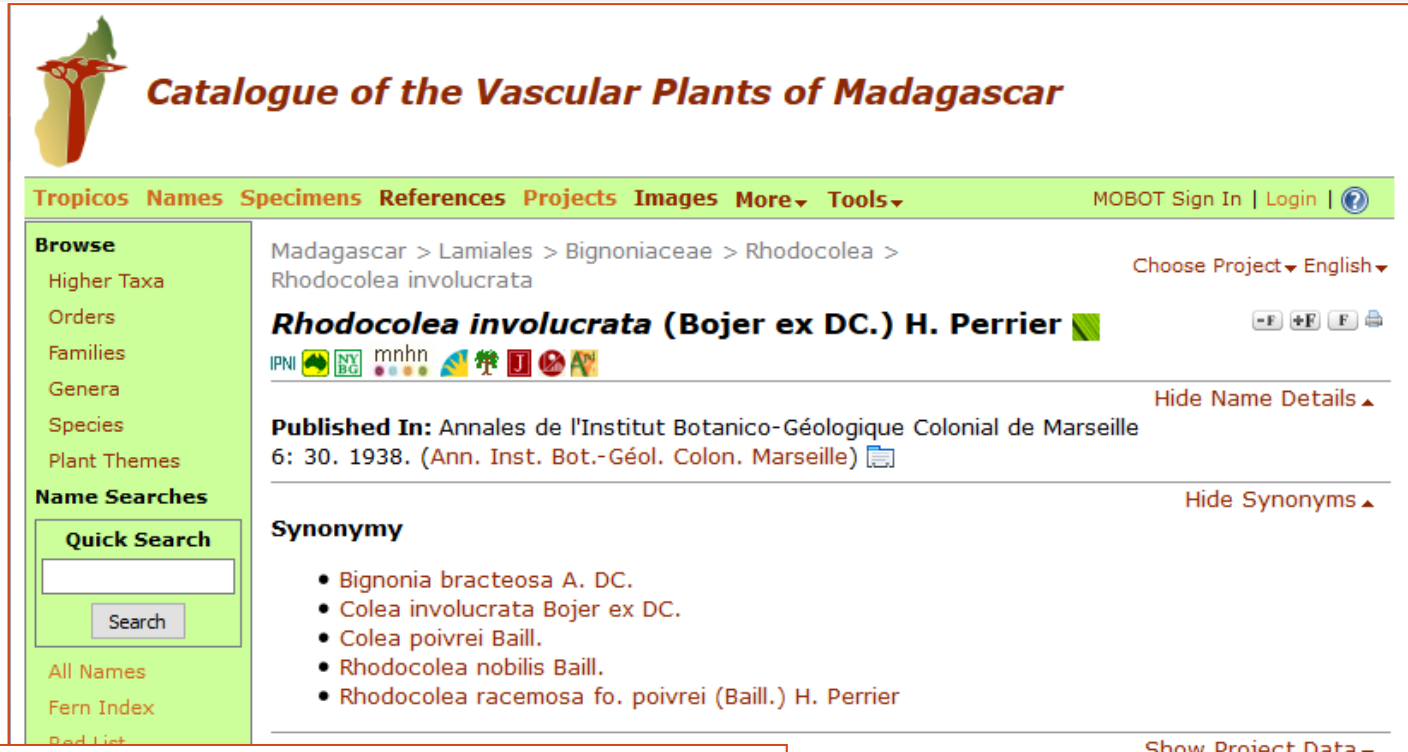
MADCAT: CONTEXT

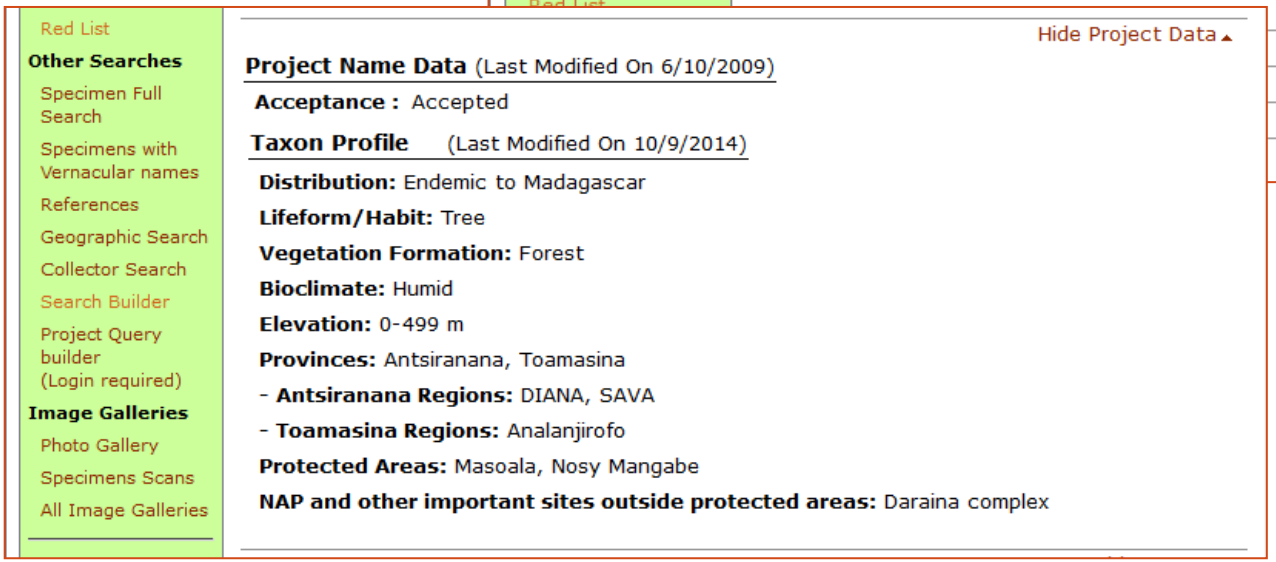
- Data delivered through TROPICOS (linked to standardized reference tables: names and synonyms, type specimens, authors, collectors, geographic units, journals and books, etc.
- Very high quality, carefully structured data: precise geo-referencing, reliable taxonomic circumscriptions (authoritative taxonomic reference), identifications provided by recognized specialists
- Integration of information obtained from a diversity of sources, all verified and validated

MADCAT: SPECIES PAGE

Rhodocolea involucrata

- Basic nomenclature data
- Synonymy
- Links to other sources
- Series of panels that can be opened or closed





