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Managing a Reconstituted Rainforest Remnant and its Threatened Plants in Benin

Peter Neuenschwander[1], Aristide Adomou[2], Hospice Dassou[2,3], and Clément Adjire[4]

Abstract

Background: In Benin, in the savannah of the Dahomey Gap, sacred forests of <0.5 ha. preserve the rainforest flora of the adjacent forest blocks 'Upper Guinea' and 'Congo Basin'.

Research Aims: To protect these threatened plants, we reconstituted a rainforest patch of 14 ha, the 'Sanctuaire des Singes', out of fallow land and followed its regeneration during 28 years under threatening urbanization and climate change.

Methods: The growth of saplings of three common tree genera and the changes in the composition of the flora developing from seeds and roots were analyzed. Species collected in other rainforest patches were introduced. Management consisted in hand irrigation and mulching of young plants during dry periods and the removal of strangling climbers. The first author's residency in the forest and support to the local, mostly poor (by UN standards) population with its vodun culture is highlighted.

Results: The forest, under IITA property, harbors 590 plant species; another 64, mostly from drier origins, disappeared during the study. A total of 257 species were introduced; 58 are threatened according to IUCN criteria, twelve of them critically endangered. Most species (56.6%) have only <4 specimens. Among common trees, about 1% died each year**,** while common herbs and woody plants of pan-African or pantropical origin, which thrive in the vicinity of the forest, disappeared from the closed forest.

Conclusion: This is the first reconstituted forest in Benin, a 'reference forest'.

Implications for Conservation: The 'Sanctuaire' is of high educational and scientific value. Because of its easy access and despite increasing urbanization, it receives numerous visitors (mostly attracted by the critically endangered red-bellied monkey) - a timid start for ecotourism. The forest serves as an example for better managing sacred forests in the nearby Ouémé floodplain, a UNESCO World Heritage site; but increasing storm damage threatens its survival.

Keywords

West Africa, Benin, sacred forests, threatened plants, IUCN red list, urbanization

[1]International Institute of Tropical Agriculture, Cotonou, Bénin
[2]Laboratoire des Sciences du Végétal et Pharmacopée, Ecole Doctorale des Sciences de la Vie et de la Terre, Université d'Abomey-Calavi, Cotonou, Bénin
[3]Jardins Botanique et Zoologique Edouard Adjanohoun, Université d'Abomey-Calavi, Cotonou, Bénin
[4]Laboratoire de Biogéographie et Expertise Environnementale, Faculté des Sciences Humaines et Sociales, Université d'Abomey-Calavi, Cotonou, Bénin

Corresponding Author:
Peter Neuenschwander, International Institute of Tropical Agriculture, Cotonou 08 BP 0932, Bénin.
Email: P.Neuenschwander@cgiar.org

Introduction

At the end of the ice ages some 10 000 years ago, the surviving tertiary rainforest refuges in today's Côte d'Ivoire and Cameroon started expanding through the dry savanna of West Africa, forming the current forest blocks with their typical flora of so-called Upper Guinea and Congo Basin origin, respectively. The forest never closed over the so-called Dahomey Gap of today's Benin, Togo and southern Ghana, where the savannah reaches the Atlantic Ocean. Nevertheless, tiny forest pockets developed; they became the about 1000 sacred forests, located mainly in the Ouémé floodplain in southern Benin (Poorter et al., 2004; Giresse, 2008).

In a highly populated region with 250 people per km^2 (INSAE, 2013) and an agricultural landscape embedded in human-induced, so-called derived savannah (Mama et al., 2014; Paradis & Houngnon, 1977), sacred forests are islands of high biodiversity. Rainforests cover only 2% of the national territory, but harbor 20% of all plant species and 64% of threatened plants, according to IUCN criteria (Adomou et al., 2011). These islands of biodiversity lay mostly outside established nature reserves, making their protection the highest priority for nature conservation in Benin (Adomou, 2005; Sinsin & Kampmann, 2010; Neuenschwander et al., 2011). Apart from a detailed study by Adomou (2005), the flora and vegetation of sacred forests has mainly been studied during short surveys with correspondingly short species lists (Adjanohoun et al., 1989; CERF Bénin, 2013; Hèdégbètan, 2011; Julé-Beaulaton, 2008; Kokou et al., 2008; Nagel et al., 2004; Sokpon & Agbo, 1999) and not followed up over many years, as is the case in this study. Many sacred forests are seriously degraded, calling for rehabilitation measures.

Here we describe a 28-year effort to link up and rehabilitate forest fragments, situated at the outer edge of the growing population centers of Cotonou and Abomey-Calavi, by encouraging regrowth and by introducing lost and rare species, collected in southern Benin. The management of the forest, its flora, experiences with its most important inhabitants, two groups of the critically endangered, endemic red-bellied monkey, *Cercopithecus erythrogaster erythrogaster* (Cercopithecidae, Primates) (Neuenschwander, 2024), the history of the forest, the interactions with the villagers and the local vodun practitioners (Bello Bravo, 2000; Neuenschwander & Adomou, 2017; Neuenschwander et al., 2015) are updated here.

Seven years after the last assessment of the flora (Neuenschwander & Adomou, 2017), awareness of the urgency to protect the sacred forests of the Ouémé floodplain, which has meanwhile been assigned the status of a UNESCO World Heritage site, is growing. The threatening urbanization calls for a reevaluation of the observed transformative changes achieved by the rehabilitation strategy of introducing rare native species at a certain stage (secondary forest) of the natural forest regrowth. Being the only rehabilitated forest in Benin, the 'Sanctuaire des Singes' (monkey sanctuary), recently called a 'reference forest' (B. Sinsin, pers. comm.), is at the center of an effort to gain government protection of sacred forests beyond the existing legislation (Republic of Benin, 2012).

The present study documents 1- successional changes and species composition following the creation and sustainable management of a sanctuary for threatened flora. This natural forest also protects rare animals and serves as an example for the protection of other forests. 2- It describes the human environment and the conditions needed for the local population to accept and thereby protect the forest, as well as its hazards and benefits. 3- It describes the challenges posed by population growth and the ensuing urbanisation as well as the effects of climate change.

Materials and Methods

Study Site

Climate. The Dahomey Gap has a strong gradient of rainfall with the highest values towards the East, i.e., the Nigerian border (Le Barbe et al., 2002). The phyto-geographical region, wherein the rainforest fragments of Benin are located, is the Guineo-Congolese zone (Adomou et al., 2011; Chatelain et al., 2004; Hawthorne & Jongkind, 2006; UICN, 1996) with two widely separated rainy seasons. The study site Drabo Gbo (6°30′N; 2°18′E; 60 m asl) has a mean annual rainfall of around 1200 mm with maxima in June and October. Mean temperatures are around 28°C, with maxima of 38°C in March-April and minima of 20°C, rarely down to 16°C in January.

The Village. Drabo Gbo is a densely built village of about 500 inhabitants, 30 km north of Cotonou, 12 km from the spreading town of Calavi and, in 2023, still 6 km away from the nearest paved road (Figure 1). Today, most of the surrounding land has been sold by the villagers to Benin citizens (another 1000 persons) flocking to the south. Many constructed small houses, using the rest of the land for farming and animal husbandry.

The Inhabitants. Detailed information about the inhabitants of Drabo Gbo and neighboring villages has been gained by the first author, who lives in the sanctuary for the last 28 years, through discussions within the vodun group of 10-50 men meeting weekly at the Legba square, participation at private invitations and funerals, and all the friends who help preserve the forest and its monkeys (described in details in fictionalized form in Neuenschwander, 2020).

Most inhabitants of the old village of Drabo Gbo farm on land they already sold, rear animals at home, and exercise various professions. For additional support, many work in town as motor taxi drivers. Many houses have wells to drag water manually from the water table at a depth of 25 m.

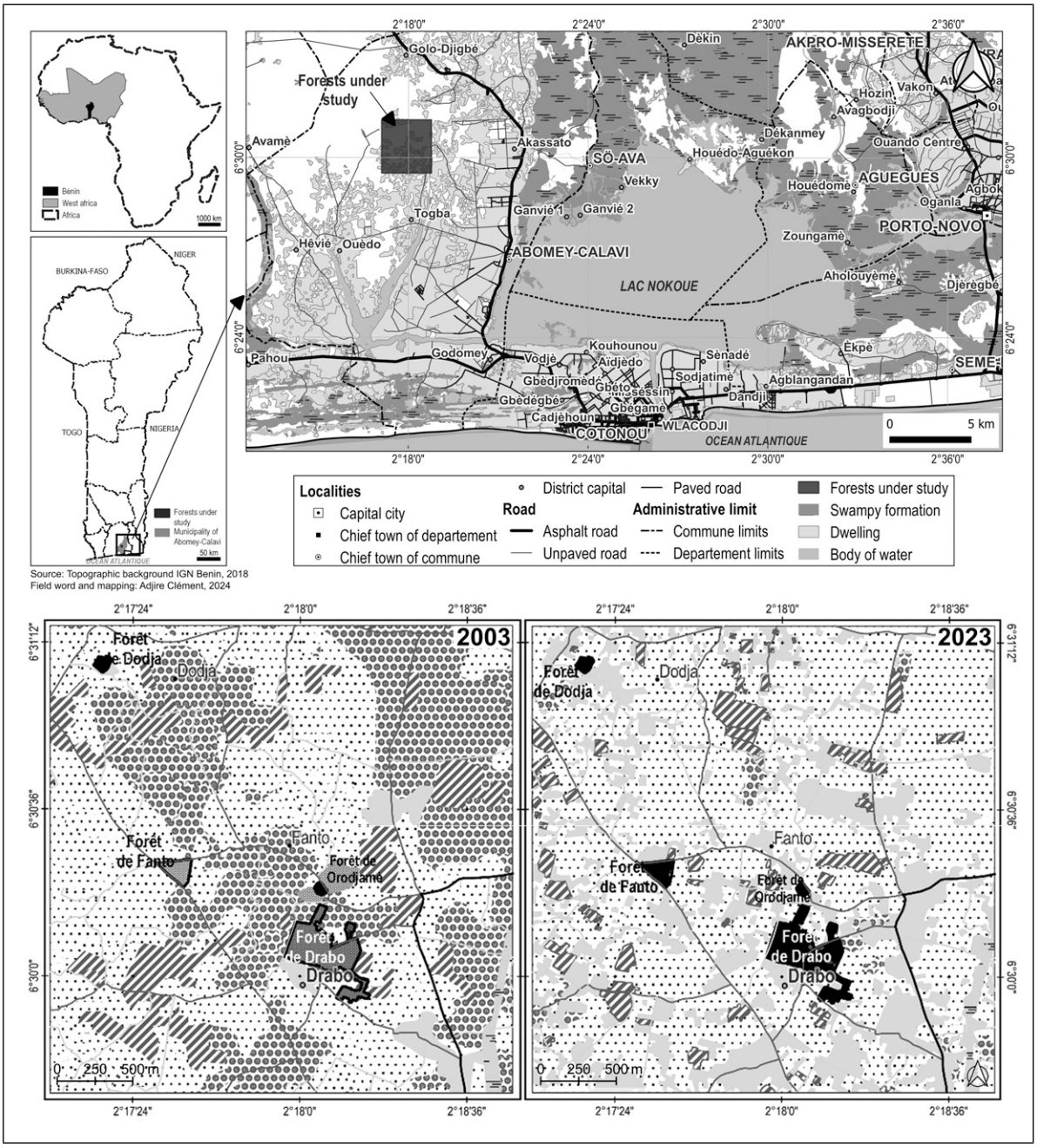

Figure 1. Situation maps: Africa, Benin, southern Benin, study area in 2003 and 2023.

Families often have ten children. Electricity is supplied through flimsy private lines connected to the country's electric grid 1 km away in Drabo Kpevi. The official primary school is also in Drabo Kpevi; but many villagers send their kids to private schools in and around Drabo Gbo. According to observations by the first author, most if not all inhabitants live below the UNDP poverty line of 1-2 $ per person per day, despite economic improvements in the country (OECD, 2010).

In 1995, most villagers adhered to three different vodun cults, whereby most males – including the first author – were initiated to all three of them: 1- Zan gbetos, i.e., the hunters of the night, practically the village police, who perform their meetings and rites at the central square at the statue of a divinity called Legba; 2- the Oro, regionally active, with their main center the forest called Orojamè; 3- the revenants or Egungun, a cult from Nigeria that was introduced into the village in the 2010s. Since then, many young and a good part of the new settlers have been

attracted to several evangelical Christian sects. In addition, a Muslim Mosque has recently been constructed, financed by Golf States, though villagers of this faith are few.

Creation of the Monkey Sanctuary

The monkey sanctuary was founded in 1995, when the first author bought 2.5 ha. of teak plantation and agricultural land from the elders of Drabo Gbo. At this time, almost no houses were found outside the village. Subsequent purchases over the next eight years are detailed in Figure 2 and Neuenschwander and Adomou (2017).

The sanctuary comprises 14 ha (Figure 2). This includes a big block of land adjacent to the village, 2.5 ha of forest away from Drabo Gbo, plus two sacred forests (Figure 3) with old trees, namely the so-called Orojamè, the sacred forest of the Oro sect, and the sacred forest of Dodja. The Orojamè was bought by the first author on request by the Oro adherents in Fanto, who had lost control of their forest, because the other half of their family, recently converted to Christianism, had

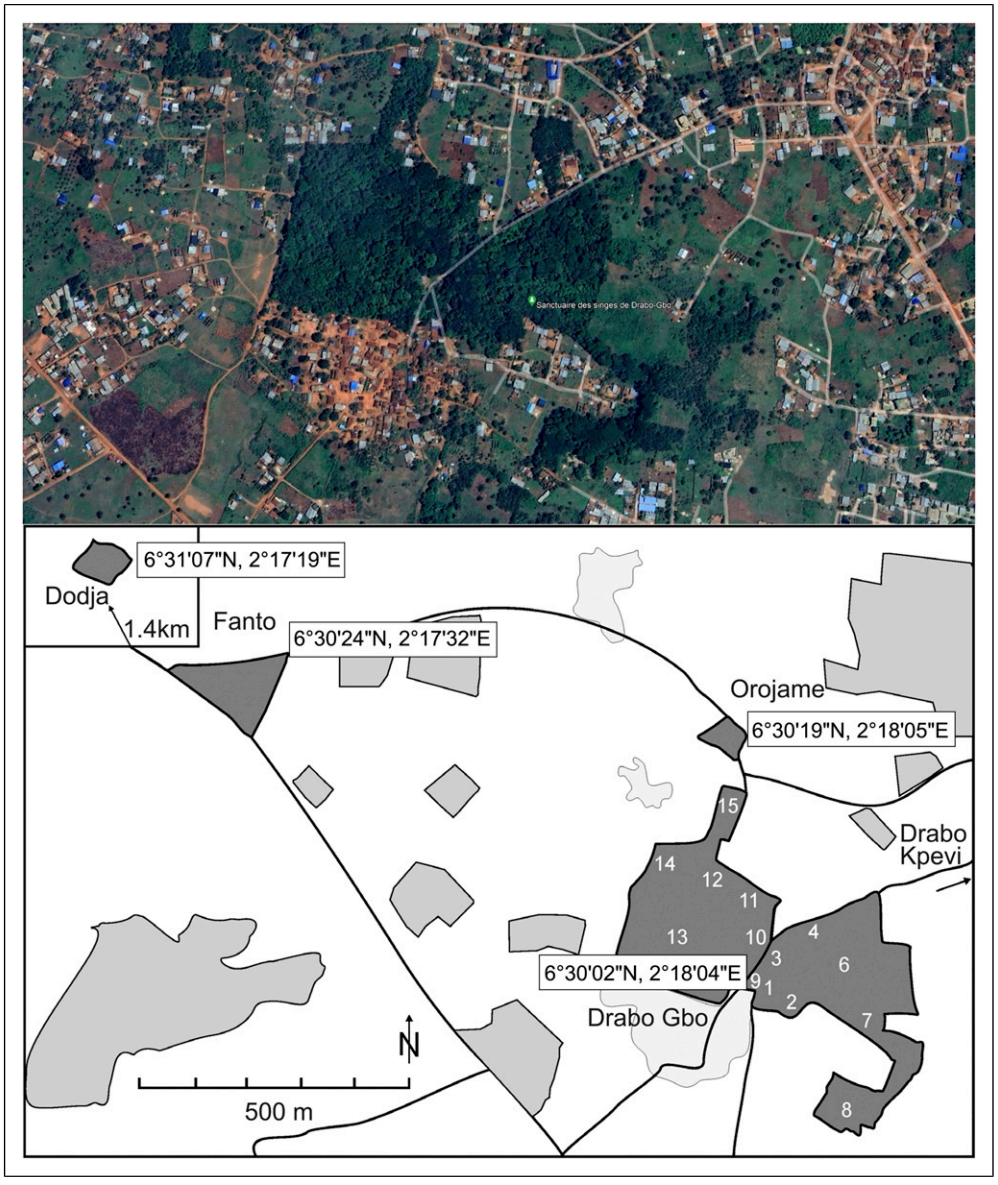

Figure 2. Aerial view of Drabo Gbo, from Google Earth Engine (top). Map of the 'Sanctuaire des Singes' at Drabo Gbo (bottom), with GPS data for entrance doors, year of purchase and start of forest management and major clearings1 nursery-garden 1997 (house constructed 1997-1998); 2 papa-garage 1999, 2000; 3 Lissanou 1999–2003; 4 mill 2000; 6 Cooun 2001, part of Cooun cleared in 2010; 7 corridor-Dansou 2004, 2010; 8 Emile 2001–2007 partly cleared 2012; 9 'Maison de Jeunesse' (MdJ house constructed 2005) 1998, cleared in 2013; 10 Tofinou 1998-2000; 11 Pierre 1999–2001; 12 Kakpo 2004; 13 Grande Forêt 1996, local fire in 2012; 14 AgoXwè 2000–2003; 15 Corridor north 1998, 2002–2003; Orojamè 1998; Fanto 1998–2000, partly cleared 2014; Dodja 2011, partly cleared 2016. Natural forests grey with border line, wood lots light grey with border line, compact villages light grey, unsurfaced roads as lines (see also Neuenschwander & Adomou, 2017).

Figure 3. Sacred Forests of the 'Sanctuaire des singes', tiny islands of biodiversity: Orojamè (top), sacred forest of Dodja (bottom).

been given legal right over this land, and subsequently decided to cut all trees. The Orojamè and similarly the sacred forest of Dodja were handed over to the relevant vodun sects for ceremonial use.

In 2014, all title deeds were given to IITA, which integrated the sanctuary in its government approved research program concerning biological control and the protection of biodiversity (Neuenschwander et al., 2023).

Data Source and Analysis of Maps

From satellite pictures, maps of increasingly greater accuracy were available for 1986, 2003, 2015, and 2023. The data used for maps (Figures 1 and 6) are Shapefiles obtained from the IGN Benin topographic base and SPOT images of 2023. The GIS tool used is QGIS Remote Sensing. Land cover maps were produced by visual interpretation, using false colours for grouping pixels into different land cover classes (Ahononga et al., 2021; Sikuzani et al., 2019). Processing SPOT images of Abomey-Calavi was based on assigning homogeneous zones to land use classes according to their spectral signature (Hammi et al., 2007). Visual interpretation was facilitated by Google Earth archive images of 2003 and randomly surveyed field reconnaissance points with geographical coordinates for 2023.

Management of the Forest

The forest is protected by a 3 m high wall along the village. The rest of the boundary is marked by five lines of barbed

wire, i.e., easily accessible for animals as well as people who insist to penetrate illegally. Official access to the forest is only through the staff managing the sanctuary. They include two half-time guards and two villagers with minor tasks. Hunting is forbidden and collecting medicinal herbs, oil palm regimes, fire and construction wood, including bamboo, is only allowed under control by the guards. Trespassers are first reminded by the village elders, if necessary, punished by IITA's security, or even transferred to the local foresters and, in a last step, handed over to police and a court of law.

Management of the forest consists in freeing trees and saplings alike from climbers, a task that is necessary almost weekly. The indigenous oil palm (*Elaeis guineensis*) has sometimes become locally dominant, as it has been protected through previous slash and burn cycles. Since such abundance menaces the biodiversity, several times up to fifty trees have been felled and sold for palm wine production and eventually the distillation of the local gin, Sodabi. Such clearings and those offered by trees toppled by storms offer sunlit habitats for planting out seedlings from the nursery.

