#### **Species Summary Tables**

The following summary tables describe the species and patent activity involving the species. This data falls into two categories:

- a) Of Madagascan origin Patents where a named species has been identified as having been obtained from Madagascar.
- b) With Madagascan distribution Patents where there is no reference to Madagascar but distribution data suggests that the species may have originated from Madagascar (Distribution).

In reading these tables note that the number of documents refers to the number of documents retained during research on the origin of species of relevance to Madagascar. It does not refer to the wider patent landscape for the species consisting of the total of number of documents making reference to the species, or its components, in the global patent system.

Species may appear in patent documents in this list for a variety of reasons:

- 1. Because they are a focus of the invention;
- 2. Because they are a target of the invention (i.e. pathogens);
- 3. Because they are incorporated into the claims of the invention;
- 4. Because a reference to a species, including in very limited cases a literature reference, indicates that the species is of potential interest for economic development and merits further investigation.

This report focuses on identifying species that are of potential interest for economic development and conservation based on their appearance in patent data. The data in this summary section should not be used to draw conclusions about misappropriation or biopiracy.

Species name: Adansonia digitata Kingdom: Plantae

Brief description of species:

Adansonia digitata is the most widespread of the Adansonia species on the African continent, found in the hot, dry savannahs of sub-Saharan Africa. Cosmetic skin care products derived from Baobab trees. Digitata is the preferred species in the claim.

Distribution: Cosmopolitan

No of documents: 2

US6274123B1 US7488753B2

## With Madagascan distribution

Species name: Adansonia

Kingdom: Plantae

fony

Brief description of species:

The species is not logged for its timber, although it does provide various non-timber products, including edible fruits, seeds and roots, and sheets of wood from fire-killed trees, which are used as thatch.

Classified as Lower Risk/near threatened on the IUCN Red List.

Distribution: Endemic

No of documents: 2

US6274123B1 WO1998031336A1

# With Madagascan distribution

Species name: Adansonia grandidieri

Kingdom: Plantae

Brief description of species:

Adansonia grandidieri is the most heavily exploited of all the Malagasy baobabs. The seeds and the vitamin C-rich fruit pulp are eaten fresh, and cooking oil is extracted from the oil-rich seeds. Classified as Endangered by the IUCN Red List.



Distribution: Endemic

No of documents: 7

US2009258112A1 US6274123B1 US2009324656A1 WO1998031336A1 WO2007104454A1 WO2008014860A1 WO2009115216A1

Species name: Adenoplusia

axillaris

Kingdom: Plantae

Brief description of species:

A synonym of Buddleja axillaris. Native to Madagascar, Tanzania and Comoro Islands. Extracts used for skin

pigmentation treatment

Distribution: Cosmopolitan

No of documents: 2

US2009028969A1 WO2007098873A1

With Madagascan distribution

Species name: Aeschynomene tsaratanensis

Kingdom: Plantae

Brief description of species:

A leguminous plant from which stem material can be used as a dispersant/carrier for liquids.

Distribution: Endemic No of documents: 1

EP2183967A1

Of Madagascan origin

Species name:

Aframomum angustifolium

Kingdom: Plantae

Brief description of species:

Aframomum is a genus found in west and central Africa, and represented by approximately 50 species. Extracts used in an anti-ageing compounds derived from seeds of plant.

Distribution: Uncertain No of documents: 2

US7381436B2 US2007122500A1

Species name: Allocebus

trichotis

Kingdom: Animalia

Brief description of species:

The hairy-eared dwarf lemur, or hairy-eared mouse lemur, is a nocturnal lemur endemic to Madagascar. It is the only member of the genus Allocebus. Mentioned in long-list of non-human primates.



Distribution: Endemic No of documents: 2

US2009155900A1 WO2009079409A1

## With Madagascan distribution

Species name: Aloe bakeri | Kingdom: Plantae

Brief description of species:

Genetically engineered plant cells to encourage growth retardation in cultivated plants. Species is mentioned in a list of Aloe species.