Project data panel

- Distribution
- Ecology
- Protected areas
- Notes and comments

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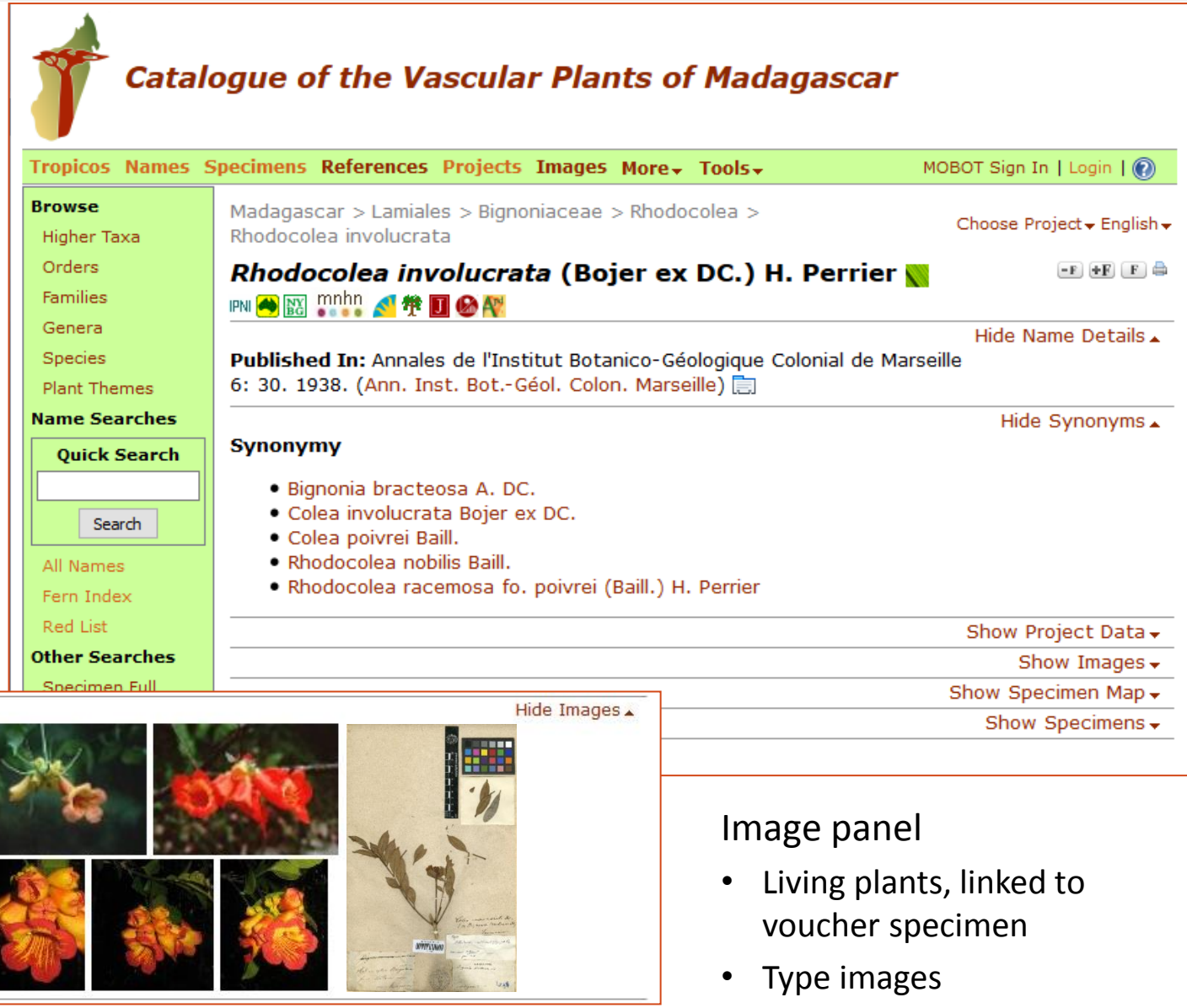

Image panel

- Living plants, linked to voucher specimen
- Type images
- Zoom function

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Catalogue of the Vascular Plants of Madagascar

Tropicos Names Specimens References Projects Images More Tools MOBOT Sign In | Login

Browse
Higher Taxa
Orders
Families
Genera
Species
Plant Themes

Madagascar > Lamiales > Bignoniaceae > Rhodocolea > Rhodocolea involucrata

Choose Project English

Rhodocolea involucrata (Bojer ex DC.) H. Perrier

IPNI NY BG mnhn J

Hide Name Details

Published In: Annales de l'Institut Botanico-Géologique Colonial de Marseille 6: 30. 1938. (Ann. Inst. Bot.-Géol. Colon. Marseille)

Hide Synonyms

bracteosa A. DC.
olucrata Bojer ex DC.
vrei Baill.
ea nobilis Baill.
ea racemosa fo. poivrei (Baill.) H. Perrier

