

Inclusion of the genus *Diospyros* (populations of Madagascar) in Appendix II, and limited to logs, sawn wood and veneer sheets by an annotation

Proponent: Madagascar

Summary: *Diospyros* is a very large and widespread, chiefly tropical, genus of trees and shrubs in the ebony family or Ebenaceae. Over 500 species have been described in total, although the taxonomy of the genus is in need of revision. Estimates for the number of valid species in Madagascar range from 84 to around 240. Currently 103 species names of Malagasy *Diospyros* are included in CITES Appendix III, based on a list submitted by Madagascar in 2011 (see Notification 2011/039); 84 names are listed in the annex to the proposal. All Malagasy *Diospyros* are believed endemic to the country, with the exception of *D. ferrea*, a very widespread species that also occurs in Africa, Asia, Australia and the Pacific (and which is not included in the current Appendix-III listing). *Diospyros* spp. are distributed throughout Madagascar and are found in a very wide range of habitats, including evergreen wet forests, coastal forests, deciduous dry forests, tapia woods, thickets and savannah scrub.

Some members of the genus yield black, dense, durable wood, known as ebony, used for carpentry and cabinet-making and also in demand for musical instruments. In Madagascar, as elsewhere, timber-bearing ebony trees have been harvested for many years both for domestic use and for export. In recent years levels of harvest and export have evidently increased greatly. Around 40% of the currently named Malagasy species are said to yield wood of commercial value. Some 20 species are reportedly traded in significant quantity, of which the most important are said to be *Diospyros gracilipes*, *D. perrieri* and *D. platycalyx*. *Diospyros gracilipes* occurs in the humid forests of the east and the Sambirano region of the north and is considered one of the most valuable woods in Madagascar, fetching high prices even when traded in smaller sizes. *D. perrieri* is the main producer of ebony wood in western Madagascar; *D. platycalyx*, also from western Madagascar, is reported to be heavily exploited within its range.

Little is known about population sizes and distributions of most of the Malagasy *Diospyros* species. None is currently included in the IUCN Red List. At CoP15 a decision was adopted directing Madagascar and the Plants Committee to review and gather further information on species (including tree species) that might benefit from inclusion in the Appendices. Information on the taxonomy, distribution and conservation status of *Diospyros* spp. was presented to the nineteenth meeting of the Plants Committee in April 2011; this included preliminary assessments of some species using the IUCN Red List Categories and Criteria. This suggested that *D. gracilipes* was vulnerable and *D. perrieri* endangered. It was reported that almost all large trees of the latter had disappeared from within its range. Various other species were also assessed as threatened owing to logging pressure. No assessment of *Diospyros platycalyx* was made. There is little information available on growth rates or regeneration potential of Malagasy *Diospyros*, but growth of ebony-producing trees is in general believed to be slow, with many years needed to produce the dense, dark wood that is most highly sought-after. Generation times are likely to be measured in decades.

Few data are available on the trade in ebonies from Madagascar. It is believed that large amounts were exported in 2008 and 2009, much of it obtained illegally, either from within protected areas or without appropriate permits. Most information concerning hardwood export from Madagascar relates to rosewood *Dalbergia* spp. (see proposal CoP16 Prop. 63), with indications that rosewood is exported in much larger quantities than ebony.

In addition to selective logging, Malagasy forests are subject to numerous other pressures including clearance for shifting cultivation, uncontrolled burning, urbanisation and mining. In 2000 relatively unaltered forest covered around 10% of Madagascar with deforestation rates estimated at 200-300 000 ha per year. The coastal forests in particular are known to be highly fragmented and are believed to have been reduced in extent by around 25% between the 1970s and the mid-2000s.

Madagascar introduced a temporary ban on export of precious woods in 2010, envisaged to be for between 2-5 years. As of late 2012 this reportedly

remained in place, although logging of ebonies has apparently continued, including within protected areas.