Growth and Survival of Trees

In order to evaluate rapid growth in a fallow of originally 1 year (Figure 2) across the entire forest at Drabo, 404 well established trees (20 cm to several m high) of 63 species were chosen every 5m along the established paths and tagged in 1999. Height (in m) was measured with a tape and, on larger trees, estimated by comparison with a person standing at the base of the tree. From 2004 onward, the circumference of the stem at breast height (in m with two decimals) was also measured with a tape (see Table 4 Supplemental Files).

In this data set, many species are represented by only a few trees. Many trees disappeared during this period or could not be found again. For the evaluation, therefore, only the fast-growing trees of three genera are retained, namely 25 *Albizia* of 3 species, 14 *Antiaris,* and 36 *Blighia* of two species. Some trees were reintroduced into the counts in the course of the years; but are eliminated from the evaluation. Mortality of trees over the entire period was computed as mortality per year. Trees broken, presumably by human intervention, were counted separately.

Introducing Plants from Other Forests and Protection of Rare Trees

The introduction, survival, and loss of plants was continuously monitored and documented (Table 5, Supplemental files) by the first author during 6-8 months per year from 1996 to 2024, with identifications by AA and HD. We describe and quantify the condition of different functional groups of plant species, compare their change in time, and evaluate the survival of newly-introduced, threatened plants. In addition, the species in the two sacred forests, those of Dodja and the Orojamè, and in the triangle of Drabo Fanto, are compared with species that grew spontaneously in the teak forest and fallow of Drabo Gbo, where the influence of the local population was strongest.

Numbers of species with different growth patterns or survival are expressed in percentages of the total number of species. Comparisons of loss and decline are evaluated by Chi-square tests at p= 0.05 (marked with *).

During excursions into the remaining rainforest patches in southern Benin (localities listed in Table 5, Supplemental Files and below), seeds and seedling were collected in plastic bags and transplanted to large pots in the nursery or directly into the forest to locations that were deemed to correspond to the collection site. In the last two years, the roots of uprooted plants (seedlings and saplings) were immediately wrapped into moist towels to improve survival during transport.

A list of all species registered in these forests by July 2023 is given in Table 5 Supplemental Files. Species from aquatic, semi-aquatic, coastal-sand, or rocky habitats as well as horticultural species are excluded. The Supplemental File lists 659 species, of which 589 are alive. One more species, *Oxyanthus tenuis,* was detected in Dodja in January 2024, but not included in the evaluation. The file has the following headings:

- Taxa (Pteridophytes as 1Pteri (only 1 species alive), Gymnosperms as 2Gym (none survived), Monocotyledons as 3Mono (a total of 69 living), Dicotyledons as 4Dicot (a total of 519 living), and non-identified as 5nonid (all are Dicotyledons).
- Family names followed taxonomic revision APG 1 (1998) in previous studies (Adomou et al., 2011; Neuenschwander & Adomou, 2017) in order to have the least differences with Akoègninou et al. (2006). Here, we use the most recent revision (APG IV (2016). Sub-species may be named; but are counted only as one species (e.g., *Mansonia*). Species that could not be identified but had a clear taxonomic, growth and survival status were marked by '?' and included in the tabulations. Where different, the names used in Neuenschwander and Adomou (2017) were added in brackets '[…]'.
- Species that are either new or not included in Akoègninou et al. (2006) are marked as **a.** A total of 12 species falls into this category, two of them since lost.
- Species names followed by x are registered in inaturalist under PeterNeuenschwander.
- Plants are described as parasites/saprophytes (1 species), epiphytes (4 spp.), herbs (150 spp.), climbers (155 spp.), shrubs (64 spp.) or trees (215 spp.) based on the description in Akoègninou et al. (2006).
- The origin of the species, named chorology, is indicated according to Adomou et al. (2006; 2010; 2011) and Akoègninou et al. (2006) as follows (map:

Figure 2 in Neuenschwander & Adomou, 2017) and grouped as follows: Group I includes species with large distributions: At Afrotropical species with distributions beyond West and Central Africa into Madagascar, PAL Paleotropical, and Pt Pan-tropical species, i.e., all species that have penetrated or invaded West Africa from other floristic regions, for example coconut, teak, etc. West African species that have similarly spread across the world are indicated by their original zone, for example oil palm. Group II encompasses species from areas with only one rainy season: SG Guineo-Sudanian transition zone species, SZ Sudanian savannah species, and S Sahel savannah species. Group III encompasses species that are adapted to the local climate with high rainfall and two rainy seasons: GC Guineo-Congolian forest species that are distributed across the Upper and Lower Guinean and into the Congolese zone east to Sudan, Uganda, Kenya, GO Upper Guinea forest species from west of the Dahomey Gap with an eastern limit in Benin or nearby Nigeria, GE Lower Guinea forest species from east of the Dahomey Gap with a western limit in Benin.

- The next columns indicate where the transplanted species had been collected, such as Ahozon, the only remaining coastal forest in the Dahomey Gap (about 10 km south of Drabo), Ouéga and the IITA campus a few km south of Drabo, Agongbè north of Drabo, Hévié north of Pahou, Avrankou on the Iguidi River near the Nigerian border, Dangbo north of Porto-Novo, and Tanougou waterfalls outside the Penjari Park in the Sudan savannah, together with their location, where they were transplanted in the study forests (Figure 2), the years of collecting and transplanting, and-separately-in which form they had been collected, namely seeds, small plants, or sticks.
- Abundance in 2016 was ranked as follows: 1 = 1–4 plants established; 2 = 5–10 plants; 3 = up to 20 plants; 4 = common species; 5 = abundant species. Here, the definition was enlarged for herbs: 1 = occasional occurrence in openings, still common outside forest.
- The maximum height and circumference were assessed in January-February 2023 in all study forests as described above. For most species, biggest trees were found in Drabo; in addition, especially big specimens from Dodja (Do), Fanto (Fa) or Orojamè (Or) are indicated.
- The population trend is roughly estimated as s = stable, i = increasing, d = decreasing, c = cut, or **L** = lost by July 2023. d thereby means that the species became less numerous and/or individual plants became sick or stressed. Plants planted in May-June 2023 were assigned the status of (s), or assumed to be doomed (**L**). Species collected once only as seeds that did not sprout, or sticks that did not root, were excluded from the list (contrary to Neuenschwander & Adomou, 2017).
- Red List status was given according to Neuenschwander et al. (2011) and IUCN (2016) based on IUCN criteria as NT = near threatened, VU = vulnerable, EN = endangered, CR = critically endangered, EW = extinct in the wild in Benin. All other species were considered as LC = Least Concern, i.e., not threatened or not assessed.
- Suspected reasons for difficulty in establishment are given as: - dormant seeds, which were sometimes treated with hot water or by scarifying to break dormancy, - drought, i.e., temporarily too little water, - savannah species, of which we suspect that they do not support transfer to two rainy seasons and are therefore not capable of reaching the coast, - medicinal use; often the roots of these species are harvested for increasing male potency.
- The number of samples, which include one to maximum 10 plantlets or seeds per species and date, is indicated. Repeated replanting of sticks (e.g., *Rhodognaphalon*) from trees collected in Drabo are not considered new introductions and are excluded from these counts (contrary to Neuenschwander & Adomou, 2017). The status of 2023 is compared with the one of 2016, when the plant list was last assessed (Neuenschwander & Adomou, 2017).
- Plants originally found on the 14 ha and in their vicinity of one hundred meters are marked with x. Some of them were also reproduced and transplanted to other sites.

Impact of Climate Change

In order to assess possible impact of climate change, weather data from Drabo and the IITA station were compiled over 25 years (Figure 7). Monthly mean rainfall (mm) and temperature (°C, mean, mean maximum and mean minimum) were recorded daily in an official weather station at the IITA research station. In Drabo Gbo, only rain was recorded (with a rain gauge).

Apart from higher temperatures and changes in rainfall, climate change also leads to more severe extreme climate events (IPCC, 2022). The impact of thunderstorms was quantified by the number of big trees (>20 cm diameter) that were either broken or toppled (with the root disk turned up). Naturally dead trees, particularly the many oil palm trees that die each year, were excluded. So were the small trees and shrubs that were damaged when the big trees crashed onto the forest floor. Data are limited to the 4 ha of Cooun (Figure 2), which received the bulk of introduced plants, and papa (Table 7, Supplemental files), because this is an area of common history starting out as meadow or young fallow.

Conservation in Action

The livelihood of villagers next to protected land is important for its conservation (Neuenschwander & Sinsin, 2011; https://www.iucn.org; https://www.birdlife.org). The first author,

with support by IITA and the Leventis Foundation, assisted villagers by co-financing the construction of 15 toilets to avoid spoilage and damage in the adjacent forests, and the construction of wells. A 'Maison de Jeunesse' was built as a community centre. For several years, a mill was maintained; but later abandoned when transportable private mills were introduced. Children were offered additional schooling combined with eco-tours in the forest. Four MSc and one PhD student with nature conservation topics were sponsored at local universities. Privately, microcredits were offered also to women. Under supervision by the guards, low level exploitation of the forest for fire wood, timber, and non-timber products like medicinal plants and snails was allowed.

Promoting Ecotourism

The protected forests are clearly visible on Google Maps under 'Sanctuaire des singes' (including GPS data) (Figure 2). Visitors, guided by these data, are led through the forest by PN or guards and shown red-bellied monkeys and forest vegetation. For a 2-hour visit, foreigners pay a modest entry fee of about $6, Benin citizens $3, half for children, in order to support maintenance. For inhabitants of local villages, visits are encouraged and free. Information is available on Facebook managed by IITA staff and assistant teachers: https://www.facebook.com/people/Sanctuaire-des-singes-de-Drabo-Gbo-de-lIITA-B%C3%A9nin/100081911083232/

Results

Regrowth and Survival of Common Trees

A first overview of the changes in the vegetation from early fallow/crop fields to a forest with closed canopy is given by Figure 4.

The speed of regrowth of saplings in the early phase of forest development after clearing is rapid and differs between species (Figure 5). It is most rapid for the light demanding and fast-growing *Albizia* spp. pioneer trees, which are the dominant fallow species.

By 2023, the same species in the same locations reached maximum height and circumferences of 29 m and 2.20 m, respectively, for *Albizia adianthifolia,* 34 m/2.24 m for *Antiaris toxicaria,* and 38 m/3.10 m for *Blighia unijugata*.

Mortalities were assessed as follows:

- *Blighia*: Total mortality: 6 out of 36 trees = 16.7% in 13.1 yrs = 1.3%/yr, natural mortality: 3/36 = 8.3% in 13.1 yrs = 0.6%/yr;
- *Antiaris:* Mortality: 5/14 = 35.7% in 11.9 yrs = 3.0%/yr, natural mortality: 2/14 = 14.3% in 11.9 yrs = 1.2%/yr;
- *Albizia:* Mortality: 4/25 = 16.0% in 12.6 yrs = 1.3%/yr; natural mortality: 2/25 = 8.0% in 12.6 yrs = 0.6% per yr.

In conclusion, yearly mortality was in the order of 1% per year.

Among all forest plants, the following make up the bulk of the forest (abundance of 5 in Table 5 Supplemental Files). All are local species:

- trees: *Elaeis guineensis, Monodora tenuifolia, Holarrhena floribunda, Newbouldia laevis, Albizia adianthifolia, Albizia glaberrima, Albizia zygia, Millettia thonningii, Cola gigantea, Sterculia tragacantha, Antiaris toxicaria, Ficus exasperata, Blighia sapida, Blighia unijugata, Lecaniodiscus cupanioides, Pouteria alnifolia*;
- shrubs: *Agelaea pentagyna, Dichapetalum madagascariense, Mallotus oppositifolius, Carpolobia lutea, Chassalia kolly*; and
- climbers: *Artabortrys velutinus, Uvaria chamae, Cnestis ferruginea, Rourea coccinea, Reissantia indica, Triclisia subcordata,* and *Cremaspora triflora.*

Trees are most species-rich with 215 spp. (= 36.5 % of all plants). They form a more or less closed forest canopy, with the following maximum heights in m (only trees above or equal to 20 m height are listed, * for introduced spp.): *Cocos nucifera* (height 20 m, circumference 1.08 m), *Spondias mombin* (24, 1.08), *Holarrhena floribunda* (20, 0.96), *Celtis mildbraedii* (>30, 1.60), *Celtis zenkeri** (30, 7.10), *Terminalia leiocarpa* (20, 0.86), *Terminalia mantaly** (28, 1.16), *Terminalia superba** (22, 0.95), *Tectona grandis* (20, 1.24), *Senna siamea* (39, 1.24), *Cassia sieberiana* (20, 0.58), *Erythrophleum suaveolens** (30, 1.64), *Acacia auriculiformis* (30, 1.13), *Ceiba pentandra* (36, 2.61), *Cola gigantea* (38, 12.00), *Albizia adianthifolia* (29, 2.20), *Albizia ferruginea* (27, 2.36), *Albizia glaberrima* (23, 0.61*), Albizia zygia* (20, 1.70), *Leucaena leucocephala* 30, ?), *Samanea saman** (24, 1.35), *Rhodognaphalon brevicuspe* (35, 2.15), *Triplochiton scleroxylon** (35, 1.26), *Khaya senegalensis** (30, 1.26), *Antiaris toxicaria* (38, 2.23), *Psydrax parviflorus* (24, 1.44), *Blighia unijugata* (38, 3.10).

Among these 27 tree species with large trees, seven have been introduced. Overall, four of these species have abundance scores of 1; 4 have abundance scores of 2, i.e., up to 10 plants; but the remaining 19 species all have abundance scores of 3, 4, or 5.

Among all plant species, 56.6% (331 out of 589) are represented only by 1 to 4 specimens (abundance score 1).

Loss of Species

The loss of species from the 'Sanctuaire', as extracted from Table 5 Supplemental files, is indicated in Table 1.

Overall, the loss of species is rather modest (64 out of 653 = 9.8%). There is a marked loss of plants from drier areas with only one rainy season (Group II: S, SZ, SG 17.4% vs. Group I: Pt, PAL, At 8.4%: Chi square 6.83*, and vs. Group III: GC, GO, GE 7.0%: Chi square 10.73*).

Figure 4. Fallow field viewed from the edge of what became Grande Forêt eastward towards the big *Cola gigantea* tree in 1998 (top, by PN) and from 100 m above ground over the closed forest in 2024 (bottom, by Georg Goergen, IITA).

The loss of the 64 species according to growth form, is as follows: trees 41 (16.1% of all trees), shrubs 4 (5.9%), lianas 9 (1.4%), herbs 8 (5.1%), others 2.

As is to be expected, species that disappeared, had only small populations. Among the 64 lost species, all had abundance score 1, i.e., had only maximum 4 plants, or had been introduced many times without success. Locally occurring plants were rarely lost (9 out of 64 = 14.1%).

Most losses occurred in the year the species was first planted out into the forest. The following species were, however, collected and planted out in the forest on 5-6 occasions over many years and still died out during the first year: *Platycerium elephantotis, Myrianthus arboreus, Pterocarpus erinaceus,* or *Rhigiocarya racemifera.* There were, however, notable exceptions like *Prosopis africana* (SZ), *Lophira lancoelata* (SZ), *Parkia bicolor* (GC), which were seemingly established, some even several times and for several years, but eventually died out in the sanctuary.

The main reasons for losses are: unfit material when collected and transported, as well as scarcity of rain or humidity or excessive humidity for savannah species (*Pterocarpus erinaceus*, *Prosopis africana*, *Lophira lancoelata*).

New introductions were made every year. Since 2016, a total of 220 samples was introduced from outside the sanctuary. In 161 cases (= 73.2%) at least one plant of the same sample survived. These introductions involved 159 species, among which 21 (= 13.2%) did not survive. For the further analysis, lost plants are excluded.

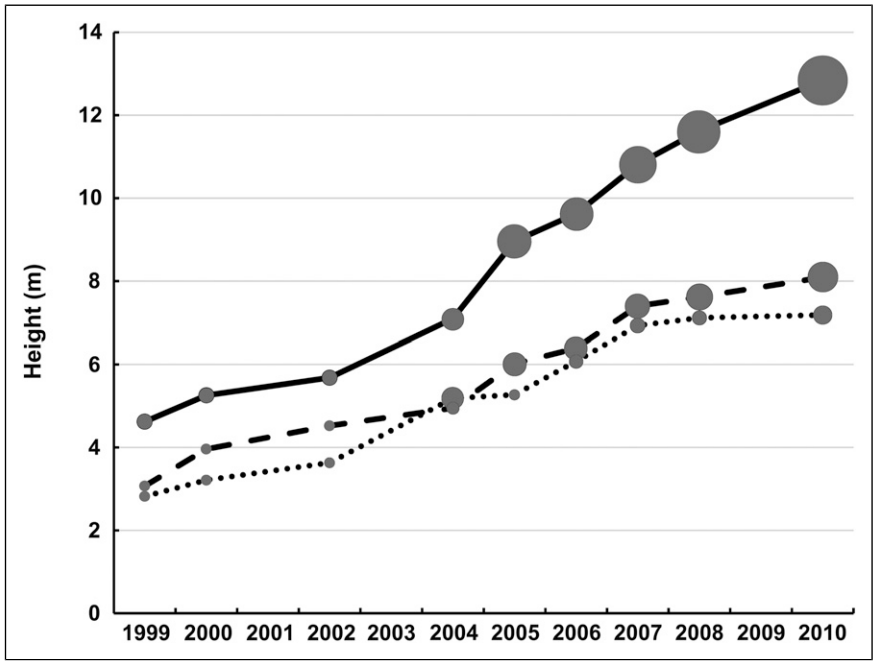

Figure 5. Growth of three common trees: top: Albizia (original N=25), middle: Antiaris (original N=14), and bottom: Blighia (original N=36). Diameter of points indicates circumference.

Table 1. Loss of plants of different origins.

Origin		lost	Total	%lost per line
I	Pt	15	151	9.9
	PAL	1	18	5.6
	At	5	80	6.3
II	S	6	14	42.9
	SZ	7	25	28.0
	SG	10	93	10.8
III	GC	19	244	7.8
	GO	0	16	0.0
	GE	1	7	14.3
Non-id		0	5	0.0
Total		64	653	100.0

Freeing trees from lianas was routinely performed. Otherwise, small trees were smothered by lianas, as was often observed wherever a tree had been broken or fallen, whereupon the opening became covered with *Combretum* spp., *Dioscorea* spp., *Mezoneuron benthamianus, Reissantia indica,* and rarely others.

During storms, *Albizia* trees covered with arm-thick *Cryptolepis nigrescens* were often felled (see below).

Inventory of the Flora

Recent introductions include 24 species that have not been recorded before. On balance, since 2016, 20 spp. have been lost and 24 new spp. have been added, bringing the total to 589 live species among which 257 are introduced.

56.4% (332 out of 589) of all species were already present in Drabo Gbo, but many of them were still multiplied and transferred to other parts of the forest. This transfer involved 44 samples of 20 locally established species, among which cuttings from only 2 samples did not survive.

Sometimes, establishing new plants was not easy. After many failed attempts at establishment, we finally succeeded in obtaining viable plants of *Maesopsis eminii* (after 5 attempts), *Macaranga barteri* (after 8 attempts over 9 years) or *Pierreodendron kerstingii* (after 4 attempts); all these species exhibit strong affinity to humid soil. Establishment succeeded only because young plants were irrigated by hand, sometimes daily, during the second half of their first dry season.

Most introduced plants remained at a population size of 1-4 individuals (abundance score 1). There were, however, plants that became reasonably abundant (abundance score 2 or even 3) following sometimes many introductions: *Terminalia superba* (yearly introductions), *Rhodognaphalon brevicuspe* (yearly introductions), *Maranthes robusta* (12 introductions), *Baissea axillaris* (8), *Spondias mombin* (5), *Barteria nigritana* (8), *Leptactina arborescens* (5), *Psydrax parviflora* (5), *Acridocarpus alternifolius* (7).

Many species (33.8%, i.e., 199 out of 589 spp.) declined in abundance and vigor. Shading by the growing forest was the reason, most notably for *Trema orientalis* and *Chromolaena odorata.* Herbs were particularly affected; 69.3% disappeared from the central part of the forest and survived only in openings and at the edge, as detailed in Table 2.

Plants of different origins (chorology) (Table 3) were represented as follows:

Adapted local species (Group III: GC, GO, GE) accounted for 41.9% (247 out of 589), those from nearby drier areas but with only one rainy season (Group II: S, SZ, SG) for 18.9% (109 out of 589), and the wide-range species from far away origins (Group I: Pt, PAL, At) for 38.7% (228 out of 589) of all species.

Their losses differed a lot. The exotic generalists showed highest declines (141 out of 228 = 61.8%); species from drier areas (S, SZ, SG) showed less decline (36.7%: Chi square 6.03*), while rainforest species had far smaller numbers of species in decline (7.3%, Chi square comparison to S, SZ, SG: 6.03*).