Distribution: Endemic No of documents: 4

WO2006133970

## With Madagascan distribution

Species name: Kingdom: Plantae Aloe millotii

Brief description of species:

Used to demonstrate spectroscopic equipment in US university. Species is mentioned in a list of Aloe species.



Distribution: Endemic No of documents: 1

US5854063A

Species name: Aphloia

theiformis

Kingdom: Plantae

Brief description of species:

Aphloiaceae is a monogeneric family of flowering plants. A species of evergreen shrubs or small trees occurring in East Africa, Madagascar, the Mascarene Islands and the Seychelles. Plant extracts containing mangiferin are used

for skin treatments.

Distribution: Cosmopolitan No of documents: 1

US2006088560A1

With Madagascan distribution

Species name:

Kingdom: Plantae

Aponogeton capuronii

Brief description of species:

Aquatic plant used in aquaria. Species included in longlist of plants that could benefit from invention

Distribution: Endemic

No of documents: 1

US2006030489A1

With Madagascan distribution

Species name:

Bryophyllum scandens

Kingdom: Plantae

Brief description of species:

Synonym of Bryophyllum beauverdii Genetically engineered plant cells to encourage growth retardation in cultivated plants.

Distribution: Uncertain No of documents: 2

US2009307801A1 WO2006133970A2



Species name:

Kingdom: Plantae

Catharanthus longifolius

Brief description of species:

A plant from southern central Madagascar used

medicinally and rich in indole alkaloids.

Distribution: Endemic No of documents: 6

EP1118616A1 EP2221362A1 WO1995019698A1 WO2000006582A1

WO2000046383A2 WO2010094747A1



Species name:

Kingdom: Plantae

Catharanthus ovalis

Brief description of species:

One of 7 cartharanthus spp endemic to Madagascar (aka Madagascar Periwinkle) however patents refer to plants being grown in Argentina for extraction of alkaloids.

Distribution: Endemic No of documents: 8

EP1118616A1 EP1953235A2 EP2080769A2 EP2096177A2 WO2000046383A2

WO2006032087A1 WO2006069610A2 WO2007087815A2

Of Madagascan origin

Species name: Kingdom: Plantae

Catharanthus roseus

Brief description of species:

Catharanthus roseus, commonly known as the Madagascar periwinkle, is a species of Catharanthus native and endemic to Madagascar. It is the source of chemical compounds now used in the treatment of cancer.

Distribution: Endemic No of documents: 21

EP0200225A2 EP0692258A1 EP2090311A1 US4910138A US4918011A US5491285A US6548746B1 US7393946B1US2005251887P1 US2006013823A1 US2007283454A1 US2009082295A1 US2009165167A1 WO1988002002A1 WO1989012056A1 WO1995019698A1 WO1999062912A1 WO2000006582A1 WO2007031556A2

WO2007069204A2 WO2010004584A2







Species name: Kingdom: Plantae Cedrelopsis grevei

Brief description of species:

Endemic bush, bark used for production of essential oils used in traditional medicine to treat malaria.

Distribution: Endemic No of documents: 23

EP1802298B1 EP2119363A2 US6844369B2 US7208519B2 US7411005B2 US2002156135A1 US2003212146A1 US2005142228A1 US2007293563A1 US2009285886A1 US2009285904A1 US2010028471A1 US2010151065A1 US2010159045A1 US2010196494A1 US2010247593A1 WO2002058469A1 WO2003068158A2 WO2006042441A2 WO2008003839A1 WO2008034821A1 WO2008145996A2 WO2008151891A1

#### Of Madagascan origin

Species name: Kingdom: Plantae Cedrelopsis grevei

Brief description of species:

Endemic bush, cosmetic compositions from plant bark extracts for use on the skin.