Analysis: Information on populations of any *Diospyros* species in Madagascar is scarce. Some species are known to have restricted distributions and are not known to be present in protected areas. Almost all large trees of one valuable ebony-wood producing species, *Diospyros perrieri*, are said to have disappeared from the western part of Madagascar, to which it is restricted. It is reported that despite introducing legislation to ban the export of precious woods in 2010 logging of ebonies has continued, apparently including within protected areas. There are no data on volumes of ebony in trade, and it is not possible to relate even anecdotal accounts of ebony in trade to particular species. There is thus little evidence to determine whether any of the species meet the criteria in Annex 2a of *Resolution Conf. 9.24 (Rev. CoP15)*. However, given the apparently high rates of exploitation of ebony-producing trees as well as the large scale deforestation occurring in Madagascar and the generally long generation times of ebony-producing trees it is possible that some meet these criteria in that regulation of trade in them is required to ensure that the harvest of specimens from the wild is not reducing their populations to a level at which their survival might be threatened by continued harvesting or other influences.

Experts are currently unable to accurately identify any given log of Malagasy ebony to the species level and thus, if it is considered that one or more species of *Diospyros* meet the criteria in Annex 2 a then other species would meet the criteria in Annex 2 b A of *Resolution Conf. 9.24 (Rev. CoP15)*. Given the current taxonomic uncertainty of the genus *Diospyros* listing of all populations of Madagascar species of the genus *Diospyros* would likely facilitate implementation.

| Supporting Statement (SS) | Additional information |
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| <u>Taxonomy</u> | |
| <p>The genus is under taxonomic evaluation and preliminary results indicate a total number of 120 to 240 species in Madagascar. There are 84 accepted species in the genus <i>Diospyros</i> as listed in the Annex of the proposal (based on the Catalogue of Vascular Plants of Madagascar).</p> | <p><i>Schatz (2001) states there are around 100 endemic species recorded and an additional 25 species yet to be described. Subsequently the Catalogue of Vascular Plants of Madagascar states there are 87 accepted species of <i>Diospyros</i> of which 86 are endemic and 1 is indigenous non-endemic and an estimated further 130 undescribed endemic species, a total 217 species (Madagascar Catalogue, 2012).</i></p> |
| <u>Range</u> | |
| <p>Madagascar (this proposal only covers populations of Madagascar).</p> | |
| <u>IUCN Global Category</u> | |
| | <p><i>No Malagasy species of <i>Diospyros</i> is currently listed.</i></p> |

Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)