As can be expected, species that are only represented by 1-4 specimens suffered higher rates of decline. Among the 199 species in decline, 89.9% (179) had an abundance score 1. By contrast, among the 390 species with stable or increasing populations only 39.9% (152) had abundance score 1 (Chi square 139.09*).

Protection of Rare Trees

Among the 589 plant species living in the 'Sanctuaire', 58 are rare and threatened (Table 6, Supplemental). With the exception of 9 species, all have been introduced. 21 species are represented only by 1-4 specimens (abundance score 1); but many have become reasonably common and of good size. The locally present *Khaya senegalensis* and *Milicia excelsa* reach 30 m or more; among the newly planted trees, *Celtis mildbraedii* and one *Triplochiton scleroxylon* also reach 30 m.

Twelve species are critically endangered and with one exception, all have many specimens (abundance score 2 or above) and attain considerable sizes. Of particular interest is *Diospyros barteri*, discovered inside the sacred forest of Dodja.

Medicinal plants like *Mondia whytei, Acridocarpus alternifolius,* and *Turraea heterophylla* are well established and are not rare.

Several other uncommon species are noteworthy: *Englerophytum oblancoelatum*, *Ficus mucuso, Maesopsis eminii, Napoleonaea imperialis*. *Oxyanthus tenuis* was only identified in Dodja in 2024, which brings the total list of living plants to 590.

Comparison Between Old Sacred Forests and the Newly-Constituted Forests

Each separate forest of the sanctuary harbours unique species of trees and shrubs (herbs and lianas are not included as they are often too transient and difficult to find). The sacred forest of Dodja has *Celtis mildbraedi, Connarus africanus, Diospyros barteri, Oxyanthus tenuis, Stereospermum kunthianum* (just outside)*, Salacia longipes,* and *Zanthoxyllum leprieuri,* which are all originally lacking in the other forests. The Orojamè has *Hildegardia barteri, Psydrax parviflorus, Triplochiton scleoxylon* (just outside), *Vepris verdoorniana.* The triangle of Fanto has *Crossopteryx febrifuga, Gardenia ternifolia*, *Ochna schweinfurthiana, Ximenia americana*. Drabo Gbo has 20 tree species that were planted by the resident population as fruit and fire wood trees or for medicinal purposes. In addition, *Diospyros abyssinica, Ficus mucuso, Loeseneriella africana Premna angolensis, Salacia pallescens, Trichilia megalantha,* not recovered in other sites, are original forest plants. Most of these species were later transplanted also to other sites within the sanctuary.

Table 2. Population dynamics for species of different growth forms. N = number of species.

Population	Decline	Stable	Increase	Total	% Decline per line
Trees	55	148	12	215	25.6
Shrubs	14	47	3	64	20.6
Climbers	25	119	11	155	16.1
Herbs	104	39	7	150	69.3
Epiphytes	0	4	0	4	0.0
Sapro/para	1	0	0	1	50.0
Total	199	357	33	589	

Influence of Common Drivers: Urbanization

In 1986, Drabo Gbo consisted of a densely populated village surrounded by agricultural and fallow land. 65.0% of the land was covered by shrub savannah. By 2003, fields and fallow fields with or without palm trees became predominant; shrub savannah had diminished to 0.8%. The two large units of open forest and tree savannah identified in 1986 all disappeared by 2003. The area covered by fields and palm trees increased from 19.9% to 84.1% from 2003 to 2023 (Figure 1).

In 1995, when the Sanctuaire was created, the only rainforest vegetation was found in the sacred forests of Orojamè and Dodja, plus near the big *Cola* tree at the Legba square. 28 years later, natural forests in the form of the 'Sanctuaire' have become a species-rich secondary forest and are clearly visible even on satellite pictures (Figure 2).

Urbanization in the form of small houses on small agricultural lots increased particularly in the last few years (Figure 6). Between 2015 and 2023, the number of houses outside the village grew from 3607 to 5108 units. The residential area increased from 15.7 ha in 1986 to 282.4 ha in 2023. This is the result of the immigration of people looking for land for housing near the urban centers of Abomey-Calavi and Cotonou, where they work.

This development is still vivid in the memory of old villagers. It was learnt that, 80 years ago, what is now called

Table 3. Chorology vs. survival.

	Decline	Stable	Increase	Total	%decline of total line
Group 3: Pt, PAL, At	141	78	9	228	61.8
Group 2: S, SZ, SG	40	63	6	109	36.7
Group 1: GC, GO, GE	18	211	18	247	7.3
Non-identified	0	5	0	5	0
Total	199	357	33	589	33.8

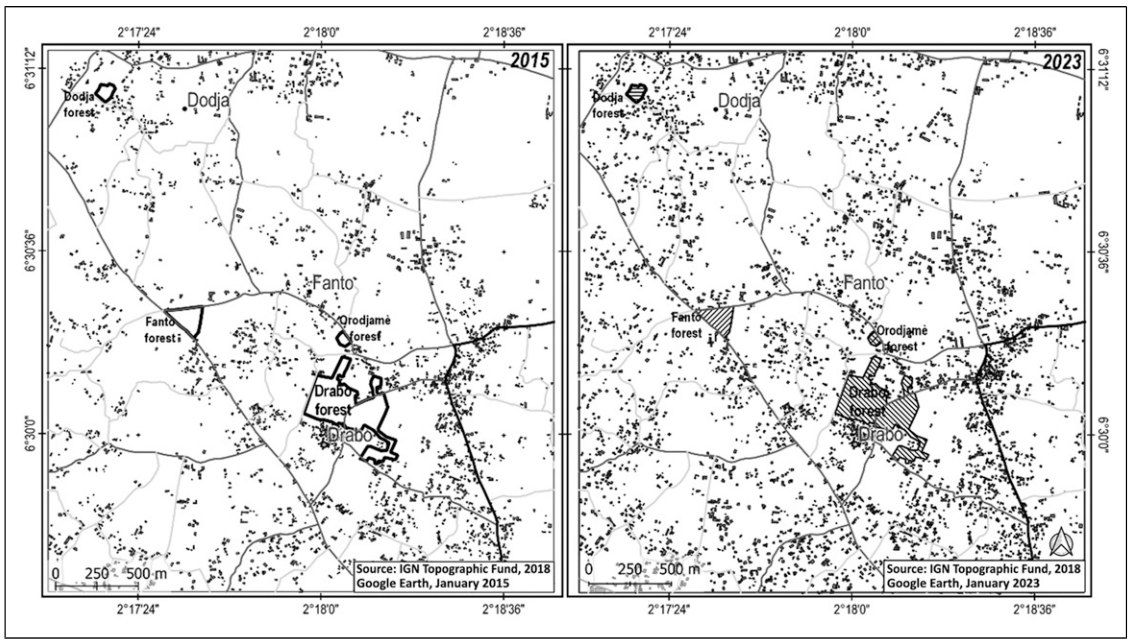

Figure 6. Building dynamics in the research area: 2003 left and 2023 right.

Cooun (Figure 2), was a dense forest feared by children. About 60 years ago, Grande Forêt was cut and replanted with teak. Another old villager recounted how, in his youth, he had hunted red-belied guenons in these forests.

Increased urbanization means that more people need fire and construction wood, medicinal plants, and food (snails, game). People collecting snails, ground squirrels or firewood were often stopped and reminded that collection was allowed only under supervision by a guard. Fortunately, none of the, by 2023, over 40 red-bellied guenons, nor any of the rather common duikers has ever been shot.

Each year, several, mostly common trees are vandalized. The thieves are punished by vodun elders or IITA security. Only one case of attempted theft of land has been prosecuted by the court. Since 2013, damage to maize crops and fruit trees by monkeys is another yearly complaint. These losses are compensated for. In addition, neighbours complain about overhanging branches, which are then cut to protect nearby houses.

Visits by children in classes offered by assistant teachers in the Maison de Jeunesse twice a week are well received. Visits by local schools are the exception, while international schools from Cotonou visit every year. Their reports on Google Earth and on Facebook give high approval ratings of 4-5. Thus, in 2023, on 23 occasions, 180 visitors were given a guided tour and paid a total of CFA 235 000, i.e., about $350 or 4 months of the official minimum salary SMIG.

The local vodun cults appreciate the protection given by the 'Sanctuaire des singes' to their holy forests, where yearly celebrations are held. Due to the death of the regional vodun priest, the Vodunno, and ill health of the Zan-gan, the chief of the Drabo Zan-gbeto cult, vodun celebrations have markedly declined in the last three years. Moreover, the increasing influence of evangelical Christians, who dislike and counteract the vodun elders, makes protection of the sanctuary ever more challenging.

Influence of Common Drivers: Climate Change

Over the last 25 years, the total annual rainfall stayed rather stable, but with important variations from one year to another. Despite the short distance of about 10 km between the two stations at IITA and in Drabo Gbo, differences in rainfall were often substantial, though without any clear trend (Figure 7).

In the rather uniform forest of Cooun and papa (Figure 2), a total of 53 big trees were affected by storms in the last 6 years (Table 7, Supplemental files). Before, no storm damage had been observed, except for the toppling of a sacred *Cola gigantea* tree and the breakage of a big branch of the big *Cola* tree (Figure 8), both before the year 2000. From 2019 to 2023, 15 trees were affected, 40% toppled and 60% broken. With the exception of 3 trees, all were *Albizia*. This amounts to 0.75 trees per ha per year.

During three thunderstorms in the first half of 2024, another 38 trees were hurt, about half broken, half toppled (Figure 8). All were *Albizia,* with the exception of 5 trees, which were affected by a nearby toppled *Albizia* tree (14 were *A. adianthifolia,* 19 *A. zygia*). This amounts to 9 trees per ha per year, a twelve-fold increase over the previous 5-year period. The same storm also toppled a 27 m high *A. ferruginea* tree with a circumference of 2.36 m (measured in 2023) on Emile; but left the 38 m high *Cola gigantea* with a circumference of 12 m undamaged (Figure 8). All toppled *Albizia* trees had astonishingly small root discs of 3-5 m diameter with numerous finger-thick roots and only a few roots of 5-8 cm diameter.

Discussion

The tiny forest fragments in Benin (Adomou et al., 2011) cannot each harbour all the rich Congolian and Upper Guinean flora. 14 threatened species are only known from one or two sites (Neuenschwander & Adomou, 2017). Similarly, many species - before being distributed further - were only found in one of the four forest sites of the sanctuary. Even within the same forest, species like *Oxyanthus racemosus* and *Pavetta corymbosa*, now common across the sanctuary, were represented by only one plant each in the first evaluation in 1996. The claim of reconstituting a rainforest therefore needs clarification. The sanctuary in Drabo Gbo does not represent any original condition, but has more species than any other forest in southern Benin, reuniting species that do not grow side by side anywhere else in the country, except in a botanical garden.

A comparison of the list of species determined in 2016 (Neuenschwander & Adomou, 2017) and the one of this text in 2023 is complicated by the fact that 51 species were assigned a different name according to the newest nomenclature (APG IV, 2016). For the same reasons, 65 species, not necessarily the same, were attributed to a different family.

The same comparison reveals a loss of 20 species and a gain of 24 species during the last 7 years because of new collections, with a new total of 257 introduced species. It is interesting to note that despite this large number of introductions, no species ever showed any sign of being invasive. Exotic species like *Leucaena leucocephala, Senna siamea* and *Acacia auriculiformis*, which have originally been introduced as alley cropping trees (Mutsaers et al., 2017), could not compete in the growing canopy and were relegated to the edge of the forest. Overall, all introduced species account, however, for only 1.7% of all plants growing in the sanctuary (Neuenschwander & Adomou, 2017).

A total of 64 species were lost after having been transplanted to the forest. Most were from drier areas and all were implanted only in low numbers. One third of all species declined in abundance or vigor. This is mostly attributable to increased shading due to the natural succession from rather open fallow land to a forest with a closed canopy. Most reductions concerned herbs, which often survived only in new openings due to tree fall, at the very edge of the forest in adjacent private compounds. Similarly, *Trema orientalis*

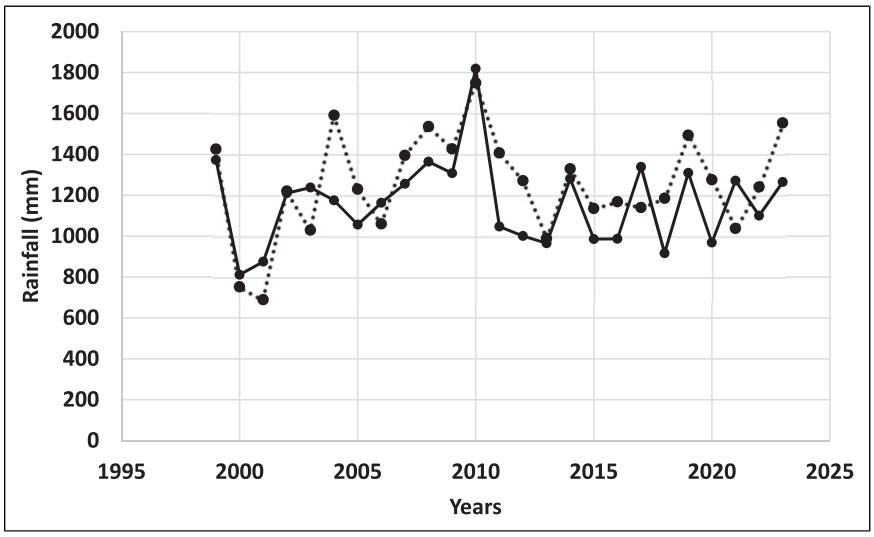

Figure 7. Total annual rainfall in mm for Drabo Gbo (6°30'N; 2°18'E; solid line) and the IITA station Calavi (06°26'15"N; 02°19'42"E; broken line) from 1999 to 2023.

Figure 8. Big Cola gigantea tree (left) and storm damage 2024 (right).

reappeared from soil-stored seeds wherever a large opening appeared, but died after some years when its trees were shaded out.

Chromolaena odorata, which previously formed dense thickets, disappeared mostly from the forest. This reduction is partially attributed to the spread of two biological control agents, that had been released in Ghana in the 1990s, namely the arctiid moth *Pareuchaetes pseudoinsulata* Rego Barros (Timbilla & Braimah, 2000), and the tephritid fly *Cecidochares connexa* Macquart in the 2000s in Côte d'Ivoire (see also Chikoye et al., 2011; Day et al., 2013). Both agents were observed in the sanctuary and specimens deposited in the IITA Biodiversity Collection.

It must be expected that, due to successional changes, alpha-biodiversity, expressed as the total number of species, will decline as seen in other systems (Barlow et al., 2007). In addition, stochastic loss of species because of the small size of the sacred forest refuges and here of the 'Sanctuary' (Fahrig, 2003; Klein et al., 2014) remain a threat.

Several threatened plants, despite initial success, could not establish; others were established only after years of trial and error. Better planting material certainly played a role, but unfortunately, in some cases, we do not know why plants could eventually establish and grow.

By 2023, the sanctuary harbored 58 rare and threatened species that, with 3 exceptions, are on the country's Red List – more than in any other forest in Benin (Adomou et al., 2011; Neuenschwander & Adomou, 2017). Some have grown to big trees. Twelve species are considered critically endangered, mostly well represented by several specimens. Many threatened species that have now found a sanctuary in Drabo are known only from one or two other locations in Benin (Neuenschwander & Adomou, 2017). Several other rare species that are established in the sanctuary, still need to be included in the IUCN Red List. In addition, two climbers that are established since several years and one local tree could not yet be identified even by botanists from the 'Musée royal de l'Afrique centrale', Tervuren (Belgium). They are probably new species for Benin and all of them eventually merit a place on the IUCN Red List for Benin.

Of particular interest is *Diospyros barteri*, a tree that has been newly discovered for Benin in the sacred forest of Dodja, which is part of the sanctuary (Dassou et al., 2024). This find indicates how little the flora of these small sacred forests, protected by vodun cults and of difficult access, are known. Because of its apparent rarity, we catalog this species as critically endangered at national level, while it is categorized VU by the international IUCN list (https://www.iucnredlist.org/en).

Some species were only established after numerous trials, reminding one of the saying that rare species are not rare for nothing. In many cases, treatment of seeds and the necessary care of roots and their accompanying fungus species still needs a lot of research. Further collections of up to now failed introductions are therefore warranted.

While new species were introduced, rare species from the nursery were also offered to the botanical garden of UAC and to NGOs active in forest conservation, an exchange for the

better survival of localized species, as recommended in the Red List (Adomou et al., 2011).

Forest maintenance, including pruning of common species to ensure access to light, is important to preserve rare trees. This included the continued removal of dense stands of oil palm trees, which blocked natural succession. Removal of lianas on a weekly basis is considered to be key for the success of plants that have been transplanted from the nursery. We would therefore caution all the NGOs that establish nurseries of easily reproducible indigenous trees in Benin, that the main labor in forest rehabilitation, according to our experience, is not the establishment of nurseries, but the care of plants once they have been transplanted into the forest.

By planting in clearings due to natural tree fall and mostly without irrigation, we employed traditional forestry practices used for rehabilitation (Chazdon, 2014; Sabogal, 2007; Stanturf et al., 2012). Thanks to deep soils and by adding species, the Drabo forests now reach the semblance of a secondary forest. As the only rehabilitated forest in Benin, the 'Sanctuaire des singes' can serve as a model for better management of many of the threatened sacred groves in the Ouémé Valley, a UNESCO World Heritage site.

The sacred forests in Benin indeed are small; but deforestation, through forest fragmentation due to tree felling and acerbated by climate change (Corlett, 2014), is pervasive even in the Upper Guinea forests of Côte d'Ivoire and Ghana. There, forests of 4 ha or less now represent 64% the forest cover (Chatelain et al., 2004), i.e., not so much different from Benin. Similarly high deforestation rates are reported from Nigeria (Giresse, 2008).

In the sanctuary, arrests for felling trees and dragging them through the forest, thereby damaging newly established plants, increased. Policing by the vodun elders was not sufficient and IITA's security force sometimes had to intervene. Offering free access to the forest for the collection of medicinal plants was rejected, because first finders would uproot the whole plant instead of sustainably harvesting the needed plant parts. Medicinal plants are still exploited, but only under supervision by guards.

Fortunately, climate change did not affect the sanctuary until 2023. A comparison of rainfall between IITA and Drabo Gbo, gives no clear trends. Though some rains became more erratic, the overall yearly rainfall remained rather constant. For a possible mitigation of climate change attributable to forests (Corlett, 2014), the forests of the 'Sanctuaire des singes' are evidently too small to show any effect to benefit the local population.

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (2022) also warns of increased thunderstorms with high winds as a consequence of a heating world. The twelve-fold increase in tree-toppling and tree-breaking observed in 2024, is therefore highly worrying. With the previous rate of <1 tree lost per ha per year, such damage could be naturally sustained; but with 9 trees per ha lost in 2024, the holes in the forest canopy become dangerously big. To maintain a healthy forest requires ever more replanting and suppression of lianas. By far most of the damage occurs on early-succession trees, mostly the four *Albizia* species. A speeded-up succession with *Antiaris, Cola*, *Celtis, Chrysophyllum, Diospyros*, *Triplochiton*, *Zanthoxylum,* etc., all of which did not suffer any damage, is therefore asked for.

Eco-services (Kuyah et al., 2016; Rowland et al., 2016), like forest foods contributing to healthy diets, are exploited at a low level, and local acceptance of the sanctuary is considered reasonable (Bello-Bravo, 2020). Nevertheless, in a village of 500 mostly poor people, intrusions and conflicts cannot be avoided. It is evident that this balancing act between nature conservation and support to villagers becomes ever more difficult under increasing urbanization. We must assume that the offered benefits like improvement in infrastructure, health and finances impacted the livelihood of many villagers and avoided possible damage to the sanctuary.

Protecting all wildlife, not just plants, remains a challenge (Mansourian et al., 2005). This forest provides a sanctuary also to five species of primates, four species of martens, one antelope, 80 bird species, 10 snake species, two chameleons, and numerous insects, which make up for a living forest (Neuenschwander et al., 2015). This 14-ha reserve represents two dozen sacred forests, which effectively protect biodiversity in a human-impacted landscape (Willis & Birks, 2006).

Contrary to sacred forests, the 'Sanctuaire des singes' is open to the public. Ecotourism is alive and most visitors are highly enticed by the forest walk and the contact with the red-bellied guenons (Neuenschwander, 2024). The economic data show, however, that ecotourism's claims for a general improvement of village life are overrated for the situation in Drabo.

