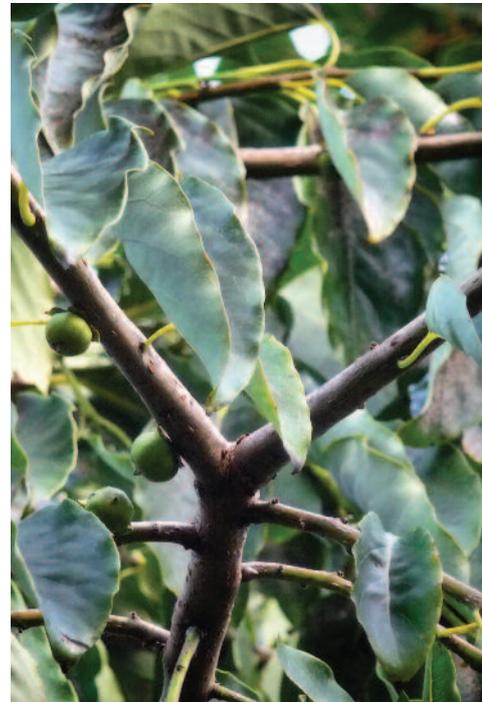
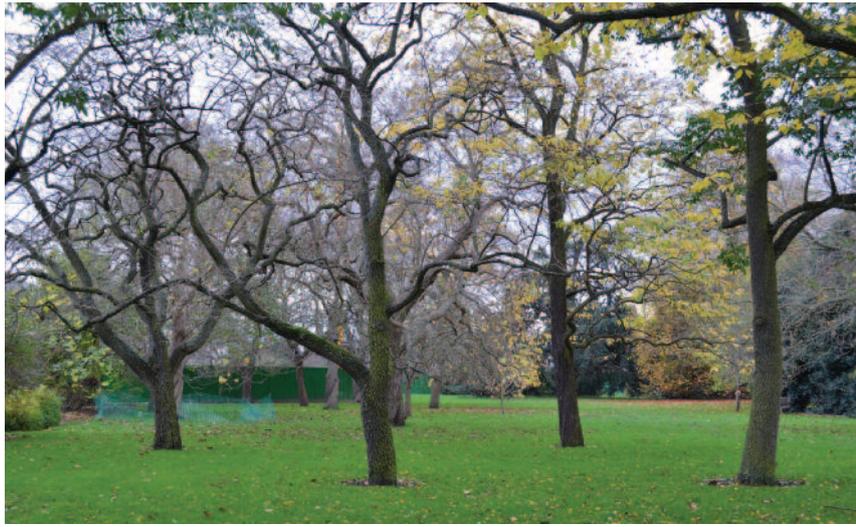


Global Survey of *Ex situ* Ebony Collections



MISSOURI
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BGCI
Plants for the Planet

Global Survey of *Ex situ* Ebony Collections

By Emily Beech, Kirsty Shaw, Malin Rivers and George E. Schatz

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Diospyros lotus (LC) reported in 150 ex situ collections
(Credit: Inmaculada Porras)

Acronyms

BGCI	Botanic Gardens Conservation International
CBD	Convention on Biological Diversity
FFI	Fauna & Flora International
GEA	Global Ebony Assessment
GSPC	Global Strategy for Plant Conservation
GTA	Global Tree Assessment
GTC	Global Trees Campaign
GTSG	Global Tree Specialist Group
IUCN	International Union for Conservation of Nature
IUCN/SSC	International Union for Conservation of Nature/Species Survival Commission
MBG	Missouri Botanical Garden



IUCN Red List categories

EX	Extinct
EW	Extinct in the Wild
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
DD	Data Deficient
NT	Near Threatened
LC	Least Concern
NE	Not Evaluated



BGCI

Plants for the Planet

BOTANIC GARDENS CONSERVATION INTERNATIONAL

(BGCI) is a membership organisation linking botanic gardens in over 100 countries in a shared commitment to

biodiversity conservation, sustainable use and environmental education. BGCI aims to mobilize botanic gardens and work with partners to secure plant diversity for the well-being of people and the planet. BGCI provides the Secretariat for the IUCN/SSC Global Tree Specialist Group.



FAUNA & FLORA INTERNATIONAL

(FFI), founded in 1903 and the world's oldest international conservation organisation, acts to conserve threatened species and ecosystems worldwide, choosing

solutions that are sustainable, are based on sound science and take account of human needs.



THE GLOBAL TREES CAMPAIGN

(GTC) is undertaken through a partnership between BGCI and FFI. GTC's mission is to prevent all tree species extinctions in the wild,

ensuring their benefits for people, wildlife and the wider environment. GTC does this through provision of information, delivery of conservation action and support of sustainable use, working with partner organisations around the world.



**MISSOURI
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MISSOURI BOTANICAL GARDEN

(MBG) in St. Louis, founded in 1859 by Henry Shaw, is a centre for plant science, conservation, education and horticultural display. MBG's

mission is to discover and share knowledge on plants and their environment in order to preserve and enrich life.

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Diospyros lycioides ssp. *guerkei* (LC) reported in 2 *ex situ* collections (Credit: Tess Additon, UC Botanical Garden)



Diospyros lotus (LC) reported in 150 *ex situ* collections

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Summary

Ebonies are an economically important tree group, providing timber, medicine and food.

Their sought-after timber has led to the overexploitation of some species. Safeguarding ebonies both *in situ* and *ex situ* collections is essential to ensure effective conservation of this group.

In this report we present the results of a survey of global ebony *ex situ* collections undertaken by Botanic Gardens Conservation International (BGCI) as part of our ongoing contributions to the Global Trees Campaign. This survey was commissioned by Missouri Botanical Garden and forms part of the Global Ebony Assessment.

Botanic gardens were contacted to submit a list of their *ex situ* collections of ebonies to BGCI's PlantSearch database. Additional information about these collections, such as age and sex, was also requested.

The collection information shows that **only 24% of ebony taxa (193 of 806 taxa) are reported in *ex situ* collections.**

Although the conservation status of many *Diospyros* is currently unknown, **only 25% of those taxa known to be threatened are reported in *ex situ* collections.**

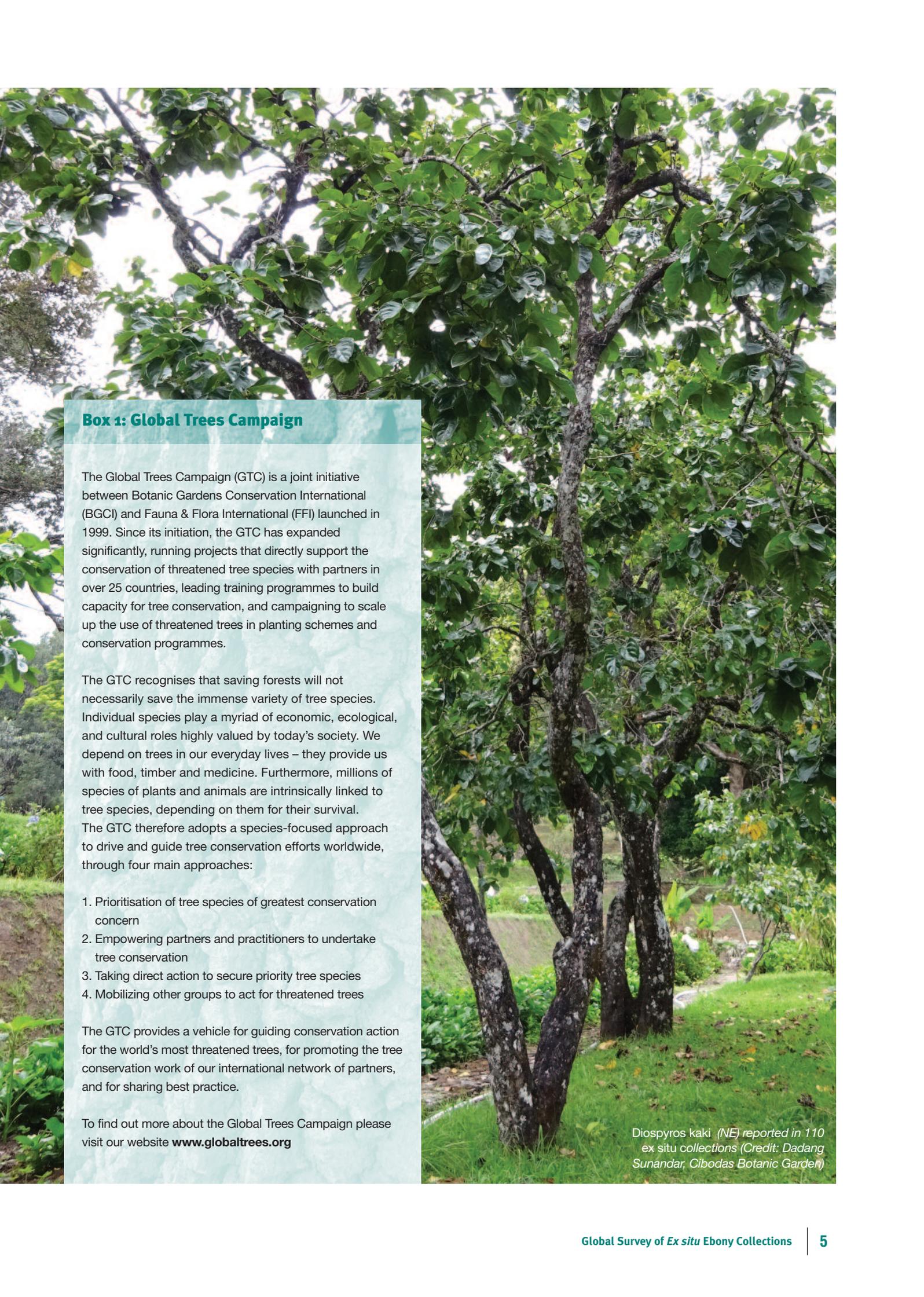
76 threatened ebony taxa that are reported as absent from collections. These should be brought into *ex situ* collections as a matter of urgency. A full list of ebony taxa and their representation in *ex situ* collections is available in Annex 1.

Collections were also assessed on an individual level using additional data provided by gardens such as the sex and age of their collections. This analysis showed that for most species the sex and the age of the trees were not known. The oldest tree reported was 118 years old, but the average age only 17 years old.

We call for ebony *ex situ* collections to be expanded to contain a greater diversity of species and sufficient genetic diversity to allow their use in recovery and restoration programmes. It is expected that this report will support and mobilise increased conservation action to protect ebony species from extinction.



Diospyros kaki (NE) reported in 110 *ex situ* collections (Credit: Inmaculada Porras)



Box 1: Global Trees Campaign

The Global Trees Campaign (GTC) is a joint initiative between Botanic Gardens Conservation International (BGCI) and Fauna & Flora International (FFI) launched in 1999. Since its initiation, the GTC has expanded significantly, running projects that directly support the conservation of threatened tree species with partners in over 25 countries, leading training programmes to build capacity for tree conservation, and campaigning to scale up the use of threatened trees in planting schemes and conservation programmes.

The GTC recognises that saving forests will not necessarily save the immense variety of tree species. Individual species play a myriad of economic, ecological, and cultural roles highly valued by today's society. We depend on trees in our everyday lives – they provide us with food, timber and medicine. Furthermore, millions of species of plants and animals are intrinsically linked to tree species, depending on them for their survival. The GTC therefore adopts a species-focused approach to drive and guide tree conservation efforts worldwide, through four main approaches:

1. Prioritisation of tree species of greatest conservation concern
2. Empowering partners and practitioners to undertake tree conservation
3. Taking direct action to secure priority tree species
4. Mobilizing other groups to act for threatened trees

The GTC provides a vehicle for guiding conservation action for the world's most threatened trees, for promoting the tree conservation work of our international network of partners, and for sharing best practice.

To find out more about the Global Trees Campaign please visit our website www.globaltrees.org

Diospyros kaki (NE) reported in 110 ex situ collections (Credit: Dadang Sunandar, Cibodas Botanic Garden)



1. Introduction

Diospyros lotus (LC) reported in 150 *ex situ* collections (Credit: Arboretum Wespelaar)

The ebonies (*Diospyros*) are an important group of trees, providing a source of timber, food and medicine. Their attractive timber has led to some species being overexploited. Safeguarding ebonies in the wild is clearly important, but also establishing *ex situ* collections is essential to ensure effective conservation of this group.

Missouri Botanical Garden (MBG) commissioned Botanic Gardens Conservation International (BGCI) to undertake this *ex situ* survey of ebonies as part of MBG's Global Ebony Assessment (GEA). The GEA aims to improve the knowledge and conservation of ebony species worldwide (Box 2). Although there are other trees which may be referred to as ebonies, for this report, the word ebony and the genus name *Diospyros* are used interchangeably. This is the first time a global survey of ebony collections in botanic gardens has been carried out, and is part of BGCI's ongoing contributions to the Global Trees Campaign (GTC), a joint initiative between BGCI and Fauna & Flora International to safeguard threatened tree species from extinction and secure their benefits for humans and the environment (Box 1).

1.1 Global *ex situ* surveys

BGCI typically conducts a global survey of *ex situ* collections after completing a taxonomically focussed tree Red List. This has resulted in the publication of global *ex situ* surveys for a range of different groups including magnolias, maples and Betulaceae (for a full list of published *ex situ* reports see the Useful Links section on page 20). In these surveys, threatened taxa reported in few or no *ex situ* collections are identified and highlighted as priorities for immediate conservation action. Recommendations are also made on how to maximise the conservation value of *ex situ* collections.

Ex situ surveys have also been produced by BGCI at regional levels, analysing the representation of threatened European and North American taxa in *ex situ* collections (Sharrock & Jones, 2009 and Kramer *et al.*, 2011 respectively). The Plant Conservation Report (Sharrock *et al.*, 2014) also provides an assessment of *ex situ* plant collections in Australia and New Zealand, and an assessment of the number of threatened plants held in *ex situ* collections at the global level.

More recently, BGCI has published a report entitled *Conserving the World's Most Threatened Trees: A global survey of ex situ collections* (Rivers *et al.*, 2015), which compiled a comprehensive list of the world's threatened trees from multiple sources and assessed their representation in *ex situ* collections. This publication differs slightly from those that have come before as the genus *Diospyros* is yet to be red listed in its entirety. Here we assess the *ex situ* collections of all *Diospyros* taxa and include analysis of threatened taxa in collections where conservation status is known.

1.2 The importance of *ex situ* collections

Ex situ collections provide species with protection away from their native habitat and any *in situ* threats. *Ex situ* collections can take the form of living plants, pollen, seeds, vegetative propagules and tissue or cell cultures. Botanic gardens, arboreta and seed banks (from now on referred to as botanic gardens) can play a vital role in conservation of ebonies. The Next Steps section (page 17) provides recommendations to ensure *ex situ* collections provide maximum conservation value.

Propagated material from wild sourced collections can be used for reintroduction and restoration programmes to improve the conservation status of threatened species *in situ*.

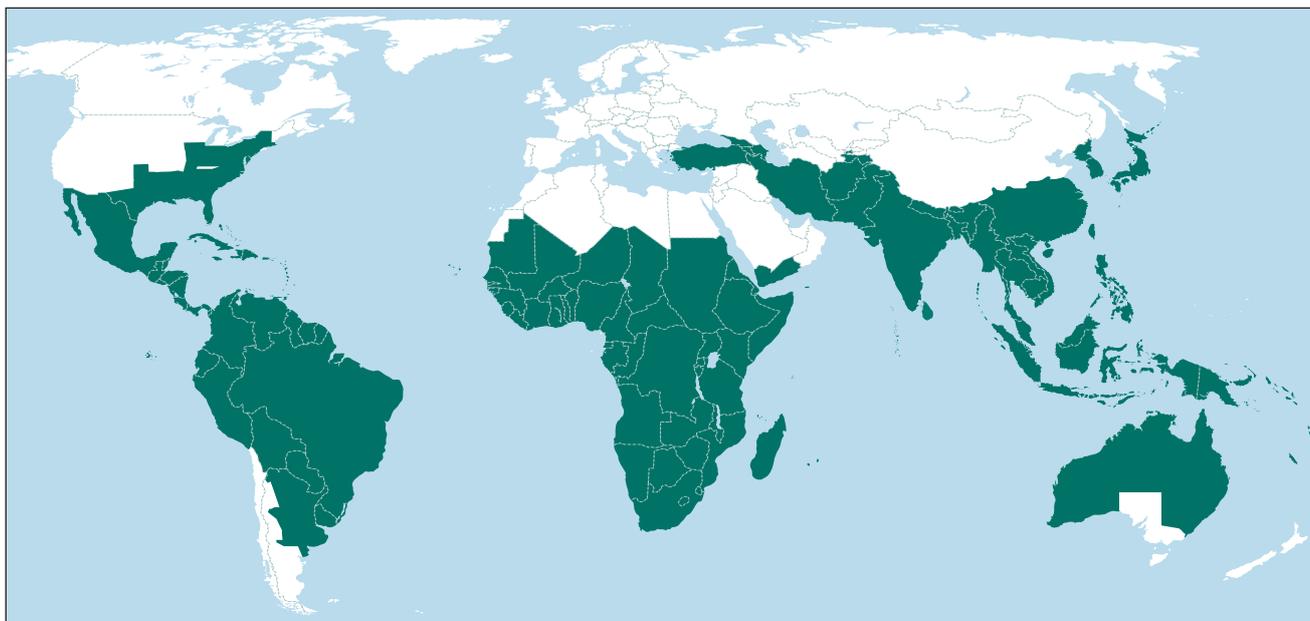


Figure 1. Country (TDWG 3) level distribution of ebonies (based on WCSP data)

1.3 Ebonies

The Ebenaceae is a family of approximately 759 species of shrubs and large trees in three genera (WCSP, 2015). It includes both deciduous and evergreen species, occurring in both temperate and tropical forests across the globe. This survey focuses on the *Diospyros* genus which consists of 735 species. The general distribution of the *Diospyros* genus is extensive (Figure 1). The majority of Ebenaceae species (497 species or 65%) are single country or island endemics. Many of the ebonies remain undescribed and there are thought to be around 120 new species of ebony in Madagascar. These will be described as part of the GEA.