B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influences

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| <p>Malagasy Ebony is used for the manufacture of luxury objects, cutlery, brush making, marquetry, canes, lutherie, musical wind instruments and piano keys.</p> | <p><i>The precious wood of these species is used to make inlays, cabinets, parts for musical instruments (fingerboards on violins, piano keys), cutlery and handles. In</i></p> |
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| Supporting Statement (SS) | Additional information |
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| <p>37-40% of described species are large harvestable trees.</p> <p>Twenty-two species of ebony wood are the most marketed outside Madagascar. More than 90% of exported goods are in the form of logs and sawn wood. The international market for Ebony has promoted the illicit exploitation of this species. There is a high demand for the quality of wood and mature trees are selectively targeted.</p> <p>The structure of the population of the species of <i>Diospyros</i> presents a disturbance marked by the absence of certain diameter classes both inside and outside protected areas. Individual seed trees with a DBH greater than 20 cm represented by large trees are increasingly rare. It takes at least 80 years for these species to reach the size of exploitability. The natural regeneration rate is generally low (0 to 12%).</p> <p>The number of exploitable individuals is reduced and they exist only in protected areas or in areas of production. The gradual decline of populations of Madagascar ebony has been found, for example almost all the large trees of <i>Diospyros perrieri</i> disappeared in the western part of Madagascar.</p> <p>Of the 84 species of <i>Diospyros</i> 13 have been assessed as threatened using the IUCN criteria.</p> <p>However, there are species with a wide geographical distribution as <i>D. gracilipes</i>, <i>D. haplostylis</i> and others have a restricted distribution such as <i>D. perrieri</i> and <i>D. tampinensis</i>.</p> | <p>recent years Madagascar has experienced very high levels of logging of Ebonies following regime change in March 2009, particularly in the north-eastern rainforests (Jenkins et al., 2012).</p> <p>Madagascar ebony has been exploited for centuries, but subject to intense levels of uncontrolled and illegal international trade in recent years (DBEV and WWF, 2010a).</p> <p>Volumes of timber export have been declining due to the increasing scarcity of these species. In 2009 36 700 tonnes of precious wood was exported, 249 tonnes (0.7%) were ebony and the remainder was rosewood. Logging occurs in various sites including the Marojejy and Masoala National Parks in north-east Madagascar (Randriamalala and Liu, 2010).</p> <p>The Prota (Plant resources of tropical Africa) database at www.prota.org identifies <i>Diospyros gracilipes</i>, <i>Diospyros perrieri</i> and <i>Diospyros platycalyx</i> as the most important Ebony species. ONE (2005) cited in DBEV and WWF (2010b) also identifies the following species as traded internationally: <i>Diospyros aculeata</i>, <i>Diospyros ambilensis</i>, <i>Diospyros antsiranensis</i>, <i>Diospyros bernieri</i>, <i>Diospyros bernieriana</i>, <i>Diospyros calophylla</i>, <i>Diospyros haplostylis</i>, <i>Diospyros intricata</i>, <i>Diospyros laevis</i>, <i>Diospyros magnifolia</i>, <i>Diospyros myrtifolia</i>, <i>Diospyros pervilleana</i>, <i>Diospyros pruinosa</i>, <i>Diospyros sakalavarum</i>, <i>Diospyros sclerophylla</i>, <i>Diospyros sphaerosepala</i>, <i>Diospyros tampinensis</i>, <i>Diospyros toxicaria</i>, <i>Diospyros tropophylla</i>.</p> <p>One species occurring in Madagascar (<i>D. ferrea</i>) is widespread in Africa, Asia, Australia and the Pacific (www.congotreesrbge.org.uk). All others are believed endemic.</p> <p>Trees are harvested before reaching the age of reproduction (DBEV and WWF, 2010b). Individuals of <i>Diospyros</i> which have a diameter at breast height (DBH) greater than 50 cm are the main targets of loggers (DBEV and WWF, 2010a).</p> <p>At PC19 a document presented the assessments of some species using the IUCN categories and criteria (see PC19 Doc 14.3). WWF and the Département de Biologie et Ecologie Végétales (CITES Scientific Authority for Plants) have conducted surveys at two sites in south east Madagascar (Mahabo Mananivo and Manombo), two sites in the north west (Tsaramandroso and Ankarafantsika) and four sites in the west (Kirindy, Beroboka, Andranomena and Ampataka) (DBEV and WWF, 2010a). Ten species of <i>Diospyros</i> were surveyed in the two sites of South East Madagascar, eight species in the Northwest and six species in the west. The survey's findings and preliminary threat categories are presented below for selected species.</p> <p><i>Diospyros aculeata</i> subsp. <i>meridionalis</i>- endangered due to over illegal logging, population decline, uncontrolled fire (PC 19 Doc 14.3).</p> |