Like other African cities, Abomey-Calavi and Cotonou, Benin's two largest towns, are spreading and start engulfing the 'Sanctuaire'. This overpopulation and the attitude of many newcomers, who are looking for and demanding urban amenities, brings new challenges.

Implications for Conservation

Since the 'Sanctuaire des singes' harbours more threatened plants than any other natural forest in Benin - as well as a free-living population of critically endangered red-bellied guenon - it is of prime conservation value. Because it belongs to IITA and the first author supports local needs, the forest and its inhabitants survive – up to now. The biggest challenges consist in sustainably managing the creeping urbanization and increasing storm damage due to climate change.

Protection of the forest by IITA continues under the heading of biodiversity conservation for the benefit of a productive and sustainable agriculture (McNeely & Scherr, 2001; Neuenschwander et al., 2023). Similarly, over 150 field

stations world-wide serve as earth observatories and biodiversity sanctuaries (Eppley et al., 2024) with high social benefits (Rasmussen et al., 2024). With its high educational and scientific value, the forest is recognized by universities and NGOs active in nature protection in the nearby Ouémé floodplain, a UNESCO World Heritage site, as a good example for managing sacred forests.

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ORCID iD

Peter Neuenschwander https://orcid.org/0000-0003-0580-0376

Supplemental Material

Supplemental material for this article is available online.

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Table 5, Suppl. files: Comprehensive list of all plant species of Drabo Gbo, Benin.

– Taxa (Pteridophytes as 1Pteri, Gymnosperms 2Gym, Monocotyledons 3Mono, Dicotyledons 4Dicot, non-identified 5nonid.
– Family names followed taxonomic revision APG IV (2016). Sub-species only as one species (e.g., Mansonia). Species that could not be identified but had a clear taxonomic, growth and survival status were marked by '?' and included in the tabulations. Where different, the names used in Neuenschwander & Adomou (2017) were added in brackets '[…]'.
– Species that are either new or not included in Akoègninou et al. (2006) are marked as a. Species names followed by x are registered in inaturalist under Peter Neuenschwander.
– Plants are described as parasites/saprophytes, epiphytes, herbs, climbers, shrubs or trees based on the description in Akoègninou et al. (2006).
– The origin of the species, named chorology, is indicated according to Adomou et al. (2006; 2010; 2011) and Akoègninou et al. (2006). Group I: Exotic species: At Afrotropical species with distributions beyond West and Central Africa into Madagascar, PAL Paleotropical, and Pt Pantropical species, i.e., all species that have penetrated or invaded West Africa from other floristic regions. West African species that have similarly spread across the world are indicated by their original zone (map: Figure 2 in Neuenschwander & Adomou, 2017). Group II: Species from areas with only one rainy season: SG Guineo-Sudanian transition zone species, SZ Sudanian savannah species, and S Sahel savannah species. Group III: Species adapted to the local climate with high rainfall and two rainy seasons: GC Guineo-Congo forest species distributed across the Upper and Low-er Guinean and into the Congolese zone east to Sudan, Uganda, Kenya, GO Upper Guinea forest species from west of the Dahomey Gap with an eastern limit in Benin or nearby Nigeria, GE Lower Guinea forest species from east of the Dahomey Gap with a western limit in Benin.
– Collection sites: Ahozon, the only remaining coastal forest in the Dahomey Gap (about 10 km south of Drabo), Ouéga and the IITA campus a few km south of Drabo, Agongbè north of Drabo, Hévié north of Pahou, Avrankou on the Iguidi River near the Nigerian border east of Dangbo, and Tanougou waterfalls outside the Penjari Park in the Sudan savannah, together with their location, where they were transplanted in the study forests (Figure 2), the years of collecting and transplanting, and–separately–in which form they had been collected, namely seeds, small plants, or sticks.
– Abundance in 2016 was ranked as follows: 1 = 1–4 plants established; 2 = 5–10 plants; 3 = up to 20 plants; 4 = common species; 5 = abundant species. Enlarged definition for herbs: 1 = occasional occurrence in openings, still common outside forest.
– The maximum height (in m) and circumference at breast height (in m, with two decimals) of trees of each species estimated in January-February 2023. For most species, biggest trees were found in Drabo; in addition, especially big specimens from Dodja (Do), Fanto (Fa) or Orojamè (Or) are indicated.
– The population trend is roughly estimated as s = stable, i = increasing, d = decreasing, c = cut, or L = lost by July 2023. d thereby means that the species became less numerous and/or individual plants became sick or stressed. Plants planted in May-June 2023 were assigned the status of (s) or assumed to be doomed (L). Species collected once only as seeds that did not sprout, or sticks that did not root, were excluded from the list (contrary to Neuenschwander & Adomou, 2017).
– Red List status according to Neuenschwander et al. (2011) and IUCN (2016) based on IUCN criteria as NT = near threatened, VU = vulnerable, EN = endangered, CR = critically endangered, EW = extinct in the wild in Benin. All other species were considered as LC = Least Concern because they are not threatened or have not been assessed.
– Suspected reasons for difficulty in establishment: - dormant seeds, which were sometimes treated with hot water or by scarifying to break dormancy, - drought, i.e., temporarily too little water, - savannah species, of which we suspect that they do not support transfer to two rainy seasons and are there-fore not capable of reaching the coast, - medicinal use, often the roots of these species are harvested for increasing male potency.
– The number of samples, which include one to maximum 10 plantlets or seeds per species and date.
– Plants originally found on the 14 ha and in their vicinity of one hundred meters are marked with x. Some of them were also reproduced and transplanted to other sites.

	Taxa	Family according to WFO			Type	Chorology (origin)	Origin of specimens, location planted, year	Planted as	Abun-dance	Max. height/ circumference in m	Tend-ency	Red List status	Reason for problem	N intro.	in field Drabo, Dodja
1	1Pteri	Nephrolepidaceae	***Nephrolepis biserrata*** (Sw.) Schott		herb	Pt	in field		3		s				x
2	1Pteri	Polypodiaceae	***Phymatosorus scolopendra*** (Burm.f.) Pic.Serm. [*Microsorum scolopendria*]		herb	PAL	in field		3		s				x
3	1Pteri	Polypodiaceae	***Platycerium elephantotis*** Schweinf.		herb	GC	Pobe to garden 1997†; J. Bot. to garden 2007, 2011, 2012 all †; J.Bot.to garden 2016 †	plantlet	1		**L**			5	
4	2Gymn	Cycadaceae	***Encephalartos barteri*** Carruth. ex Miq.		shrub	SG	J. Bot.to garden, nursery 2010 †; 2017 †; to MdJ, shower 2018, garden 2019 †, new to nursery 2021, 2023 †	seed	1		**L**			4	
5	3Mono	Amaryllidaceae	***Crinum jagus*** (J.Thompson)Daud.		herb	SG	in field and from Drabo to garden	bulb	1		s		shade	1	x
6	3Mono	Amaryllidaceae	***Crinum zeylanicum*** (L.) L.		herb	At	in field, Bot. Garden to garden 2019		1		s			1	x
7	3Mono	Amaryllidaceae	***Scadoxus multiflorus*** (Martyn.) Raf.		herb	At	in field on Emile, discovered 2008		3		i				x
8	3Mono	Araceae	***Amorphophallus dracontioides*** (Engl.) N.E.Br.		herb	SG	J. Bot. behind cages 2010 †;Tobe on papa 2011; Cotonou to MdJ 2015	stolon	1		s			3	
9	3Mono	Araceae	***Anchomanes difformis*** (Bl.) Engl.		herb	GC	Bante to Orojame 2003 †; from Ewe and J. Bot.behind cages 2006, 2011	root	1		s		pigs	3	
10	3Mono	Araceae	***Cercestis mirabilis*** (N.E.Br.) Bogner	X	climber	GC	Niaouli around house 2007; Pobè, Niaouli nr. House 2008, 2009, 2019 †; Pobè to Cooun, garden 2023	plantlet	1		s		drought	3	

11	3Mono	Araceae	***Colocasia esculenta*** Schott		herb	At	Cotonou to house, MdJ 2012	plantlet	1		s		drought	1	
12	3Mono	Araceae	***Culcasia mannii*** (Hook f.)Engl. **a**		climber	GC	Pobè to pond 2018; Ahozon to garden 2022	plantlet	2		s			2	
13	3Mono	Araceae	***Culcasia scandens*** P.Beauv.		climber	GC	Pobè, near house 2006;	plantlet	3		s			1	
14	3Mono	Arecaceae	***Borassus aethiopum*** Mart.		tree	At	in field, Fanto only; planted Grande Forêt, MdJ, 1997 ff	seed	1	0.2; 0.1 Fa	s	VU		2	x
15	3Mono	Arecaceae	***Calamus deerratus*** G.Mann & H.Wendl.		climber	At	J. bot. to mill hole 2023	potted plant	1		(s)			1	
16	3Mono	Arecaceae	***Cocos nucifera*** L.		tree	Pt	in field; from Togba to MdJ 1997, 2012	plantlet	1	8	s			2	x
17	3Mono	Arecaceae	***Elaeis guineensis*** Jacq.		tree	Pt	in field		5	20/1.08	d		cut		x
18	3Mono	Arecaceae	***Eremospatha macrocarpa*** G.Mann & H.Wendl.		climber	GC	J. bot. to mill hole, nursery 2023	potted plant, seed	1		(s)			1	
19	3Mono	Arecaceae	***Laccosperma secundiflorum*** (P.Beauv.)		climber	GC	J. bot. to mill hole 2023	potted plants	1		(s)			1	
20	3Mono	Arecaceae	***Oncocalamus wrightianus*** Hutch.		climber	GE	J. bot. to mill hole 2023	potted plant	1		(s)			1	
21	3Mono	Asparagaceae	***Asparagus warneckei*** (Engl.) Hutch.		climber	GO	in field		4		s				x
22	3Mono	Asparagaceae	***Chlorophytum macrophyllum*** (A.Rich.) Aschers		herb	SG	Dangbo to garden, Cooun, papa 2015, Grande Forêt 2016; Dangbo to near house 2019	plantlet	1		s			3	
23	3Mono	Asphodelaceae	***Aloe buettneri*** A.Berger		herb	SZ	Tobè to garden 2000, 2007 †	plantlet	1		**L**			2	
24	3Mono	Bromeliaceae	***Ananas comosus*** var. ***comosus*** [*Ananas sativus*]		herb	Pt	left over in field		1		d		cut		x
25	3Mono	Cannaceae	***Canna indica*** L.		herb	Pt	Drabo to garden 2022		1		s			1	
26	3Mono	Colchicaceae	***Gloriosa superba*** L.		climber	GC	in field		4		s				x
27	3Mono	Commelinaceae	***Commelina benghalensis*** L.		herb	At	in field,		2		d		shade		x
28	3Mono	Commelinaceae	***Palisota hirsuta*** (Thunb.) K.Schum. ex Engl.		herb	GC	Bantè to garden 2003; Niaouli to garden, MdJ 2007	plantlet	2		s			2	
29	3Mono	Dioscoreaceae	***Dioscorea alata*** L.		climber	Pt	Tobè behind cages 2014	aerial tubers	3		s			1	
30	3Mono	Dioscoreaceae	***Dioscorea bulbifera*** L.		climber	Pt	in field and IITA to MdJ 2007, 2012	aerial tubers	4		s			2	x
31	3Mono	Dioscoreaceae	***Dioscorea burkilliana*** J.Miege	X	climber	GC	Ahozon to papa 2006; Niaouli, Zinvié, Ahozon to Cooun 2007; Niaouli to Cooun 2008, 2010	plantlet, big tuber	1		s			5	
32	3Mono	Dioscoreaceae	***Dioscorea dumetorum*** (Kunth.) Pax		climber	SZ	in field, Bante to garden, Cooun 1997	tuber	2		s			1	x
33	3Mono	Dioscoreaceae	***Dioscorea hirtiflora*** Benth.		climber	SG	Pobè to Lissanou 2007	tuber	2		s			1	
34	3Mono	Dioscoreaceae	***Dioscorea praehensilis*** Benth.		climber	GC	Lama forest to Cooun, papa, etc.2001, 2007	tuber	2		s			2	
35	3Mono	Dioscoreaceae	***Dioscorea preussii*** Pax		climber	GC	Pobè to MdJ, on papa, Cooun 2006	plantlet	1		s			1	
36	3Mono	Dioscoreacea	***Dioscorea quartiniana*** A.Rich.		climber	SG	Zinvié/Lanzron to papa 2010, 2011	plantlet	1		s			2	
37	3Mono	Dioscoreaceae	***Dioscorea sagittifolia*** (DeWild.) ***lecardii*** DeWilld.		climber	GO	Togba to garden, Pierre 2013	tuber wth plantlet	1		s			1	
38	3Mono	Dioscoreaceae	***Dioscorea sansibarensis*** Pax		climber	SG	Niaouli, Pobè to papa 2010; Grande Forêt 2013	tuber	2		s			3	
39	3Mono	Dioscoreaceae	***Dioscorea smilacifolia*** (DC) Wild.		climber	SG	Niaouli to nursery 2012	tuber	1		s			1	
40	3Mono	Dioscoreaceae	***Dioscorea togoensis*** Knuth.		climber	SG	in field; Tobè on Cooun, etc. 2013	tuber	4		s			1	x
41	3Mono	Asparagaceae [Dracaenaceae]	***Dracaena mannii*** Baker		tree	GC	in field, formerly planted as field marker; to Fanto, Dodja 2015	sticks	3	7/ 0.53	s			3	x
42	3Mono	Asparagaceae [Dracaenaceae]	***Dracaena phrynioides*** Hook.	X	herb	GC	Pobè to garden before 2010	plantlet	1		s			1	
43	3Mono	Asparagaceae [Dracaenaceae]	***Dracaena sucurlosa*** Lindl. a		herb	GC	Drabo to garden 2001; Pobè to garden, Lissanou 2006; Pobè to Lissanou 2008, 2014; nursery to garden 2016	plantlet	2		s			5	x

44	3Mono	Asparagaceae [Dracaenaceae]	***Dracaena liberica*** (hort. ex Gérôme & Labroy) Byng & Christenh. [*Sansevieria liberica*]		herb	GC	in field, locally		3		s				x
45	3Mono	Flagellariaceae	***Flagellaria guineensis*** Schum.		herb	GC	in field Grande Forêt, Cooun; Lanzron to Cooun, garden 2010; Ahozon to Cooun 2011	plantlet	2		s			2	x
46	3Mono	Hyacinthaceae	***Ledebouria sudanica*** (A.Chev.) Burg.		herb	S	J. Bot. from Atacora to garden 2010	plantlet	1		s			1	
47	3Mono	Marantaceae	***Hypselodelphys violacea*** (Ridley) Milne.Redh.		herb	GC	Zinvié to garden 2007 †; Zinvié, Pobè to Lissanou 2008	plantlet	2		s			2	
48	3Mono	Musaceae	***Musa acuminata/balbisiaca*** triploids		herb	Pt	in field; Drabo to MdJ 1999, 2012	corm	1		d		shade	2	x
49	3Mono	Musaceae	***Thalia geniculata*** L.		herb	At	Pobè to mill hole 2023		1		(s)			1	
50	3Mono	Orchidaceae	***Aerangis biloba*** (Lindl.) Schltr.		epiphyt	GC	in field; Cotonou to garden 1997 ff.	plantlet	1		s			2	x
51	3Mono	Orchidaceae	***Angraecum distichum*** Lindl.		epiphyt	GC	Togo to garden 2004	plantlet	1		s	EN		1	
52	3Mono	Orchidaceae	***Calyptrochilum christyanum*** (Rchb.f.) Summerh. nec *emarginatum* (SW.) Schltr.		epiphyt	GC	Bantè to garden 2000	plantlet	1		s			1	
53	3Mono	Orchidaceae	***Graphorkis lurida*** (Sw.) Kuntze		epiphyt	GC	Togo to garden 2004 †;Togba to garden 2009†	plantlet	1		**L**	EN		2	
54	3Mono	Orchidaceae	***Nervilia kotschyi*** (Rchb.) Schltr.		herb	SG	Bantè to garden 2008, 2010, 2011 all †	plantlet	1		**L**		savannah	3	
55	3Mono	Orchidaceae	***Oeceoclades maculata*** (Lindl.) Lindl.		herb	At	in field; Drabo to Cooun	plantlet	2		d			1	x
56	3Mono	Orchidaceae	***Vanilla planifolia*** Jacks ex Andrews **a**		epiphyt	Pt	Niaouli to garden 2009, 2010	stem	1		s			2	
57	3Mono	Pandanaceae	***Pandanus utilis*** Bory		herb	Pt	Cotonou to garden 2003	plantlet	1		s			1	
58	3Mono	Poaceae	***Bambusa vulgaris*** Schrad. ex Wendel		herb	Pt	in field, Emile only		2		s				x
59	3Mono	Poaceae	***Brachyaria deflexa*** (Schumach.) Robins		herb	At	in field		2		d		shade		x
60	3Mono	Poaceae	***Cymbopogon citratus*** (DC) Stapf.		herb	Pt	Drabo to MdJ, garden 2001. J. Bot. to MdJ 2012	plantlet	1		d		shade	3	x
61	3Mono	Poaceae	***Cymbopogon schoenanthus*** (L.) Spreng.		herb	SG	J. Bot. to garden 2010 †; J. Bot. to MdJ 2012	plantlet	1		d		shade	2	
62	3Mono	Poaceae	***Digitaria horizontalis*** Willd.		herb	At	in field		1		d		shade		x
63	3Mono	Poaceae	***Hyperthelia dissoluta*** (Nees ex Steud.) W.D.Clayton		herb	Pt	in field		1		d				x
64	3Mono	Poaceae	***Imperata cylindrica*** (L.) P.Beauv.		herb	At	in field, abundant, where fire passes		1		d		shade		x
65	3Mono	Poaceae	***Olyra latifolia*** L.		herb	GC	Lama to Cooun, Grande Forêt, Gaston, Emile 2007 ff.	plantlet	3		i			1	
66	3Mono	Poaceae	***Oplismenus hirtellus*** (L.) P.Beauv.		herb	Pt	in field		4		i				x
67	3Mono	Poaceae	***Pennisetum violaceum*** (Lam.) L.Rich.		herb	At	in field		1		d		shade		x
68	3Mono	Poaceae	***Perotis indica*** (L.) O.Ktze.		herb	PAL	in field		1		d		shade		x
69	3Mono	Poaceae	***Melinis repens*** (Willd.) Zizka [*Rhynchelytrum repens*]		herb	Pt	in field		1		d		shade		x
70	3Mono	Poaceae	***Setaria barbata*** (Lam.) Kunth.		herb	Pt	in field		1		d		shade		x
71	3Mono	Poaceae	***Sporobolus pyramidalis*** P.Beauv.		herb	SZ	in field		1		d		shade		x
72	3Mono	Poaceae	***Zea mais*** L.		herb	Pt	in field		1		d		shade		x
73	3Mono	Smilacaceae	***Smilax anceps*** Willd.		herb	SG	in field; Pobè to papa 2007; Niaouli to garden, Cooun, Lissanou 2008 †; Niaouli to garden 2008 †; Tobè to papa, Cooun 2009 †; Tobè to papa,	plantlet	1		d			8	x