Show Project Data
Show Images
Show Specimen Map
Show Specimens

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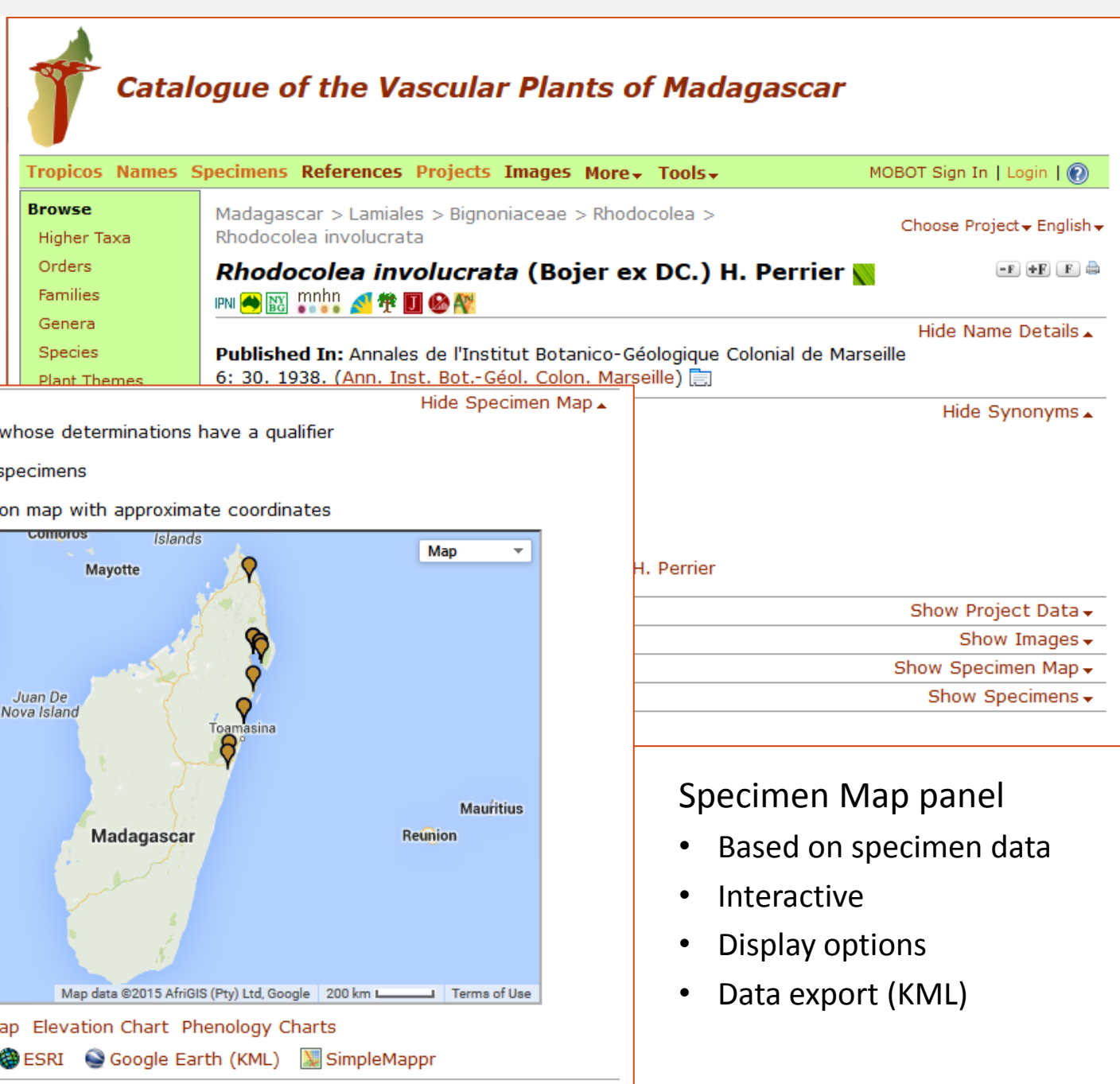

Specimen Map panel

- Based on specimen data
- Interactive
- Display options
- Data export (KML)

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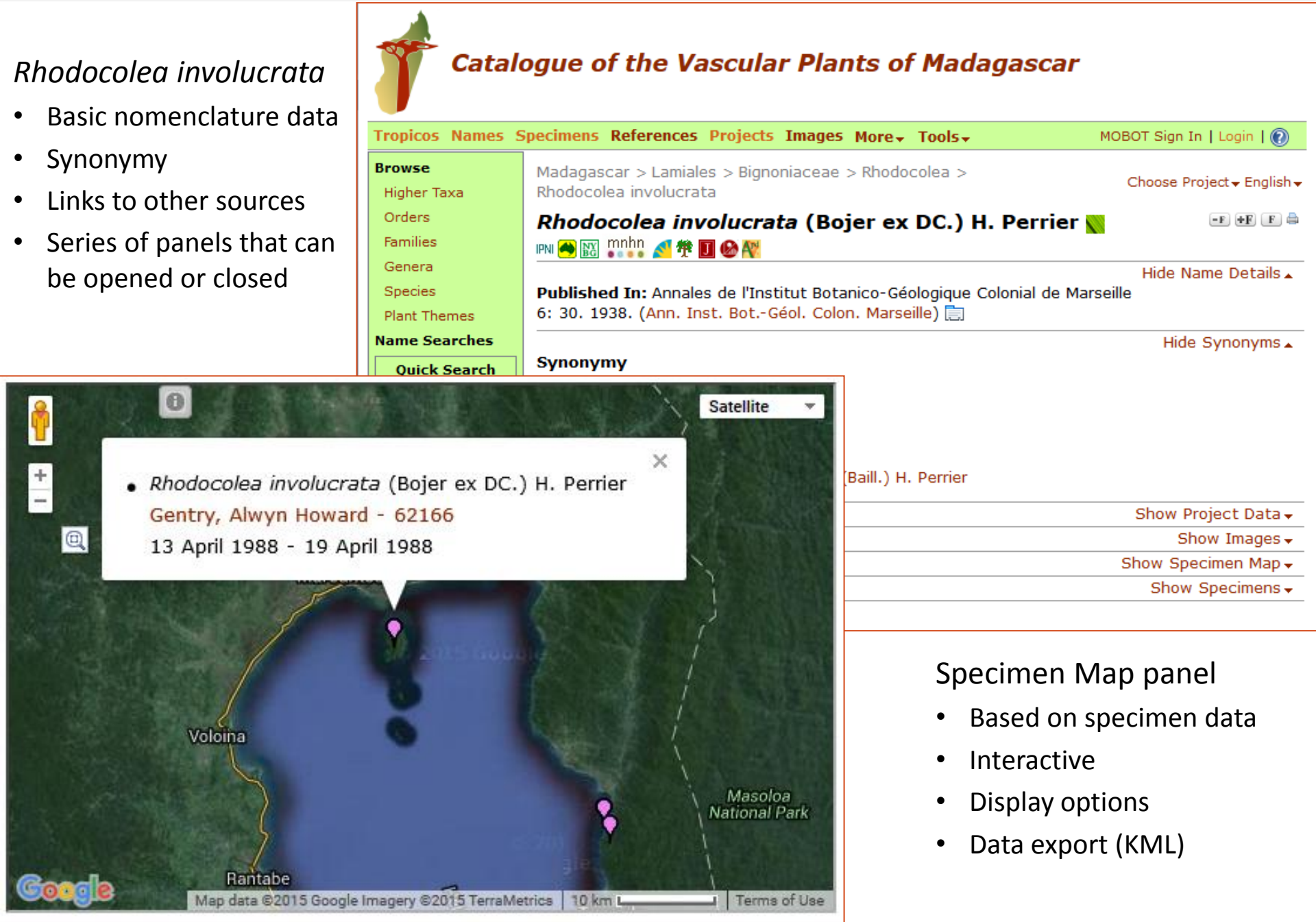