| Supporting Statement (SS) | Additional information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Diospyros species show a wide variability of density ranging from 10 to 900 individuals per hectare. In addition, the biovolume and basal area are generally low. This indicates that the majority of individuals are not usable (see Table below).</p> <p>Table: Density of some species of Diospyros in Madagascar</p> <table border="1" data-bbox="157 477 1033 881"> <thead> <tr> <th>Species</th> <th>Density (Individual/ha)</th> <th>Basal area (m²/ha)</th> <th>Biovolume (m³/ha)</th> </tr> </thead> <tbody> <tr> <td><i>D. aculeata</i></td> <td>70-280</td> <td>0.4-7.2</td> <td>1-93.5</td> </tr> <tr> <td><i>D. bernieri</i></td> <td>900</td> <td>3.1</td> <td>63.9</td> </tr> <tr> <td><i>D. calophylla</i></td> <td>450</td> <td>1.9</td> <td>7.7</td> </tr> <tr> <td><i>D. gracilipes</i></td> <td>500</td> <td>3.6</td> <td>12</td> </tr> <tr> <td><i>D. haplostylis</i></td> <td>500</td> <td>4.9</td> <td>23.3</td> </tr> <tr> <td><i>D. perrieri</i></td> <td>10</td> <td>0.9</td> <td>2.9</td> </tr> <tr> <td><i>D. sakalavarum</i></td> <td>50</td> <td>0.6</td> <td>1.6</td> </tr> <tr> <td><i>D. toxicaria</i></td> <td>30</td> <td>0.1</td> <td>0.2</td> </tr> </tbody> </table> | Species | Density (Individual/ha) | Basal area (m ² /ha) | Biovolume (m ³ /ha) | <i>D. aculeata</i> | 70-280 | 0.4-7.2 | 1-93.5 | <i>D. bernieri</i> | 900 | 3.1 | 63.9 | <i>D. calophylla</i> | 450 | 1.9 | 7.7 | <i>D. gracilipes</i> | 500 | 3.6 | 12 | <i>D. haplostylis</i> | 500 | 4.9 | 23.3 | <i>D. perrieri</i> | 10 | 0.9 | 2.9 | <i>D. sakalavarum</i> | 50 | 0.6 | 1.6 | <i>D. toxicaria</i> | 30 | 0.1 | 0.2 | <p>Diospyros ambilensis- At Mahabo Mananivo the density of this species was low at 10 per ha. <i>Diospyros ambilensis</i> has a low basal area (0.05 m² per ha) and biovolume (0.13 m³ per ha) at both sites of Mahabo Mananivo and Manombo. This can be explained by the scarcity/absence of large individuals in the sites due to selective removal logging (DBEV and WWF, 2010a). Surveys found only one individual with a diameter of between 5-10cm and regeneration of the species was absent at the two sites in south east Madagascar (DBEV and WWF, 2010a).</p> <p>Diospyros bernieri – near threatened due to over exploitation (PC 19 Doc 14.3).</p> <p>Diospyros calophylla- vulnerable due to habitat degradation and over exploitation (PC 19 Doc 14.3).</p> <p>Diospyros clusiifolia – vulnerable (PC 19 Doc 14.3).</p> <p>Diospyros cupulifera- Surveys in Tsaramandroso (north west Madagascar) found <i>Diospyros cupulifera</i> to be present at one out of three sites surveyed, and to be present at a density of 60 individuals per ha. Basal area was 0.4 per m², and biovolume of 0.69 m³ per ha, and regeneration was fair at the one site where it was present (DBEV and WWF, 2010a). Density in the west was 50-120 individuals per ha, and the species was found at two out of four sites, with a basal area of 0.01-0.86 m² per ha and biovolume of 2.18-3.49m³ per ha. This species has a very low rate of regeneration in both study sites. Individuals with a diameter between 5-10 cm are absent (DBEV and WWF, 2010a).</p> <p>Diospyros ferrea- The species has a good regeneration rate at Mahabo Mananivo in the south east and a density of 250-810 individuals per ha, though had a low basal area (0.03-0.95m² per ha) and biovolume (0.1-2.55 m³ per ha) in Mahabo due to the scarcity or absence of large trees in the sites after selective logging (DBEV and WWF, 2010a). The density in Tsaramandroso was lower at 10-40 individuals per ha, and the species was found at two out of three sites. The basal area in Tsaramandroso was 0.18-0.49 per m², and biovolume of 0.29-1.56m³ per ha, and at one site there was no regeneration, whilst regeneration was fair at the other (DBEV and WWF, 2010a).</p> <p>Diospyros fuscovelutina - vulnerable due to illegal logging (PC 19 Doc 14.3).</p> <p>Diospyros gracilipes- vulnerable due to exploitation and likely decline (PC 19 Doc 14.3). The area of occupancy is estimated to be 513 km², and it is thought there are 46 subpopulations; of which 35 are outside of protected areas (DBEV et al., 2011). From surveys in the south east it was determined the species had a density of 10-140 individuals per ha, and a low basal area (0.05-0.07m² per ha) and biovolume (0.11-0.14 m³ per ha) due to the scarcity or absence of large individuals in the sites. No individuals with a diameter greater than 10 cm were found; individuals of this size are the most sought after by harvesters (DBEV and WWF, 2010a). <i>Diospyros gracilipes</i> is</p> |
| Species | Density (Individual/ha) | Basal area (m ² /ha) | Biovolume (m ³ /ha) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. aculeata</i> | 70-280 | 0.4-7.2 | 1-93.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. bernieri</i> | 900 | 3.1 | 63.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. calophylla</i> | 450 | 1.9 | 7.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. gracilipes</i> | 500 | 3.6 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. haplostylis</i> | 500 | 4.9 | 23.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. perrieri</i> | 10 | 0.9 | 2.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. sakalavarum</i> | 50 | 0.6 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>D. toxicaria</i> | 30 | 0.1 | 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Supporting Statement (SS) | Additional information |
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| | <p>one of the most requested species of <i>Diospyros</i> on the Chinese and European markets (DBEV and WWF, 2010b).</p> <p>Diospyros greveana- This species is found in only one site in the west out of four (where it was found not to regenerate which could be explained by the use of this species as lumber) at a density of 10 individuals per ha, and basal area of 0.05 m² per ha and biovolume of 0.11 m³ per ha. Individuals of certain sizes (0-2.5cm, 2.5-5cm and >10cm) were absent (DBEV and WWF, 2010a). The species was found at one out of three sites in the north west at a density of 30 individuals per ha and with a basal area of 0.18 per m², and biovolume of 0.36 m³ per ha. Regeneration was fair at this one site (DBEV and WWF, 2010a).</p> <p>Diospyros haplostylis - vulnerable due to exploitation (PC 19 Doc 14.3).</p> <p>Diospyros intricata - At Mahabo Mananivo (south east) the density of this species was 20 per ha, and the basal area (0.01m² per ha) and biovolume (0.03 m³ per ha) were low. This can be explained by the scarcity or absence of large individuals in the sites after the selective removal and illegal exploitation. The species had no regeneration at these sites and only four individuals were present with a diameter between 2.5-5 cm (DBEV and WWF, 2010a).</p> <p>Diospyros laevis -The density at Mahabo was 10 per ha, whilst at Manombo it was 20-130 per ha. <i>Diospyros laevis</i> has a low basal area (0.13 m² per ha) and biovolume (0.49 m³ per ha) in Mahabo and Manombo. This can be explained by the scarcity or absence of large individuals in the sites (DBEV and WWF, 2010a). Regeneration was absent in both Mahabo and Manombo.</p> <p>Diospyros lanceolata - endangered due to illegal logging (PC 19 Doc 14.3).</p> <p>Diospyros latispathulata- Density at sites in the west was 20-50 individuals per ha, and was found at two out of four sites. Basal area was 0.09-0.13 m² and biovolume was 0.11-0.14 m³ per ha). Regeneration was absent or very low at all sites, and no individuals between 0-2.5 cm diameter were found (DBEV and WWF, 2010a).</p> <p>Diospyros masoalensis - vulnerable due to illegal logging (PC 19 Doc 14.3).</p> <p>Diospyros montigena- At Manombo the density of this species was 20-30 per ha and had a low basal area (0.03 m² per ha) and biovolume (0.12 m³ per ha). This can be explained by the scarcity or absence of large individuals in the sites. Regeneration ranged from absent to fair (DBEV and WWF, 2010a).</p> <p>Diospyros microrhombus – Density in Manombo (south east) was 90-100 individuals per ha and the species had a low basal area of 0.04 m² per ha and biovolume of 0.09 m³ per ha. This can be explained by the scarcity or absence of</p> |