Uses

Ebonies have a wide range of uses and are an economically important group.

The most well-known use of ebonies is their timber. Certain *Diospyros* species produce wood which is highly sought-after, for example those with black wood (e.g. *Diospyros ebenum*) and those with pale streaked wood (e.g. *Diospyros malabarica*). Other *Diospyros* species do not produce black or streaked wood, however, they may still be used for timber to a lesser extent. In the trade, there is rarely a distinction between the species, many are harvested under the name ebony. The timber is used in carpentry and for making musical instruments and furniture. Many of these timber trees have been exploited to the point that they are threatened with extinction (See the trade section on page 9 for more information).

Several species of *Diospyros* also have medicinal properties. For example, the dried flowers of *Diospyros melanoxylon*, found in India and Sri Lanka, are used to treat urinary infections as well as skin and blood diseases. Various parts of the *Diospyros mespiliformis* tree, from West Africa, have antibiotic properties treating diseases such as syphilis and malaria (Orwa *et al.*, 2009).

Certain species of *Diospyros*, such as *Diospyros kaki* and *Diospyros lotus*, are widely cultivated for their fruits called persimmons. China is the world's leading producer of persimmons, generating an average of 2 million tonnes of fruit per year between 1993 and 2013. Figure 2 shows production per country for the year 2013. China produced 3.6 million tonnes of persimmons. The next largest producing country, the Republic of Korea, produced 350,000 tonnes. Russia is the biggest importer of persimmons and Spain the largest exporter (FAO, 2015).

Ebonies are also a keystone species for vertebrate frugivores. The seeds of *Diospyros* species are dispersed by a range of mammals and birds (Wallnöfer, 2001) and even reptiles, for example, *Diospyros egrettarum* is dispersed by large land tortoises (Griffiths *et al.*, 2011).

Ebonies have high horticultural value with beautiful flowers, fruits and attractive autumn colours. They therefore make good additions to botanic garden collections. Because of their value as timber, medicine and fruit trees there is opportunity for incorporating these trees into interpretation programmes.



Diospyros manampetsae (NE) reported in 1 ex situ collection (Credit: Fidy Ratovoson)

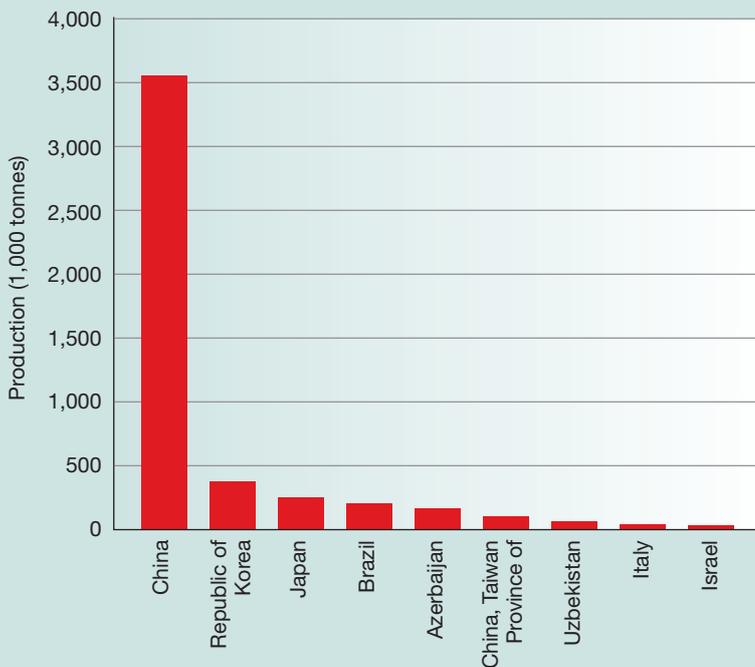


Figure 2. Persimmon production in 2013 (data taken from FAO, 2015)



Diospyros glandulosa (NE) reported in 2 ex situ collections (Credit: Pha Tad Ke Botanical Garden)

Box 2: Global Ebony Assessment

The Global Ebony Assessment (GEA) is led by Missouri Botanical Garden (MBG). This three year project aims to assess and improve the conservation status of ebonyes. The GEA has the following objectives:

- Establish a baseline list of accepted names and synonyms of ebonyes.
- Describe the ca. 120 new species of ebonyes in Madagascar.
- Complete red listing of the ebonyes working in collaboration with the Global Tree Specialist Group, through a series of workshops worldwide.
- Conduct a survey of ebony species in cultivation in botanical gardens worldwide, providing recommendations on best practice for increasing the genetic diversity of ebonyes in *ex situ* cultivation, and consult with international timber organisations to assess the global exploitation and international trade in ebony.
- Conduct intensive conservation genetics studies on the highly threatened endemic Mascarene ebonyes to inform *ex situ* and restoration strategies.
- Carry out a comprehensive inventory of the ebonyes occurring within MBG's 12 conservation sites in Madagascar, and establish living gene banks of ebonyes from both within those sites as well as from nearby unprotected forest fragments.

The Global Trees Campaign is contributing to the GEA by undertaking this *ex situ* survey of ebony collections.

Box 3: Global Tree Assessment

Despite the importance of trees, many are threatened by over-exploitation and habitat destruction, as well as by pests, diseases, drought and their interaction with global climate change (Table 1). In order to estimate the impact of such threats to trees there is an urgent need to conduct a complete assessment of the conservation status of the world's tree species – the Global Tree Assessment (GTA).

The Global Tree Assessment aims to provide conservation assessments of the world's tree species by 2020. The assessment will highlight the true scale of extinction faced by trees, will identify those tree species that are at greatest risk of extinction and will provide information that is essential to the development of conservation plans.

To achieve this, we first need to generate a global list of tree species, GlobalTreeSearch, in order to do a gap analysis of where the conservation assessment information (both taxonomically and geographically) is missing.

The Global Tree Assessment is coordinated by the IUCN/SSC Global Tree Specialist Group. Work is ongoing to develop participative, open-access approaches to data sharing and evaluation, and to develop of an even more extensive global collaborative partnership, involving the coordinated effort of many institutions and individuals. These steps will enable the GTA to achieve its 2020 target.



Diospyros kaki (NE) reported in 110 ex situ collections (Credit: Peter Tothill, RBGE volunteer photographer)

Trade

Since 2013, 103 endemic Malagasy *Diospyros* species have been listed under Appendix II of the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) (UNEP-WCMC, 2015). These species are the subject of an action plan with Malagasy *Dalbergia* species (UNEP-WCMC, 2013). The CITES listing covers trade of logs, sawn wood and veneer sheets. Both genera produce high value timber and are subject to heavy extraction rates without much regard for the individual species extracted. There is still a lack of data on the amount of timber being extracted and exported. However, despite a ban on export of precious woods from Madagascar in 2010, logging has continued, including in protected areas (IUCN/TRAFFIC, 2012). Stocks remaining in Madagascar's forests are also not well documented (IISD Reporting Services, 2015). As part of the GEA, more research will be done into the extent of trade of these sought-after species.

Threats
Timber extraction
Slow or poor natural regeneration
Land clearance and habitat degradation
Extraction of non-timber products
Low genetic diversity
Invasive species
Pests and diseases
Climate change

Table 1. Threats facing the world's trees

Threat status

The threats to ebonies are similar to the threats facing many of the world's threatened trees (Table 1).

Progress has been made towards the red listing of *Diospyros*. 196 species currently have a conservation assessment, however, many of these assessments are in need of updating. IUCN guidelines recommend that the conservation status of a species is reassessed every five years. 70% of the existing *Diospyros* assessments are five (or more) years old. 13 of these assessments did not have enough information to assign a category so are listed as Data Deficient. The Global Tree Specialist Group (GTSG) aims to have conservation assessments for every tree species by 2020 – the Global Tree Assessment (GTA, Box 3). The GEA will contribute directly to the GTA by undertaking red list assessments of ebony species. Conservation assessments of ebonies that are currently available are listed in Annex 1.

A further seven assessments for Cameroonian ebonies were added to the IUCN Red List in 2015. New and updated assessments of the Mauritian and Rodrigues ebonies (12 species), as well as the ebonies endemic to the Eastern Arc Mountains and coastal forests of Eastern Africa (13 species), are currently being entered into the IUCN SIS system for submission to the Red List. Because of the high levels of single country endemic ebonies and the existence of major ebony hotspots, regional red listing workshops offer a great opportunity to make significant progress in producing conservation assessments for *Diospyros* species. A series of regional red listing workshops are planned for 2016 as part of the GEA, including: 1) in Gabon to assess the 45 species occurring in Cameroon and Gabon; 2) in Brazil to assess the 30 species endemic to Brazil; 3) in Sri Lanka to assess the 45 species endemic to southern India and Sri Lanka.



Diospyros revaughanii (VU) reported in 1 ex situ collection (Credit: G.E. Schatz)

1.4 Policy Context

The Global Strategy for Plant Conservation (GSPC) was adopted in 2002, by Parties to the Convention on Biological Diversity (CBD). The GSPC has 16 targets for plant conservation. The targets were initially set up with a deadline of 2010. Following this, the targets were revised to run from 2011-2020 (CBD, 2012).

Target 8 of the GSPC calls for:

'At least 75% of threatened plant species in ex situ collections, preferably within the country of origin, and at least 20% available for recovery and restoration programmes' by 2020.

1.5 Aims and objectives

The aim of this report is to assess the representation of ebony species in *ex situ* collections.

This survey builds on the Global Trees Campaign's recent publication '*Conserving the World's Most Threatened Trees: a global survey of ex situ collections*', which assessed the current status of the world's *ex situ* collections of threatened trees. The report included 43 ebony species that have been assessed using IUCN Red List Categories and Criteria version 3.1 as Critically Endangered and Endangered and found that 33 (or 76%) of those ebony species are not reported as held in *ex situ* collections. We have identified further Critically Endangered and Endangered assessments during this survey.

This survey provides an assessment of representation of all *Diospyros* species in *ex situ* collections, including threatened species, those that are widespread and not considered



Diospyros kaki (NE) reported in 110 *ex situ* collections (Credit: Eötvös Loránd University Botanical Garden)

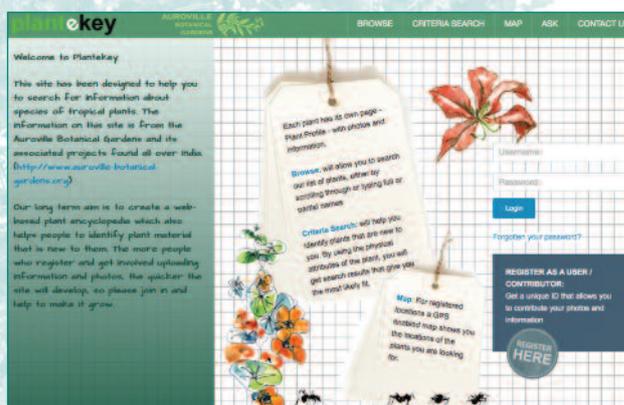
threatened, and those that do not yet have a conservation assessment. This will show which ebony species are represented in *ex situ* collections, highlighting current gaps. The report provides a list of the species which are not currently found in *ex situ* collections (Annex 1) in order to encourage botanic gardens to bring them into their collections as a priority.

The report also aims to carry out an initial assessment of the size, sex and management of *ex situ* collections of *Diospyros* and suggest ways of improving and expanding collections to safeguard ebony species from extinction.

Case study 1: PlanteKey

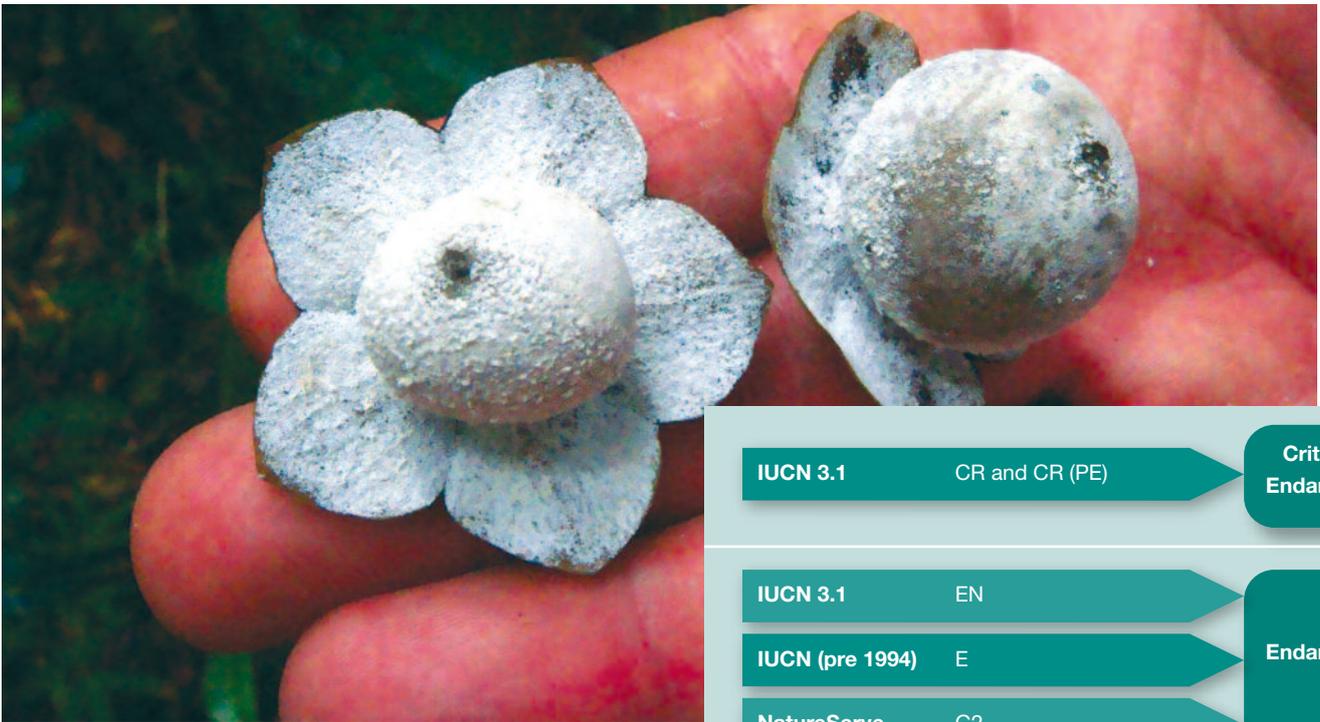
PlanteKey, which started in 2014, is a web-based encyclopaedia of tropical plants found primarily in India. Created by Auroville Botanical Gardens, the website currently hosts information about their plant collections, and it is planned to add plant collections from associated projects and partnerships from all over India. This publicly accessible collections and plant information database provides a profile for each plant including a description of the species, the habit, and uses. It also provides planting and propagation techniques for each species and an image gallery showing the flowers, fruit, bark, habitat and leaves for each species. It is possible to send photographs to the team at Auroville for identification and to be included on the website. Each species can be located within the Auroville Botanical Gardens on a map.

There is a search function allowing users to not only browse the collection but also to identify plants based on characteristics.



PlanteKey currently contains 7 species of *Diospyros* native to India with full profiles and photos. More information can be found at www.plantekey.com.

2. Methodology



Diospyros fruits (Credit: Christian Berg, Botanical Garden Graz)

For this study we use the taxonomy of Ebenaceae from the World Checklist of Selected Plant Families (WCSP, 2015), with additional refinement from George E. Schatz of Missouri Botanical Garden.

Conservation assessments were gathered from a variety of sources (Annex 2). The majority of these assessments were from the IUCN Red List of Threatened Species. Some conservation assessments came from other sources with different methodologies and categories to describe threat status. Figure 3 shows how the different categories were reconciled to the IUCN Red List Categories and Criteria version 3.1 classification.

Botanic gardens with *Diospyros* listed on BGCI's PlantSearch database (BGCI, 2015a, Box 4) were contacted and requested to verify and provide more detailed information about their collections. Gardens were asked to provide information about the size of the collection, the provenance, the sex and age of individuals and whether propagation or restoration projects involving ebony species are led by the garden.

Efforts were made to obtain comprehensive information about all *ex situ* collections of ebonies. Gardens in ebony hotspots were also identified using BGCI's GardenSearch database (BGCI, 2015b). Hotspots include South East Asia, West Africa, India and Sri Lanka. Attempts were made to contact these gardens via email and telephone and where possible in the appropriate language.