Distribution: Endemic No of documents: 1

US2010151065A1



Species name: Kingdom: Plantae Coffea species

Brief description of species:

coffea abbayesii, coffea ambanjensis, coffea andrambovatensis, coffea ankaranensis, coffea arenesiana, coffea augagneurii, coffea bertrandii, coffea betamponensis, coffea boinensis, coffea boiviniana, coffea bonnieri, coffea buxifolia, coffea commersoniana, coffea coursiana, coffea decaryana, coffea dubardii, coffea farafanganensis, coffea fragilis, coffea grevei, coffea heimii, coffea homollei, coffea humbertii, coffea jumellei, coffea kianjavatensis, coffea labatii, coffea leroyi, coffea liaudii, coffea littoralis, coffea mangoroensis, coffea manombensis, coffea mcphersonii, coffea minutiflora, coffea mogeneti, coffea montis-sacri, coffea moratii, coffea perrieri, coffea pervilleana, coffea pterocarpa, coffea rakotonasoloi, coffea ratsimamangae, coffea resinosa, coffea richardii, coffea sahafaryensis, coffea sambavensis, coffea tetragona, coffea tricalysioides, coffea tsirananae, coffea vatovavyensis, coffea vavateninensis, coffea viannevi, coffea vohemarensis,

Technical patent regarding nucleic acids and production of fine chemicals, featuring long-list of species including coffees.

Production of callus cells as a possible source of vanilla from a long-list including coffee.

Production of bitter alkaloid consumables containing bitter blockers.

Processes for extraction of xanthanes mangiferin and isomangiferin from a long list including all coffees.

Distribution: Cosmopolitan No of documents: 18

EP1953235A2 EP2096177A2 EP2199304A1 US5057424A US2006137042A1 US2007039069A1 US2008318790A1 US2009005340A1 US2009307801A1 US2010279354A1 EP2080769A2 US2010301132A1 WO2005014828A2 WO2005098015A2 WO2006069610A2 WO2006133970A2 WO2007087815A2 WO2010127182A1



Species name: Kingdom: Plantae

Colubrina faralaotra

Brief description of species:

The patent is for a method of treatment oforleishmaniasis using Nornuciferine which can be isolated from this plant.

Distribution: Endemic No of documents: 1

WO2004084801A2

With Madagascan distribution

Species name: Kingdom: Plantae No Images Available

Comoranthus Madagascariensis, comoranthus minor

Brief description of species:

Hair & skin treatment using plant extracts.

Distribution: Endemic No of documents: 1

WO2007000214

With Madagascan distribution

Species name: Kingdom: Plantae

Crocosmia ambongensis

Brief description of species:

Grown worldwide as a garden plant. Cited as one of any crocosmias which can be used to produce inhibitors of mammalian amylases.

Distribution: Cosmopolitan No of documents: 1

WO2009049428A1

With Madagascan distribution

Species name: Kingdom: Plantae Croton hovarum

Brief description of species:

One of a long list of plants which can be used to overcome resistance to chemotherapy agents.

Distribution: Endemic No of documents: 1

WO2007073583A1



Species name: Ecionemia acervus

Brief description of species:
Marine sponge from which pharmaceutical anti cancer compounds are extracted. Collected by hand using SCUBA diving in Tulear, Madagascar.

Distribution: Cosmopolitan

No Image Available

No Image Available

With Madagascan distribution

Species name:

Dichapetalum
vondrozanum

Brief description of species:
Part of a mixture of plant extracts for treating symptoms of AIDS.

Distribution: Endemic

No of documents: 1

US2010266715A1

With Madagascan distribution

Species name:
Donella lanceolata

Brief description of species:
Synonym of Chrysophyllum roxburghii. Cosmetics,
extracts used for alpha glucosidase inhibitory activity.

Distribution: Cosmopolitan

No of documents: 1

US2009074822A1

Species name: Kingdom: Plantae

Dypsis decipiens

Brief description of species:

The Manambe palm is a species of flowering plant in the Arecaceae family. It is found only in the central highlands of Madagascar. Listed as a potential source of palm fibre for dietary products.