| Supporting Statement (SS) | Additional information |
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| | <p><i>large individuals in the sites. Regeneration ranged from absent to fair, but no individuals with a diameter bigger than 10 cm were found (DBEV and WWF, 2010a).</i></p> <p>Diospyros myriophylla- <i>Diospyros myriophylla density at sites in the west of Madagascar was 20-60 individuals per ha, and the species was found at three of the four sites surveyed. The basal area was 0.08-5.18 m² and the biovolume of 0.15-6.38 m³ per ha. Regeneration rates varied from poor to good, at the site with the lowest regeneration rate (Ampataka) it is thought the reason for this is due to its close proximity to the road (DBEV and WWF, 2010a).</i></p> <p>Diospyros nigricans- <i>The density of Diospyros nigricans in the south east was 80-300 individuals per ha, and the basal area was low at 0.25-0.42 m² per ha, and the biovolume at 0.93-1.64 m³ per ha. This can be explained by the scarcity or absence of large individuals in the sites. Regeneration varied from absent to good (DBEV and WWF, 2010a).</i></p> <p>Diospyros occlusa- <i>vulnerable due to illegal logging (PC 19 Doc 14.3).</i></p> <p>Diospyros perrieri- <i>endangered due to its restricted distribution (PC 19 Doc 14.3). Diospyros perrieri is one of the most requested species of Diospyros on the Chinese and European markets (DBEV and WWF, 2010b).</i></p> <p>Diospyros sakalavarum- <i>Diospyros sakalavarum density in the west of Madagascar was 20-120 individuals per ha, and the species was found to be present at two out of four sites. The basal area of Diospyros sakalavarum was 0.07-3.81 m² per ha and the biovolume 0.09-5.93 m³ per ha). The regeneration rate ranged from poor to fair. This species is widely used by local people for firewood and made into furniture (DBEV and WWF, 2010a). Classed as Least Concern using the IUCN Red List Categories and Criteria though noted fragmented habitat and forest degradation as threats (PC 19 Doc 14.3) (IUCN, 2012).</i></p> <p>Diospyros toxicaria- <i>vulnerable due to exploitation and habitat degradation (PC 19 Doc 14.3).</i></p> <p>Diospyros tropophylla- <i>At sites in the north west the density ranged from 140-250 individuals per ha, and the species was found at two out of three sites. The basal area at these sites was 3.06-4.78 per m² per ha, and the biovolume was 12.27-19.79 m³ per ha. Regeneration was fair at both sites (DBEV and WWF, 2010a). Diospyros tropophylla density in the west of the country ranged from 20-770 individuals per ha, and was found at all four out of four sites. Basal area ranged from 0.04-7.59 m² per ha and biovolume from 0.06-9.82 m³ per ha. Regeneration ranged from absent at two sites to very good at another. There was a lack of individuals greater than 10 cm due to selective logging for furniture (DBEV and WWF, 2010a).</i></p> |