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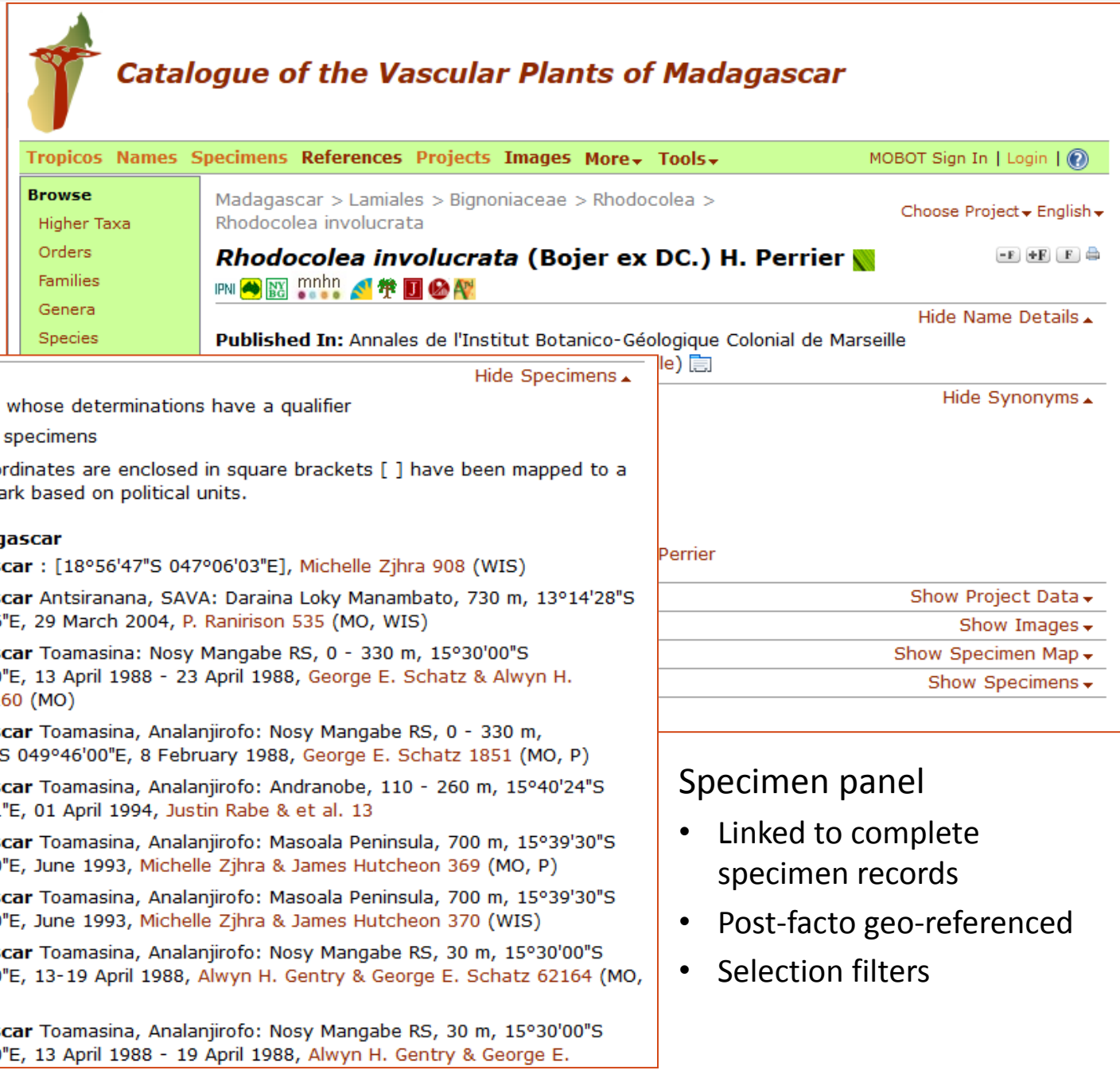

Specimen panel

- Linked to complete specimen records
- Post-facto geo-referenced
- Selection filters

MADCAT: CURRENT STATISTICS

28,652 total taxa treated, incl.:

15,322 accepted names

12,873 synonyms

457 names of other status

	Order	Family	Genus	Species
Accepted names	66	241	1,687	11,386 (10,965)
Endemic to Madagascar	0	5	304	8,916

60% of genera remain to be evaluated, estimated to add more than **1,500 undescribed species**

1,015 estimated undescribed species among the 40% of genera evaluated

MadCat: the most complete and reliable publicly available resource on Malagasy plants; it constitutes an easily accessible source of authoritative information on the island's flora


Asteropeiaceae


Barbeuiaceae


Physenaceae


Sarcolaenaceae


Sphaerosepalaceae

KEY MADCAT 2020 OBJECTIVES
(ALIGNED TO THE AICHI GOALS AND THE GSPC TARGETS)

1. Deliver data to World Flora Online (WFO) in response to:

- Target 1 of GSPC: An online flora of all known plants
- Target 19 of Aichi: Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied

MadCat will provide to WFO core information on all published, accepted species from Madagascar

The World Flora Online will build upon existing knowledge and published floras, checklists and revisions to provide the first comprehensive and scientifically valid over-view account of the world's plant diversity by 2020

World Flora Online

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2. Deliver comprehensive specimen records cited in all recent, authoritative taxonomic works

Plant Syst Evol (2009) 283:237–245
DOI 10.1007/s00606-009-0223-3

ORIGINAL ARTICLE

Billburttia, a new genus of Apiaceae (tribe Apieae) endemic to Madagascar

Anthony Richard Magee · Ben-Erik van Wyk · Patricia M. Tilney · Fatima Sales · Ian Hedge · Stephen R. Downie

Received: 27 January 2009 / Accepted: 14 September 2009 / Published online: 9 October 2009
© Springer-Verlag 2009

Abstract The genus *Billburttia* is described to include two new species endemic to Madagascar, *B. capensoides* and *B. vaginoides*. Both species were tentatively placed within the problematic genus *Peucedanum* L. (as *Peucedanum* sp. A and *Peucedanum* sp. B) based on their dorsally compressed fruits lacking prominent dorsal ribs and with winged marginal ribs. Recently, however, the African members of *Peucedanum* have been shown to be only distantly related to the type of the genus and have therefore been segregated into six African endemic genera. While the Malagasy species appear superficially similar to members from one of these segregate genera, viz. *Notobubon*, they differ markedly in their fruit anatomical *Billburttia*. The non-peucedanoid affinity of the genus, as suggested by the fruit anatomical data, was confirmed using ITS and *rps16* intron sequences. Both parsimony and Bayesian analyses of these data place *Billburttia* within the tribe Apieae of subfamily Apioideae and not closely related to either *Peucedanum* (Selineae) or the African peucedanoid genera (*Lefebvrea* clade of Tordylieae).