Distribution: Endemic No of documents: 2

WO2006014979A2 US2006024390A1

### With Madagascan distribution

Species name: Kingdom: Plantae Erythroxylum pervillei

Brief description of species:

Tropane alkaloid multidrug resistance inhibitors derived from the plant.

Distribution: Endemic No of documents: 3

WO2002083669A1 US2003092729A1 US6989396B2

## Of Madagascan origin

Species name: Kingdom: Plantae Erythroxylum pervillei

Brief description of species:

Tropane alkaloid multidrug resistance inhibitors derived from the plant.

Distribution: Endemic No of documents: 1

WO2008024293A1

Species name:

Kingdom: Animalia

Eulemur fulvus collaris

Brief description of species:

The collared brown lemur, also known as the red-collared brown lemur or red-collared lemur, is a medium-sized strepsirrhine primate. Listed as a species with known androgen receptor genes.



Distribution: Endemic

No of documents: 1

US2008063654A1

## With Madagascan distribution

Species name: Eulemur rubriventer

Kingdom: animalia

Brief description of species:

The red-bellied lemur is a medium sized prosimian with a luxuriant chestnut brown coat. This lemur is endemic to eastern Madagascan rainforests. Patents for olifactory receptor genes encoding.



Distribution: Endemic

No of documents: 5

US7241613B1 US2002151692A1 US2004014038A1 US2004067499A1

WO2001046262A2

#### With Madagascan distribution

Species name: Euphorbia alfredii

Kingdom: Plantae

Brief description of species:

Euphorbia alfredii is a species of plant in the Euphorbiaceae family. It is endemic to Madagascar. Its natural habitats are subtropical or tropical dry forests, subtropical or tropical dry shrubland, and rocky areas.



Distribution: Endemic

No of documents: 1

WO2006029605A1

Species name:

Kingdom: Plantae

Euphorbia hedyotoides

Brief description of species:

Euphorbia hedyotoides is a species of plant in the Euphorbiaceae family. It is endemic to Madagascar. Its natural habitat is subtropical or tropical dry forests. It is threatened by habitat loss. Plant with a large number of medical uses.



Distribution: Endemic

No of documents: 21

US7378445B2 US7449492B2 US7838555B2 US2003166613A1 US2003171334A1 US2003171337A1 US2003195168A1 US2005209192A1 US2006105994A1 US2008069809A1 US2008187513A1 US2010048698A1 WO2007059584A1 WO2007053912A1 WO2006063382A1 WO2002011743A2 WO2001093885A1 WO2001093884A1 WO2001093883A1 WO2008131491A1 WO2010091472A1

### With Madagascan distribution

Species name: Foetidia species Kingdom: Plantae

Brief description of species:

Foetidia cuneata, foetidia delphinensis, foetidia dracaenoides, foetidia macrocarpa, foetidia parviflora. foetidia pterocarpa, foetidia rubescens, foetidia sambiranensis, foetidia vohemarensis. A genus of between 5-18 species of flowering plants in the family Lecythidaceae, the sole genus in the subfamily Foetidioideae. The genus is native to a limited area in eastern Madagascar and Mascarene Islands. Skin care product from extract of foetidia species.



Distribution: Cosmopolitan

No of documents: 1

WO1997001345A1

Species name: Kingdom: Plantae

Gerbera hypochaeridoides

Brief description of species:

Presented in a long list of Gerbera spp - Horticulture

Distribution: Uncertain No of documents: 2

US2009083875A1 EP2011388A1

## With Madagascan distribution

Species name: Kingdom: Plantae

Gerbera petasitifolia

Brief description of species:

Presented in a long list of Gerbera spp - Horticulture.