| Supporting Statement (SS) | Additional information |
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| | <p>Diospyros urschii- <i>Diospyros urschii</i> has a low basal area (0.02-0.96 m² per ha) and biovolume (0.07-2.34 m³ per ha) in the south east. Density was 10-340 individuals per ha and regeneration rates were either absent or fair (DBEV and WWF, 2010a).</p> <p>WWF (2012) carried out inventories in Andranopasy (south-west) and Andranomenakely (north-east) and found that <i>Diospyros</i>.aff <i>pervillei</i>, <i>D. cf calophylla</i>, and <i>D. perrieri</i> had no regenerations, whilst <i>Diospyros haplostylis</i> has no regeneration in Ampasimenakely, it has a good regeneration in Andranopasy.</p> <p>It has been estimated that in 2008 and 2009 at least 52 000 tonnes of precious wood (<i>Dalbergia</i> and <i>Diospyros</i> species) were exported from Madagascar, estimated as from 100 000 trees of rosewood and ebony (DBEV and WWF, 2010b).</p> <p>Volumes of timber export have been declining due to the increasing scarcity of these species. Randriamalala and Liu, (2010) estimated that in 2009 36 700 tonnes of precious wood was exported, 249 tonnes (0.7%) were ebony and the remainder was rosewood. Logging occurs in various sites including the Marojejy and Masoala National Parks in north-east Madagascar.</p> <p> Ebony wood is widely available for sale.</p> |

Inclusion in Appendix II to improve control of other listed species

A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP15) Annex 2 a or listed in Appendix I