Keywords *Billburttia capensoides* · *Billburttia vaginoides* · Fruit anatomy · ITS · New genus · New species · *Peucedanum* · *rps16* intron · Sphaerocrystals

Taxonomic revision published in 2009 (6 years ago)

Species page for the two described species completed in MadCat

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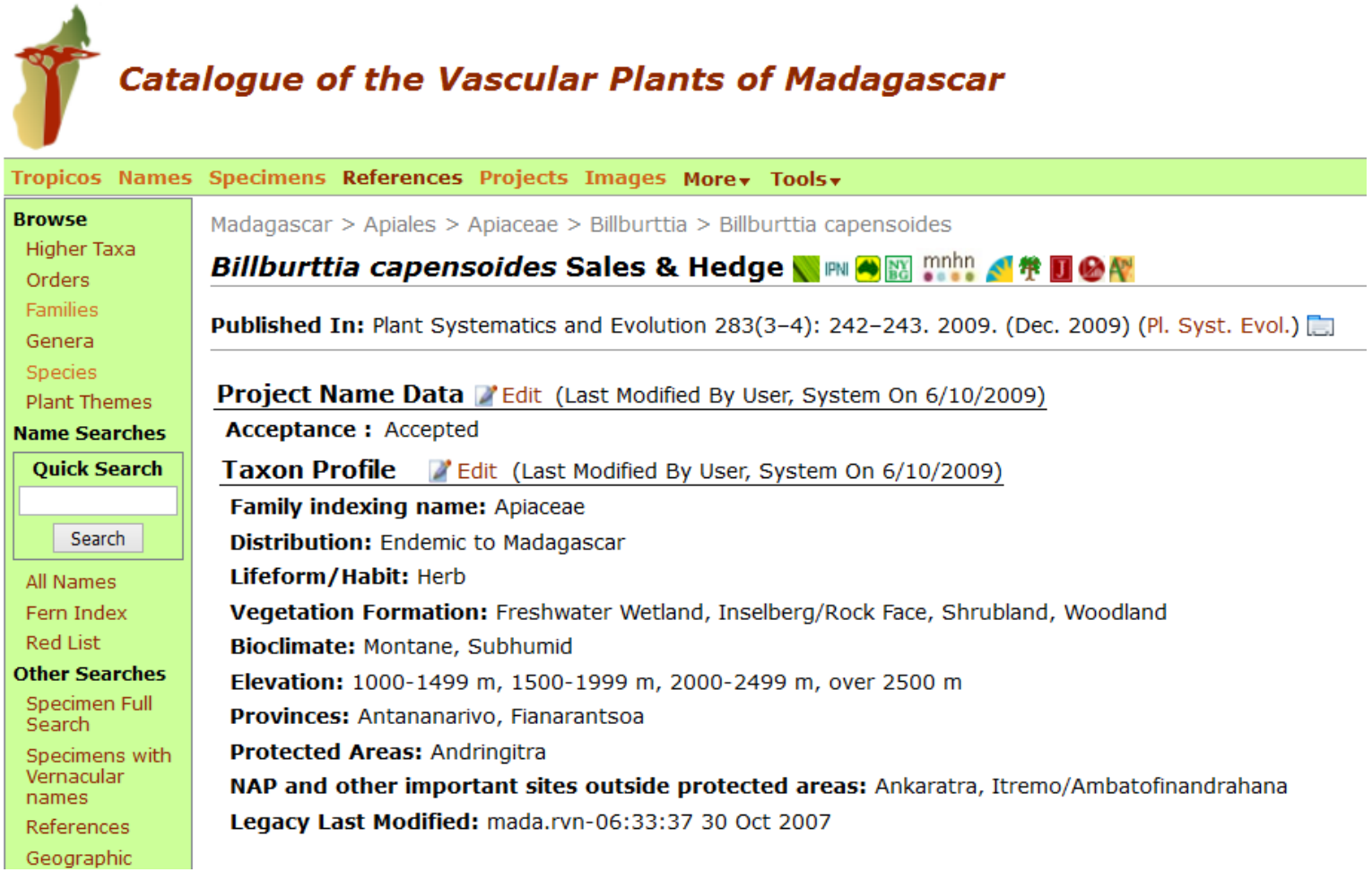

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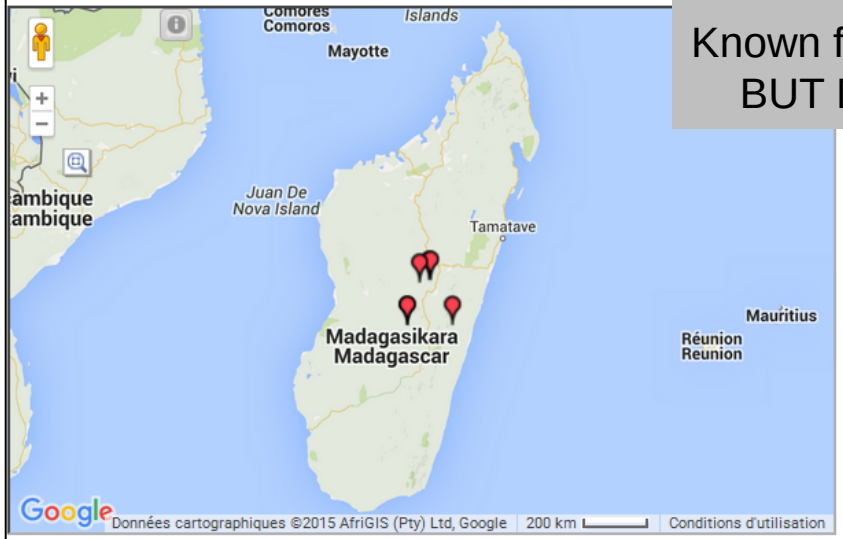
Billburttia capensoides Sales & Hedge

Known from 6 specimens in TROPICOS-MadCat
BUT MORE ARE CITED in THE PAPER

☐ Include specimens on map with approximate coordinates



Country Occurrence Map Elevation Chart Phenology Charts

Maps Google Maps ESRI Google Earth (KML) SimpleMappr

Hide Specimens

☐ Include specimens whose determinations have a qualifier
☐ Include cultivated specimens

Specimens whose coordinates are enclosed in square brackets [ ] have been mapped to a standard reference mark based on political units.