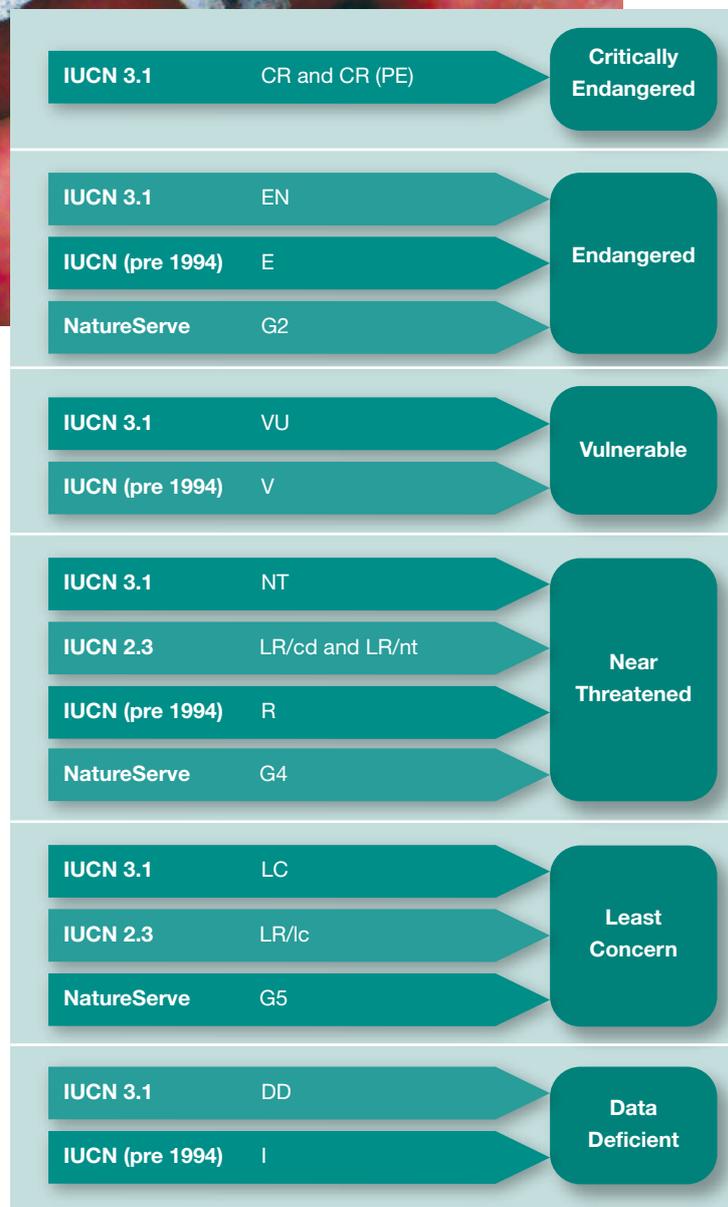


Figure 3. How various conservation assessment classification systems were reconciled into the IUCN categories (see Annex 2 for sources).



Diospyros lotus (LC) reported in 150 *ex situ* collections

The survey was also promoted through our botanic garden networks and various listservs. It was advertised through the BGCI website and social media.

Gardens were also asked to provide photos of their collections and to send herbarium specimens and leaf material in silica gel for genetic analysis to Missouri Botanical Garden.

There are 105 *Diospyros* cultivar records and 33 unidentified collections of *Diospyros* (ie. *Diospyros* sp.) on PlantSearch. Unidentified species and cultivar records were not incorporated into the analysis. Gardens were requested to provide additional information only for non-cultivar records.

It was assumed that the PlantSearch records of *Diospyros* from the gardens that did not respond to the survey were up-to-date and correct. These records and data provided by gardens were combined for the taxon level analysis.

The additional information provided by gardens, such as sex and age of their *Diospyros* collections, was used in the individual level analysis.

Box 4: PlantSearch

BGCI's PlantSearch database is the only global database of plants in cultivation, and is free to contribute to and access. PlantSearch connects around 2,000 researchers and horticulturists to collections every year. Locations and gardens are not publicly revealed, and requests can be made via blind email messages. PlantSearch is an easy way for *ex situ* collection holders to contribute to broader *ex situ* assessments such as this survey. By uploading a taxa list to PlantSearch, collection holders can connect their collections to the global botanical community, and also find out the conservation value of their taxa including the number of locations each taxon is known globally and current global conservation status. It is important for *ex situ* collections to share accurate data and keep it updated. PlantSearch relies on collection holders to upload up-to-date taxa lists on an annual basis to ensure accuracy and enhance usability of the data. www.bgci.org/plant_search.php

Welcome to PlantSearch!

English (EN) | En Español (ES) | 日本語 (JA) | 中文 (CN)

Plant Search The only global database of living plant, seed and tissue collections:

- Search 1,328,046 collection records, representing 483,478 taxa, at 1,138 contributing institutions
- Locate threatened, rare, medicinal and other plant species in living collections
- Connect with living collections to aid your conservation, education and research efforts

Enter search criteria below (all fields optional)

Scientific name: Exclude cultivar names

Genus Species Intraspecific Epithet

Conservation Status: IUCN Red List 2013 -- Please Select -- Additional Status: Crop Wild Relative -- Please Select --

IUCN Red List 1997 -- Please Select -- Medicinal plant species

CITES listed species Threatened Global Trees Campaign species

Which IUCN list should I choose?

Search



Diospyros nigra (NE) reported in 43 *ex situ* collections
(Credit: Montreal Biodôme Collections)

3. Results

3.1 *Ex situ* collections: Taxon level analyses

Number of taxa in collections

The survey identified 1,103 records of *Diospyros* taxa from 353 institutions. This number represents the presence of a single taxon in a collection and does not take into account the number of accessions or individuals. Records in PlantSearch may refer to living material or seed collections. For individual level analysis of additional information, only living collections were included (see page 14).

According to the taxonomy used for this survey, there are 806 accepted *Diospyros* taxon names. **Only 24% of *Diospyros* taxa (193 of 806 taxa) are reported as held in *ex situ* collections** (Figure 4). This means that three quarters of *Diospyros* taxa are not currently protected in the collections of botanic gardens.

Of the taxa reported as held in *ex situ* collections, 84% (162 of 193 taxa) are found in a small number of collections (1-5 collections), with the majority of these held in a single collection (Figure 5). This is not sufficient to ensure collections are protected against stochastic events or natural death. In addition this is unlikely to be sufficient material to capture enough genetic diversity for restoration or reintroduction programmes.

Four species are reported in over 30 collections. These are listed in Table 2. Both *Diospyros lotus* (150 collections) and *Diospyros virginiana* (174 collections) are assessed as Least Concern. Conservation assessments have not yet been undertaken for *Diospyros kaki* (110 collections) and *Diospyros nigra* (43 collections).

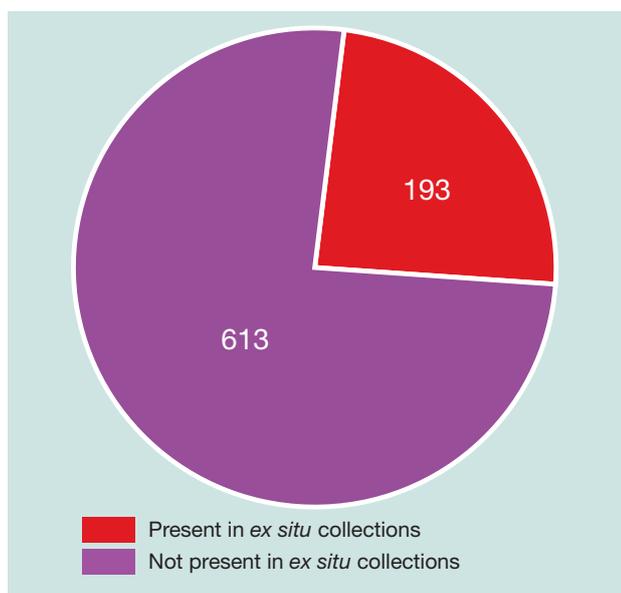


Figure 4. Number of *Diospyros* taxa in *ex situ* collections



Diospyros morrisiana (NE) reported in 6 *ex situ* collections (Credit: Marc A.K. Johnson, San Francisco Botanical Garden)

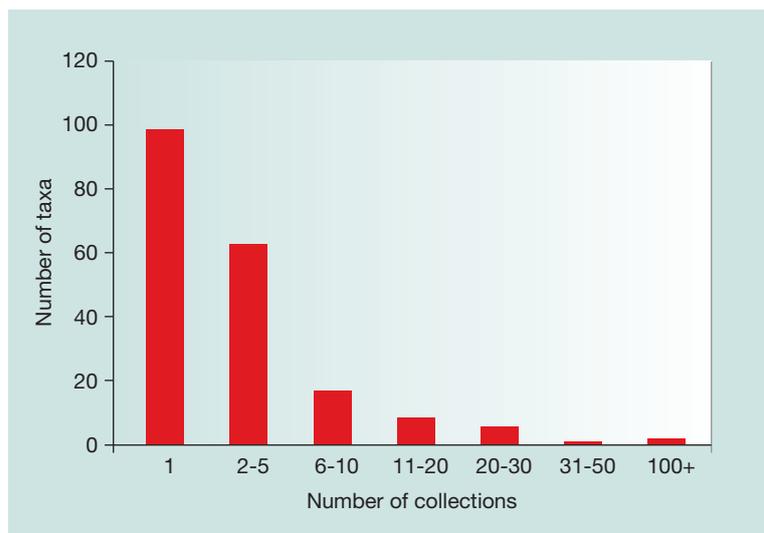


Figure 5. Number of *ex situ* collections of *Diospyros* taxa

Taxon Name	Number of collections reported worldwide
<i>Diospyros nigra</i>	43
<i>Diospyros kaki</i>	110
<i>Diospyros lotus</i>	150
<i>Diospyros virginiana</i>	174

Table 2. Taxa reported in more than 30 *ex situ* collections

Conservation status

Conservation assessments have been carried out for 196 *Diospyros* taxa, with 101 of those taxa considered threatened (Critically Endangered, Endangered or Vulnerable according to IUCN Categories and Criteria or equivalent). **Only 25% (25 of 101 taxa) of threatened *Diospyros* taxa are reported as held in an *ex situ* collection.** Presence and absence in *ex situ* collections according to IUCN Red List Category is shown in Figure 6.

77% (17 of 22) of Critically Endangered and 77% (20 of 26 taxa) of Endangered *Diospyros* taxa are not reported as held in *ex situ* collections. This means that there is no safeguard against extinction if the threatened *in situ* populations of these species are lost. These taxa should be brought into *ex situ* collections as a priority. They are listed in Table 3.

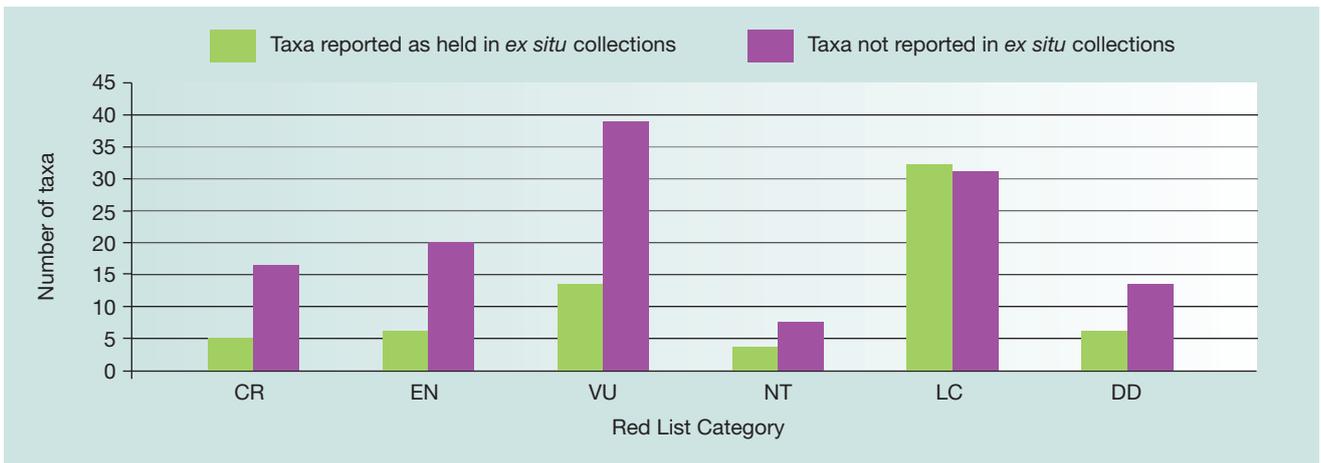


Figure 6. Presence and absence of taxa in ex situ collections per IUCN Red List Category

Critically Endangered taxa not reported in ex situ collections	Endangered taxa not reported in ex situ collections
<i>Diospyros angulata</i>	<i>Diospyros acuta</i>
<i>Diospyros barberi</i>	<i>Diospyros alboflavescens</i>
<i>Diospyros benstonei</i>	<i>Diospyros anisocalyx</i>
<i>Diospyros brideliifolia</i>	<i>Diospyros attenuata</i>
<i>Diospyros hemiteles</i>	<i>Diospyros capricornuta</i>
<i>Diospyros katendei</i>	<i>Diospyros chaetocarpa</i>
<i>Diospyros koenigii</i>	<i>Diospyros crassiflora</i>
<i>Diospyros lolinopsis</i>	<i>Diospyros crumenata</i>
<i>Diospyros magogoana</i> (possibly extinct)	<i>Diospyros erudita</i>
<i>Diospyros mollissima</i>	<i>Diospyros esmereg</i>
<i>Diospyros oppositifolia</i>	<i>Diospyros gillisonii</i>
<i>Diospyros pemadasae</i>	<i>Diospyros inflata</i>
<i>Diospyros poncei</i>	<i>Diospyros insularis</i>
<i>Diospyros rheophytica</i>	<i>Diospyros korupensis</i>
<i>Diospyros sutchuensis</i>	<i>Diospyros longiciliata</i>
<i>Diospyros uzungwaensis</i>	<i>Diospyros moonii</i>
<i>Diospyros veillonii</i>	<i>Diospyros nummulariifolia</i>
	<i>Diospyros onanae</i>
	<i>Diospyros quaesita</i>
	<i>Diospyros tero</i>

Table 3. Critically Endangered and Endangered taxa not reported in ex situ collections

There are also 39 Vulnerable taxa that are not reported in ex situ collections. These species should also be brought into ex situ collections. 21 of these taxa were last assessed in 1998 and the threats may have increased in the intervening years.

Of the 11 Critically Endangered and Endangered taxa reported as held in ex situ collections, 9 taxa are reported as held in fewer than 5 collections. These collections are therefore unlikely to be genetically representative enough for reintroduction or restoration programmes. Care should be taken to ensure material is shared between institutions to protect collections against loss of material through stochastic events or natural death.

610 *Diospyros* taxa have not been evaluated for their conservation status. Of these, 79% (484 of 610 taxa) are not reported as held in an ex situ collections.

3.2 Ex situ collections: Individual level analyses

BGCI's PlantSearch database provides taxon level information about ex situ collections. The survey that was distributed to gardens asked for further information on their collections to allow us to analyse the conservation value of existing collections.

The survey responses included records with extra information for 2,278 individuals of 106 *Diospyros* taxa within living collections. These records were provided by 87 institutions. All additional information was submitted using the list of accepted names sent out for the survey. Again, cultivars were excluded from this analysis. There were 9 unidentified records (*Diospyros* sp.) reported. Due to the way the data was provided to us, we have analysed the living collections on an individual level.

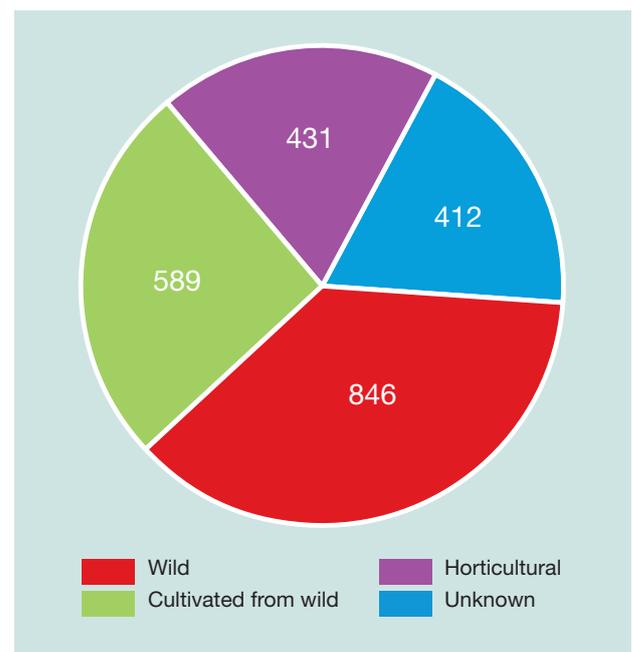


Figure 7. Source of individuals of *Diospyros* in ex situ collections

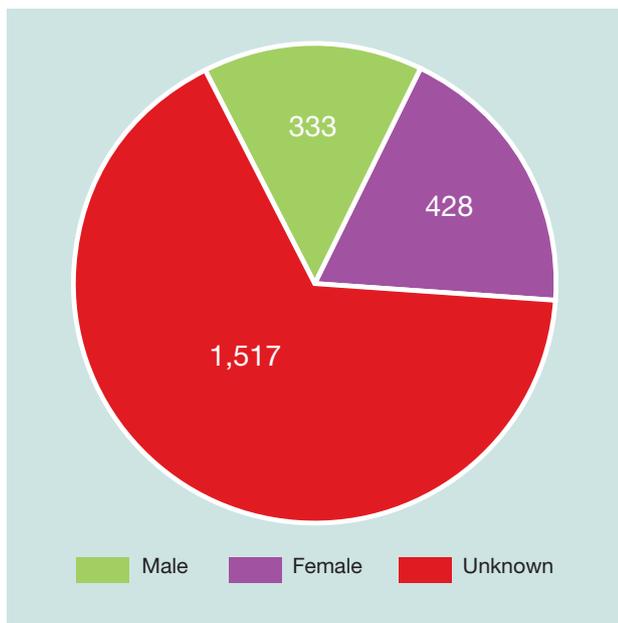


Figure 8. Sex of *Diospyros* individuals held in ex situ collections

Source

Any *ex situ* material that is to be used for restoration or reintroduction programmes should be of documented wild source. As can be seen in Figure 7, 63% (1,435 of 2,278 records) of the individuals identified in our survey are reported to come from a wild or cultivated from wild source. These individuals represent 76 taxa. The fact that collections are cultivated from wild material indicates that institutions will likely hold information on how to propagate these taxa. 71% of the taxa with extra information have at least one individual in an *ex situ* collection that is from a wild source.