Distribution: Uncertain No of documents: 1

EP2011388A1

## With Madagascan distribution

Species name: Kingdom: Plantae Herpestis monnieri

Brief description of species:

Synonym for Bacopa monnieri which is a perennial, creeping herb whose habitat includes wetlands and muddy shores across the globe. Used in traditional medicine, pharmaceuticals and plant feeds.

Distribution: Cosmopolitan No of documents: 4

US2004156920A1 WO2002003803A1 WO2002003813A1 WO2002003996A1

## Of Madagascan origin

Species name: Kingdom: Animalia No Images Available.

Homophymia lamellosa

Brief description of species:

Marine sponge from which anti cancer agents have been extracted. Collected by hand using SCUBA diving in Saint Marie Island, Madagascar.

Distribution: Cosmopolitan No of documents: 1

WO2010070078A1



Species name: Kingdom: Plantae

Jatropha mahafalensis

Brief description of species:

Species of euphorbia. Patents to clean out impurities to enable plant oils to be used for nourishment.

Distribution: Endemic No of documents: 2

US2009083875A1 EP2011388A1

## Of Madagascan origin

Species name: Kingdom: Plantae

Kalanchoe pinnata, Kalanchoe daigremontianum Kalanchoe tubiflora

Brief description of species:

Use of these plants to produce biopharmaceuticals as an alternative to using micro-organisms.

Distribution: Endemic/Cosmopolitan No of documents: 3

US2010247593A1 WO2008145996A2; WO2008024294A2

## With Madagascan distribution

Species name: Kingdom: Plantae

Kalanchoe ambolensis Kalanchoe aromatica Kalanchoe orgyalis

Brief description of species:

New cultivars of Kalanchoe plants for horticulturalists.

Distribution: Uncertain No of documents: 7

US7453032B2 US7847150B2 US2006130191A1 US2009044295A1 US2006041963A1

US2006041964A1 EP1671536A1







Species name: Kingdom: Plantae

Kalanchoe linearifolia

Brief description of species:

Presented in a long list of Gerbera spp - Horticulture.

Distribution: Endemic No of documents: 2

EP1854452A1 EP1857099A1

With Madagascan distribution

Species name: Kingdom: Animalia

Latrodectus menavodi

Brief description of species:

Venomous spider from which the venom can be used to treat brain tumours. Madagascar and Seychelles.

Distribution: Cosmopolitan No of documents: 2

WO2006134166A2 WO2008074872A1

With Madagascan distribution

Brief description of species:

Species name: Kingdom: Animalia

Lemur coronatus

Crowned Lemur. Pharmaceutical composition. LHR splice variants from this and other species.

Distribution: Endemic No of documents: 1

WO2008087038A2

With Madagascan distribution

Species name: Kingdom: Animalia

-

Lepilemur dorsalis

Brief description of species: The gray-backed sportive lemur, also known as Gray's sportive lemur or back-striped sportive lemur. IUCN Red

List DD. Molecular biology - Gene sequencing.

Distribution: Endemic No of documents: 2

US2010005550A1 US2007178451A1









Species name: Kingdom: Animalia

Mantella aurantiaca

Brief description of species:

The golden mantella is a small, terrestrial frog endemic to Madagascar Passing reference in long list of all frog species.

Distribution: Endemic No of documents: 1

EP1391503A1

With Madagascan distribution

Species name: Kingdom: Plantae

Mapouria mandrarensis

Brief description of species:

Synonym for Psychotria mandrarensis. Extracts from this plant can be used in the treatment of cancers.

Distribution: Endemic No of documents: 1

EP1859804A1

With Madagascan distribution

Species name: Kingdom: Plantae

Brief description of species:

Melanophylla alnifolia

It is endemic to Madagascar. Its natural habitat is subtropical or tropical moist forests. Nucleic acid molecules associated with oils in plants.