- **Africa & Madagascar**
  - **Madagascar** Antananarivo, Vakinankaratra: Faratsiho, 19°24'00"S 046°57'00"E, Jean M. Bosser 7563 (P)
  - **Madagascar** Antananarivo, Vakinankaratra: Ankaratra, 19°20'00"S 047°15'00"E, 22 Jan 1975, Thomas B. Croat 28892A (MO)
  - **Madagascar** Antananarivo, Vakinankaratra: Manjakatompo, 2320 m, 19°20'02"S 047°16'18"E, 28 October 2003, Peter B. Phillipson 5636 (MO)
  - **Madagascar** Fianarantsoa, Amoron'i Mania: Itremo, 20°34'30"S 046°34'50"E, 27 Jan 1975, Thomas B. Croat 29892 (K, MO, P)
  - **Madagascar** Fianarantsoa, Amoron'i Mania: Itremo, 1540 m, 20°34'40"S 046°35'11"E, 9 November 2002, Porter P. Lowry II 5841 (MO)
  - **Madagascar** Fianarantsoa, Vatovavy-Fitovinany: 1610 m, 20°33'30"S 047°55'30"E, 11 Mar 1992, R.A. Clement, Peter B. Phillipson & Guy Rafamantanantsoa 2009 (MO)

KEY MADCAT 2020 OBJ

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Billburttia capenso

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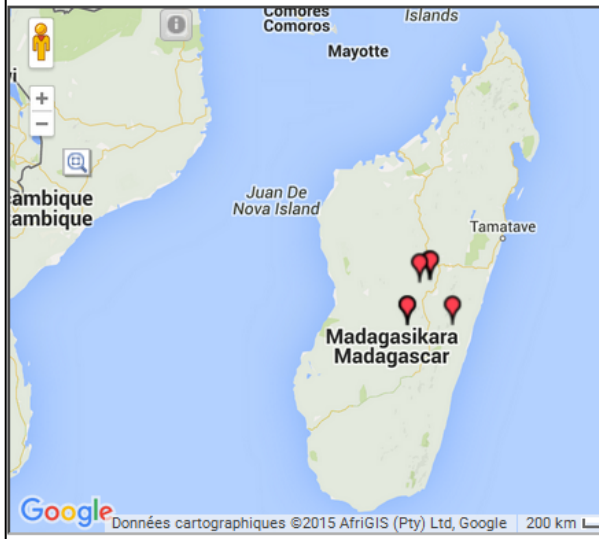

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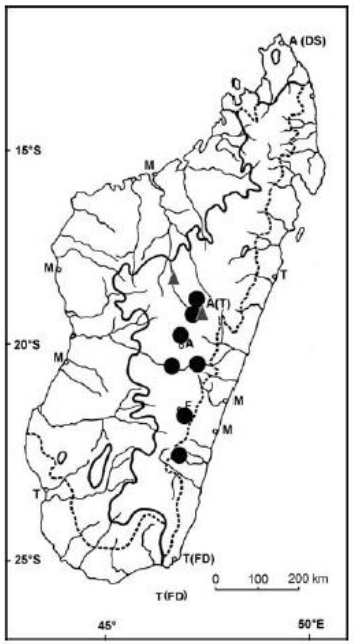

Fig. 3 The known geographical distribution of *Billburttia capensoides* (circles) and *B. vaginoides* (triangles)

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Selected specimens examined *Baron 340, s. loc.* (K, P); *2021*, central Madagascar (BM, K). *Bosser 7563*, Faratsiho, Ankaratra (P). *Clement, Phillipson & Rafamantanantsoa 2009*, Fianarantsoa, Ambositra to Ambatofinandrahana on R.N. 35, 1600 m (E, MO, P). *Croat 28892A*, station forestière de Manjakatompo near sommet Hosiarivo, in massif l'Ankaratra (MO); *29892*, vicinity of col de l'Itremo, massif de l'Itremo (MO, P). *Decary 13035*, Ambatofinandrahana, 1700 m (P); *13400*, massif du Tsiafajavona, 2200-2600 m (P); *17248*, Ambositra, dans les bois de Tapia (P); *17356*, Ambatofinandrahana (P). *Du Puy, Labat & Andriantiana M660*, west of Ambositra, 20° 34′S, 46° 35′E, east margin of Itremo massif, 1290 m (K, P). *Guillaumet 3588*, plateau d'Andohariana, Andringitra, c. 2000 m (P). *Hildebrandt 3571*, nord Betsileo, Antsirabe (BM, K, P). *Hodgkin & Stansfields.n*, without locality (K). *Humbert3634*, env. de Miarinarivo, SE d'Ambalavao, c. 1,200 m (P). *Humbert & Capuron 28129*, env. d'Ambatofinandrahana, c. 1450 m (P). *Jard. Bot. Tananarive 221*, pentes nord de Vohitra, Antsirabe (P); *3644*, Tsiafajavona (P). *Keraudren 218*, env. d'Ambatofinandrahana (P). *Moeller, Andriantiana & Haevermans 01-26*, Fianarantsoa, Itremo, col d'Itremo, 20° 34′S, 46°34′E (E). *Perrier de la Bâthie 6792*, env. d'Antsirabe, 1500 m (P); *6807*, W du massif d'Andringitra, 1000 m, type de l'espèce (P). *Rakotovao 52*, Réserve Naturelle Intégrale no. 5, près de la montagne rocheuse Vangomena, plateau de Sonindrana, 2010 m (MO, P). *Rakotozafy 631*, Itremo (P). *Razafindrabe 193*, Fianarantsoa, Ambalavao, Sendrisoa, Antanifotsy, pic Boby d'Andringitra, 2658 m (MO, P). *Reserves Naturelles 2278 Razafindrakoto*, distr. Ambalavao, canton Sendrisoa (P). *Viguier & Humbert 1357*, distr. Betafo, sommet du pic de Vohimalaza près Betafo, 1700 m (P); *1386*, distr. Betafo, dans la coulée de laves de l'Iantsifitra, c. 1450 m (P); *1617*, Betafo, monts Vararata, c. 2000 m (P); *1727*, prov. Itasy, distr. Kitsamby, sur le flanc ouest de l'Ankaratra, entre Ambatofotsy et le Tsiafajavona, c. 2200 m (P). *Waterlot s.n.*, Antsirabe (P).