Sex

15% (333 of 2,278 records) of the recorded trees are male and 19% (428 of 2,278 records) are female. Sex of the remaining 66% of individuals for which additional information was provided was unknown (Figure 8). Many of the unknown taxa are likely to be too young to be flowering or fruiting, and determining sex is therefore difficult. It is also possible there will be a bias towards the identification of female trees as they will fruit.



Diospyros humbertiana (NE) reported in 2 *ex situ* collections (Credit: Fidy Ratovoson)

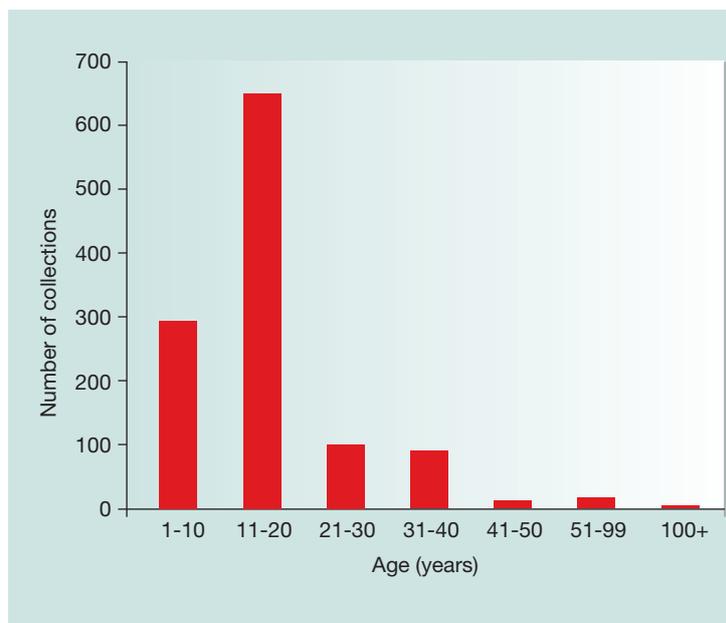


Figure 9. Ages (where known) of *Diospyros* individuals in ex situ collections

Age

Age information was provided for 1,178 individuals (Figure 9). Many of the ages were provided with an element of uncertainty. When ranges were provided the mid point was taken. The average age of *Diospyros* in *ex situ* collections is 17 years old. It is likely that many of the unknowns pre-date accurate record keeping in gardens, for example some gardens may have native trees within their grounds. The oldest tree mentioned in our survey is 118 years old.

Propagation and restoration

It is reported that 47 species are being used by 11 different institutions in reintroduction and/or restoration activities across the world. Five of the species used are threatened with extinction (listed in Table 4) indicating these botanic gardens are undertaking valuable conservation work to improve the status of these species *in situ* and they hold valuable information on propagation and planting. See Case Study 2 for details about how *Diospyros* species are being used in restoration activities in Uganda.

Taxon Name	Conservation status
<i>Diospyros celebica</i>	VU
<i>Diospyros conzattii</i>	VU
<i>Diospyros daemona</i>	VU
<i>Diospyros johnstoniana</i>	EN
<i>Diospyros melanida</i>	VU

Table 4. Threatened taxa used in reintroduction and/or restoration

Case study 2: Incorporating *Diospyros* in forest restoration in Uganda

Tooro Botanical Garden (TBG) is working in collaboration with the Ministry of Water and Environment, the National Forest Authority and local governments to restore degraded forest reserves in Western Uganda. Their aim is to restore the reserves using indigenous species that would have previously been present on the site.

Kalema & Beentje (2012) list nine species of *Diospyros* occurring in Uganda (one of which is unnamed, with insufficient information to provide a preliminary conservation assessment). One species, *Diospyros katendei*, is known only from a single specimen and assessed as Critically Endangered. It is noted this species is Possibly Extinct as the Kashoya-Kitoma Forest, where it was initially found in 1987, is now heavily degraded and recent surveys had not relocated the species (Kalema & Beentje, 2012, IUCN/SSC EAPRLA, 2013.). The remaining five species are assessed as Least Concern at the global level, due to their wide distribution. However, as a result of selective extraction of *Diospyros* species for their timber, coupled with the clearance of forests across Uganda, some of these species may well be threatened at the national level.



Diospyros abyssinica (LC) reported in 6 ex situ collections
(Credit: TBG)



Diospyros abyssinica (LC) reported in 6 ex situ collections

TBG is incorporating *Diospyros abyssinica*, assessed as Least Concern, in the forest restoration plots. Restoration trials have shown that this species does not survive when planted in full sun during initial planting stages. Survival and growth rates are much improved when *Diospyros abyssinica* is planted in plots when there is sufficient shade and a closed canopy has begun to form.

TBG is also conducting search efforts in three forests for *Diospyros katendei*. If this species is found and propagation material can be collected, *Diospyros katendei* will be brought into ex situ protection at TBG. Propagation trials will also be initiated to inform future restoration efforts for this species.

The indigenous tree nursery at TBG supplies seedlings to government, NGOs and other tree planters in the region. By providing information on planting requirements, TBG's research is yielding valuable information that will improve survival rates and enable *Diospyros* species to be successfully incorporated into future restoration and reintroduction projects.



Diospyros philippinensis (EN) reported in 4 ex situ collections
(Credit: Philip Cameron, Brisbane Botanic Gardens)



4. Conclusions and next steps

Diospyros trees at Royal Botanic Gardens, Kew

4.1 Conclusions

Less than one quarter of ebony taxa are currently safeguarded in *ex situ* collections in botanic gardens around the world. Most of the taxa in collections are found only in a single or small number of collections.

As the conservation status of the majority of ebony species has not yet been assessed, it is not possible to assess progress towards Target 8 of the GSPC for ebonies. Of those that have been assessed as threatened, only 25% (25 of 101 taxa) are reported as held in *ex situ* collections. Significant work is needed to bring the further 76 taxa known to be threatened into *ex situ* collections. It is probable that many of the non-evaluated species are threatened because of the high level of single country endemism of *Diospyros* species and the ongoing threats to habitats and individual tree species. 79% of the non-evaluated species are not reported as held in *ex situ* collections. The completion of the red listing of *Diospyros* will enable further prioritisation of conservation action, both *in situ* and *ex situ*.

This analysis shows that there are a high proportion of *Diospyros* collections for which provenance, age or sex is unknown. Gardens are encouraged to maintain comprehensive records of their collections. Collection information is rarely available for historic collections. Efforts should be made to ensure that all future collections are properly catalogued. Few of the *Diospyros* collections identified in this survey are

extensive enough to be used for recovery and restoration programmes. Collections to be used for this purpose need to represent sufficient genetic diversity of the species. It is also important to know where your collection originates from in order to reintroduce individuals to their original habitat. As many ebonies have been extensively extracted and at the same time the general forest habitat in which they occur is degraded, recovery and restoration programmes will be essential to ensure their long-term survival *in situ*.

4.2 Next steps

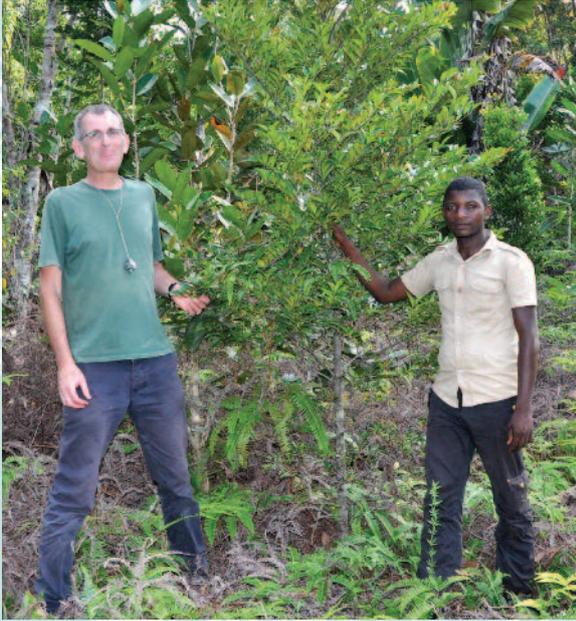
There is both conservation action and information lacking for many *Diospyros* species worldwide. This section lists ways that botanic gardens can increase the availability of knowledge about ebony species and contribute to Missouri Botanical Garden's Global Ebony Assessment.

Conserving ebonies in *ex situ* collections

1. Bring priority ebony species into *ex situ* collections

Annex 1 is a list of *Diospyros* taxa, their conservation status (if known) and the number of *ex situ* collections they are reported in. Gardens are encouraged to bring threatened species currently absent from or underrepresented in *ex situ* collections into their collections as a priority (see Table 3 on page 14). As the *Diospyros* genus has not been fully red listed, it is important for institutions to also focus on species restricted to their region.

Case study 3: *Ex Situ* Cultivation of Ebonies in Madagascar



Diospyros "acutiflora" sp. nov. ined. at the Analalava protected area (Credit: G.E. Schatz)

As one component of the Global Ebony Assessment, the Missouri Botanical Garden (MBG) is implementing a programme of *ex situ* cultivation of endemic *Diospyros* species at six of its conservation sites in Madagascar. In addition, as a member of the Madagascar Fauna and Flora Group (MFG), MBG is also establishing *ex situ* collections of Malagasy ebonies at the MFG-managed Parc Ivoloïna near Toamasina. At each of the six MBG conservation sites (Agnalazaha, Analalava, Ankafoabe, Makirovana-Tsihomanaomby, Oranjia, and Pointe a Laree), ebony

species are flagged and monitored for fruiting; mature fruit and accompanying voucher specimens are then collected, and seeds are sown in the on-site nursery. Ebony species occurring in unprotected fragments of forest nearby to the six sites are also being targeted for *ex situ* cultivation. The parental origin of all seedlings will be carefully tracked to achieve the goal of establishing a diverse field gene bank with multiple accessions of each species in an arboretum-like setting at each of the six sites. The ebony seedlings will also be a source of material for restoration activities at each of the sites. Ebony species from Analalava and Pointe a Laree, as well as from other sites along the east coast, will be shared with Parc Ivoloïna, thereby establishing a second *ex situ* site for those species.



Diospyros haplostylis (provisionally assessed as LC) at Parc Ivoloïna (Credit: G.E. Schatz)



Diospyros macrocarpa (NT) reported in 0 ex situ collections (Credit: G.E. Schatz)

2. Diversify collections and share material across institutions

Many gardens that provided additional information had lost *Diospyros* individuals due to stochastic events, including weather problems, leading to the death of some of their trees. As 84% of *Diospyros* taxa are held in only 1-5 collections, there is a chance that these species could be lost from collections, increasing their risk of extinction in their natural habitat. It is important for gardens to share material to increase the number of *ex situ* collections of each species. When sharing material it is advised to aim for a high level of genetic diversity.

3. Ensure that all new collections are acquired with provenance data.

Many of the collections identified in our survey did not have information on their provenance. Keeping up to date and comprehensive collection data is important for assessing the conservation potential of an *ex situ* collection. Wild collections with collection site recorded are preferable as they can be used to cultivate suitable material for recovery and restoration programmes, which can then be reintroduced to the collecting site to support the species survival *in situ*.

4. Make sure genetic diversity of collections is considered

Ensuring *ex situ* collections are genetically diverse allows these collections to be used for conservation purposes. Care should be taken not to further endanger populations or hinder natural regeneration when collecting wild material but also to collect a genetically representative sample. This is particularly important for threatened taxa with small remaining populations. As a benchmark figure for seed collection, no more than 20% of available seed should be collected.

5. Focus on ebony hot spots

In Target 8 of the GSPC, it is recommended that species are conserved in *ex situ* collections in the country of origin. Hotspots of *Diospyros* include South East Asia, Tropical West Africa, India and Sri Lanka. Efforts should be made to increase the numbers of collections in these areas to protect the high diversity of species in these hotspot areas. Large and well-resourced gardens are encouraged to incorporate more taxa in their collections, particularly from identified *Diospyros* hotspot areas that don't have botanic gardens. In all cases that material is transferred abroad, access and benefit sharing agreements and appropriate phytosanitary certificates should be in place.

Contributing to the GEA

1. Gardens which have not participated in this survey but have ebonies in their collection are encouraged to verify the names used in their collections. Many ebony species common in collections are currently held under synonym names (eg. *D. digyna* is now considered a synonym of *D. nigra*). Please consult the World Checklist of Selected Plant Families (WCSP, 2015) for further information.



Diospyros whyteana (LC) reported in 28 *ex situ* collections
(Credit: Marc A.K. Johnson, San Francisco Botanical Garden)

2. Gardens are encouraged to send herbarium specimens and leaf samples in silica gel for identification to George E. Schatz of Missouri Botanical Garden. This will contribute to genetic analyses as part of the GEA.

3. If gardens hold information on *in situ* distribution of species, particularly those considered threatened, please send information to redlist@bgci.org

4. Information on local uses, levels of exploitation and trade can greatly benefit conservation activities. Gardens are therefore encouraged to reach out to local communities to obtain such information for native species of ebonies in their regions.

Sharing data

1. Upload your institution's plant list to BGCI's PlantSearch database

Data sharing is key to assessing the gaps in *ex situ* collections. Botanic gardens are encouraged to upload their collection information to BGCI's PlantSearch database. This allows a comprehensive assessment to be made of the status of *ex situ* collections globally and measure progress towards GSPC Target 8. For information on how to upload or update your plant collection information on our database, please visit www.bgci.org/plant_search.php

2. Update your institution's contact information on BGCI's GardenSearch database

BGCI's GardenSearch database is the only global source of information on the world's botanical institutions. It is a searchable database of over 3,000 profiles of botanic gardens, arboreta, zoos and similar organisations. Updating GardenSearch contact information to keep us up to date with staff changes allows us to contact you for future *ex situ* surveys, to obtain accurate extra information about *ex situ* collections. *Ex situ* surveys are a chance for institutions to promote the value of their collections as well as their conservation efforts.

Useful links

ArbNet

ArbNet is an international community of arboreta which facilitates the sharing of expertise and knowledge whilst providing accreditation to raise professional standards in tree-focused collections: www.arbnet.org

BGCI's GardenSearch database

GardenSearch contains profiles of over 3,000 botanic gardens from around the world, allowing users to identify location and particular expertise held within botanic gardens. GardenSearch is the only global source of information on the world's botanic gardens: www.bgci.org/garden_search.php

BGCI's PlantSearch database

PlantSearch is compiled from lists of living collections submitted to BGCI by the world's botanic gardens and similar organisations. The database currently includes over 1 million records. This database allows users to identify how many institutions report holding a living collection of the taxon of interest and also allows users to send a blind request to collection holders to request plant material or information on propagation and care techniques: www.bgci.org/plant_search.php

Ecological Restoration Alliance of Botanic Gardens

The Ecological Restoration Alliance of Botanic Gardens (ERA), coordinated by BGCI, is a global consortium of botanic garden actively engaged in ecological restoration activities. More information and examples of current work can be found on the ERA website: www.erabg.org

Global Strategy for Plant Conservation toolkit

The Global Strategy for Plant Conservation (GSPC) toolkit was developed by BGCI to support implementation of the GSPC. This provides further information, guidance and links to resources for all GSPC targets and links to the full GSPC Brochure and shorter GSPC Guide, available in multiple languages: www.plants2020.net

Global Trees Campaign

The Global Trees Campaign (GTC) is a joint initiative led by BGCI and Fauna & Flora International (FFI), to save the world's threatened tree species. The GTC website provides information about projects, profiles of threatened tree species and useful resources for threatened tree conservation: www.globaltrees.org GTC also provides guidance for non-specialists in the skills and techniques needed for tree conservation in the form of briefs in English and Spanish which can be found here: www.globaltrees.org/resources/resource-type/practical-guidance/



Diospyros discolor (NE) reported in 27 ex situ collections
(Credit: Dadang Sunandar, Cibodas Botanic Garden)

Global Tree Specialist Group

BGCI hosts the IUCN/SSC Global Tree Specialist Group, the lead authority undertaking red list assessment for trees. More information about the Global Tree Specialist Group can be found at: <http://globaltrees.org/iucn-ssc-global-tree-specialist-group/>

Integrated conservation of tree species by botanic gardens: A reference manual

This manual, published by BGCI, provides detailed information on conservation approaches available for tree species, including guidance for *in situ* measures, *ex situ* conservation, ecological restoration and reintroduction and a step-by-step guide to integrated conservation of tree species. The manual is available to download in English and Spanish from the resources section of the GTC website: <http://globaltrees.org/resources/>

IUCN Red List of Threatened Species

Up-to-date conservation assessments for tree taxa are available on the IUCN Red List of Threatened Species. Searches can be conducted by species, family, region, etc., and full assessments are available providing full documentation and explanation of conservation status. The IUCN Red List website also contains information about the IUCN Red List Categories and Criteria and training materials for undertaking Red List assessments: www.iucnredlist.org

PlanteKey

PlanteKey is a web-based encyclopaedia of tropical plants found primarily in India, created by Auroville Botanical Gardens. The website currently hosts information about their plant collections, and features profiles for each plant species as well as a plant identification tool: www.plantekey.com

Seed Information Database

The Seed Information Database collates information from the Royal Botanic Gardens, Kew's Millennium Seed Bank Partnership's own collections and other sources to provide data on the biological traits of seeds to support seed conservation efforts: <http://data.kew.org/sid/>

Red Lists produced by BGCI / GTC

These are available to download from the BGCI and GTC websites.