Distribution: Endemic No of documents: 1

US2007039069A1





Species name: Kingdom: Animalia

Microcebus murinus

Brief description of species:

The gray mouse lemur, is a small lemur, a type of strepsirrhine primate, found only on Madagascar. Cited as being a homologue with reference to human protein coding. Academic Reference TSE, eye cones.

Distribution: Endemic No of documents: 9

EP1177312B1 EP1435521A1 EP1435521A1 EP1435521B1 EP1445615A1

EP1589097A1 EP1897950A2 EP2042191A1 US6084071A

### With Madagascan distribution

Species name: Kingdom: Animalia

Mirza coquereli

Brief description of species:

Coquerel's giant mouse lemur, also known as Coquerel's dwarf lemur or southern giant mouse lemur, is a small nocturnal lemur endemic to Madagascar.

Distribution: Endemic No of documents: 1

US2007048755A1

## With Madagascan distribution

Species name: Kingdom: Plantae *Moringa hildebrandtii* 

Brief description of species:

A tree, extracts from which are used in the cosmetics industry for skincare products. Also used for cardio-vascular treatments. Extinct in the wild but cultivated.



Distribution: Endemic No of documents: 6

US6500470B1 US2006222682A1 US2009098230A1 WO1999048512A1

WO2009013002A2 WO2010008306A2

Species name:

Mundulea striata

Kingdom: Plantae

Brief description of species:

The cork bush is a small tree, extracts from wood of this and many other species can be used to make skin treatment to prevent UVB induced damage.

Distribution: Cosmopolitan No of documents: 1

US2009208432A1

### With Madagascan distribution

Species name: *Mycobacterium madagascariense* 

Kingdom: Bacteria

Brief description of species:

Distribution: Cosmopolitan

Mentioned in a long list of mycobacteria in patent about chemical synthesis inside micro-organisms Pharmaceuticals.

No of documents: 8

EP1953235A2 EP2080769A2 EP2096177A2 EP2199304A1 US2006137042A1 US2008318790A1 WO2005014828A2 WO2005098015A2

Of Madagascan origin

Species name: *Neobeguea mahafalensis* 

Kingdom: Plantae

Brief description of species:

The Neobeguea genus of the Meliaceae family is endemic to Madagascar. This plant is used medicinally for treatment of sexual dysfunction.

Distribution: Endemic No of documents: 2

US2009155900A1 WO2009079409A1



Species name: Kingdom: Plantae

Ormocarpopsis species

Brief description of species:

Legume, used in method for targeting plant genus. Species listed are: ormocarpopsis aspera, ormocarpopsis calcicola, ormocarpopsis itremoensis, ormocarpopsis mandrarensis, ormocarpopsis parvifolia, ormocarpopsis tulearensis, ormocarpum bernierianum, ormocarpum drakei.



Distribution: Endemic No of documents: 7

US7144702B2 US7402391B2 US7704694B2 US2003207298A1 US2007048779A1 US2008064028A1 US2008280304A1

With Madagascan distribution

Species name: Kingdom: Fungi No Image Available Paecilomyces viridis

Brief description of species: penicillium producing fungus.

Distribution: Cosmopolitan No of documents: 20

EP1149919A2 EP1149919B1 US5744350A US5849541A US6174706B1 US6426202B1 US7056710B2 US7811997B2 US2003078395A1 US2005214909A1 US2006148733A1 US2007111293A1 WO1995012661A1 WO2001030975A1 WO2009056539A1 WO2010056908A1 WO2010077922A1 WO2010104908A1 WO2010121094A1 WO2010132628A2

#### With Madagascan distribution

Species name: Kingdom: Animalia

Paroedura pictus

Brief description of species:

The Pictus Gecko is a nocturnal ground dwelling gecko found in the leaf litter in forests on the island of Madagascar. Patent to produce transgenic reptiles for testing, screening and other production. Pictus Gecko listed as possible species



Distribution: Endemic No of documents: 3

US2010251393A1 US2008005807A1 US7663019B2

Species name: Kingdom: Plantae No Image Available Plant MG899

Brief description of species:

The compound was isolated from an extract of the bark of a Madagascan plant coded MG899 provided under a Madagascar International Cooperative Biodiversity Group Cooperative Research Agreement'

Distribution: Uncertain No of documents: 2

US2005261174A1 WO2005115149A2

Of Madagascan origin

Species name: Kingdom: Plantae

Brief description of species:

Psorospermum molluscum

Plant grows in Madagascan rain forests. Xanthane extraction from plants which can be used in the treatment of certain cancers.