KEY MADCAT 2020 OBJECTIVES
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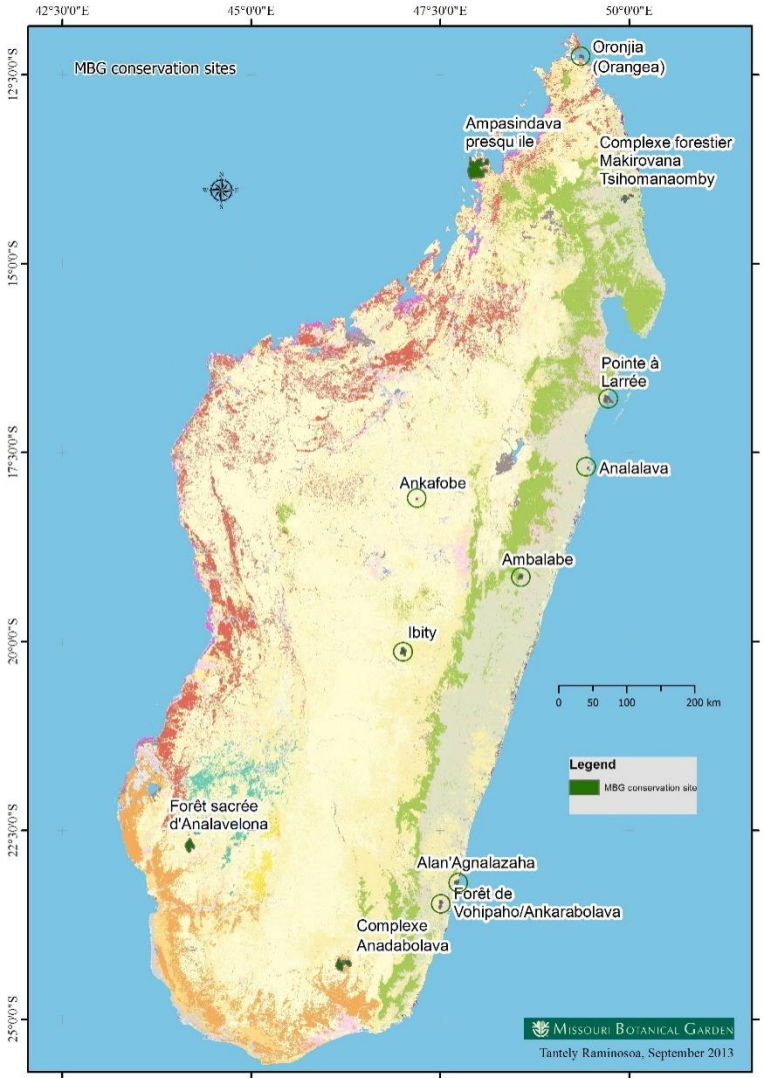
3. Complete the compilation and refinement of flora data from MBG's 13 new protected areas



Implementation of community-based conservation at 13 Priority Areas for Plant Conservation by MBG

Analytical information-based decision making (integrating biological data including on the flora)

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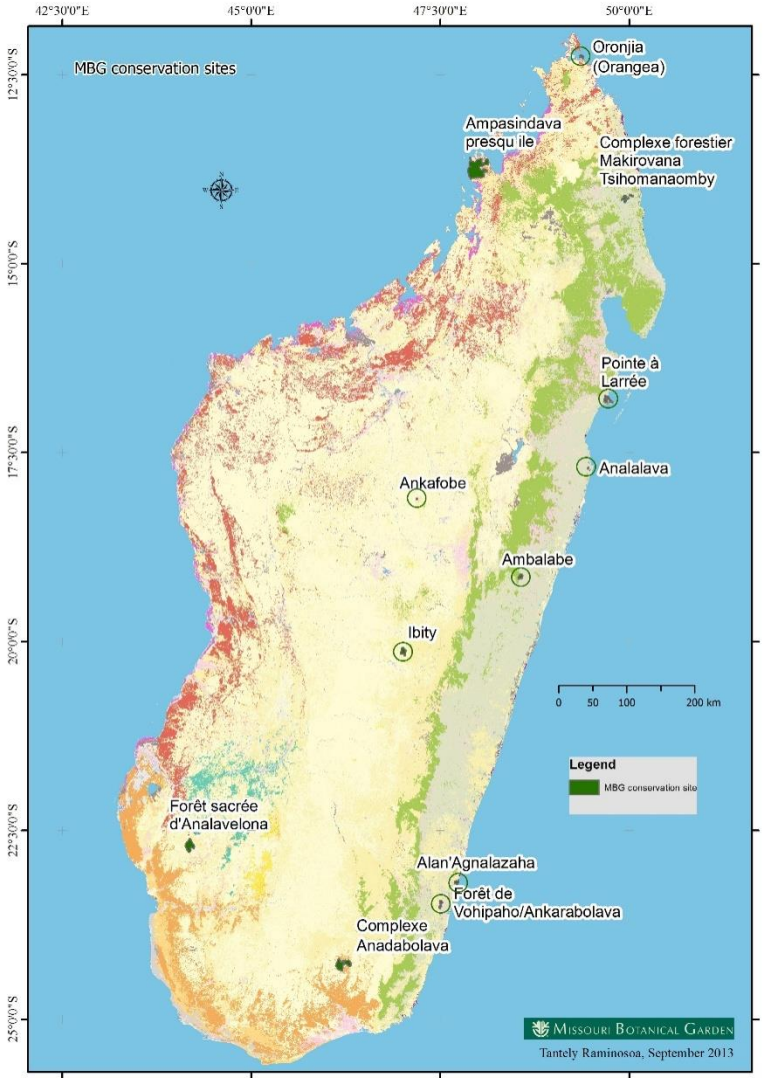

The effective management of the PA hampered by the poor knowledge

Objective : to facilitate the conservation of the community based conservation sites through the provision of an improved botanical data