The Red List of Betulaceae (2014):

www.globaltrees.org/resources/red-list-betulaceae/

The Red List of Magnoliaceae (2007):

www.globaltrees.org/resources/red-list-magnoliaceae/

The Red List of Maples (2009):

www.globaltrees.org/resources/red-list-maples/

The Red List of Oaks (2007):

www.globaltrees.org/resources/red-list-oaks/

The Red List of Rhododendrons (2011):

www.globaltrees.org/resources/red-list-rhododendrons/

The Red List of Trees from Central Asia (2009):

(also available in Russian): www.globaltrees.org/resources/red-list-trees-central-asia/

The Red List of Endemic Trees and Shrubs of Ethiopia and Eritrea (2005):

www.globaltrees.org/resources/red-list-endemic-trees-shrubs-ethiopia-eritrea/

The Red List of Trees of Guatemala (2006):

www.globaltrees.org/resources/red-list-trees-guatemala/

The Red List of Mexican Cloud Forest Trees (2011):

www.globaltrees.org/resources/red-list-mexican-cloud-forest/

The regional Red List of montane tree species of the tropical Andes (2014):

www.globaltrees.org/resources/regional-red-list-montane-tree-species-tropical-andes/



Diospyros revaughanii (VU) reported in 1 ex situ collection
(Credit: Christian Berg, Botanical Garden Graz)

Ex situ surveys carried out by BGCI / GTC

These are available to download from the BGCI and GTC websites.

Global ex situ survey of Betulaceae collections (2015):

www.globaltrees.org/resources/global-survey-of-ex-situ-betulaceae-collections/

Global ex situ survey of Conifer collections (2014):

www.globaltrees.org/resources/global-survey-ex-situ-conifer-collections/

Global ex situ survey of Magnoliaceae collections (2010):

www.globaltrees.org/resources/global-survey-ex-situ-magnoliaceae-collections/

Global ex situ survey of Maple collections (2010):

www.globaltrees.org/resources/global-survey-ex-situ-maple-collections/

Global ex situ survey of Oak collections (2009):

www.globaltrees.org/resources/global-survey-ex-situ-oak-collections/

Global ex situ survey of Rhododendron collections (2012):

www.globaltrees.org/resources/global-survey-ex-situ-rhododendron-collections/

Global ex situ survey of Zelkova collections (2010):

www.globaltrees.org/resources/global-survey-ex-situ-zelkova-collections/

Conserving the World's Most Threatened Trees: A global survey of ex situ collections (2015):

www.globaltrees.org/resources/conserving-the-worlds-most-threatened-trees-a-global-survey-of-ex-situ-collections/

Conserving North America's Threatened Plants: Progress report on Target 8 of the Global Strategy for Plant Conservation (2011):

http://www.bgci.org/plant-conservation/north_america_survey/

Conserving Europe's threatened plants: Progress towards Target 8 of the Global Strategy for Plant Conservation (2009):

www.bgci.org/plant-conservation/threatenedeurope/



Diospyros kaki (NE) reported in 110 ex situ collections
(Credit: Cynthia Sayre, VanDusen Botanical Garden)

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Diospyros lycioides ssp. lycioides (NE) reported in 8 ex situ collections (Credit: Marc A.K. Johnson, San Francisco Botanical Garden)

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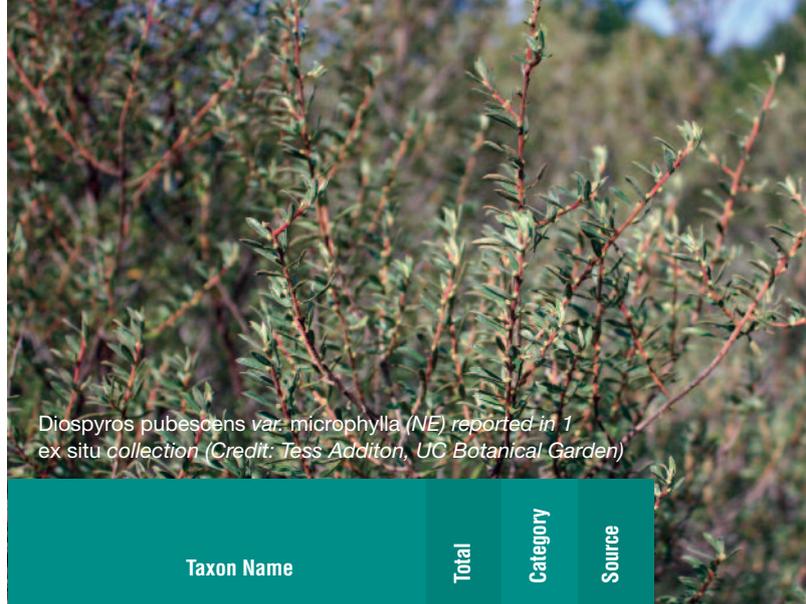


Diospyros rhombifolia (LC) reported in 23 ex situ collections (Credit: Jardin botanique de Montréal)

Annexes

Annex I: Ebony taxa with number of reported *ex situ* collections

Taxon Name	Total	Category	Source
<i>Diospyros abyssinica</i>	6	LC	E
<i>Diospyros abyssinica</i> ssp. <i>abyssinica</i>	0		
<i>Diospyros abyssinica</i> ssp. <i>attenuata</i>	0		
<i>Diospyros abyssinica</i> ssp. <i>chapmaniorum</i>	0		
<i>Diospyros abyssinica</i> ssp. <i>reticulata</i>	0		
<i>Diospyros acapulcensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>acapulcensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>chiquimulensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>dwyeri</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>guanacastensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>mejocotensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>nicaraguensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>pedromorenoi</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>rivensis</i>	0		
<i>Diospyros acapulcensis</i> ssp. <i>verae-crucis</i>	2		
<i>Diospyros acocksii</i>	1		
<i>Diospyros acreana</i>	0		
<i>Diospyros acris</i>	0		
<i>Diospyros aculeata</i>	1		
<i>Diospyros acuminata</i>	0	VU	C
<i>Diospyros acuta</i>	0	EN	C
<i>Diospyros addita</i>	0		
<i>Diospyros adenophora</i>	0	LC	A
<i>Diospyros adiensis</i>	0		
<i>Diospyros aequoris</i>	1		
<i>Diospyros aequoris</i> ssp. <i>aequoris</i>	0		
<i>Diospyros aequoris</i> ssp. <i>balsensis</i>	0		
<i>Diospyros aequoris</i> ssp. <i>chutlensis</i>	0		
<i>Diospyros aequoris</i> ssp. <i>martineziana</i>	0		
<i>Diospyros aequoris</i> ssp. <i>rekoii</i>	0		
<i>Diospyros aequoris</i> ssp. <i>tehuantepecensis</i>	0		
<i>Diospyros affinis</i>	2		
<i>Diospyros aifatensis</i>	0		
<i>Diospyros alatella</i>	0		
<i>Diospyros albiflora</i>	0	VU	C
<i>Diospyros alboflavescens</i>	0	EN	A
<i>Diospyros alisu</i>	0		
<i>Diospyros alpina</i>	0		
<i>Diospyros amabi</i>	0		
<i>Diospyros amanap</i>	0		
<i>Diospyros amaniensis</i>	0	VU	F
<i>Diospyros amboinensis</i>	0		
<i>Diospyros analamerensis</i>	0		
<i>Diospyros andamanica</i>	1		



Diospyros pubescens var. *microphylla* (NE) reported in 1 *ex situ* collection (Credit: Tess Additon, UC Botanical Garden)

Taxon Name	Total	Category	Source
<i>Diospyros angulata</i>	0	CR	A
<i>Diospyros anisandra</i>	1	NT	H
<i>Diospyros anisocalyx</i>	0	EN	B
<i>Diospyros anitae</i>	0		
<i>Diospyros ankifiensis</i>	0		
<i>Diospyros anosivolensis</i>	0		
<i>Diospyros apeibocarpos</i>	0		
<i>Diospyros apiculata</i>	1	LC	A
<i>Diospyros araripensis</i>	0		
<i>Diospyros areolata</i>	0	LC	A
<i>Diospyros areolifolia</i>	0		
<i>Diospyros argentea</i>	2	LC	A
<i>Diospyros armata</i>	1	DD	B
<i>Diospyros artanthifolia</i>	0		
<i>Diospyros arupaj</i>	0		
<i>Diospyros atrata</i>	1	CR	C
<i>Diospyros atrotricha</i>	1		
<i>Diospyros attenuata</i>	0	EN	C
<i>Diospyros aurea</i>	0		
<i>Diospyros australis</i>	12		
<i>Diospyros balansae</i>	0		
<i>Diospyros balfouriana</i>	0	DD	B
<i>Diospyros baloen-idjoek</i>	0		
<i>Diospyros bambuseti</i>	0	DD	D
<i>Diospyros bangkana</i>	0		
<i>Diospyros bangoiensis</i>	0		
<i>Diospyros baranensis</i>	0		
<i>Diospyros barberi</i>	0	CR	C
<i>Diospyros baroniana</i>	0		
<i>Diospyros barteri</i>	2	VU	A
<i>Diospyros batocana</i>	1		
<i>Diospyros beccarioides</i>	0		
<i>Diospyros bejaudii</i>	0		
<i>Diospyros bemarivensis</i>	0		
<i>Diospyros benstonei</i>	0	CR	A
<i>Diospyros bernieriana</i>	1		
<i>Diospyros bezofensis</i>	0		
<i>Diospyros bibracteata</i>	0	LC	A
<i>Diospyros bipindensis</i>	0	LC	E
<i>Diospyros blepharophylla</i>	0		
<i>Diospyros blumutensis</i>	0	VU	A
<i>Diospyros boala</i>	0		
<i>Diospyros boinensis</i>	0		
<i>Diospyros boiviniana</i>	2		

Taxon Name	Total	Category	Cons Code
<i>Diospyros boivinii</i>	0		
<i>Diospyros boliviana</i>	0		
<i>Diospyros bonii</i>	0		
<i>Diospyros borbonica</i>	2		
<i>Diospyros borneensis</i>	1		
<i>Diospyros bourdillonii</i>	0		
<i>Diospyros boutoniana</i>	2	VU	A
<i>Diospyros brainii</i>	0		
<i>Diospyros brandisiana</i>	1		
<i>Diospyros brasiliensis</i>	0		
<i>Diospyros brassica</i>	0		
<i>Diospyros brevicalyx</i>	0		
<i>Diospyros brideliifolia</i>	0	CR	J
<i>Diospyros britannoborneensis</i>	0		
<i>Diospyros bullata</i>	0		
<i>Diospyros bumelioides</i>	0	LC	H
<i>Diospyros bundeyana</i>	0		
<i>Diospyros burchellii</i>	0		
<i>Diospyros burmanica</i>	0		
<i>Diospyros bussei</i>	1		
<i>Diospyros buxifolia</i>	3		
<i>Diospyros cacharensis</i>	0		
<i>Diospyros cachimboensis</i>	0		
<i>Diospyros calcicola</i>	0		
<i>Diospyros calciphila</i>	0		
<i>Diospyros californica</i>	0		
<i>Diospyros caloneura</i>	0	LC	B
<i>Diospyros calophylla</i>	0		
<i>Diospyros calycantha</i>	0		
<i>Diospyros cambodiana</i>	0		
<i>Diospyros campanulata</i>	0		
<i>Diospyros canaliculata</i>	0		
<i>Diospyros candolleana</i>	1	VU	A
<i>Diospyros capreifolia</i>	0		
<i>Diospyros capricornuta</i>	0	EN	F
<i>Diospyros carbonaria</i>	1		
<i>Diospyros caribaea</i>	1		
<i>Diospyros carpinifolia</i>	0		
<i>Diospyros castanea</i>	1		
<i>Diospyros cathayensis</i>	7	LC	B
<i>Diospyros caudisepala</i>	0		
<i>Diospyros cauliflora</i>	3		
<i>Diospyros cauligera</i>	0		
<i>Diospyros cavalcantii</i>	0		
<i>Diospyros cayennensis</i>	0		
<i>Diospyros celebica</i>	3	VU	A
<i>Diospyros chaetocarpa</i>	0	EN	C
<i>Diospyros chamaethamnus</i>	0		
<i>Diospyros changii</i>	0		
<i>Diospyros chartacea</i>	0		
<i>Diospyros cherrieri</i>	0	VU	A
<i>Diospyros chevalieri</i>	0		
<i>Diospyros chloroxylon</i>	3		
<i>Diospyros choboensis</i>	0		
<i>Diospyros christophersenii</i>	0	NT	D

Taxon Name	Total	Category	Source
<i>Diospyros chrysocarpa</i>	0		
<i>Diospyros chrysophyllos</i>	1	CR	A
<i>Diospyros chunii</i>	0	LC	B
<i>Diospyros cinnabarina</i>	0		
<i>Diospyros cinnamomoides</i>	1		
<i>Diospyros clementium</i>	0		
<i>Diospyros clusiifolia</i>	0		
<i>Diospyros coaetanca</i>	0		
<i>Diospyros coccinea</i>	0		
<i>Diospyros coccolobifolia</i>	0		
<i>Diospyros collinsiae</i>	0		
<i>Diospyros comorensis</i>	0		
<i>Diospyros compacta</i>	5		
<i>Diospyros confertiflora</i>	2		
<i>Diospyros conformis</i>	0	VU	A
<i>Diospyros conifera</i>	0		
<i>Diospyros conocarpa</i>	0		
<i>Diospyros consanguinea</i>	0		
<i>Diospyros consolatae</i>	0		
<i>Diospyros conzattii</i>	1	VU	N
<i>Diospyros cooperi</i>	0		
<i>Diospyros corallina</i>	0	VU	B
<i>Diospyros cordata</i>	0		
<i>Diospyros cordato-oblonga</i>	0		
<i>Diospyros coriacea</i>	0		
<i>Diospyros coursiana</i>	0		
<i>Diospyros crassiflora</i>	0	EN	A
<i>Diospyros crassinervis</i>	1		
<i>Diospyros crassinervis</i> ssp. <i>crassinervis</i>	0		
<i>Diospyros crassinervis</i> ssp. <i>kubal</i>	0		
<i>Diospyros crassinervis</i> ssp. <i>urbaniana</i>	0		
<i>Diospyros crebripilis</i>	0		
<i>Diospyros crockerensis</i>	0		
<i>Diospyros crumenata</i>	0	EN	A
<i>Diospyros cupulifera</i>	1		
<i>Diospyros curranii</i>	0		
<i>Diospyros curranii</i> var. <i>curranii</i>	0		
<i>Diospyros curranii</i> var. <i>kalimantanensis</i>	0		
<i>Diospyros daemonia</i>	1	VU	A
<i>Diospyros dalyom</i>	0		
<i>Diospyros danguyana</i>	2		
<i>Diospyros dasyphylla</i>	0		
<i>Diospyros decandra</i>	3		
<i>Diospyros decaryana</i>	0		
<i>Diospyros defectrix</i>	1		
<i>Diospyros dendo</i>	0		
<i>Diospyros densiflora</i>	0		
<i>Diospyros dichroa</i>	0		
<i>Diospyros dichrophylla</i>	8	LC	G
<i>Diospyros dicorypheoides</i>	0		
<i>Diospyros dictyoneura</i>	0		
<i>Diospyros diepenhorstii</i>	2		
<i>Diospyros dinhensis</i>	0		
<i>Diospyros discocalyx</i>	0		
<i>Diospyros discolor</i>	27		