							Cooun 2010, 2011; Niaouli to garden 2014; Ahozon to garden 2019 †							
74	3Mono	Taccaceae	***Tacca leontopetaloides*** (L.) O.Ktze		herb	Pt	in field, Fanto only, new in garden since 2008		3		s			x
75	3Mono	Zingiberaceae	***Aframomum sceptrum***(Oliv. & Hanb.) K.Schum.		herb	GC	Bantè to garden 2010; Togba to garden 2013; Ahozon to MdJ 2021; 2022 †	tuber	2		**L**		pigs	3	
76	3Mono	Zingiberaceae	***Costus afer*** Ker-Gawl.		herb	GC	Bantè to garden 2005; Pobè to garden 2008	tuber	2		s		pigs	2	
77	3Mono	Zingiberaceae	***Zingiber officinale*** Rosc.		herb	Pt	Calavi market to garden 1997 ff.	tuber	1		d		pigs	2	
78	4Dicot	Acanthaceae	***Acanthus montanus*** (Nees) T.Anderson		herb	GC	J.Bot. and Calavi market togarden, papa 2010; garden to MdJ, mill hole 2013; MdJ, 2014	twig	3		i	CR		3	
79	4Dicot	Acanthaceae	***Asystasia buettneri*** Lindau [*Asystasia calycina*]		herb	GC	Pobè to Emile, Cooun, mill 2008	plantlet	1		s			1	
80	4Dicot	Acanthaceae	***Asystasia gangetica*** (L.) T.Anders		herb	Pt	in field		4		s				x
81	4Dicot	Acanthaceae	***Asystasia vogeliana*** Benth.		herb	GC	Pobè to Cooun 2006; to well 2018	plantlet	3		s			1	
82	4Dicot	Acanthaceae	***Barleria opaca*** (Vahl) Ness		herb	GC	in field		3		i				x
83	4Dicot	Acanthaceae	***Elytraria marginata*** Vahl		herb	GC	Ewè to garden 2006 †; Niaouli to garden, Lissanou 2010; Tobè to Cooun 2011	plantlet, seeds	2		s			3	
84	4Dicot	Acanthaceae	***Justicia secunda*** Vahl.		herb	Pt	Iguidi to garden 2023	plantlet	2		(s)			1	
85	4Dicot	Acanthaceae	***Phaulopsis imbricata*** (Forssk.) Sweet.		herb	GC	in field		2		d		shade		x
86	4Dicot	Acanthaceae	***Whitfieldia elongata*** (P. Beauv.) De Wild. & T. Durant		herb	SZ	Dangbo to around house 2019		1		s			1	
87	4Dicot	Achariaceae [Euphorbiaceae]	***Caloncoba echinata*** (Oliv.) Gilg	X	tree	GO	Niaouli to Cooun 2009 †, 2011 †; Niaouli to nursery to Cooun 2013; Niaouli to nursery 2018	stick; plantlet; seed pod	2	3	s	CR	drought	4	
88	4Dicot	Achariaceae [Euphorbiaceae]	***Caloncoba gilgiana*** (Sprague) Gilg		tree	GO	J. Bot. to Cooun 2011, cut in 2020, respouts in 2021	plantlet	2	8	s			1	
89	4Dicot	Amaranthaceae	***Achyranthes aspera*** L.		herb	PAL	Ahozon to Cooun, Gaston 2011; Ahozon to garden 2021	plantlet	1		s			2	
90	4Dicot	Amaranthaceae	***Aerva lanata*** (L.) Juss. ex Schult.		herb	At	in field		1		d		shade		x
91	4Dicot	Amaranthaceae	***Amaranthus cruentus*** L.		herb	Pt	Drabo to garden 2005	plantlet	1		d		shade		x
92	4Dicot	Amaranthaceae	***Celosia argentea*** L.		herb	PAL	in field on Cooun; Niaouli to garden 2010	plantlet	2		s			1	x
93	4Dicot	Amaranthaceae	***Cyathula prostrata*** (L.) Blume		herb	PAL	Ahozon to papa 2011	plantlet	1		s			1	
94	4Dicot	Amaranthaceae	***Pupalia lappacea*** (L.) A.Juss		herb	PAL	in field		1		d		shade		x
95	4Dicot	Anacardiaceae	***Anacardium occidentale*** L.		tree	Pt	in field old tree †, nursery Togba to Pierre 1999; Bantè on MdJ 2013	plant	1	6	d		shade	2	x
96	4Dicot	Anacardiaceae	***Lannea barteri*** (Oliv.) Engl.		tree	SG	Torri Bossito to behind cages, found nr. Fanto to garden 2018 good, 2022 †; Fanto to garden to MdJ 2021 †; Fanto 6 sticks to garden, Coun 2022 (most †, at least 1 good); 2023 all †, Kantsoumpa to Cooun 2023 †	tree trunk	1		**L**		shade	4	
97	4Dicot	Anacardiaceae	***Lannea nigritana*** (Sc.Elliot) Keay		tree	GC	in field, Grande Forêt, Dodja to Lissanou 2021†, Cooun 2022;	sticks	3	7/ 0.82	i		beetle		x
98	4Dicot	Anacardiaceae	***Mangifera indica*** L.		tree	Pt	in field		2	16/ 1.20	d		shade		x
99	4Dicot	Anacardiaceae	***Spondias dulcis*** G.Forst. [*Spondias cytherea*]		tree	Pt	Drabo to MdJ 2021 †; to garden, papa, Cooun 2022; 2023 2 survived	stick	1		s			3	x
100	4Dicot	Anacardiaceae	***Spondias mombin*** L.		tree	Pt	in field, one big tree on Cooun; Drabo to Dansou 2011, Dodja 2012; MdJ, Pierre 2013; Emile 2016; 2021 big tree	sticks	4	24/ 1.08	i			5	x

							on Cooun toppled in storm; sticks to Grande Forêt 2022							
101	4Dicot	Anacardiaceae	***Trichoscypha lucens*** Oliv.	X	tree	GC	Ahozon to papa 2006 †, 2012 †; Ahozon to garden, papa 2016 ; to papa 2017; to garden behind pond 2018; nursery, papa 2019 †; Ahozon to Cooun 2022; 2023	plantlet, stick	1		s			8	
102	4Dicot	Anacardiaceae	***Sorindeia grandifolia*** Engl.		climber	GC	in field		4		s				x
103	4Dicot	Annonaceae	***Annona muricata*** L.		tree	Pt	Drabo to garden, 1997; MdJ 2004	seed	1	7	d		shade	2	x
104	4Dicot	Annonaceae	***Annona senegalensis*** Pers.		shrub	SZ	in field, particularly Fanto		2		s		shade		x
105	4Dicot	Annonaceae	***Artabotrys velutinus*** Sc.Elliot		climber	GC	in field		5		s				x
106	4Dicot	Annonaceae	***Cleistopholis patens*** (Benth.) Engel & Diels	X	tree	GC	Calavi to pond 1999 good in 2022; Pobè to Lissanou 2005, 2006, 2008, 2010 most †; Ahozoon to Cooun, papa 2016; Ahozon to garden, Cooun 2022;	plantlet	1	12	d		drought	7	
107	4Dicot	Annonaceae	***Uvariopsis tripetala*** (Baker f.) G.E.Schatz [*Dennettia tripetala*]	X	shrub	GC	Ewè to garden †; Lama to garden, Cooun 2007; Ewè to Gaston 2010	plantlet	2	2	s	CR		2	
108	4Dicot	Annonaceae	***Monanthotaxis parviflora*** (Oliv.) Verdc.		climber	GC	Pobè to garage 2006, Grande Forêt 2008	plantlet	1		s			2	
109	4Dicot	Annonacee	***Monanthotaxis whytei*** (Stapf.) Verdc.		climber	GC	Pobè to garden, papa, 2014	plantlet	1		s			1	
110	4Dicot	Annonaceae	***Monodora myristica*** (Gaertn.) Dunal	X	tree	GC	Lanzron to Cooun 2009; Niaouli to Lissanou 2010; Lanzron to Cooun, Gaston, AgoXwe 2010; Niaouli to Cooun, Gaston, papa, Emile 2012	Lanzon seed; Niaouli plantlet	3	7/ 0.31	s	EN		4	
111	4Dicot	Annonaceae	***Monodora tenuifolia*** Benth.		tree	SG	in field, locally abundant		5	10/ 0.43	i				x
112	4Dicot	Annonaceae	***Uvaria chamae*** P.Beauv.		climber	SG	in field		5		s				x
113	4Dicot	Annonaceae	***Uvaria doeringii*** Diels		shrub	GO	in field MdJ, Cooun found 2011		4		s				x
114	4Dicot	Annonaceae	***Xylopia aethiopica*** (Dunal) A.Rich.		tree	At	Ewè to garage 2006 † ; Ahozon to papa 2010 †; Ewè to Gaston, Cooun, Lissanou 2011 most †; J. Bot. to nursery 2012;Togba to MdJ, Cooun, garden † 2013, 2014 ; Togba to Cooun, papa 2015 †; Togba to garden, Cooun 2016 †; Ahozon to papa 2016 †; Pobè to garden 2019 †; 2021 2 big on MdJ †, new from Ahozon and Togba to Cooun 2022	plantlet	1	1	d	VU	drought? disease	4	
115	4Dicot	Annonaceae	***Xylopia parviflora*** (A.Rich.) Benth	X	tree	SG	Lama to Lissanou 2009; Ahozon to Cooun 2013; Togba to nursery 2014 †; Ahozon to Cooun 2014, to Emile 2018 ; Ahozon to Cooun 2021, 2023	plantlet	2	4.5	i			6	
116	4Dicot	Annonaceae	***Xylopia villosa*** Chipp **a**		tree	At	Pobè to Cooun 2023	plantlet	2		(s)			1	
117	4Dicot	Apocynaceae	***Alafia barteri*** Oliv.		climber	GC	in field particularly Orojamè; Pobè to Cooun 2014	plantlet	4		s			1	x
118	4Dicot	Apocynaceae	***Alstonia congensis*** Engl.	X	tree	GC	Gbodjo to pond 2004; Pobè to Cooun, 2014 †	plantlet	1	16	s			2	
119	4Dicot	Apocynaceae	***Ancylobotrys scandens*** (Schum.&Thonn.) Pichon		climber	GC	Ahozon to garden, papa, Cooun, Lissanou 2008; Ahozon to Lissanou 2009; nursery to Lissanou 2011; do. to Emile, Cooun 2012	plantlets	2		s			4	
120	4Dicot	Apocynaceae	***Baissea axillaris*** (Benth.) Hua		climber	GC	in field in Dodja; Pobè, Ahozon to garden, papa 2006; Cooun, nursery	plantlets	3		i			8	x

							2011; Zinvié to nursery 2012; Niaouli to Cooun, Emile 2011, 2012; Ahozon to garden, papa 2016, 2017, 2019							
121	4Dicot	Apocynaceae	***Callichilia barteri*** (Hook f.) Stapf		shrub	GE	Lanzron to papa 2011; nursery to mill hole, Gaston, Cooun, garden 2011; to Lissanou, MdJ 2012; Lanzron to Fanto, Dodja 2015	plantlet	3	2.5	i			3	
122	4Dicot	Apocynaceae	***Carissa spinarum*** L. (Forssk.) Vahl		climber	PAL	in field Fanto; Calavi to garden 1997; Drabo to MdJ 2013; Ahozon to Cooun 2021	plantlet	1		d	VU	medicinal	3	x
123	4Dicot	Apocynaceae [Asclepiadaceae]	***Cryptolepis nigrescens*** (Wennberg) L.Joubert & Bruyns [*Periploca nigrescens*]		climber.	At	in field		4		i				x
124	4Dicot	Apocynaceae	***Funtumia elastica*** (Preuss) Stapf.		tree	GC	Niaouli to nursery 2009 †; Niaouli to garden 2010 †; Niaouli to nursery 2012 †; Ahozon, Dangbo to garden 2016 †	stick; plantlet; stick	1		**L**		drought	4	
125	4Dicot	Apocynaceae	***Holarrhena floribunda*** (G.Don) Durand & Schinz		tree	SG	in field		5	20/ 0.96	s				x
126	4Dicot	Apocynaceae	***Hunteria umbellata*** (K.Schum.) Hallier f.		tree	SG	Lanzron to nursery 2011 †; seeds sprouted 2012 †; Dangbo to garden 2017 †	plantlet, seeds	1		**L**			3	
127	4Dicot	Apocynaceae	***Landolphia dulcis*** (Pierre ex Stapf) Pichon		climber	GC	in field Dodja, to papa, shower 2019	plantlet	2		s			2	x
128	4Dicot	Apocynaceae	***Landolphia hirsuta*** (Hua) Pichon		climber.	GC	in field on Cooun; MdJ discovered 2010		1		s				x
129	4Dicot	Apocynaceae	***Landolphia owariensis*** P.Beauv.		climber.	GC	in field Orojamè; Ahozon to nursery 2006 †; Ahozon to nursery 2008 †; Ahozon to garden, papa, mill hole 2012, 2016; Ahozon to garden 2019	plantlet	2		s			5	x
130	4Dicot	Apocynaceae	***Landolphia togolana*** (Hallier f.) Pichon		climber.	GO	in field Cooun; Niaouli to Lissanou 2009	plantlet	2		s			1	x
131	4Dicot	Apocynaceae	***Motandra paniculata*** (Poir.) I.M.Turner [*Motandra guineensis*]		climber.	SG	in field Grande Forêt; Niaouli to garden 2011; mill hole, papa 2012; Pobè to papa 2014	plantlet	1		d			2	x
132	4Dicot	Apocynaceae	***Oncinotis glabrata*** (Baill.)Stapf ex Hiern		climber	GC	in field discovered 2011; planted, from Ahozon on papa 2006; Cooun 1st bas-fond 2008; in field on Emile; in 2011 from Ahozon to mill 2010	plantlet; 2010	2		s			3	x
133	4Dicot	Apocynaceae	***Picralima nitida*** (Stapf.) T. & H.Durand	X	tree	GC	Cotonou market to Lissanou, Cooun, nursery 2014 to Cooun 2016; Bot. Garden to nursery 2018 to Cooun 2021	seed	2	4	s			2	
134	4Dicot	Apocynaceae	***Pleiocarpa pycnantha*** (K.Schum.) Stapf.	X	shrub	GC	Drabo to garden, garage 2001 †; Ahozon to Cooun 2011; Drabo to MdJ 2012; Pobè to Cooun 2014	plantlet	1	5	s		medicinal	4	x
135	4Dicot	Apocynaceae	***Pleioceras barteri*** Baill.	X	shrub	GC	Ahozon to garden, papa, Cooun, Lissanou 2008; Ahozon to Lissanou 2009; nursery to Lissanou 2011; to Emile, Cooun 2012, many †; nursery to papa, corridor, Cooun 2023	sticks	1		s		shade	4	
136	4Dicot	Apocynaceae	***Rauvolfia vomitoria*** Afzel.		tree	SG	in field		4	4	d	NT	shade		x
137	4Dicot	Apocynaceae	***Saba comorensis*** (Boj.) Pichon	X	climber.	At	Tobè to papa, Emile, Kakpo 2010 †; Tobè to papa 2011 †; Niaouli seeds in nursery, 2012 †; J.Bot.to MdJ, garden	plantlet, seed	1		s			6	

							2012 †; MdJ 2017; Ahozon to garden behind pond 2018								
138	4Dicot	Apocynaceae	***Saba thompsonii*** (A.Chev.) Pichon		climber.	GC	Ahozon to garden 2011; Ahozon to papa, nursery 2013; Pobè to Lissanou 2014; Ahozon to garden 2018	seeds; plantlet	2		s			4	
139	4Dicot	Apocynaceae	***Strophanthus hispidus*** DC.		climber.	SG	Niaouli to Gaston 2010 †; Tobè, Niaouli to papa 2012; Ahozon to garden 2016; Iguidi to garden 2021	plantlet	1		s			4	
140	4Dicot	Apocynaceae	***Strophantus sarmentosus*** DC.		climber.	GC	in field along forest edges, on papa, Orojamè		3		s				x
141	4Dicot	Apocynaceae	***Tabernaemontana eglandulosa*** Stapf.		climber	GC	Pobè to pond 2006; Niaouli to Lissanou 2008; Pobé to garden, papa, Cooun, mill hole 2009, 2014, 2015, 2016, many †	plantlets	2		s	EN		6	
142	4Dicot	Apocynaceae	***Tabernaemontana pachysiphon*** Stapf.	X	tree	At	Dangbo to garden, papa, Cooun 2016, 2017	sticks	2	8/ 0.25	s	EN		2	
143	4Dicot	Apocynaceae [Asclepiadaceae]	***Vincetoxicum cameroonicum*** (N.E.Br.) Meve & Liede [*Tylophora cameroonica*]		climber.	GC	in field on Cooun; Drabo to garden 2013; Pobè to Cooun 2014; Drabo to Cooun 2022	plantlets	2		s			3	x
144	4Dicot	Apocynaceae [Asclepiadaceae]	**Vincetoxicum sylvaticum** (Decne.) Kuntze		climber.	GC	in field on Cooun discovered 2009, 2010; Ahozon to papa 2005; Niaouli to Gaston 2006; Ahozon to Cooun 2010, 2011; nursery to Cooun 2023	plantlets	2		s			4	x
145	4Dicot	Apocynaceae	***Voacanga africana*** Staph.		tree	At	Niaouli to Cooun, Emile 2008; Lanzron to Gaston 2010 †; J. Bot. to mill hole †, Gaston 2011 †; 2021 only on Emile o.k., J.Bot. to Cooun, papa 2021	plantlet	1	5	d	VU		4	
146	4Dicot	Araliaceae	***Cussonia arborea*** Hoechst. ex A.Rich.		tree	SG	Tobè to papa 2010 †; Tobè to papa 2011 †	plantlet	1		**L**		savannah	2	
147	4Dicot	Aristolochiaceae	***Aristolochia albida*** Duch.		climber.	GC	J.Bot.to nursery †; Ahozon to garden, Cooun 2011; Tobè to garden 2011 †, Cooun 2011; Dodja to garden, MdJ 2021 †; Drabo to MdJ 2022 †; Drabo to Cooun 2023	plantlet	1		s		shade	3	x
148	4Dicot	Aristolochiaceae	***Aristolochia goldieana*** Hook.f. [*Pararistolochia goldieana*]	X	climber.	GC	Tobè to garden, Lissanou 2006 † ; Tobè to garden, Cooun, Emile 2010 ; Zinvié to Cooun, papa 2016; 2019 only 2 good	seed, plantlet	1		s			3	
149	4Dicot	Aristolochiaceae	***Aristolochia mannii*** Hook.f. [*Pararistolochia mannii*]	X	climber.	GC	Ewè to Gaston 2010 †; Ahozon to shower 2018 †, Ahozon mill hole †, papa, garden 2019 †	cut tuber	1		**L**	EN		3	
150	4Dicot	Aristolochiaceae	***Aristolochia triactina*** Hook.f [*Pararistolochia triactina*]		climber.	SG	Ahozon to garden, papa, Cooun, nursery 2011; Zinvié to nursery 2012; Ahozon to nursery, garden 2013, 2014; Ahozon to papa 2016 to garden 2017	seeds, plantlets	2		s			5	
151	4Dicot	Asclepiadaceae	***Mondia whitei*** (Hook.f.) Skeels		climber.	SG	in field Cooun, at big tree; planted to MdJ 2011	plantlet	3		s	VU	medicinal		x
152	4Dicot	Asclepiadaceae	***Pergularia daemia*** (Forssk.) Chiov.		climber.	SG	in field		4		s				x
153	4Dicot	Asclepiadaceae	***Secamone afzelii*** (Schul.) K.Schum.		climber.	GC	in field		4		s				x
154	4Dicot	Asteraceae	***Acanthospermum hispidum*** DC.		herb	Pt	in field		1		d		shade		x
155	4Dicot	Asteraceae	***Acmella uliginosa*** (Sw.) Cass.		herb	Pt	Drabo to MdJ 2014		1		d		shade		x
156	4Dicot	Asteraceae	***Ageratum conyzoides*** L.		herb	Pt	in field		1		d		shade		x