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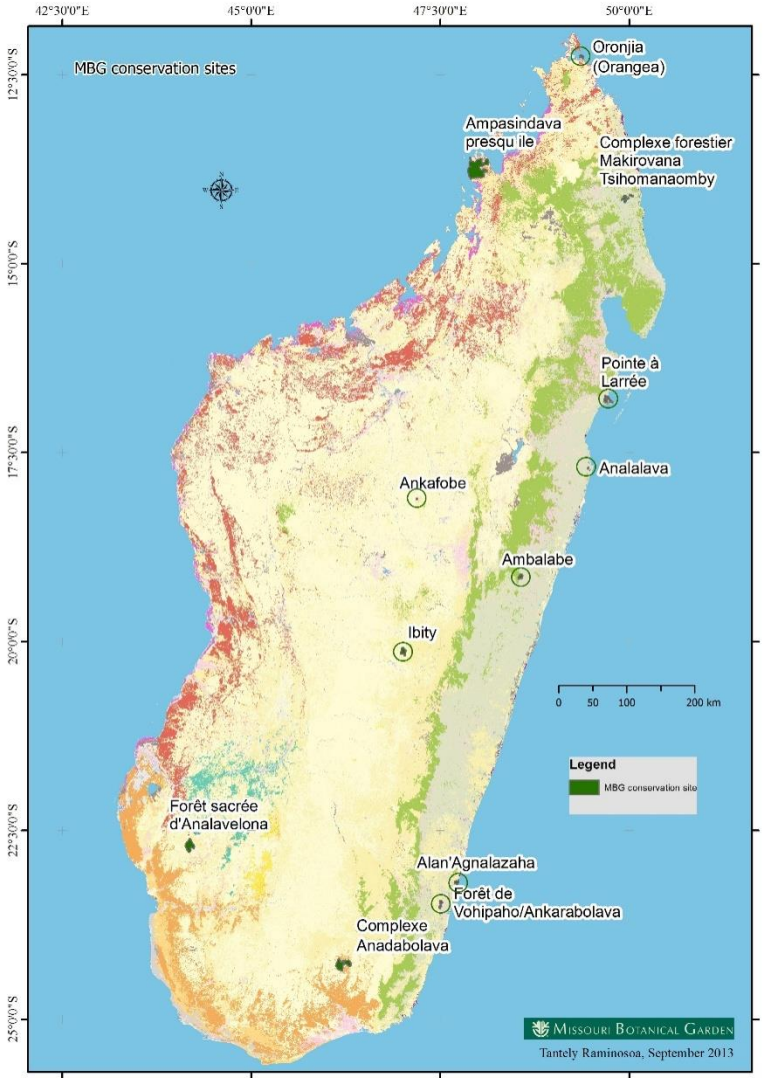

Identification of each specimen (old and new from subsequent plant inventories) according to the most recent taxonomic treatment (where available) or by careful comparison with type specimens and other authoritative reference collections, using the resources at Madagascar's two national herbaria (TAN and TEF)

Identification by recognized specialists

TROPICOS is automatically updated as new information is captured into the MadCat

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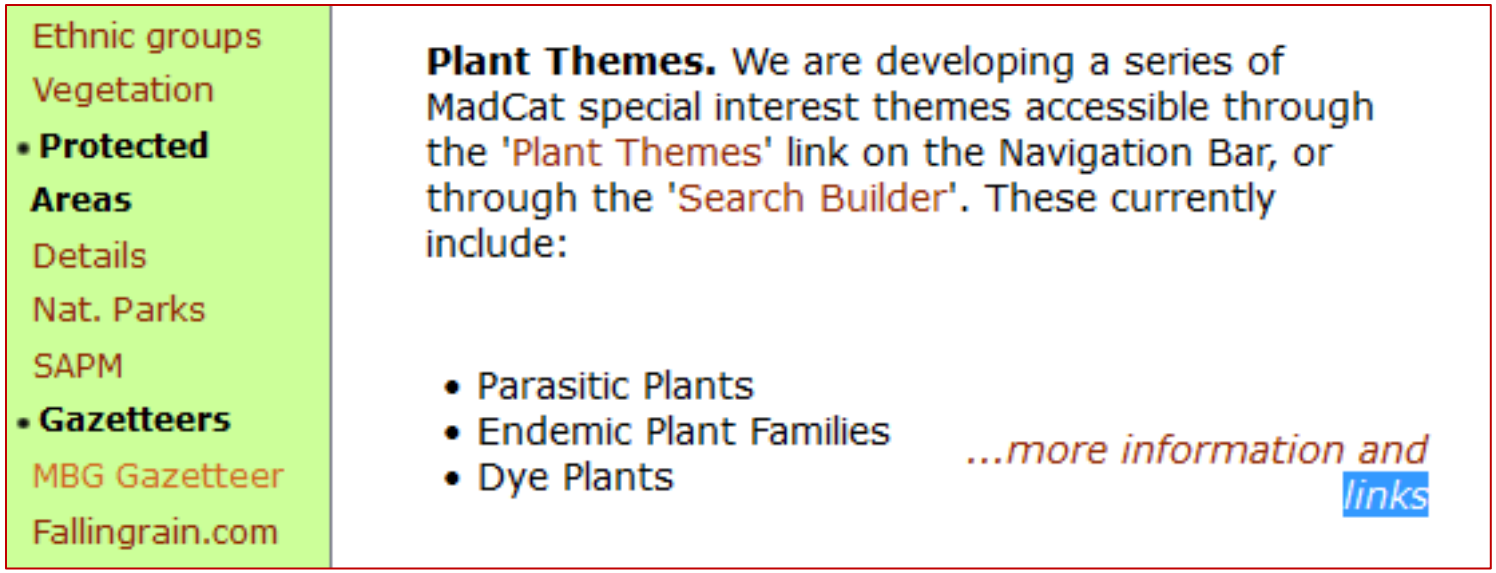
4. Expand and broaden targeted thematic content, e.g., invasive species, aquatic plants, species recorded in all of Madagascar's PAs



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Aponogeton sp.: very sought as aquarium plant

CONCLUSION

The MadCat provides the most reliable information source on the Malagasy flora

It is publicly accessible and contains a wide array of valuable and relevant data

The MadCat supports a wide range of decision-making processes, including Madagascar's National Biodiversity Assessment

Verified and validated information is delivered from the MadCat to GBIF via TROPICOS

MadCat: www.tropicos.org/Project/MADA