Taxon Name	Total	Category	Source
<i>Diospyros diversifolia</i>	4	VU	D
<i>Diospyros diversilimba</i>	0	LC	B
<i>Diospyros dodecandra</i>	0		
<i>Diospyros dolmen</i>	0		
<i>Diospyros domarkind</i>	0		
<i>Diospyros domingensis</i>	0		
<i>Diospyros duartei</i>	0		
<i>Diospyros dumetorum</i>	1		
<i>Diospyros dussaudii</i>	0		
<i>Diospyros ebenifera</i>	0		
<i>Diospyros ebenoides</i>	0	VU	C
<i>Diospyros ebenum</i>	24	DD	A
<i>Diospyros eburnea</i>	0		
<i>Diospyros egléri</i>	0		
<i>Diospyros egrettarum</i>	8	CR	A
<i>Diospyros ehretoides</i>	3		
<i>Diospyros ekodul</i>	0	LC	A
<i>Diospyros elegans</i>	0		
<i>Diospyros elephasii</i>	0		
<i>Diospyros elliotii</i>	1		
<i>Diospyros ellipsoidea</i>	1		
<i>Diospyros elliptifolia</i>	0		
<i>Diospyros enervis</i>	0		
<i>Diospyros eriantha</i>	2		
<i>Diospyros erinacea</i>	0		
<i>Diospyros erudita</i>	0	EN	D
<i>Diospyros erythrosperma</i>	0		
<i>Diospyros esmerég</i>	0	EN	K
<i>Diospyros eucalyptifolia</i>	0		
<i>Diospyros euphlexia</i>	0		
<i>Diospyros evena</i>	0		
<i>Diospyros everettii</i>	1		
<i>Diospyros exculpta</i>	0		
<i>Diospyros fanjingshanica</i>	0	DD	B
<i>Diospyros fasciculosa</i>	6		
<i>Diospyros fastidiosa</i>	0	VU	A
<i>Diospyros feliciana</i>	0	VU	A
<i>Diospyros fenal</i>	0		
<i>Diospyros fengchangensis</i>	0	NT	D
<i>Diospyros fengii</i>	0	LC	B
<i>Diospyros ferox</i>	0		
<i>Diospyros ferrea</i>	10		
<i>Diospyros ferruginescens</i>	0		
<i>Diospyros ferruginescens</i> var. <i>ferruginescens</i>	0		
<i>Diospyros ferruginescens</i> var. <i>rufotomentosa</i>	0		
<i>Diospyros filipendula</i>	1		
<i>Diospyros filipes</i>	0		
<i>Diospyros fischeri</i>	2		
<i>Diospyros flavocarpa</i>	0		
<i>Diospyros fleuryana</i>	0		
<i>Diospyros foliolosa</i>	0		
<i>Diospyros foliosa</i>	5		
<i>Diospyros forbesii</i>	0		
<i>Diospyros forrestii</i>	0	LC	B
<i>Diospyros foxworthyi</i>	0	LC	A

Taxon Name	Total	Category	Source
<i>Diospyros fragrans</i>	0		
<i>Diospyros froesii</i>	0		
<i>Diospyros frutescens</i>	2		
<i>Diospyros fulvopilosa</i>	0		
<i>Diospyros fuscovelutina</i>	0		
<i>Diospyros fusicarpa</i>	0		
<i>Diospyros fusiformis</i>	0		
<i>Diospyros gabunensis</i>	0		
<i>Diospyros gallo</i>	0		
<i>Diospyros galpinii</i>	1		
<i>Diospyros gambleana</i>	0	VU	A
<i>Diospyros gaultheriifolia</i>	0		
<i>Diospyros geayana</i>	0		
<i>Diospyros geminata</i>	8		
<i>Diospyros ghatensis</i>	0		
<i>Diospyros gigantocarpa</i>	0		
<i>Diospyros gillespiei</i>	0		
<i>Diospyros gillespiei</i> var. <i>gillespiei</i>	0		
<i>Diospyros gillespiei</i> var. <i>nandarivatensis</i>	0		
<i>Diospyros gillettii</i>	0		
<i>Diospyros gillisonii</i>	0	EN	A
<i>Diospyros glabra</i>	7		
<i>Diospyros glabrata</i>	0		
<i>Diospyros glandulifera</i>	0	NT	D
<i>Diospyros glandulosa</i>	2		
<i>Diospyros glans</i>	0		
<i>Diospyros glaucifolia</i>	15		
<i>Diospyros glaucophylla</i>	0		
<i>Diospyros glomerata</i>	0		
<i>Diospyros goudotii</i>	0		
<i>Diospyros gracilescens</i>	0		
<i>Diospyros gracilipes</i>	0		
<i>Diospyros gracilis</i>	0	DD	D
<i>Diospyros granitica</i>	0		
<i>Diospyros greenwayi</i>	0	NT	F
<i>Diospyros greshoffiana</i>	0		
<i>Diospyros greveana</i>	0		
<i>Diospyros grex</i>	0		
<i>Diospyros grisebachii</i>	0		
<i>Diospyros guatterioides</i>	0		
<i>Diospyros guianensis</i>	0		
<i>Diospyros guianensis</i> ssp. <i>akariensis</i>	0		
<i>Diospyros guianensis</i> ssp. <i>guianensis</i>	0		
<i>Diospyros hackenbergii</i>	0		
<i>Diospyros hainanensis</i>	1	LC	B
<i>Diospyros haivanensis</i>	0		
<i>Diospyros halesioides</i>	0		
<i>Diospyros hallieri</i>	0		
<i>Diospyros haplostylis</i>	0		
<i>Diospyros hasseltii</i>	2		
<i>Diospyros hassleri</i>	0		
<i>Diospyros havilandii</i>	0		
<i>Diospyros hayatae</i>	0		
<i>Diospyros hazomainty</i>	0		
<i>Diospyros hebecarpa</i>	5		

Taxon Name	Total	Category	Cons Code
<i>Diospyros hemicycloides</i>	0		
<i>Diospyros hemiteles</i>	0	CR	A
<i>Diospyros heterosepala</i>	0		
<i>Diospyros heterotricha</i>	2		
<i>Diospyros heudelotii</i>	0		
<i>Diospyros hexamera</i>	0	LC	B
<i>Diospyros hierniana</i>	0		
<i>Diospyros hilairei</i>	0		
<i>Diospyros hillebrandii</i>	4	EN	I
<i>Diospyros hirsuta</i>	0	VU	A
<i>Diospyros hispida</i>	0		
<i>Diospyros holeana</i>	0		
<i>Diospyros holttumii</i>	0		
<i>Diospyros howii</i>	0	LC	B
<i>Diospyros hoyleana</i>	0		
<i>Diospyros hoyleana ssp. angustifolia</i>	0		
<i>Diospyros hoyleana ssp. hoyleana</i>	0		
<i>Diospyros humbertiana</i>	2		
<i>Diospyros humilis</i>	5	CR	C
<i>Diospyros implexicalyx</i>	0		
<i>Diospyros impolita</i>	1	VU	A
<i>Diospyros impressa</i>	0		
<i>Diospyros inconstans</i>	4		
<i>Diospyros inconstans ssp. darienk</i>	0		
<i>Diospyros inconstans ssp. delgadoi</i>	0		
<i>Diospyros inconstans ssp. obovata</i>	0		
<i>Diospyros inconstans ssp. psidioides</i>	0		
<i>Diospyros inexplorata</i>	0		
<i>Diospyros inflata</i>	0	EN	B
<i>Diospyros inhacaensis</i>	2	LC	G
<i>Diospyros insidiosa</i>	0	VU	A
<i>Diospyros insignis</i>	0		
<i>Diospyros insularis</i>	0	EN	A
<i>Diospyros intricata</i>	1		
<i>Diospyros ismailii</i>	2	LC	A
<i>Diospyros iturensis</i>	0		
<i>Diospyros janeirensis</i>	0		
<i>Diospyros janowskyi</i>	0		
<i>Diospyros japonica</i>	12		
<i>Diospyros javanica</i>	0		
<i>Diospyros johnstoniana</i>	2	EN	M
<i>Diospyros johorensis</i>	1	NT	A
<i>Diospyros juruensis</i>	0		
<i>Diospyros juruensis ssp. campechiana</i>	0		
<i>Diospyros juruensis ssp. hartmanniana</i>	0		
<i>Diospyros juruensis ssp. juruensis</i>	0		
<i>Diospyros juruensis ssp. nenab</i>	0		
<i>Diospyros juruensis ssp. panamensis</i>	0		
<i>Diospyros kabuyeana</i>	0	VU	D
<i>Diospyros kajangensis</i>	0		
<i>Diospyros kaki</i>	110		
<i>Diospyros kamerunensis</i>	0		
<i>Diospyros kanizur</i>	0		
<i>Diospyros kanurii</i>	0	VU	D
<i>Diospyros katendei</i>	0	CR	A

Taxon Name	Total	Category	Source
<i>Diospyros keningauensis</i>	0		
<i>Diospyros kerrii</i>	2	DD	D
<i>Diospyros ketsensis</i>	0		
<i>Diospyros ketun</i>	0		
<i>Diospyros kika</i>	0		
<i>Diospyros kingii</i>	0	VU	A
<i>Diospyros kintungensis</i>	0	LC	B
<i>Diospyros kirkii</i>	1		
<i>Diospyros kochummenii</i>	0		
<i>Diospyros koeboeensis</i>	0		
<i>Diospyros koenigii</i>	0	CR	C
<i>Diospyros kolom</i>	0		
<i>Diospyros kondor</i>	0		
<i>Diospyros korthalsiana</i>	2		
<i>Diospyros korupensis</i>	0	EN	A
<i>Diospyros kostermansii</i>	0		
<i>Diospyros kotoensis</i>	1	LC	B
<i>Diospyros krukovii</i>	0		
<i>Diospyros kupensis</i>	0	VU	A
<i>Diospyros kurzii</i>	0		
<i>Diospyros labillardierei</i>	0		
<i>Diospyros lanceifolia</i>	0		
<i>Diospyros lanceifolia var. iliaspaiei</i>	0		
<i>Diospyros lanceifolia var. lanceifolia</i>	1		
<i>Diospyros lanceifolia var. renegeorgeae</i>	0		
<i>Diospyros lanceifolia var. saliciformis</i>	0		
<i>Diospyros lanceolata</i>	0		
<i>Diospyros landii</i>	0		
<i>Diospyros lateralis</i>	0		
<i>Diospyros latisepala</i>	0	LC	A
<i>Diospyros latispathulata</i>	1		
<i>Diospyros laurina</i>	1		
<i>Diospyros leucocalyx</i>	0		
<i>Diospyros leucomelas</i>	0	VU	A
<i>Diospyros liberiensis</i>	0		
<i>Diospyros lissocarpoides</i>	0		
<i>Diospyros littorea</i>	2		
<i>Diospyros lobata</i>	0		
<i>Diospyros lokohensis</i>	0		
<i>Diospyros lolin</i>	1		
<i>Diospyros lolinopsis</i>	0	CR	A
<i>Diospyros longibracteata</i>	0		
<i>Diospyros longiciliata</i>	0	EN	J
<i>Diospyros longiflora</i>	0	NT	A
<i>Diospyros longipedicellata</i>	0		
<i>Diospyros longipilosa</i>	0		
<i>Diospyros longistyla</i>	0		
<i>Diospyros longshengensis</i>	0	LC	B
<i>Diospyros lotus</i>	150	LC	L
<i>Diospyros loureiroana</i>	1		
<i>Diospyros loureiroana ssp. loureiroana</i>	2		
<i>Diospyros loureiroana ssp. rufescens</i>	0		
<i>Diospyros louvelii</i>	0		
<i>Diospyros lunduensis</i>	0		
<i>Diospyros lycioides</i>	14		

Taxon Name	Total	Category	Cons Code
<i>Diospyros lycioides</i> ssp. <i>guerkei</i>	2	LC	G
<i>Diospyros lycioides</i> ssp. <i>lycioides</i>	8		
<i>Diospyros lycioides</i> ssp. <i>nitens</i>	0		
<i>Diospyros lycioides</i> ssp. <i>sericea</i>	5	LC	G
<i>Diospyros mabacea</i>	6	EN	D
<i>Diospyros maclurei</i>	0	LC	B
<i>Diospyros macrocarpa</i>	0	NT	A
<i>Diospyros macrophylla</i>	2		
<i>Diospyros madecassa</i>	0		
<i>Diospyros mafiensis</i>	0		
<i>Diospyros magogoana</i>	0	CR	F
<i>Diospyros maingayi</i>	1		
<i>Diospyros major</i>	0		
<i>Diospyros malabarica</i>	16		
<i>Diospyros malaccensis</i>	2		
<i>Diospyros malacothrix</i>	0		
<i>Diospyros manampetsae</i>	1		
<i>Diospyros manausensis</i>	0		
<i>Diospyros mangabensis</i>	0		
<i>Diospyros mangorensis</i>	0		
<i>Diospyros mannii</i>	0		
<i>Diospyros manu</i>	0	VU	C
<i>Diospyros mapingo</i>	1		
<i>Diospyros margaretae</i>	0	VU	A
<i>Diospyros maritima</i>	8		
<i>Diospyros marmorata</i>	0		
<i>Diospyros martabanica</i>	0		
<i>Diospyros martinii</i>	0		
<i>Diospyros masoalensis</i>	0		
<i>Diospyros matheriana</i>	0		
<i>Diospyros mattogrossensis</i>	0		
<i>Diospyros mcphersonii</i>	0		
<i>Diospyros meeusiana</i>	0		
<i>Diospyros melanida</i>	2	VU	A
<i>Diospyros melanoxylon</i>	5		
<i>Diospyros melanoxylon</i> var. <i>melanoxylon</i>	0		
<i>Diospyros melanoxylon</i> var. <i>tupru</i>	0		
<i>Diospyros melocarpa</i>	0		
<i>Diospyros mespilliformis</i>	19	LC	E
<i>Diospyros metcalfii</i>	0	LC	B
<i>Diospyros mexiae</i>	0		
<i>Diospyros miaoshanica</i>	1	LC	B
<i>Diospyros micrantha</i>	0		
<i>Diospyros micromera</i>	0		
<i>Diospyros microrhombus</i>	0		
<i>Diospyros miltonii</i>	0		
<i>Diospyros minahassae</i>	0		
<i>Diospyros mindanaensis</i>	0		
<i>Diospyros minimifolia</i>	0	NT	A
<i>Diospyros minutiflora</i>	0		
<i>Diospyros moi</i>	0		
<i>Diospyros mollis</i>	5		
<i>Diospyros mollissima</i>	0	CR	A
<i>Diospyros monbuttensis</i>	4		
<i>Diospyros montana</i>	11		

Taxon Name	Total	Category	Source
<i>Diospyros moonii</i>	0	EN	C
<i>Diospyros morrisiana</i>	6		
<i>Diospyros multibracteata</i>	0		
<i>Diospyros multiflora</i>	0		
<i>Diospyros multinervis</i>	0		
<i>Diospyros mun</i>	1	EN	O
<i>Diospyros muricata</i>	0		
<i>Diospyros mweroensis</i>	0		
<i>Diospyros myriophylla</i>	1		
<i>Diospyros myrmecocarpa</i>	0		
<i>Diospyros myrtifolia</i>	0		
<i>Diospyros nana</i>	0		
<i>Diospyros nanay</i>	0		
<i>Diospyros natalensis</i>	4	LC	E
<i>Diospyros natalensis</i> spp. <i>natalensis</i>	0	LC	G
<i>Diospyros natalensis</i> spp. <i>nummularia</i>	2		
<i>Diospyros nebulorum</i>	0		
<i>Diospyros nebulosa</i>	0	VU	A
<i>Diospyros neglecta</i>	0		
<i>Diospyros neilgerrensis</i>	0		
<i>Diospyros nemorosa</i>	0		
<i>Diospyros neraudii</i>	1	VU	A
<i>Diospyros neurosepala</i>	0		
<i>Diospyros nhatrangensis</i>	0		
<i>Diospyros nidiformis</i>	1		
<i>Diospyros nigra</i>	43		
<i>Diospyros nigricans</i>	0		
<i>Diospyros nigrocortex</i>	1		
<i>Diospyros nilagirica</i>	0		
<i>Diospyros nitida</i>	1		
<i>Diospyros nodosa</i>	1	CR	A
<i>Diospyros normanbyensis</i>	0		
<i>Diospyros novoguineensis</i>	0		
<i>Diospyros nummulariifolia</i>	0	EN	A
<i>Diospyros nur</i>	0		
<i>Diospyros nutans</i>	0	LC	A
<i>Diospyros oaxacana</i>	1	VU	D
<i>Diospyros obducta</i>	0		
<i>Diospyros obliquifolia</i>	0		
<i>Diospyros oblonga</i>	2		
<i>Diospyros oblongifolia</i>	0	VU	C
<i>Diospyros occlusa</i>	1		
<i>Diospyros occulta</i>	0	VU	F
<i>Diospyros okkesii</i>	0		
<i>Diospyros olacinoides</i>	1		
<i>Diospyros oldhamii</i>	5		
<i>Diospyros oleifera</i>	4	LC	B
<i>Diospyros olen</i>	0		
<i>Diospyros oligantha</i>	0		
<i>Diospyros oliviformis</i>	0	LC	B
<i>Diospyros onanae</i>	0	EN	A
<i>Diospyros oocarpa</i>	0		
<i>Diospyros opaca</i>	0	DD	C
<i>Diospyros oppositifolia</i>	0	CR	C
<i>Diospyros orthioneura</i>	0		