157	4Dicot	Asteraceae	***Aspilia bussei*** (Schum. & Thonn.) Oliv. & Hiern		herb	SG	in field		1		d		shade		x
158	4Dicot	Asteraceae	***Bidens pilosa*** L.		herb	SG	in field		2		d		shade		x
159	4Dicot	Asteraceae	***Chromolaena odorata*** (L.) R.King & Robinson		herb	Pt	in field		1		d		shade		x
160	4Dicot	Asteraceae	***Crassocephalum rubens*** (Juss ex Jacq.) S.Moore		herb	Pt	in field		1		d		shade		x
161	4Dicot	Asteraceae	***Emilia lisowskiana*** C.Jeffr.		herb	At	in field		1		d		shade		x
162	4Dicot	Asteraceae	***Gymnanthemum amygdalinum*** (Delile) Sch.Bip. [*Vernonia amygdalina*]		tree	At	in field in Fanto, Grande Forêt †		1	10	**L**		shade, medicinal		x
163	4Dicot	Asteraceae	***Launaea taraxacifolia*** (Willd.)Amin. ex C.Jeffr.		herb	At	in field		1		d		shade		x
164	4Dicot	Asteraceae	***Lipotriche scandens*** subsp. ***scandens*** (Schumach. & Thonn.) Orchard [*Melanthera scandens*]		herb	At	in field		1		d		shade		x
165	4Dicot	Asteraceae	***Microglossa pyrifolia*** (Lam.) O.Ktze.		herb	Pt	Drabo to MdJ, garden 2006	plantlet	1		d			1	x
166	4Dicot	Asteraceae	***Synedrella nodiflora*** (L.) Gaertn.		herb	Pt	in field		1		d		shade		x
167	4Dicot	Asteraceae	***Tithonia diversifolia*** (Hemsl.) A.Gray		herb	Pt	in field, only 1 plant in garden in 2002 †		1		**L**				x
168	4Dicot	Asteraceae	***Tridax procumbens*** L.		herb	Pt	in field		2		d		shade		x
169	4Dicot	Asteraceae	***Vernonia cinerea*** (L.) Less.		herb	Pt	in field		1		d		shade		x
170	4Dicot	Asteraceae	***Vernonia colorata*** (Willd.) Drake		tree	SZ	in field		1		d				x
171	4Dicot	Balanophoraceae	***Thonningia sanguinea*** Vahl		saproph.	SG	Pobè at roots of trees in garden 2008 †; 2023	root	1		(**L**)			2	
172	4Dicot	Bignoniaceae	***Crescentia cujete*** L.		tree	Pt	Drabo to garden 2000	stick	1	4	d		shade	1	x
173	4Dicot	Bignoniaceae	***Kigelia africana*** (Lam.) Benth.		tree	SG	Drabo, Ouega to Grande Forêt 2010; to Dansou, MdJ, Louis 2012; from MdJ to Pierre, Cooun, papa, Grande Forêt 2013; to MdJ 2015	seeds of last tree of Drabo; plantlets	2	7.5/ 0.45	s	VU		1	x
174	4Dicot	Bignoniaceae	***Markhamia tomentosa*** (Benth.) K.Schum. ex Engl.	X	tree	GC	Tobè to corridor 2010; Tobè behind cages, papa, Cooun 2011; Avrankou to Lissanou 2013 †	2010; 2011; 2013	1	1.8	d		savannah	3	
175	4Dicot	Bignoniaceae	***Newbouldia laevis*** (P.Beauv.) Seem. ex Bureau		tree	GC	in field as field marker; also planted on MdJ, Emile 1998, 2011, 2012, 2015, papa 2021	sticks	5	8	s				x
176	4Dicot	Bignoniaceae	***Spathodea campanulata*** P.Beauv.		tree	GC	in field, locally common; from IITA to Cooun, papa 2014; Cooun to papa, garden 2022;	stem	4	13/ 0.86	s			2	x
177	4Dicot	Bignoniaceae	***Stereospermum kunthianum*** Cham.	X	tree	SG	Dodja to MdJ 2013; Dodja to MdJ 2019; 1 † 2021, new MdJ, Cooun 2022	plantlet	1	2	d		shade	4	x
178	4Dicot	Bixaceae	***Bixa orellana*** L.		tree	Pt	Nattitingou to MJ 1999, 2009 tree † around 2015; Tori Bossito to nursery 2018 †	seed	1	14	**L**		savannah	2	
179	4Dicot	Boraginaceae	***Ehretia cymosa*** Thonn.		shrub	SG	in field		3		d		shade		x
180	4Dicot	Boraginaceae	***Heliotropium indicum*** L.		herb	At	in field; Calavi to MdJ 2009; Drabo to garden 2023	plantlet	1		d		shade, medicinal	1	x
181		Burseraceae	***Dacryodes edulis*** (G.Don) H.J.Lam. **a**		tree	GC	seeds from Abeokuta to garage 2000, 2017 †	seed	1	0.5	**L**			1	
182	4Dicot	Capparaceae	***Capparis brassii*** DC.		climber .	GC	in field		4		s				x
183	4Dicot	Capparaceae	***Capparis erythrocarpus*** Isert		climber .	GC	in field		4		i				x

184	4Dicot	Capparaceae	***Cleome gynandra*** L.		herb	Pt	in field; Hévié to garden 2011		1		d		shade	1	x
185	4Dicot	Capparaceae	***Crateva adansonii*** DC.		tree	Pt	Drabo to garden, nursery 2008; J. Bot. to Lissanou, Cooun, mill hole, Emile 2011; Drabo to MdJ 2012	plantlet	1	0.8	d		shade	3	x
186	4Dicot	Capparaceae	***Maerua duchesnei*** (DeWild.) F.White	X	shrub	SG	Ewè to Gaston 2010, rediscovered 2012	tree	1	4	s	EN		1	
187	4Dicot	Capparaceae	***Ritchiea capparoides*** (Andr.) Britten		climber	At	in field		4		d		shade		x
188	4Dicot	Capparaceae	***Ritchiea erecta*** Hook f.	X	shrub	GC	Ewè to garden, papa 2006; Pobè to Lissanou 2014 †; Dangbo to nursery 2015 to garden 2015 †, 2016 †, nursery 2019 †	tree	1	1	d		drought	5	
189	4Dicot	Capparaceae	***Ritchiea reflexa*** (Thonn.) Gilg & Benedict		climber	GC	in field Dodja; Zinvié to garden 2007 †; seeds from Lama to nursery, Cooun 2010 †; seeds from Dodja to Cooun, papa, Emile 2012	plantlet, seed	1		d			3	x
190	4Dicot	Cannabaceae [Celtidaceae]	***Celtis mildbraedii*** Engl.	X	tree	GC	in field Dodja; Niaouli to garden 2007; Niaouli to Cooun, papa 2009; Niaouli to Cooun, Gaston 2010; Niaouli to Cooun 2012	plantlet	3	8; >30/ 1.6 Do	s	EN		4	x
191	4Dicot	Cannabaceae [Celtidaceae]	***Celtis mauritiana*** Planch. [*Celtis prantlii*]		tree	PAL	Pobè, Ahozon to papa 2006; Lama to Lissanou 2007; Ahozon to corridor, MdJ 2008; Ahozon to Cooun 2013	plantlet	2	7	s			5	
192	4Dicot	Cannabaceae [Celtidaceae]	***Celtis zenkeri*** Engl.	X	tree	GC	Ewè to garden, Grande Forêt, papa 2006; Pobè to Lissanou 2008; Dangbo to garden 2016	plantlet	2	>30/ 7.10 Do	s			3	
193	4Dicot	Cannabaceae [Celtidaceae]	***Trema orientalis*** (L.) Blume	X	tree	GC	in field, again on Gaston, MdJ 2011 †; Ahozon to Cooun 2006 †; 2021 MdJ †, J.bot. 1 new on Cooun, spontaneous 2022	plantlet	1	7	d		shade	2	x
194	4Dicot	Caricaceae	***Carica papaya*** L.		shrub	Pt	in field and regularly planted on MdJ 2012	seed, plantlet	2		s		shade	4	x
195	4Dicot	Cecropiaceae	***Myrianthus arboreus*** P.Beauv.		tree	At	Pobè to Lissanou 2008 †; Niaouli to nursery, 2009 †; IITA seeds in nursery, papa, Cooun, MdJ 2014 †; Iguidi to nursery 2018; Pobè to nursery 2018 †; 2021 †	stick, plantlet, seed, root; big tree 2018; 2021 living roots	1		**L**		drought	6	
196	4Dicot.	Celastraceae	***Gymnosporia buchananii*** Loes.		shrub	SG	Pobè to nursery 2008; Niaouli to garden 2010; to mill hole 2011; nursery to Cooun 2015	plantlet	1		s			2	
197	4Dicot	Celastraceae	***Loeseneriella africana*** (Willd.) N.Halle		climber .	Pt	in field Cooun; Pobè to corridor 2006; Niaouli to Gaston 2011; refound on Cooun 2021; Pobè to Cooun 2023	plantlet	2		s			2	x
198	4Dicot	Celastraceae	***Reissantia indica*** (Willd.) N.Halle		climber .	GC	in field		5		s				x
199															
200	4Dicot	Celastraceae	***Salacia longipes*** (Oliv.) N.Halle	X	shrub	GC	in field Dodja		1		s				x
201	4Dicot	Celastraceae	***Salacia pallescens*** Oliv., not ***S.longipes***	X	shrub	GC	Ewè to Cooun 2006; Drabo to papa, Cooun, Grande Forêt 2008 †; Drabo to papa, Cooun 2013 †; Coun to nursery to Cooun 2022	plantlet, seed	1	2.3	s			3	x
202	4Dicot	Chrysobalanaceae	***Chrysobalanus icaco*** L. subsp***. icaco*** [*Chrysobalanus icaco* ssp***.*** *ellipticus]*		tree	GC	Ahozon to mill hole, Cooun 2006 †; Ahozon to Cooun 2008 †;	plantlet	1		**L**			2	

203	4Dicot	Chrysobalanaceae	***Dactyladenia barteri*** (Oliv.) Prance & F.Whitev **a** [*Acioa barteri*]	X	tree	GC	Ewè to IITA to garden, corridor, papa 2006; IITA to Kakpo, Cooun, Gaston, AgoXwe 2008; MdJ, Cooun, Emile 2018	most seeds do not emerge; plantlet	1	3.5	s			2	
204	4Dicot	Chrysobalanaceae	***Maranthes robusta*** (Oliv.) Prance ex F.White	X	tree	GC	Ahozon to Lissanou 2006 †; Ahozon to garden 2008; Ahozon to papa, Dansou, Cooun 2011; Pobè to Cooun 2015; Pobè to nursery 2016; Ahozon to Emile 2018; to Cooun 2019; Ahozon to papa 2016; to Lissanou, Cooun 2017; Ahozon to Lissanou, papa, nursery 2019; Ahozon to Lissanou 2021; 2022;	plantlet, seed	3	5	s			12	
205	4Dicot	Clusiaceae	***Garcinia kola*** Heckel	X	tree	GC	Togba to garage 2001; Togba to papa 2009 † ; Ahozon nursery to MdJ 2021 transplanted to garden 2022	plantlet	1	1.6	d	EW	drought	3	
206	4Dicot	Clusiaceae	***Pentadesma butyracea*** Sabine	X	tree	SG	Penessoulou to garden 2002 †; Penessoulou to nursery; corridor, garden 2005 †; nursery to Cooun, mill hole † 2009, 2010 †, 2011; Pobè to Lissanou 2014 †, 2021 all †; J.bot. to Coun first, far end (in pots) 2022, 1 †; transplanted garden to Coun 2023	seed UAC	1	1.2	d	VU		4	
207	4Dicot	Clusiaceae	***Symphonia globulifera*** L.f.	X	tree	GC	Penessoulou 2005 †; Ahozon to mill hole; Niaouli to pond 2011 †; Niaouli to nursery, near house transplanted to mill hole 2012 †; Niaouli to mill hole 2021 o.k., Cooun, papa, behind cages 2018 †; 2021 †; from house transplanted to Cooun 2021 †; Ahozon to Lissanou, Cooun 2022; Iguidi to garage, Cooun 2023	plantlets	2	0.5	d		drought	6	
208	4Dicot	Combretaceae	***Combretum collinum*** Fresen.		tree	SG	Ewè village to AgoXwe 2010	plantlet	1		d		savannah	1	
209	4Dicot	Combretaceae	***Combretum comosum*** var. ***dolichopetalum*** (Engl. & Diels) Jongkind	X	climber.	GC	Pobè to Cooun 2014; discovered in garden 2017; Pobè to cages to papa 2018	plantlet	2		i			1	
210	4Dicot	Combretaceae	***Combretum indicum*** (L.) DeFilipps		climber.	Pt	Adjohoun to garden, rediscovered 2008	plantlet	1		s			1	
211	4Dicot	Combretaceae	***Combretum molle*** R.Br. ex G.Don		climber.	SZ	Bantè to nursery 2007 †	seed	1		**L**		seed	1	
212	4Dicot	Combretaceae	***Combretum mucronatum*** Schumach. & Thonn. [*C. smeathmannii*]		climber.	At	in field		4		s				x
213	4Dicot	Combretaceae	***Combretum paniculatum*** Vent.		climber.	GC	in field; Pobè to garden 2019		4		s			1	x
214	4Dicot	Combretaceae	***Combretum racemosum*** P.Beauv.		climber.	SG	in field on Coun discovered in 2008		2		s				x
215	4Dicot	Combretaceae	***Terminalia catappa*** L.		tree	Pt	Cotonou to garden 2003, survives only along roads	plantlet	1		d		shade	1	
216	4Dicot	Combretaceae	***Terminalia glaucescens*** Planch. ex Benth.		tree	S	Bantè to Grande Forêt 1996 †; Tobe to papa 2010 †	plantlet	1	14	**L**		savannah	2	
217	4Dicot	Combretaceae	***Terminalia leiocarpa*** Baill. [*Anogeissus leiocarpa*]	X	tree	S	Bantè to Grande Forêt, Lissanou 1997; Niaouli to Louis 2012	plantlet	1	20/ 0.86	d		savannah	2	
218	4Dicot	Combretaceae	***Terminalia mantaly*** H.Perrier		tree	Pt	Calavi to garden 1998, survives only along road	plantlet	1	28/ 1.16	s		shade	1	

219	4Dicot	Combretaceae	***Terminalia superba*** Engl. & Diels	X	tree	GC	Lama to Cooun, papa, AgoXwe 2001; Calavi to Dansou 2009; Calavi to Gaston 2010, to Louis 2012; Ahozon to Cooun, papa, Pierre 2013; Dodja Forêt statale to Dodja, Fanto 2015; Ahozon to Emile 2018; Ahozon to Dodja 2019; Ahozon, Dodja to garage, Dodja 2021 †; Dodja to Dodja, Cooun 2022; Ahozon to Cooun 2022	plantlet	3	22/ 0.95	s	VU		12	
220	4Dicot	Connaraceae	***Agelaea pentagyna*** Baill.		shrub	GC	in field		5		s				x
221	4Dicot	Connaraceae	***Cnestis corniculata*** Lam.		climber.	GC	in field		4		s				x
222	4Dicot	Connaraceae	***Cnestis ferruginea*** DC.		climber.	GC	in field		5		s				x
223	4Dicot	Connaraceae	***Connarus africanus*** Lam.		shrub	GC	in field, also 2018 in Dodja; Iguidi to garden 2018; Pobè to nursery 2019 †; rediscovered in garden 2023		1		s			2	x
224	4Dicot	Connaraceae	***Connarus thonningii*** (DC) Schelllenb.		climber	GC	Iguidi to mill hole 2023		1		(s)			1	
225	4Dicot	Connaraceae	***Rourea coccinea*** (Schumach. & Thonn.) Hook.f.		climber.	At	in field		5		s				x
226	4Dicot	Connaraceae	***Rourea thomsonii*** (Baker) Jongkind	X	climber.	GC	Lama to Cooun 2007	plantlet	1		s			1	
227	4Dicot	Convolvulaceae	***Argyreia nervosa*** (Burm.f.) Bojer		climber.	Pt	in field Grande Forêt behind wall		1		d		shade		x
228	4Dicot	Convolvulaceae	***Calycobolus africanus*** (G.Don) Heine		climber.	GC	Pobè to garden 2006; Ahozon to Cooun 2008	plantlet	1		s			2	
229	4Dicot	Convolvulaceae	***Calycobolus heudelotii*** (Baker ex Oliv.) Heine		climber.	GC	in field in Dodja; seeds to nursery, papa, Cooun, etc. 2014 , 2016; nursery to Lissanou, mill hole 2018	seed	3		s				x
230	4Dicot	Convolvulaceae	***Ipomoea quamoclit*** L.		climber.	Pt	Drabo to garden 2009	plantlet	1		d		shade	1	x
231	4Dicot	Convolvulaceae	***Ipomoea involucrata*** P.Beauv.		climber.	At	in field		3		d		shade		x
232	4Dicot	Convolvulaceae	***Ipomoea mauritiana*** Jacq.		climber	Pt	in field		3		s				x
233	4Dicot	Convolvulaceae	***Distimake kentrocaulos*** (C.B.Clarke) A.R.Simões & Staples [*Merremia kentrocaulos*]		climber.	Pt	in field		3		d		shade		x
234	4Dicot	Convolvulaceae	***Neuropeltis velutina*** Hallier f. **a**	X	climber.	GC	Niaouli to Grande Forêt 2006, rediscovered 2009; Niaouli to Cooun 2012, rediscovered 2023	plantlet	2		s			2	
235	4Dicot	Crassulaceae	***Kalanchoe pinnata*** (Lam.) Pers. [*Bryophyllum pinnatum*]		herb	Pt	in field		1		d		shade		x
236	4Dicot	Cucurbitaceae	***Coccinia barteri*** (Hook.f.) Keay		climber.	At	in field, on MdJ, observed 2013	plantlet	1		d		shade		x
237	4Dicot	Cucurbitaceae	***Luffa cylindrica*** (L) M.J.Roem.		cimber	Pt	Drabo to MdJ 2002 †; 2007 †	seed	1		**L**		shade	2	x
238	4Dicot	Cucurbitaceae	***Momordica charantia*** L.		climber.	Pt	in field		2		d		shade		x
239	4Dicot	Cucurbitaceae	***Momordica cissoides*** Planch. ex Benth.		climber.	At	in field, Dangbo to MdJ 2016	seed	1		s			1	x
240	4Dicot	Dichapetalaceae	***Dichapetalum barteri*** Engl.		tree	GC	Ahozon to Cooun 2013 †, 2014 †, seeds in nursery; Ahozon to garage 2016 †, to garden 2018, 2019 †	plant with rhizom; seed	1	0.2	**L**			4	
241	4Dicot	Dichapetalaceae	***Dichapetalum madagascariense*** Poir.		shrub	GC	in field		5		s				x

242	4Dicot	Dichapetalaceae	***Dichapetalum oblongum*** Engl.	X	shrub	GC	Togba to Cooun 2012	plantlet	1	3	s			1	
243	4Dicot	Dichapetalaceae	***Dichapetalum heudelotii*** Baill.		shrub	GC	Pobè to papa 2014; Pobè to Cooun 2015; seeds to nursery 2022	plantlet	1	3.5	s			2	
244	4Dicot	Dichapetalaceae	***Tapura fischeri*** Engl.	X	tree	GC	Ewè to Cooun 2011, 2012	plantlet	1	8	s			2	
245	4Dicot	Dilleniaceae	***Tetracera alnifolia*** Willd.	X	climber .	SG	Tobè to Cooun 2011; Avrankou to MdJ, garden 2013; Lama to nursery to papa 2016; to mill hole 2018	plantlet, stick	1		s			3	
246	4Dicot	Ebenaceae	***Diospyros abyssinica*** (Hiern) F.White	X	tree	At	in field, mainly MdJ, Grande Forêt, Cooun; Cooun to Cooun far end, Dodja, Fanto 2022		4	14/ 0.53	i				x
247	4Dicot	Ebenaceae	***Diospyros barteri*** Hiern	X	tree	GC	in field Dodja, to Cooun, papa, Emile 2016, 2018; Dodja seeds to nursery 2022;	plantlet	3	3	s	CR?			x
248	4Dicot	Ebenaceae	***Diospyros monbuttensis*** Gürke	X	tree	GC	Tobè to Lissanou 2010; Lanzron, Niaouli to corridor 2010, refound 2012; nursery 2011 †; Pobè to papa 2015; Ouéga to garden, papa 2017; 2021 1 †, 1 transplanted from nursery to garden	potted plants; stick; plantlet	2	3.5	s		cut and stolen	5	
249	4Dicot	Ebenaceae	***Diospyros mespiliformis*** Hochst. ex A.DC	X	tree	SZ	Lama to Cooun, papa, garden, garage, etc. 2002; transplanted to Dodja 2011; MdJ, Emile 2012; Pierre 2013	seed; plantlet	4	9/ 0.24	i			1	
250	4Dicot	Ebenaceae	***Diospyros soubreana*** F.White	X	tree	GC	Pobè to Cooun, papa, Gaston, mill, seeds in nursery 2014; Pobè and nursery to papa, Cooun 2015, 2016; to nursery 2019	seed. plantlet	3	1.2	s			3	
251	4Dicot	Ebenaceae	***Diospyros tricolor*** Hiern	X	shrub	GC	Ahozon to corridor 2006; Ahozon to garden, Cooun, MdJ, Grande Forêt 2008, some †; Ahozon to garden 2016; to nursery 2019; Ahozon to garage 2021	plantlet	2	4	s			5	
252	4Dicot	Erythroxylaceae	***Erythroxylum emarginatum*** Thonn.		shrub	At	J. Bot. to garden 2017 †; to nursery 2018 †; J.bot to nursery 2021 to garden 2023	plantlet	1		s			3	
253	4Dicot	Euphorbiaceae	***Acalypha ciliata*** Forssk.		herb	At	in field		1		d				x
254	4Dicot	Euphorbiaceae	***Alchornea cordifolia*** (Schumach.) Müll.Arg.		herb	SZ	Ahozon to Grande Forêt 1999 †; Niaouli to mill hole 2006 †; Niaouli to Cooun 2010 †, 2011 †; Iguidi, Togba to nursery 2012, 2014 † all; Togba to Cooun 2015 †; Togba to mill hole 2023	plantlet	1		d		drought	8	
255	4Dicot	Euphorbiaceae	***Anthostema aubryanum*** Baill.		tree	GC	Niaouli to nursery 2011 †, 2018 †	stick	1		**L**	EN	drought	2	
256	4Dicot	Euphorbiaceae	***Croton gratissimus*** Burch.		tree	At	Drabo to garden 1999; to MdJ 2023	plantlet	1	6	d			2	x
257	4Dicot	Euphorbiaceae	***Croton hirtus*** L'Hér.		herb	Pt	in field		1		d		shade		x
258	4Dicot	Euphorbiaceae	***Astraea lobata*** (L.) Klotzsch [*Croton lobatus*]		herb	At	Drabo Fanto to garden 2010	stick	1		d		shade	1	x
259	4Dicot	Euphorbiaceae	***Drypetes floribunda*** (Müll.Arg.) Hutch.	X	tree	SG	Ewè to garden 2006; Lama to Cooun 2006; Pobè to Cooun, Gaston, Grande Forêt 2007; Pobè to Cooun 2014	plantlet	2	7/ 0.18	d			4	
260	4Dicot	Euphorbiaceae	***Euphorbia drupifera*** Thonn. [*Elaeophorbia drupifera*]	X	tree	GO	Drabo to papa, garden 2002; Drabo to Dansou 2010; to Fanto 2015	stick	2	10/ 0.34	s			3	x
261	4Dicot	Euphorbiaceae	***Euphorbia canariensis*** L.		tree	Pt	Drabo to garden, Cooun 1997	plantlet	1	5	s			1	x
262	4Dicot	Euphorbiaceae	***Euphorbia heterophylla*** L.		herb	At	in field		1		d		shade		x
263	4Dicot	Euphorbiaceae	***Euphorbia hirta*** L.		herb	Pt	in field		1		d		shade		x
264	4Dicot	Euphorbiaceae	***Euphorbia hyssopifolia*** L.		herb	Pt	in field		1		d		shade		x
265	4Dicot	Euphorbiaceae	***Euphorbia tirucalli*** L.		herb	GC	in field, probably planted before;		1		d		shade		x