It is currently not possible to identify exactly which species any given log of Malagasy ebony might be. Indeed, there is a very high likelihood that it may be an as yet undescribed species, given that there are at least a half dozen new species in the NE around the Bay of Antongil/Masoala to Marojejy that reach exploitable size. (Schatz in litt., 2012).

| Supporting Statement (SS) | Additional information |
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| Other information | |
| <u>Threats</u> | |
| <p>The main pressures are registered clearing, bushfires, the slash and burn shifting cultivation and exploitative abuses especially for local trade and international. Today, the primary vegetation covers only 9.9% of the Malagasy territory. The rate of deforestation is estimated at 200-300 000 hectares per year. Some species grow in the coastal forests that are currently in a state of advanced fragmentation. This type of forest has been reduced by 22.5% since the 1970s.</p> <p>Illegal logging is taking place in protected areas. The main threats are abusive and illegal logging and exploitation, destruction of habitat for land clearance, extension of urban areas and bush fires.</p> | <p><i>The use of fire is common for clearing forests. Logs are often transported by boat in thousands or on rafts using buoyancy trees of other species (e.g. Dombeya spp). On average five high buoyancy trees are required to float one log, as well as tens of thousands of vines for binding the rafts (Randriamalala and Liu 2010).</i></p> <p><i>The wood from Diospyros species is heavily exploited domestically for firewood, fence posts: people also use Diospyros medicinally (DBEV and WWF, 2010a).</i></p> |
| <u>Conservation, management and legislation</u> | |
| <p>104 species were listed in CITES Appendix III in 2011.</p> <p>Decree 2010-141, March 24, 2010 prohibits the cutting, exploitation and trade which is enforced at national level.</p> <p>Legislative regulations fail to stop the illicit exploitation and the situation has worsened in the recent years as hundreds of containers continue to be exported confirming the failure of control. There is a lack of legislation on the species and a lack of integration between social, technical and scientific people, as well as the violation of procedures and misuse of power.</p> <p>There is no ongoing monitoring of the population for species of <i>Diospyros</i> in areas where the range is known. Due to overexploitation some species of <i>Diospyros</i> are known in less than 2-5 localities and many are not present in protected areas such as: <i>D. baroniana</i>, <i>D. filipes</i>, <i>D. implexicalyx</i>, <i>D. nidiformis</i>, <i>D. perglauca</i>, <i>D. subfalcaliformis</i>, <i>D. tampinensis</i>, <i>D. tetraceros</i> and <i>D. thouarsii</i>. 10 . 25% of the total population of all species occur primarily outside protected areas.</p> <p>Currently, the policy of the Government of Madagascar is to increase the surface area of the protected areas which will effectively contribute to the conservation of species of <i>Diospyros</i>.</p> | <p><i>Barrett et al. (2010) note that the ban was for the subsequent 2 to 5 years. Ramahaleo in litt. (2012) confirmed that the ban is still in place at present.</i></p> <p><i>Despite the ban it is reported that that further shipments of wood have left Madagascar's ports since then, while logging within parks apparently continues. In July, UNESCO put the Rainforests of Atsinanana, the site most affected by the illegal logging, on its World Heritage in Danger List. (Global Witness, EIA 2010).</i></p> <p><i>Additional restricted distribution species not known to be present in protected areas include: D. anosivolensis, D. coursiana, D. dicorypheoides, D. greveana, D. hazomainty, D. ketsensis, D. louvelii, D. mangorensis, D. mcphersonii, D. obducta, D. parifolia, D. subtrinerivis, and D. tetrapoda (Schatz in litt., 2012).</i></p> <p><i>The US House of Representatives passed Bill H.R. 839 condemning the illegal extraction of Madagascar's national resources and called on importing countries to halt the demand for illegally sourced precious woods from Madagascar and for consumers to check the origin. In 2008 the Lacey Act was enforced on Gibson Guitars for importing illegal Malagasy Ebony via its European Trading Partner Theodor Nagel GmbH & Co KG. Analyses show that previous importers have since halted the importing of timber (Global Witness, EIA 2010). The US Fish & Wildlife Service's investigation into Gibson Guitars has apparently had a positive impact on the demand for precious wood in the USA and Europe.</i></p> <p><i>In July 2010 the European Parliament passed the Timber Import Regulation prohibiting the import of illegal timber and timber products into the EU market.</i></p> |