Taxon Name	Total	Category	Cons Code
<i>Diospyros ottohuberi</i>	0		
<i>Diospyros oubatchensis</i>	0		
<i>Diospyros ovalifolia</i>	0		
<i>Diospyros ovalis</i>	0		
<i>Diospyros oxycarpa</i>	0		
<i>Diospyros pahangensis</i>	0		
<i>Diospyros palauensis</i>	0		
<i>Diospyros palembanica</i>	0		
<i>Diospyros pallens</i>	4		
<i>Diospyros palmeri</i>	2		
<i>Diospyros pancheri</i>	0		
<i>Diospyros panguana</i>	0	VU	C
<i>Diospyros paniculata</i>	0	VU	A
<i>Diospyros papuana</i>	0		
<i>Diospyros parabuxifolia</i>	0		
<i>Diospyros paraensis</i>	0	DD	E
<i>Diospyros parifolia</i>	0		
<i>Diospyros parviflora</i>	1		
<i>Diospyros parvifolia</i>	0		
<i>Diospyros pauciflora</i>	0		
<i>Diospyros peekelii</i>	0		
<i>Diospyros pemadasae</i>	0	CR	C
<i>Diospyros penangiana</i>	1	LC	A
<i>Diospyros pendula</i>	2		
<i>Diospyros penibukanensis</i>	0		
<i>Diospyros penibukanensis</i> var. <i>penibukanensis</i>	0		
<i>Diospyros penibukanensis</i> var. <i>scalarinervis</i>	0		
<i>Diospyros peninsularis</i>	0		
<i>Diospyros pentamera</i>	7		
<i>Diospyros perakensis</i>	0		
<i>Diospyros perfida</i>	0		
<i>Diospyros perglaucua</i>	0		
<i>Diospyros perplexa</i>	0	VU	A
<i>Diospyros perreticulata</i>	0		
<i>Diospyros perrieri</i>	0		
<i>Diospyros pervilleana</i>	0		
<i>Diospyros pervillei</i>	1		
<i>Diospyros phanrangensis</i>	0		
<i>Diospyros philippinensis</i>	4	EN	A
<i>Diospyros phlebodes</i>	0		
<i>Diospyros phuketensis</i>	0		
<i>Diospyros physocalycina</i>	0		
<i>Diospyros pierrei</i>	0		
<i>Diospyros pilosantha</i>	3		
<i>Diospyros pilosiuscula</i>	0		
<i>Diospyros piresii</i>	0		
<i>Diospyros piscatoria</i>	0		
<i>Diospyros piscicapa</i>	0		
<i>Diospyros platanoides</i>	0	VU	A
<i>Diospyros platycalyx</i>	1		
<i>Diospyros plectosepala</i>	0		
<i>Diospyros pluviatilis</i>	0		
<i>Diospyros poeppigiana</i>	0		
<i>Diospyros polita</i>	0		
<i>Diospyros polystemon</i>	0		

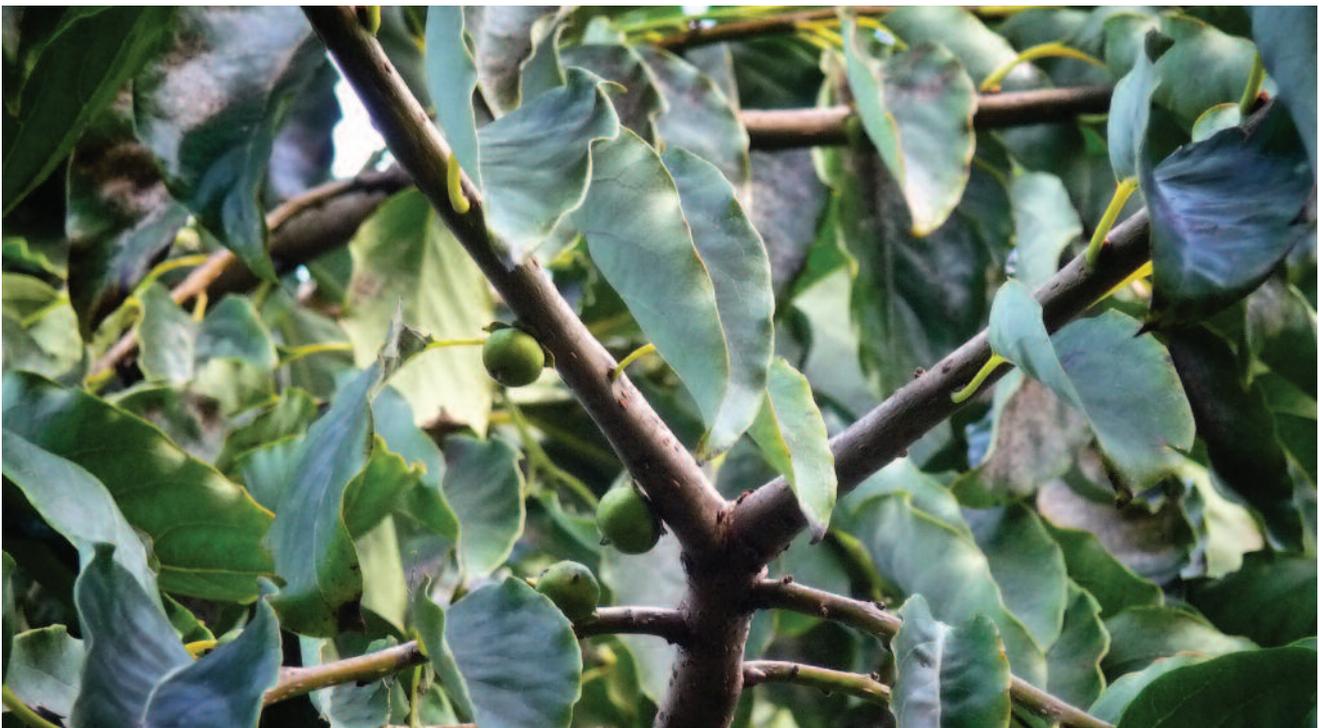
Taxon Name	Total	Category	Source
<i>Diospyros poncei</i>	0	CR	J
<i>Diospyros potamica</i>	0		
<i>Diospyros potingensis</i>	0		
<i>Diospyros preussii</i>	0		
<i>Diospyros pruinosa</i>	0		
<i>Diospyros pruriens</i>	0		
<i>Diospyros pseudoharmandii</i>	0		
<i>Diospyros pseudomalabarica</i>	0		
<i>Diospyros pseudomespilus</i>	0		
<i>Diospyros pseudomespilus</i> ssp. <i>brevicalyx</i>	0		
<i>Diospyros pseudomespilus</i> ssp. <i>pseudomespilus</i>	0		
<i>Diospyros pseudomespilus</i> ssp. <i>undabunda</i>	0		
<i>Diospyros pseudoxylophia</i>	0		
<i>Diospyros pterocalyx</i>	0	VU	A
<i>Diospyros pubescens</i>	15		
<i>Diospyros pubescens</i> var. <i>microphylla</i>	1		
<i>Diospyros pubescens</i> var. <i>pubescens</i>	0		
<i>Diospyros pubescens</i> var. <i>rubriflora</i>	0		
<i>Diospyros pubescens</i> var. <i>rugosa</i>	0		
<i>Diospyros pulchra</i>	0		
<i>Diospyros puncticulosa</i>	0		
<i>Diospyros punctilimba</i>	0	LC	B
<i>Diospyros pustulata</i>	0	VU	A
<i>Diospyros pyrrocarpa</i>	3		
<i>Diospyros quaesita</i>	0	EN	C
<i>Diospyros quercina</i>	1		
<i>Diospyros quiloensis</i>	0		
<i>Diospyros rabiensis</i>	0		
<i>Diospyros ramiflora</i>	0		
<i>Diospyros ramulosa</i>	2		
<i>Diospyros ranongensis</i>	0		
<i>Diospyros rekoii</i>	0	VU	D
<i>Diospyros relit</i>	0		
<i>Diospyros reticulineris</i>	0		
<i>Diospyros revaughanii</i>	1	VU	A
<i>Diospyros revolutissima</i>	0	VU	D
<i>Diospyros rheophila</i>	0		
<i>Diospyros rheophytica</i>	0	CR	C
<i>Diospyros rhodocalyx</i>	1		
<i>Diospyros rhododendroides</i>	0		
<i>Diospyros rhombifolia</i>	23	LC	B
<i>Diospyros ridleyi</i>	1	LC	A
<i>Diospyros ridsdalei</i>	0		
<i>Diospyros riedelii</i>	0		
<i>Diospyros rigida</i>	0		
<i>Diospyros ropourea</i>	0		
<i>Diospyros rosei</i>	0		
<i>Diospyros rostrata</i>	0		
<i>Diospyros rotok</i>	0	DD	C
<i>Diospyros rotundifolia</i>	2	LC	G
<i>Diospyros rubicunda</i>	0		
<i>Diospyros rufa</i>	0	LC	A
<i>Diospyros rufogemmata</i>	0		
<i>Diospyros rumphii</i>	0	DD	A

Taxon Name	Total	Category	Cons Code
<i>Diospyros sahayadryensis</i>	0		
<i>Diospyros sakalavarum</i>	1		
<i>Diospyros saldanhae</i>	0		
<i>Diospyros salicifolia</i>	0	LC	H
<i>Diospyros salletii</i>	0		
<i>Diospyros samoensis</i>	1		
<i>Diospyros sandwicensis</i>	7	NT	I
<i>Diospyros sankurensis</i>	0		
<i>Diospyros santaremnensis</i>	0		
<i>Diospyros sanza-minika</i>	0		
<i>Diospyros savannarum</i>	0		
<i>Diospyros saxatilis</i>	0		
<i>Diospyros saxicola</i>	0	LC	B
<i>Diospyros scabiosa</i>	0		
<i>Diospyros scabra</i>	3	LC	E
<i>Diospyros scabrida</i>	3		
<i>Diospyros scalariformis</i>	0		
<i>Diospyros schmutzii</i>	0		
<i>Diospyros sclerophylla</i>	0		
<i>Diospyros scortechinii</i>	0	LC	A
<i>Diospyros scottmorii</i>	0		
<i>Diospyros selangorensis</i>	0	VU	A
<i>Diospyros senensis</i>	1		
<i>Diospyros sericea</i>	0		
<i>Diospyros serrana</i>	0	VU	E
<i>Diospyros shimbaensis</i>	0	VU	F
<i>Diospyros siamang</i>	0		
<i>Diospyros sichourensis</i>	1	DD	B
<i>Diospyros siderophylla</i>	1	LC	B
<i>Diospyros simaloerensis</i>	0		
<i>Diospyros simii</i>	4		
<i>Diospyros sinaloensis</i>	1		
<i>Diospyros singaporensis</i>	1	LC	A
<i>Diospyros sintenisii</i>	0	VU	D
<i>Diospyros sleumeri</i>	0		
<i>Diospyros sogeriensis</i>	0		
<i>Diospyros sonora</i>	1	VU	H
<i>Diospyros soporifera</i>	0		
<i>Diospyros sororia</i>	0		
<i>Diospyros soubreana</i>	1		
<i>Diospyros soyauxii</i>	0	NT	A
<i>Diospyros sparsirama</i>	0		
<i>Diospyros sphaerosepala</i>	0		
<i>Diospyros sprucei</i>	0		
<i>Diospyros squamifolia</i>	0		
<i>Diospyros squamosa</i>	0		
<i>Diospyros squarrosa</i>	2		
<i>Diospyros stenocarpa</i>	0		
<i>Diospyros streptosepala</i>	0		
<i>Diospyros stricta</i>	0		
<i>Diospyros strigosa</i>	1	DD	B
<i>Diospyros striicalyx</i>	0		
<i>Diospyros styraciformis</i>	1		
<i>Diospyros suaveolens</i>	0		
<i>Diospyros subacuta</i>	0		

Taxon Name	Total	Category	Source
<i>Diospyros subenervis</i>	0		
<i>Diospyros subfalciformis</i>	0		
<i>Diospyros subrhomboidea</i>	2		
<i>Diospyros subrotata</i>	0		
<i>Diospyros subsessilifolia</i>	0		
<i>Diospyros subsessilis</i>	0		
<i>Diospyros subtrinervis</i>	0		
<i>Diospyros subtruncata</i>	1		
<i>Diospyros sulcata</i>	0		
<i>Diospyros sumatrana</i>	1		
<i>Diospyros sundaica</i>	0		
<i>Diospyros sunyiensis</i>	1	LC	B
<i>Diospyros susarticulata</i>	0		
<i>Diospyros sutchuensis</i>	0	CR	B
<i>Diospyros sylvatica</i>	0		
<i>Diospyros tampinensis</i>	0		
<i>Diospyros tarim</i>	0		
<i>Diospyros tenuiflora</i>	0		
<i>Diospyros tenuipes</i>	0		
<i>Diospyros tepu</i>	0		
<i>Diospyros terminalis</i>	0		
<i>Diospyros tero</i>	0	EN	K
<i>Diospyros tessellaria</i>	4	VU	A
<i>Diospyros tessmannii</i>	0	LC	C
<i>Diospyros tetraceros</i>	0		
<i>Diospyros tetrandra</i>	0		
<i>Diospyros tetrapoda</i>	0		
<i>Diospyros tetrasperma</i>	1		
<i>Diospyros texana</i>	25	LC	I
<i>Diospyros thaiensis</i>	0	DD	D
<i>Diospyros thomasii</i>	0		
<i>Diospyros thorelii</i>	0		
<i>Diospyros thouarsii</i>	0		
<i>Diospyros thwaitesii</i>	0	VU	A
<i>Diospyros tireliae</i>	0		
<i>Diospyros tonkinensis</i>	0		
<i>Diospyros torquata</i>	0		
<i>Diospyros touranensis</i>	0		
<i>Diospyros toxicaria</i>	0		
<i>Diospyros transita</i>	0		
<i>Diospyros transitoria</i>	1	LC	A
<i>Diospyros trengganuensis</i>	1	LC	A
<i>Diospyros trianthos</i>	0	DD	D
<i>Diospyros trichophylla</i>	0	VU	C
<i>Diospyros tricolor</i>	1		
<i>Diospyros tridentata</i>	0		
<i>Diospyros tristis</i>	0	LC	A
<i>Diospyros trisulca</i>	0	VU	A
<i>Diospyros trombetensis</i>	0		
<i>Diospyros tropophylla</i>	1		
<i>Diospyros troupinii</i>	0		
<i>Diospyros truncata</i>	0		
<i>Diospyros truncatifolia</i>	0		
<i>Diospyros tsangii</i>	0	LC	B
<i>Diospyros tuberculata</i>	0		

Taxon Name	Total	Category	Cons Code
<i>Diospyros turfosa</i>	0		
<i>Diospyros tutcheri</i>	1	LC	B
<i>Diospyros uaupensis</i>	0		
<i>Diospyros ubaita</i>	0		
<i>Diospyros ulo</i>	0		
<i>Diospyros umbrosa</i>	0		
<i>Diospyros undulata</i>	1		
<i>Diospyros unisemina</i>	0	LC	B
<i>Diospyros urep</i>	0	DD	C
<i>Diospyros urschii</i>	0		
<i>Diospyros uzungwaensis</i>	0	CR	F
<i>Diospyros vaccinioides</i>	3	EN	B
<i>Diospyros variegata</i>	1		
<i>Diospyros veillonii</i>	0	CR	A
<i>Diospyros velutinosa</i>	0		
<i>Diospyros velutipes</i>	0		
<i>Diospyros venenosa</i>	0		
<i>Diospyros venosa</i>	0		
<i>Diospyros venosa</i> var. <i>olivacea</i>	0		
<i>Diospyros venosa</i> var. <i>venosa</i>	1		
<i>Diospyros vermoesenii</i>	0	DD	D
<i>Diospyros verrucosa</i>	0		
<i>Diospyros vescoi</i>	0		
<i>Diospyros vestita</i>	0		
<i>Diospyros vieillardii</i>	0		
<i>Diospyros vignei</i>	0		
<i>Diospyros villosa</i>	2		
<i>Diospyros villosiuscula</i>	0		
<i>Diospyros virgata</i>	0		
<i>Diospyros virginiana</i>	174	LC	I

Taxon Name	Total	Category	Source
<i>Diospyros viridicans</i>	0		
<i>Diospyros vitiensis</i>	0		
<i>Diospyros vitiensis</i> var. <i>longisepala</i>	0		
<i>Diospyros vitiensis</i> var. <i>vitiensis</i> .	0		
<i>Diospyros wagemansii</i>	0		
<i>Diospyros wajirensis</i>	1	NT	A
<i>Diospyros walkeri</i>	0	VU	A
<i>Diospyros wallichii</i>	1		
<i>Diospyros weddellii</i>	0		
<i>Diospyros whitei</i>	0		
<i>Diospyros whitfordii</i>	0		
<i>Diospyros whyteana</i>	28	LC	G
<i>Diospyros winitii</i>	0		
<i>Diospyros xavantina</i>	0	DD	E
<i>Diospyros xianguiensis</i>	1		
<i>Diospyros xishuangbannaensis</i>	1	DD	B
<i>Diospyros yandina</i>	1		
<i>Diospyros yaouhensis</i>	0		
<i>Diospyros yatesiana</i>	1	LC	H
<i>Diospyros yeobii</i>	0		
<i>Diospyros yomomo</i>	0		
<i>Diospyros yucatanensis</i>	0		
<i>Diospyros yucatanensis</i> spp. <i>spectabilis</i>	0		
<i>Diospyros yucatanensis</i> spp. <i>yucatanensis</i>	0		
<i>Diospyros yucatanensis</i> var. <i>longipedicellata</i>	0		
<i>Diospyros yunnanensis</i>	1	LC	B
<i>Diospyros zenkeri</i>	0		
<i>Diospyros zhenfengensis</i>	0	DD	B
<i>Diospyros zombensis</i>	1		



Diospyros oldhamii (NE) reported in 5 ex situ collections (Credit: Marc A.K. Johnson, San Francisco Botanical Garden)

Annex II: Red List publications consulted



Diospyros "labatii" sp. nov. ined. (Credit: Patrice Antilahimena)

Code Citation

- A IUCN. (2015). The IUCN Red List of Threatened Species. Version 2015.4. Available at www.iucnredlist.org
- B CAS, Institute of Botany, The Chinese Academy of Sciences. (2014). Chinese Red List of Biodiversity –the Volume of Higher Plants. Publication in preparation. List available online at: www.zhb.gov.cn/gkml/hbb/bgg/201309/W020130917614244055331.pdf
- C National Red List. (2014). The National Red List. Available at www.nationalredlist.org
- D Walter, K.S. & Gillett, H.J., eds. (1998). 1997 IUCN Red List of Threatened Plants. IUCN, World Conservation Union. Gland, Switzerland and Cambridge, UK.
- E Royal Botanic Gardens, Kew. (2014). Kew Gardens - Conservation Assessment Tracker. Available at: www.google.com/fusiontables/DataSource?docid=14VS4gADo50vHpLa4loT4B6K-ZX-6G20YP19ii7A#rows:id=1
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- G SANBI. (2014). Plants of Southern Africa. Available at: <http://posa.sanbi.org/searchsp.php>

Code Citation

- H Gordon, J. (2005). Red Listing of Mesoamerican dry forest tree species. FFI. Cambridge, UK.
- I NatureServe. (2014). NatureServe Explorer Online Database. (October 2014 edition), NatureServe.
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- K León-Yáñez, S., Valencia, R., Pitman, N., Endara, L., Ulloa Ulloa C. and Navarrete H., eds. (2011). Libro Rojo de las Plantas Endémicas del Ecuador. 2nd edición. Publicaciones del Herbario QCA, 595 Pp. Pont. Universidad Católica del Ecuador. Quito, Ecuador.
- L Eastwood, A., Lazkov, G. and Newton, A. (2008). Red List of tree species of Central Asia. FFI. Cambridge, UK.
- M Vivero, J.L., Szejner, M., Gordon, J. and Magin, G. (2006). The Red List of trees of Guatemala. FFI. Cambridge, UK.
- N González-Espinosa M, ed. (2011). A Red List of the tree species of Mexican cloud forest. FFI. Cambridge, UK.
- O Vietnam Red Data Book Part II. Plants. (2007). Ministry of Science and Technology. Vietnamese Academy of Science and Technology. Vietnam.