266	4Dicot	Euphorbiaceae	***Hevea brasiliensis*** (Willd. ex A.Juss.) Müll.Arg.		tree	Pt	Niaouli to garden 2007	plantlet	1	5.5	s			1	
267	4Dicot	Euphorbiaceae	***Hura crepitans*** L.		tree	Pt	Ouega to Grande Forêt 1996; Niaouli to nursery to Cooun, Pierre 2014	sticks	1	12	s			2	
268	4Dicot	Euphorbiaceae	***Jatropha curcas*** L.		shrub	Pt	in field; Drabo to Grande Forêt, MdJ 1996, 2012	stick	1		d		shade	1	x
269	4Dicot	Euphorbiaceae	***Jatropha gossypifolia*** L.		shrub	Pt	Drabo to MdJ 2011	stick	1		d		shade	1	x
270	4Dicot	Euphorbiaceae	***Jatropha integerrima*** Jacq.		shrub	Pt	Calavi to garden 1998	stick	1		s			1	
271	4Dicot	Euphorbiaceae	***Macaranga barteri*** Müll.Arg.		tree	GC	Ahozon to Cooun, papa 2013 †; Ahozon to Gaston, Pierre 2014 †; Ahozon to nursery, MdJ 2016 †; to nursery 2017 †; to cages, papa 2018 †, to mill hole 2019 †; Ahozon to nursery 2021 †; Ahozon to Cooun 2022; Ahozon to nursery to mill hole, Cooun 2023	stick, plantlet, seed, root; big tree 2018; 2021 living roots	2	0.5	s	NT	seed	8	
272	4Dicot	Euphorbiaceae	***Mallotus oppositifolius*** Müll.Arg.		shrub	PAL	in field		5		s				x
273	4Dicot	Euphorbiaceae	***Manihot esculenta*** Crantz		herb	Pt	left over in field		2		d		shade		x
274	4Dicot	Euphorbiaceae	***Ricinodendron heudelotii*** (Baill.) Pierre ex Heckel	X	tree	GC	Pobè and Dangbo to nursery, garden; mill hole 2019 †; Iguidi to papa 2017, to mill hole 2023		1	1.1	s			2	
275	4Dicot	Euphorbiaceae	***Tragia benthamii*** Baker		climber.	GC	in field		4		s				x
276	4Dicot	Gentianaceae [Loganiaceae]	***Anthocleista djalonensis*** A.Chev.		shrub	At	Niaouli on Lissanou, Cooun 2009; Tobè to papa 2010; Pobè to Lissanou 2014	plantlet	2		s			3	
277	4Dicot	Gentianaceae [Loganiaceae]	***Anthocleista nobilis*** G.Don		tree	GC	in field, Grande Forêt, Emil; Lanzron to nursery 2013; Lanzron to Fanto, Dodja 2015	seed	1	14/ 0.64	d			2	x
278	4Dicot	Gentianaceae [Loganiaceae]	***Anthocleista vogelii*** Planch.	X	tree	GC	in field; Niaouli to nursery, garden, Dansou 2007; to Emile 2010; Togba to garden 2012, 2013;	plantlet	2	6	s			3	
279	4Dicot	Hypericaceae [Clusiaceae]	***Psorospermum febrifugum*** Spach		shrub	At	Dodja to nursery to MdJ 2019 †; 2021 †; Fanto to MdJ, house 2022; Kantsoumpa to Cooun 2023	plantlet	2		d			4	
280	4Dicot	Icacinaceae	***Icacina trichantha*** Oliv.	X	shrub	GE	Niaouli to garden, papa 2007; Zinvié to Lissanou 2008; Pobè to Cooun 2009	plantlet	2		s			3	
281	4Dicot	Icacinaceae	***Stachyanthus occidentalis*** (Keay & Miege) Boutique		climber.	GO	Ewè to garden 2006; Niaouli, Lama to garden 2007; Niaouli to Lissanou 2009	plantlet	1		d		medicinal, shade	3	
282	4Dicot	Irvingiaceae	***Irvingia gabonensis*** (Aubry-Lecomte ex O'Rorke) Baill.	X	tree	GC	Drabo to garden, Lissanou, papa, Cooun 1999 ff.; to Dodja ; 1 on MdJ 2011; to MdJ 2012; to Fanto, Dodja 2015	mostly plantlet	4	7/ 0.28	s			4	x
283	4Dicot	Lamiaceae [Verbenaceae]	***Clerodendrum capitatum*** (Willd.) Schumach.		climber.	At	in field		4		s				x
284	4Dicot	Lamiaceae [Verbenaceae]	***Clerodendrum polycephalum*** Baker		herb	SG	Pobè to AgoXwè 2010; Pobè to Cooun 2023	plantlet	1		d			2	
285	4Dicot	Lamiaceae [Verbenaceae]	***Clerodendrum sinuatum*** Hook.		herb	GC	in field, discovered 2009, Pobè in 2023		1		s				x
286	4Dicot	Lamiaceae [Verbenaceae]	***Clerodendrum volubile*** P.Beauv.		climber	GC	in field		3		s				x
287	4Dicot	Lamiaceae [Verbenaceae]	***Gmelina arborea*** Roxb.		tree	Pt	in field, Cooun formerly planted; Ahozon to garage 2023		1		s			1	x
288	4Dicot	Lamiaceae	***Hoslundia opposita*** Vahl		herb	At	in field		3		d		shade	1	x

289	4Dicot	Lamiaceae	***Hyptis suaveolens*** (L.) Poit.		herb	Pt	in field, weed along roads; Drabo to garden 2007	plantlet	1		d		shade	1	x
290	4Dicot	Lamiaceae	***Ocimum americanum*** L.		herb	Pt	Drabo to garden 2006, 2019, 2023	plantlet	1		d		shade	3	x
291	4Dicot	Lamiaceae	***Ocimum gratissimum*** L.		herb	Pt	in field;Togba to MdJ 2013	plantlet	1		d		shade	1	x
292	4Dicot	Lamiaceae [Verbenaceae]	***Premna angolensis*** Gürke		tree	GC	in field on Lissanou, corridor		1	12/ 0.51	d				x
293	4Dicot	Lamiaceae [Verbenaceae]	***Premna quadrifolia*** Schumach. & Thonn.		climber	GC	in field, on Cooun, discovered only in 2011,discovered in Grande Forêt 2018		2		s				x
294	4Dicot	Lamiaceae [Verbenaceae]	***Tectona grandis*** L.f.		tree	Pt	in field, formerly planted		4	20/ 1.24	s				x
295	4Dicot	Lamiaceae [Verbenaceae]	***Vitex doniana*** Sweet		tree	SZ	in field, few large trees on Grande Forêt (Emile, Fanto died around 2011); Emile to MdJ 2011; Niaouli to Louis, Gaston 2012; Ahozon to papa, garden 2019 †	plantlet	2	8	d		shade?	2	x
296	4Dicot	Lauraceae	***Cassytha filiformis*** L.		parasite	Pt	in field, local		1		d		shade		x
297	4Dicot	Lauraceae	***Persea americana*** Mill.		tree	Pt	Calavi market to garden 1999 ff. most †; from garden to MdJ 2013	seed; plantlet	1		d		shade	2	
298	4Dicot	Lecythidaceae	***Napoleonaea imperialis*** P.Beauv.	X	tree	GC	Dangbo to nursery 2019 †; 2021, J.Bot. to nurs., Cooun, 2021; J.Bot. to Cooun up to far end 2022; nursery to Cooun 2023		2		s			3	
299	4Dicot	Lecythidaceae	***Napoleonaea vogelii*** Hook. & Planch.	X	tree	GC	IITA to garden, Grande Forêt 2001; Pénéssoulou to nursery, Cooun, Lissanou 2009; nursery to Dansou, Gaston 2010, Emile, Cooun 2012; Dangbo to garden 2016	seed; rest plantlet	2	4	s			3	
300	4Dicot	Leg.-Caesalpiniac.	***Afzelia africana*** Pers.		tree	S	Togba to nursery, garden, Emile, Cooun 1999; nursery to Cooun, Pierre, Louis 2012; papa 2013; Cooun 2014; Dangbo to garden 2016; nursery to Cooun 2021; through Hospice, Aristide to Grande Forêt, Cooun 2022; J. bot. seeds to Cooun, Fanto 2023	seed, plantlet	4	16/ 0.71	s	EN		3	
301	4Dicot	Leg.-Caesalpiniac.	***Anthonotha fragrans*** (Baker f.) Exell & Hillc.		tree	GC	Pobè to nursery 2016, 2017 †; garden 2018; to nursery, Cooun 2019	stick; plantlets	1	0.1	s	CR		2	
302	4Dicot	Leg.-Caesalpiniac.	***Anthonotha macrophylla*** P.Beauv.	X	tree	GC	Pobè to garden 2015 † , seed to nursery to garden 2016 †, to Lissanou 2017 †; Pobè to nursery, garden 2019	plantlet; stick	1	0.2	s			1	
303	4Dicot	Leg.-Caesalpiniac.	***Bauhinia tomentosa*** L.		tree	Pt	Ouega to garden 1997 ; Tobè to Kakpo 2010	plantlet	1	3	d		shade, savannah	2	
304	4Dicot	Leg.-Caesalpiniac.	***Berlinia auriculata*** Benth.		tree	GE	Pobè to Lissanou 2010 †; Pobé to garden, papa, Cooun 2014 †	plantlet, woody plant	1		**L**			2	
305	4Dicot	Leg.-Caesalpiniac.	***Berlinia grandiflora*** (Vahl) Hutch. & Dalziel		tree	SG	Tobè to Cooun 1996 †; Tobè, Porto-Novo to nursery, Cooun 2002; Lanzron to Cooun 2008; Lanzron to Dansou 2009; to Dodja 2011; J. Bot. to nursery to garage, Cooun, Grande Forêt 2023	seed, plantlets from nursery	2	8	s		drought	6	
306	4Dicot	Leg.-Caesalpiniac.	***Burkea africana*** Hook.		tree	SZ	Tobè to corridor, Emile, Cooun 2010 †; Tobè to AgoXwe 2011 †	seed; plantlet	1		**L**		seed, savannah	2	
307	4Dicot	Leg.-Caesalpiniac.	***Caesalpinia pulcherrima*** (L.) Sw.		tree	Pt	Drabo to garden 1998	seed	1	5	d		shade	1	x
308	4Dicot	Leg.-Caesalpiniac.	***Cassia fistula*** L.		tree	Pt	IITA to Grande Forêt, garden 1998	seed	1	15/ 0.63	d		shade	1	
309	4Dicot	Leg.-Caesalpiniac.	***Cassia sieberiana*** DC.		tree	S	in field Grande Forêt; to nursery 2007 †	seed	1	20/ 0.58	d		shade?		x

310	4Dicot	Leg.-Caesalpiniac.	***Chamaecrista mimosoides*** (L.) Greene *[Chamaecrista mimusoides*]		herb	PAL	in field		1		d		shade?		x
311	4Dicot	Leg.-Caesalpiniac.	***Crudia senegalensis*** Planch. ex Benth.	X	tree	GC	Pobè to nursery 2010 †, Lanzron to nursery to garden, Cooun 2011, 2012 †; Lanzron to garden, papa 2015 †; nursery 2015 to garden, papa 2016	plantlet, seed 2015	1	2	s			3	
312	4Dicot	Leg.-Caesalpiniac.	***Cynometra megalophylla*** Harms	X	tree	GC	Calavi sacred tree to garden to MdJ 1999; Tobè to Lissanou, Cooun 2008; Tobè to papa, Cooun 2010	seed; plantlet	3	12/ 0.52	s			3	
313	4Dicot	Leg.-Caesalpiniac.	***Cynometra vogelii*** Hook.f.	X	tree	SG	Hévié sacred tree, Lanzron to nursery, 2010, to mill hole, Cooun, Dansou 2012, to Gaston 2013	plantlets ouf of nursery	1	8/ 0.35	s			2	
314	4Dicot	Leg.-Caesalpiniac.	***Daniellia oliveri*** (Rolfe) Hutch. & Dalziel	X	tree	SZ	Bohicon to Kakpo 2002; Tanougou to nursery, then corridor, Emile 2008;	seeds, then plantlets from nursery	1	4.5	s		savannah?	2	
315	4Dicot	Leg.-Caesalpiniac.	***Delonix regia*** (Bojer ex Hook.) Raf.		tree	Pt	Calavi to nursery then roadside	seed	1	16/ 1.36	d		shade	1	
316	4Dicot	Leg.-Caesalpiniac.	***Detarium microcarpum*** Guill. & Perr.		tree	SG	Bantè to nursery 2005 to Emile, Kakpo 2007 †	seed to nursery, then plantlets	1		**L**	VU	savannah?	1	
317	4Dicot	Leg.-Caesalpiniac.	***Detarium senegalense*** J.F.Gmel.	X	tree	GC	by Aristide Adomou to nursery 2019 all †; fruits in nursery and Cooun 2021; 6 plantlets through Herbier National, to Cooun, Grande Forêt 2022;	seed, plantlet	2		s	VU		3	
318	4Dicot	Leg.-Caesalpiniac.	***Dialium guineense*** Willd.		tree	SG	in field; Drabo to Dodja 2011	plantlet	4	18/ 0.78	s				x
319	4Dicot	Leg.-Caesalpiniac.	***Distemonanthus benthamianus*** Baill.	X	tree	GC	Pobè to Lissanou, Cooun 2008; Pobè to papa 2016	plantlet	1	4	s	EN		2	
320	4Dicot	Leg.-Caesalpiniac.	***Erythrophleum suaveolens*** (Guill. & Perr.) Brenan		tree	At	Tobè to nursery then Grande Forêt, garage 1996 ff. (2021: 1 big vandalized and killed); Tobè to nursery then corridor, Gaston 2010; Tobè to Emile, Louis 2012; IITA Cotonou to Dodja 2015 †; Grande Forêt to Dodja, Fanto, Cooun 2022;	seed	4	30/ 1.64	s			4	
321	4Dicot	Leg.-Caesalpiniac.	***Griffonia simplicifolia*** (Vahl ex DC.) Baill.	X	climber.	GC	Niaouli to pond 2011 †; Niaouli to Lissanou, mill hole 2012; Pobè to garden 2016 †, 2018 †	plantlet	1		s			3	
322	4Dicot	Leg.-Caesalpiniac.	***Guilandina bonduc*** L. [*Caesalpinia bonduc*]		climber.	Pt	Ouega to garden 2002; Niaouli to garden, garage 2010; to Gaston 2011; to MdJ 2012	seed from own plants	3		i	EW	stolen	2	
323	4Dicot	Leg.-Caesalpiniac.	***Hymenaea courbaril*** L.		tree	Pt	Calavi nursery to Grande Forêt 1996	plantlet	1	16/ 0.74	s			1	
324	4Dicot	Leg.-Caesalpiniac.	***Mezoneuron benthamianum*** Baill. [*Caesalpinia benthamianum*]		climber.	GC	in field		4		s		shade		x
325	4Dicot	Leg.-Caesalpiniac.	***Piliostigma thonningii*** (Schumach.) Milne-Redh.		tree	S	Bantè to nursery 2007 †; J. Bot. to AgoXwe 2011 †; Tobè to AgoXwe 2012 †	seed; plantlet	1		**L**		seed, savannah	3	
326	4Dicot	Leg.-Caesalpiniac.	***Senna alata*** (L.) Roxb. [*Cassia alata*]		tree	Pt	in field; Drabo to garden 2006; Banté to nursery, AgoXwe, Gaston 2010; J. bot. to nursery 2013 to MdJ 2014	plantlet;seed	2	1.8	d		shade	3	x
327	4Dicot	Leg.-Caesalpiniac.	***Senna siamea*** (Lam.) H.S.Irwin & Barneby [*Cassia siamea*]		tree	PAL	in field, formerly planted		4	39/ 1.24	s				x
328	4Dicot	Leg.-Caesalpiniac.	***Senna hirsuta*** (L.) H.S.Irwin & Barneby		shrub	Pt	in field, along roads		1		d		shade		x

329	4Dicot	Leg.-Caesalpiniac.	***Senna obtusifolia*** (L.) H.S.Irwin & Barneby		shrub	Pt	in field, along roads; J. Bot. to AgoXwe, Cooun 2010	seed	1		d		shade	1	x
330	4Dicot	Leg.-Caesalpiniac.	***Tamarindus indica*** L.		tree	Pt	Calavi to nursery to corridor, Grande Forêt 1999, 2006, to MdJ 2012	seed	1	15/ 0.56	s		shade	3	
331	4Dicot	Leg.-Mimosaceae	***Acacia auriculiformis*** A.Cunn. ex Benth.		tree	Pt	in field,formerly planted		3	30/ 1.13	s				x
332	4Dicot	Leg.-Mimosaceae	***Adenanthera pavonina*** L.		tree	Pt	Porto Novo to nursery, plantlets emerged 2005 †	seed	1		**L**		seed	1	
333	4Dicot	Leg.-Mimosaceae	***Albizia adianthifolia*** (Schumach.) W.Wight		tree	GC	in field		5	29/ 2.20	s				x
334	4Dicot	Leg.-Mimosaceae	***Albizia ferruginea*** (Guill. & Perr.) Benth.	X	tree	GC	in field in Fanto; IITA to nursery 2007; Tobè to Cooun, Lissanou 2008; Niaouli to Louis, Emile 2012; Pobè to Grande Forêt 2014	seed all bad except 6 in 2012; all good in 2023; plantlet	3	27/ 2.36	s	VU		4	x
335	4Dicot	Leg.-Mimosaceae	***Albizia glaberrima*** (Schumach. & Thonn.) Benth.		tree	GC	in field		5	23/ 0.61	s				x
336	4Dicot	Leg.-Mimosaceae	***Albizia lebbeck*** (L.) Benth.		tree	Pt	Cotonou to Grande Forêt 1999	seed	1	10/ 0.61	s		shade	1	
337	4Dicot	Leg.-Mimosaceae	***Albizia zygia*** (DC.) J.F.Macbr.		tree	SG	in field		5	20/ 1.70	s				x
338	4Dicot	Leg.-Mimosaceae	***Calliandra surinamensis*** Benth.		tree	Pt	Niaouli to nursery to papa 2008 †	plantlet	1	0.3	**L**		shade	1	
339	4Dicot	Leg.-Mimosaceae	***Dichrostachys cinerea*** (L.) Wight & Arn.		tree	PAL	in field		2	12; 14 Do	d		shade		x
340	4Dicot	Leg.-Mimosaceae	***Entada gigas*** (L.) Fawc. & Rendle		climber .	GC	Calavi and other markets, to irrigated pot, only successful in 2006, to Cooun, plant re-discovered in 2011; to mill hole survived up to 2020 †; from Dantokpa market to Cooun 2014; in pot nr. shower 2018 †; Cooun to papa 2019; in filed Grand Forêt discovered 2023	seed	2	34/ 062	i		seed	5	x
341	4Dicot	Leg.-Mimosaceae	***Entada rheedei*** Spreng. **a**		climber .	At	Dantokpa market on Cooun, papa, 9 pairs with E. gigas, not yet emerged in 2014 †; Bot. Garden to garden 2019 †	seed	1		**L**		seed	2	
342	4Dicot	Leg.-Mimosaceae	***Entada mannii*** (Oliv.) Tisser.		climber .	SZ	Tobè to Kakpo, Cooun, etc., nursery 2007, 2008 †	100s of seeds	1		**L**		seed	2	
343	4Dicot	Leg.-Mimosaceae	***Inga edulis*** Mart. **a**		tree	Pt	IITA to mill and mill hole 2001; nursery 2015	seed	1	7	s			2	
344	4Dicot	Leg.-Mimosaceae	***Leucaena leucocephala*** (Lam.) de Wit		tree	Pt	in field, two clumps on Orojamè, formerly planted		2	30 Or	d		climbers		x
345	4Dicot	Leg.-Mimosaceae	***Parkia bicolor*** A.Chev.		tree	GC	Niaouli to garden, Cooun, Gaston 2010 (only 1 plantlet of 8 survives 2011); Niaouli to nursery to Cooun etc. 2012 (total of 3 survive 2015); nursery to garden, papa, Cooun 2018; 2022 all †	all plantlets are from 2010; seeds	1	1.5	**L**	EN	drought, seed	3	
346	4Dicot	Leg.-Mimosaceae	***Parkia biglobosa*** (Jacq.) R.Br. ex G.Don		tree	S	in field on Fanto; Drabo to Cooun 2000 †; from corridor to AgoXwe 2011 †; Tobè to AgoXwe, corridor to Emile 2012 †; Pobè to Emile 2014 †	small trees	1	15 Fa	d		savannah	3	x
347	4Dicot	Leg.-Mimosaceae	***Pentaclethra macrophylla*** Benth.		tree	GC	Akassato to nursery, garden 1999; Niaouli to nursery to Cooun, Kakpo 2007, to Dansou 2009, to Gaston 2010; IITA to Cooun 2023	seed	3	16	s	VU		2	