Distribution: Endemic No of documents: 2

WO2009036106A1 US2010311826A1

With Madagascan distribution

Species name: Kingdom: Plantae Radamaea montana

Brief description of species:

Small Madagascan shrub/tree. Extracts from plant used in cosmetic preparations.



Distribution: Endemic No of documents: 1

WO2009024707A2

Species name: Kingdom: Plantae Ravensara anisata

Brief description of species:

Synonym for Cryptocarya agathophylla, a plant species with many pharmaceutical uses and producer of essential oils.

Distribution: Uncertain No of documents: 13

US7288265B1 US2004071757A1 US2005014730A1 US2007026056A1 US2007207192A1 US2009258098A1 WO2004062600A2 WO2004089357A2 WO2004110401A2 WO2008133982A2 WO2009043987A1 WO2009111040A1 WO2009129336A2

## With Madagascan distribution

Species name: Kingdom: Plantae Strychnopsis thouarsii

Brief description of species:

The plant, strychnopsis thouarsii (unresolved name), is found only in Madagascar, growing in the country's eastern rain forests. It is producing anti malarial drugs.

Distribution: Endemic No of documents: 2

EP1589004A1 EP1747200B1

Of Madagascan origin

Species name: Kingdom: Animalia
Theonella swinhoei

Brief description of species:

A marine sponge which has yielded many important, bioactive natural products.

Distribution: Endemic No of documents: 1

US2006122129A1



Species name: Kingdom: Plantae

Tambourissa species

Brief description of species:

Tambourissa capuronii, tambourissa religiosa, tambourissa trichophylla. Medicinal extracts which can be used to treat various infections. Production of treatments using anti-microbial peptides or proteins from plant extracts.

C D.J. Da Pay, In

Distribution: Endemic No of documents: 1

WO2010037545A1

## With Madagascan distribution

Species name: Kingdom: Plantae

Tristellateia

madagascariensis

Brief description of species:

Unresolved name. DNA encoding patents featuring this species.

Distribution: Endemic No of documents: 3

WO2004097004A2 US2004268443A1 US7271004B2

Of Madagascan origin

Species name: *Vanilla* Kingdom: Plantae planifolia

Brief description of species:

Vanilla planifolia is a species of vanilla orchid. It is native to Mexico, and is one of the primary sources for vanilla flavouring, due to its high vanillin content. A fermentation process to produce vanillin from Madagascan vanilla (Native to central America).



Distribution: Cosmopolitan No of documents: 1

WO2010066061A1

Species name: Kingdom: Plantae Vernonia species

Brief description of species:

Vernonia appendiculata, vernonia chapelieri, vernonia pectoralis, vernonia sublutea, vernonia trinervis. Vernonia is a genus of about 1000 species of forbs and shrubs in the family Asteraceae. Extract in named species used in the preparation of a skin treatment.



Distribution: Endemic No of documents: 3

EP2150262A2 WO2008125237A2 EP1854452A1

## With Madagascan distribution

Species name: Kingdom: Plantae *Xyris semifuscata* 

Brief description of species:

Also a synonym for Xyris capensis. A plant which can produce vanilla, listed in a patent for callus cell production.



Distribution: Cosmopolitan No of documents: 1

US5057424A

**Appendix 1.**Distribution map of GBIF records in Madagascar by taxonomic kingdom.