Diospyros egrettarum (CR) reported in 8 ex situ collections (Credit: G.E. Schatz)

Annex III: Participating institutions

Institutions that provided data through PlantSearch or through the survey are listed below.

Aburi Botanic Gardens; Adkins Arboretum; Arboreto di Arco - Parco Arciducal; Arboretum at Penn State, The; Arboretum at the University of California, Santa Cruz; Arboretum Bolestraszyce; Arboretum Freiburg-Günterstal; Arboretum Groenendaal - Flemish Forest Department - Houtvesterij Groenendaal; Arboretum Kirchberg; Arboretum of The Barnes Foundation; Arboretum Oudenbosch; Arboretum Wespelaar; Arizona-Sonora Desert Museum; Arnold Arboretum of Harvard University, The; Aswan Botanic Garden; Atlanta Botanical Garden; Auckland Botanic Gardens; Auroville Botanical Garden; Australian National Botanic Gardens; Baker Arboretum; Bali Botanic Garden; Bamboo Brook Outdoor Education Center; Bangladesh Agricultural University Botanic Garden; Bartlett Tree Research Laboratories Arboretum; Batumi Botanical Garden; Bedgebury National Pinetum & Forest; Bendigo Botanic Gardens, White Hills; Bhagalpur University Botanical Garden; Bibliothèque Centrale; Bickelhaupt Arboretum; Biodôme de Montréal - Botanical Garden; Birmingham Botanical Gardens and Glasshouses; Bishop Museum - Checklist of Cultivated Plants of Hawaii I; Blue Mountains Botanic Garden, Mount Tomah; Bokrijk Arboretum; Booderee Botanic Gardens; Boone County Arboretum; Botanic Garden Łódź; Botanic Garden Meise; Botanic Garden Münster; Botanic Garden of Rostock University; Botanic Garden of Smith College, The; Botanic Garden, Delft University of Technology; Botanic Gardens at Kona Kai Resort, The; Botanic Gardens of Adelaide; Botanic Gardens of the Heard Natural Science Museum; Botanical Garden of Adam Mickiewicz University, Poznan - Poland; Botanical Garden of Medicinal Plants, University of Medicine, Wrocław; Botanical Garden of Pyatigorsk State Pharmaceutical Academy; Botanical Garden of Tartu University; Botanical Garden, Natural History Museum of Denmark; Botanical Gardens and Museum of Oulu University; Botanische Gärten der Universität Bonn; Botanischer Garten der Friedrich-Schiller-Universität; Botanischer Garten der J.W. Goethe-Universität; Botanischer Garten der Johannes Gutenberg-Universität Mainz; Botanischer Garten der Justus-Liebig-Universität Giessen; Botanischer Garten der Philipps-Universität Marburg; Botanischer Garten der Ruhr-Universität Bochum; Botanischer Garten der Technischen Universität Darmstadt; Botanischer Garten der Technischen Universität Dresden; Botanischer Garten der Universität des Saarlandes; Botanischer Garten der Universität Bern; Botanischer Garten der Universität Freiburg; Botanischer Garten der Universität Kiel; Botanischer Garten der Universität Osnabrück; Botanischer Garten der Universität Ulm; Botanischer Garten der Universität Zürich; Botanischer Garten der Westfälischen Wilhelms-Universität; Botanischer Garten Graz; Botanischer Garten Greifswald; Botanischer Garten und Botanisches Museum Berlin-Dahlem; Bowman's Hill Wildflower Preserve; Boyce Thompson Arboretum; Brackenhurst Botanic Garden; Brenton Arboretum, The; Brisbane Botanic Gardens; Brooklyn Botanic Garden; Brookside Gardens; Bundaberg Botanic Gardens; Burrendong Botanic Garden & Arboretum; Cambridge University Botanic Garden; Catalogue of Medicinal Plants of Ukrainian Botanic Gardens and Parks; Center for Plant Conservation - Bogor Botanic Gardens; Chanticleer Foundation; Charles R. Keith Arboretum, The; Chihuahuan Desert Gardens; Cibodas Botanic Garden; Coastal Maine Botanical Gardens; Connecticut College Arboretum; Conservatoire Botanique National du Brest; Conservatoire Botanique Pierre Fabre; Conservatoire et Jardin botaniques de la Ville de Genève; Conservatoire et Jardins Botaniques de Nancy; Cooktown Botanic Gardens; Core Facility Botanical Garden; Cornell Plantations; Crosby Arboretum, The; Cuc Phuong Botanic Garden; Dambulla Arboretum; Darwin Botanic Gardens; Dawes Arboretum, The; Delft University of Technology; Denver Botanic Gardens; Desert Botanical Garden; Desert Botanical Garden - Seed Bank; Dokmai Botanical Garden; Dominion Arboretum and Central Experimental Farm; Donald E. Davis Arboretum; Dr. P. Font i Quer Arboretum of Lleida Botanic Garden; Duke Farms; Dunedin Botanic Garden; Ecojardin del CIEco; Eden Project, The; Edison and Ford Winter Estates; EEB Plant Growth Facilities; El Saff Botanic Garden; Eötvös Loránd University Botanic Garden; Fairchild Tropical Botanic Garden; Fernwood Botanical Garden and Nature Preserve; FES Iztacala Banco de Semillas; Forstbotanischer Garten der Technischen Universität Dresden; Forstbotanischer Garten und Arboretum; Fort Worth Botanic Garden; Frederik Meijer Gardens & Sculpture Park; Fullerton Arboretum; Ganna Walska Lotusland; Ghent University Botanic Garden; Giardino Botanico Friuli Cormor; Glasgow Botanic Gardens; Government College (Lahore) University Botanic Garden (GCBG); Green Spring Gardens; Greenwood Gardens; Harmas de Fabre; Helsinki University Botanic Garden; Henry Schmieder Arboretum; Hof ter Saksen Arboretum; Hohenheimer Garten; Holden Arboretum, The; Honolulu Botanical Gardens System; Hortus Botanicus Amsterdam; Hoyt Arboretum; Huay Kaew Arboretum; Hunan Forest Botanical Garden; Huntington Botanical Gardens; Huntsville Botanical Garden; IITA - Forest Project; Incheon Arboretum; Istituto e Orto Botanico dell'Università di Pavia; Jade Garden Natural Arboretum; Jangheung Natural Arboretum; Jardí Botànic de Barcelona; Jardí Botànic de la Universitat de València; Jardim Botânico da Ajuda; Jardim Botânico da Madeira; Jardim Botânico da Universidade de Coimbra; Jardim Botânico da Universidade de Lisboa; Jardim Botânico da Universidade de Trás-os-Montes e Alto Douro; Jardim Botânico da Universidade do Porto; Jardim Botânico Tropical; Jardim Botânico - Dr. Alfredo Barrera Marín; Jardim Botânico Atlântico de Gijón; Jardim Botânico Benjamin F. Johnston; Jardim Botânico Carlos Thays; Jardim Botânico Culiacán; Jardín Botánico de Acapulco; Jardín Botánico de Hampol; Jardín Botánico de Los Mochis; Jardim Botânico Dr. Faustino Miranda; Jardim Botânico El Charco del Ingenio; Jardim Botânico Francisco Javier Clavijero; Jardim Botânico Lucien Hauman; Jardim Botânico Nacional; Jardim Botânico Regional del CICY; Jardim Botanique Alpin de la JäySinia; Jardin Botanique de Kisantu; Jardin Botanique de la Ville de Caen; Jardin botanique de l'Université de Kara;

Jardin Botanique de l'Université de Strasbourg; Jardin Botanique de Marnay sur Seine; Jardin botanique de Paris; Jardin Botanique Exotique Val Rahmeh; Jardin Botanique Yves Rocher; Jardin des Plantes de Paris et Arboretum de Chevreuloup; Jardin des Serres d' Auteuil; Jardin Etnobotanico y Museo de Medicina Tradicional y Herbolaria; Jardins des Plantes de l'Université; JC Raulston Arboretum; Jeju Botanical Garden, Yeomiji; Jerusalem Botanical Gardens; John C. Gifford Arboretum; Kalmthout Arboretum; Keum Kang Arboretum; Kirstenbosch National Botanical Garden; Kunming Institute of Botany; Kurpark Bad Bellingen; Lady Bird Johnson Wildflower Center; Lady Bird Johnson Wildflower Center - seed bank; Landis Arboretum; Lewis Ginter Botanical Garden; Limbe Botanic Garden; Living Desert Zoo and Gardens; Ljubljana University Botanic Garden; Logan Botanic Garden; Longwood Gardens; Los Angeles County Arboretum and Botanic Garden; Lushan Botanical Garden; Mackay Regional Botanic Gardens; Main Botanical Garden, Russian Academy of Sciences; Makiling Botanic Gardens; Malabar Botanical Garden and Institute of Plant Sciences; Marjorie McNeely Conservatory at Como Park; Mary Cairncross Scenic Reserve; Masaryk University Faculty of Medicine Medicinal Herbs Centre; Maymont Foundation; Medicinal Herbs Centre, Masaryk University, Faculty of Medicine, Brno, Czech Republic; Memphis Botanic Garden; Mercer Botanic Gardens; Millennium Seed Bank; Missouri Botanical Garden; Missouri State Arboretum; Mitchell Park Horticultural Conservatory (The Domes); Montgomery Botanical Center; Montreal Botanical Garden / Jardin botanique de Montréal; Moore Farms Botanical Garden; Morris Arboretum, The; Morton Arboretum, The; Moscow State University Botanical Garden; Mount Auburn Cemetery; Mountain Botanical Garden of the Dagestan Scientific Centre; Mountain Top Arboretum; Mt. Cuba Center; Multiplant International Medicinal Conservation; Musee et Jardins Botaniques Cantonaux; NACGRAB Field Genebank; Naples Botanical Garden; National Arboretum Canberra; National Botanic Garden; National Botanic Garden of Latvia; National Botanic Gardens Foundation; National Botanic Gardens, Glasnevin; National Botanical Garden of Georgia; National Kandawgyi Botanical Gardens (Maymyo Botanical Garden); National Plant Germplasm System - USDA-ARS-NGRL; National Tropical Botanical Garden; National Tropical Botanical Garden - Seed Bank; Nebraska Statewide Arboretum; Neuer Botanischer Garten der Universität Göttingen; New York Botanical Garden, The; Niagara Parks Botanical Gardens and School of Horticulture, The; Nigeria Montane Forest Project; Norfolk Botanical Garden; North Carolina Arboretum, The; North Coast Regional Botanic Garden; Northwestern University Ecotourism Park and Botanic Gardens; Novosibirsk Dendropark; NSW Seedbank - Mount Annan Botanic Garden; Oekologisch-Botanischer Garten Universität Bayreuth; Oklahoma City Zoo and Botanical Gardens; Orto Botanico - Università degli Studi di Catania; Orto Botanico Carmela Cortini - Università di Camerino; Orto Botanico dell' Università di Ferrara; Orto Botanico Giardino dei Semplici; Orto Botanico Università degli Studi di Padova; Oxford University Botanic Garden; Paignton Zoo Environmental Park; Palmengarten, Botanic Garden Frankfurt; Pha Tad Ke Botanic Garden; Polly Hill Arboretum, The; Purdue Arboretum, The; Pyunggang Botanical Garden; Quarryhill Botanical Garden; Queens Botanical Garden; Reading Public Museum and Arboretum, The; Real Jardín Botánico Juan Carlos I; Reserva Rio Guaycuyacu; Rimba Ilmu Botanic Garden; Rio Grande Botanic Garden; Rogów Arboretum of Warsaw University of Life Sciences; Royal Botanic Garden Edinburgh; Royal Botanic Gardens Kew (Wakehurst); Royal Botanic Gardens Sydney; Royal Botanic Gardens Victoria, Royal Botanic Gardens, Kew, Royal Botanic Gardens, Melbourne, Royal Horticultural Society's Garden, Rosemoor; Royal Horticultural Society's Garden, Wisley; Royal Tasmanian Botanical Gardens; Royal Veterinary and Agricultural University Arboretum; San Diego Botanic Garden; San Diego Zoo Botanical Gardens; San Francisco Botanical Garden; Sanctuaire des Singes de Drabo Gbo; Sarah P. Duke Gardens; Scott Arboretum of Swarthmore College, The; Seeds of Success (SOS); Sentier de Decouverte; Shanghai Chenshan Botanical Garden; Shaw Nature Reserve of the Missouri Botanical Garden; Sheffield Botanical Gardens; Siit Arboretum Botanical Garden; Singapore Botanic Gardens; Sir Seewoosagur Ramgoolam Botanic Garden; Sister Mary Grace Burns Arboretum; Smith-Gilbert Gardens; Smithsonian National Zoological Park; Spring Grove Cemetery and Arboretum; St. Andrews Botanic Garden; St. Kilda Botanic Garden; State Arboretum of Virginia (Orland E. White Arboretum); State Botanical Garden of Georgia, The; Stichting Botanische Tuin Kerkrade; Tasmanian Arboretum Inc; Tatton Garden Society/Quinta Arboretum; Tharandt Botanic Garden and Arboretum; The Australian Botanic Garden, Mount Annan; The Cairns Botanic Gardens; The Linnean Gardens of Uppsala; The Sir Harold Hillier Gardens; The University of Guelph Arboretum; Thwaite Gardens, University of Hull Botanic & Experimental Garden; Toledo Botanical Garden; Trees Atlanta; Trinity College Botanical Garden; Trompenburg Gardens & Arboretum; Tyler Arboretum; Ukrainian National Forestry University Botanic Garden; United States Botanic Garden; United States National Arboretum; University Botanical Garden; University of British Columbia Botanical Garden; University of California Botanical Garden at Berkeley; University of Delaware Botanic Gardens; University of Idaho Arboretum & Botanical Garden; University of Oslo Botanical Garden; University of Port Harcourt Gardens; University of Texas; University of Uppsala Botanic Garden; University of Washington Botanic Gardens; Usman DanFodio University Gardens; Utrecht University Botanic Gardens; Vanderbilt University Arboretum; VanDusen Botanical Garden; W. J. Beal Botanical Garden; Waimea Valley Arboretum and Botanical Garden; Wallace Desert Gardens; Westonbirt, The National Arboretum; Willowood Arboretum; Wuhan Botanic Garden; Xishuangbanna Tropical Botanical Garden, CAS; Yew Dell Botanical Gardens; Zoo and Botanic Garden Pilsen

Contact us

To provide information on *ex situ* collections, or for support to upload your ebony collection data to Plantsearch please contact: globaltrees@bgci.org

Data contribution – if you have red list information (national and/or global) about *Diospyros* taxa please get in touch: redlist@bgci.org

Trade information – if you have any contacts please send information to george.schatz@mobot.org

Send herbarium specimens, photos or leaf samples in silica gel for identification of your collection and genetic analyses to George Schatz at the following address:

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