| Supporting Statement (SS) | Additional information |
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| <u>Captive Breeding/Artificial Propagation</u> | |
| No study of artificial reproduction exists. | |
| <u>Other comments</u> | |
| <p>Ministry of Environment and Forests (MOEF) note the importance of the establishment of a traceability system based on a database of the DNA of precious woods.</p> <p>The 36th session of the of the World Heritage Committee which was held in Saint Petersburg from June 24 to July 06, 2012, saw the adoption of recommendations on precious woods (in particular the implementation of the existing legislation on the prohibition of the illegal trade, as stated the Decree 2010-141) and taking action of States Parties to the Convention so that the wood illegally cut in Madagascar is prohibited and cannot enter into their national markets.</p> | <p><i>Ebony fruits are an important element in the diets of threatened lemur species (Andrews and Birkinshaw, 1998).</i></p> |

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References:

- Andrews, J. and Birkinshaw, C.R. (1998). A comparison between the daytime and night-time feeding ecology of the black lemur, *Eulemur macaco*, in Lokobe Forest, Madagascar. *Folia Primatologia* 69 (suppl 1) : 175-182.
- Barrett, M.A., Brown, J.L., Morikawa, M.K., Labat, J.N. and Yoder, A.D. (2010). CITES designation for endangered rosewood in Madagascar. *Science* 328. pp. 1109-1110.
- DBEV and WWF (2010a). Evaluation ecologique des especes de bois precieux du genre *Diospyros* (Dans le Nord Ouest, le Menabe et dans le Sud Est). 51p.
- DBEV and WWF (2010b). Especes de bois precieux les plus commercialisees de Madagascar : Cas des genres *Dalbergia* et *Diospyros*. 37p.
- DBEV, GSPM and WWF (2011). Statuts écologiques des espèces de bois précieux les plus commercialisées à Madagascar, Antananarivo, 18p.
- Global Witness and Environmental Investigation Agency (EIA) (US) (2010). Investigation into the Global Trade in Malagasy Precious Woods: Rosewood, Ebony and Pallsander http://www.globalwitness.org/sites/default/files/pdfs/mada_report_261010.pdf.
- IUCN (2012). IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist.org>. Viewed on 08 November 2012.
- Jenkins, A., Bridgland, N., Hembury, R., Malessa, U., Hewitt, J. and Hin Keong, C. (2012). Background paper 1: Precious woods: exploitation of the finest timber. Chatham House Workshop: tackling the trade in illegal precious woods 23 . 24 April 2012. Traffic <http://www.illegal-logging.info/uploads/PreciousWoodsbackgroundpaper1ThetradeinpreciouswoodsTRAFFIC.pdf>.
- Madagascar Catalogue (2012). *Catalogue of the Vascular Plants of Madagascar*. Missouri Botanical Garden, St. Louis, U.S.A. and Missouri Botanical Garden, Madagascar Research and Conservation Program, Antananarivo, Madagascar. Available at: <http://www.efloras.org/madagascar>
- ONE (2005). Office National Pour L'Environnement <http://www.pnae.mg/>
- PC19 Doc 14.3 (2011). Amendments to the Appendices Madagascar (Decision 15.97).
- Ramahaleo (2012). In litt. to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.

- Randriamalala, H. and Liu, Z. (2010). Madagascar rosewood: between democracy and nature protection. *Madagascar Conservation and Development* 5, 1: 11-22.
- Schatz, G.E. (2001). Generic Tree Flora of Madagascar. Royal Botanic Gardens Kew, Missouri Botanical Garden.
- Schatz, G.E. (2012). In litt. to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
- WWF (2012). Rosewood. <http://www.wwf.org/ourwork/cssp/speciesprojects/rosewood/> Viewed December 2012.