348	4Dicot	Leg.-Mimosaceae	***Piptadeniastrum africanum*** (Hook.f.) Brenan	X	tree	GC	Pobè to Cooun, Lissanou, Grande Forêt 2006; Niaouli to papa 2007; Pobè to Lissanou, Cooun, Emile 2008; Niaouli to Lissanou 2009; Zinvié to nursery, Pierre 2013	plantlet; seed	2	13/ 0.58	s	VU		4	
349	4Dicot	Leg.-Mimosaceae	***Pithecellobium dulce*** (Roxb.) Benth.		tree	Pt	Calavi to garden 1999, 2005? †	plantlet	1	16	**L**			1	
350	4Dicot	Leg.-Mimosaceae	***Prosopis africana*** (Guill. & Perr.) Taub.		tree	S	Tobè to nursery to Emile , after years 2022 †	seed, then plantlet	1	0.9	**L**		savannah	1	
351	4Dicot	Leg.-Mimosaceae	***Samanea saman*** (Jacq.) Merr.		tree	Pt	Calavi to nursery to Tofinou 2003	seed then plantlet	1	24/ 1.35	s			1	
352	4Dicot	Leg.-Mimosaceae	***Mimosa candolle***i R.Grether [*Schrankia leptocarpa*]		herb	Pt	in field		1		d		shade		x
353	4Dicot	Leg.-Mimosaceae	***Senegalia erythrocalyx*** (Brenan) Kyal. & Boatwr. [*Acacia erythrocalyx*]		climber.	GC	Lama, Niaouli to Gaston 2002; Tobè to papa 2010	plantlet	3		i			2	
354	4Dicot	Leg.-Mimosaceae	***Tetrapleura tetraptera*** (Schum. & Thonn.) Taub.	X	tree	GC	IITA to nursery 2006 †; Tobè to nursery 2007; Niaouli to nursery to Cooun 2008; to Dansou, Gaston 2010	seed then plantlet	2	13/ 0.54	s	VU		3	
355	4Dicot	Leg.-Mimosaceae	***Vachellia sieberiana*** (DC.) Kyal. & Boatwr. [*Acacia sieberiana*]		tree	SZ	Tobè to papa 2010 †; Bot. Garden to MdJ 2017 †	seed	1		**L**		seed	2	
356	4Dicot	Leg.-Papilionaceae	***Abrus precatorius*** L.		climber.	SG	in field		4		s		shade		x
357	4Dicot	Leg.-Papilionaceae	***Angylocalyx oligophyllus*** (Baker) Baker f.		tree	GC	Pobè to Cooun, Grande Forêt, Emile 2006; Zinvié to nursery, Cooun 2008; Niaouli to garden, mill hole 2012; Niaouli and Ahozon to nursery 2014, to Grande Forêt 2021	seed; plantlet from nursery	3	2.2	s			4	
358	4Dicot	Leg.-Papilionaceae	***Baphia nitida*** G.Lodd.		tree	GC	in field, mostly Grande Forêt; Ahozon to corridor, papa 2006; Niaouli to Cooun 2010	plantlet	3	12/ 0.41	s			2	x
359	4Dicot	Leg.-Papilionaceae	***Calopogonium mucunoides*** Desv.		climber.	Pt	in field, irregular		1		d		shade		x
360	climb.	Leg.-Papilionaceae	***Canavalia ensiformis*** (L.) DC.		climber.	SZ	in field, AgoXwe		1		d		shade		x
361	4Dicot	Leg.-Papilionaceae	***Centrosema pubescens*** Benth.		herb	Pt	in field		1		d		shade		x
362	4Dicot	Leg.-Papilionaceae	***Clitoria ternatea*** L.		climber.	At	in field		3		d		shade		x
363	4Dicot	Leg.-Papilionaceae	***Crotalaria goreensis*** Guill. & Perr.		herb	SG	in field, along paths		1		d		shade		x
364	4Dicot	Leg.-Papilionaceae	***Dalbergia hostilis*** Benth.		climber.	GC	in field Fanto; Lama to garden, Cooun 2007; Pobè to Lissanou 2008;	plantlet	1		s			2	x
365	4Dicot	Leg.-Papilionaceae	***Dalbergia lactea*** Vatke		climber.	GE	in field		4		i				x
366	4Dicot	Leg.-Papilionaceae	***Dalbergia rufa*** G.Don	X	climber.	GC	Ahozon to Cooun, Pierre 2013	plantlet	1		s			1	
367	4Dicot	Leg.-Papilionaceae	***Dalbergia setifera*** Hutch. & Dalziel	X	climber.	GO	Ahozon to Cooun, papa 2006; on papa redisovered 2012; Ahozon to Cooun, Pierre 2013; Ahozon to garden, Cooun 2022; Pobè to papa, Cooun 2023	plantlet	2		s			4	
368	4Dicot	Leg.-Papilionaceae	***Desmodium salicifolium*** (Poir.) DC		herb	PAL	Pobè to Cooun 2023		1		(s)			1	

369	4Dicot	Leg.-Papilionaceae	***Dioclea reflexa*** (Hook.f.) C.Wright [*Dioclea reflexa*]		climber.	Pt	Lama to garden 2006 †; Ahozon to mill hole 2012 †; Ahozon to nursery, Cooun, papa, 2014; Ahozon to Cooun 2022; Ahozon to mill hole, seeds to nursery 2023	seed	1		d		drought	5	
370	4Dicot	Leg.-Papilionaceae	***Erythrina vogelii*** Hook.f.		tree	GC	Drabo to garden, Dansou 2010 †; Drabo to MdJ, Emile 2012 †; to MdJ 2015; J.bot. to Cooun 2021	sticks	1	14/ 0.42	d		shade	4	x
371	4Dicot	Leg.-Papilionaceae	***Gliricidia sepium*** (Jacq.) Kunth. ex Walp.		tree	Pt	Drabo to MdJ 2014	stick	1	5	d		shade	1	x
372	4Dicot	Leg.-Papilionaceae	***Grona adscendens*** (Sw.) H.Ohashi & K.Ohashi [*Desmodium adscendens*]		herb	Pt	Zinvié, Ahozon to garden, Cooun 2008; Togba to garden 2009; Iguidi and Togba to garden 2011, 2012, 2013, 2014 , 2015: all †; Iguidi to mill hole 2023	plantlet	1		d		drought	8	
373	4Dicot	Leg.-Papilionaceae	***Grona ramosissima*** (G.Don) H.Ohashi & K.Ohashi [*Desmodium ramosissimum*]		herb	At	in field, AgoXwe, discovered 2009; Iguidi to mill hole 2023		1		s				x
374	4Dicot	Leg.-Papilionaceae	***Indigofera hirsuta*** L.		herb	PAL	in field		1		d		shade	1	x
375	4Dicot	Leg.-Papilionaceae	***Indigofera tinctoria*** L.		herb	At	in field		1		d		shade		x
376	4Dicot	Leg.-Papilionaceae	***Leptoderris brachyptera*** (Benth.) Dunn		climber.	GC	Ahozon to Cooun 2006; Niaouli to nursery, Cooun, Gaston 2012; Iguidi to Lissanou 2013	plantlet	2		s			3	
377	4Dicot	Leg.-Papilionaceae	***Leptoderris cyclocarpa*** Dunn		climber.	GO	Iguidi to Lissanou 2010 †; Niaouli to Gaston 2011; Avrankou to mill hole, MdJ 2013	plantlet	1		s			3	
378	4Dicot	Leg.-Papilionaceae	***Lonchocarpus sericeus*** (Poir.) Kunth ex DC.		tree	SG	Lama to nursery, Grande Forêt, Cooun corridor 2000; IITA to Kakpo, Cooun 2010; Grande Foret 1 big †, 1 big good, Cooun 1 good	seed, stick	2	16/ 1.04	s			2	
379	4Dicot	Leg.-Papilionaceae	***Millettia barteri*** (Benth.) Dunn		climber	GC	in field papa, to Cooun far end left 2021; Dangbo to papa 2019 †; refound papa 2023	plantlet	1		s			2	x
380	4Dicot	Leg.-Papilionaceae	***Millettia thonningii*** (Schum.& Thonn.) Baker		tree	GC	in field		5	20/ 0.68	s				x
381	4Dicot	Leg.-Papilionaceae	***Millettia warnecki*** Harms.		climber	GC	in field papa, to Cooun 2021		1		s				x
382	4Dicot	Leg.-Papilionaceae	***Mucuna pruriens*** (L.) DC.		climber.	Pt	from IITA, planted to suppress Imperata, Fanto 2003, 2005	seed	1		d		shade	2	
383	4Dicot	Leg.-Papilionaceae	***Ormocarpum sennoides*** (Willd.) DC.	X	shrub	At	in field; near Orojamè on road, lost 2004 †; Cooun 2009; Drabo Fanto to Cooun, Lissanou 2010	plantlet	2		s				x
384	4Dicot	Leg.-Papilionaceae	***Pachyrhizus ahipa*** (Wedd.) Parodia		climber.	Pt	IITA to garden 2011, to MdJ, Louis 2012; 2017 †	seed	1		**L**		shade	2	
385	4Dicot	Leg.-Papilionaceae	***Phaseolus lunatus*** L.		climber.	GC	Drabo to MdJ 2005, 2006	seed	1		d		shade	2	x
386	4Dicot	Leg.-Papilionaceae	***Philenoptera cyanescens*** (Schumach. & Thonn.) Roberty		climber.	SG	in field		4		d		shade		x
387	4Dicot	Leg.-Papilionaceae	***Pleurolobus gangeticus*** (L.) J.St.-Hil. ex H.Ohashi & K.Ohashi [*Desmodium gangeticum*]		herb	PAL	in field		2		d		shade		x

388	4Dicot	Leg.-Papilionaceae	***Polhillides velutina*** (Willd.) H.Ohashi & K.Ohashi [*Desmodium velutinum*]		herb	PAL	in field		3		d		shade		x
389	4Dicot	Leg.-Papilionaceae	***Pseudovigna argentea*** (Willd.) Verdc.		climber.	SG	in field on Emile, discovered in 2008		1		d		shade		x
390	4Dicot	Leg.-Papilionaceae	***Pterocarpus erinaceus*** Poir.		tree	S	Tobè on corridor 2006 †; Tobè to nursery 2007 †, 2008 †; Tobè to garden, Cooun, MdJ 2016 †; from MdJ to Cooun 2018 †	seeds, plantlet	1		**L**	EN	savannah	5	
391	4Dicot	Leg.-Papilionaceae	***Pterocarpus santalinoides*** L'Hér. ex DC.	X	tree	SG	in field; also Calavi to nursery 1999 †; Drabo to Louis, Emile, mill hole 2012; Togba to Cooun 2021	sticks	3	16/ 0.89	s			3	x
392	4Dicot	Leg.-Papilionaceae	***Rhynchosia densiflora*** (Roth.) DC.		climber.	At	in field in Dodja, Cooun, to nursery 2013; Ahozon to papa, garden 2016;	seed, plantlet	2		s			1	x
393	4Dicot	Leg.-Papilionaceae	***Tephrosia bracteolata*** Guill. & Perr.		herb	SG	in field open space		1		d		shade		x
394	4Dicot	Leg.-Papilionaceae	***Uraria picta*** (Jacq.) Desv. ex DC.		herb	At	in field AgoXwè, Emile		1		d		shade		x
395	4Dicot	Linaceae	***Hugonia platysepala*** Welw. ex Oliv.		climber	GC	Pobè to Lissanou, mill hole 2008; shower to papa, Cooun far end 2018	plantlet	1		s			1	x
396	4Dicot	Loganiaceae	***Spigelia anthelmia*** L.		herb	At	in field, locally		1		d				x
397	4Dicot	Loganiaceae	***Strychnos congolana*** Gilg		climber	SG	J.bot. to nursery 2022 †; to garden, Cooun 2023	seed	2		(s)			2	
398	4Dicot	Loganiaceae	***Strychnos floribunda*** Gilg		climber.	GC	Niaouli to nursery, Dansou, mill hole, Cooun 2011 (many †), to Emile, Cooun 2012 (many †), to Cooun, Emile, garden, MdJ, Grande Foret 2013; Iguidi to garden 2013; nursery to garden 2016	seed; rest plantlet	3		s			2	
399	4Dicot	Loganiaceae	***Strychnos spinosa*** Lam.		shrub	PAL	Bantè to corridor Latifou 2001, 2018 †	plantlet	1		**L**		savannah	1	x
400	4Dicot	Loganiaceae	***Strychnos splendens*** Gilg		shrub	GC	Pobè to garden 2016	plantlet	1		s			1	
401	4Dicot	Loganiaceae	***Usteria guineensis*** Willd.		climber.	SG	Tobè to Emile 2010; Ahozon to nursery, mill hole 2011, Cooun 2012; Avrankou, Togba to garden, papa 2013; Pobè to Cooun 2014	plantlet	1		d			5	
402	4Dicot	Lythraceae	***Lawsonia inermis*** L.		tree	Pt	in Drabo; Bantè to garden, MdJ 2007 †; J. Bot. to nursery 2011 †; Parakou to MdJ 2013 †	plantlet; seed; potted plant	1	3	**L**		savannah	3	x
403	4Dicot	Malpighiaceae	***Acridocarpus alternifolius*** Nied.		climber.	GC	Ahozon to garden 2006; Niaouli to Lissanou to Gaston 2010; Ahozon to garden, papa 2011; Pobè to MdJ 2014; Ahozon to papa 2016, to papa 2017; Niaouli to behind cages 2018	plantlet	3		s	EN	medicinal	7	
404	4Dicot	Malpighiaceae	***Acridocarpus smeathmannii*** (DC.) Guill. & Perr.		shrub	GC	Ewè to garden 2006; Ewè to garden, Gaston 2010	root	1	6	s	EN	medicinal	2	
405	4Dicot	Malpighiaceae	***Flabellaria paniculata*** Cav.	X	climber.	GC	in field garden, MdJ, Grande Forêt; Ahozon to Cooun 2006; Ahozon to Cooun 2023	plantlet	2		s			2	x
406	4Dicot	Malpighiaceae	***Triaspis odorata*** (Willd.) A.Juss.		climber.	SG	Dodja Forêt statale to Lissanou 2010; Niaouli to Cooun, Gaston 2011; Togba to garden 2013; Ahozon to papa 2013; Pobè to Cooun 2014	seed; plantlet	1		s			5	x
407	4Dicot	Malvaceae	***Abutilon mauritianum*** (Jacq.) Medik.		herb	SG	in field		3		d		shade		x

408	4Dicot	Malvaceae [Bombacaceae]	***Adansonia digitata*** L.	X	tree	SZ	Drabo to garage 1999; Togba to Grande Forêt 2009; nursery to MdJ, Louis, Emile 2012; Dodja to Fanto, Cooun about 5 each 2021	seed; plantlet	2	14/ 0.68	s			4	x
409	4Dicot	Malvaceae [Tiliaceae]	***Ancistrocarpus densispinosus*** Oliv.		shrub	GC	Ahozon to garden 2017; Pobè to garden 2019		2	3.4	s			2	
410	4Dicot	Malvaceae [Bombacaceae]	***Bombax buonopozense*** P.Beauv.		tree	GC	IITA to nursery to papa, Cooun, MdJ, Pierre 2014 †; Pobè to Cooun 2015, 2016 †	seed, plantlet	1	0.5	**L**			3	
411	4Dicot	Malvaceae [Bombacaceae]	***Bombax costatum*** Pellegr. & Vuillet	X	tree	S	Bante to corridor, garage 2007, Kakpo 2008	plantlet	1	10/ 0.27	s			2	
412	4Dicot	Malvaceae [Bombacaceae]	***Ceiba pentandra*** (L.) Gaertn.	X	tree	Pt	Drabo to Grande Forêt 1997 (2021: 1 vandalized); Tobè to papa, Emile, Cooun, Dansou 2010 sticks †; J. Bot.to Cooun 2011; to Emile, Louis 2012; Pobé to papa 2014; Lanzron to Dodja, Fanto, papa 2015; Pobè to Cooun, Lissanou 2023	sticks †; plantlets	3	36/ 2.61	s			6	x
413	4Dicot	Malvaceae [Bombacaceae, Sterculiaceae]	***Cola acuminata*** (P.Beauv.) Schott & Endl.		tree	GC	Cotonou market to nursery 2015; Cotonou to papa 2018; Ahozon nursery in pot to MdJ 2021 †; to papa refound 2022	seed	1	0.8	s		seed	3	
414	4Dicot	Malvaceae [Bombacaceae, Sterculiaceae]	***Cola gigantea*** A.Chev.		tree	GC	in field, a few giants; Drabo to all forests 1997 ff.; to Dodja 2011; to corridor, Emile 2011; to Louis 2012; to Pierre, Grande Forêt burnt places, AgoXwe 2013; to Fanto 2015; every yr. 2-3 per forest lot	seed, mostly plantlet	5	38/ 12.00	i				x
415	4Dicot	Malvaceae [Bombacaceae, Sterculiaceae]	***Cola millenii*** K.Schum.		tree	GC	in field Grande Forêt; Ahozon to Grande Forêt, Cooun 2010; Lanzron to Gaston 2010; Pobè to Cooun 2014	plantlet	4	13/ 0.51	s			3	x
416	4Dicot	Malvaceae [Bombacaceae, Sterculiaceae]	***Cola nitida*** (Vent.) Schott & Endl.		tree	GC	Drabo to garden 1999?; to garage, Lissanou 2006; to papa 2009, 2014	seed	1	4.5	s			1	x
417	4Dicot	Malvaceae [Tiliaceae]	***Corchorus aestuans*** L.		herb	Pt	in field		1		d		shade		x
418	4Dicot	Malvaceae [Tiliaceae]	***Corchorus olitorius*** L.		herb	Pt	in field		1		d		shade		x
419	4Dicot	Malvaceae [Tiliaceae]	***Glyphaea brevis*** (Spreng.) Monach.		shrub	At	Drabo to papa, corridor, garage 1999, 2006, 2007; Pobè, Zinvié to MdJ, Louis 2014	stick	2	3.5	s			2	x
420	4Dicot	Malvaceae [Tiliaceae]	***Grewia carpinifolia*** Juss.		climber .	GC	in field, on forest edges: Orojamè, Dodja		2		s				x
421	4Dicot	Malvaceae	***Hibiscus surattensi***s L.		herb	At	in field		1		d		shade		x
422	4Dicot	Malvaceae [Sterculiaceae]	***Hildegardia barteri*** (Mast.) Kosterm.	X	tree	GO	in field Orojamè; Pobè to Cooun 2006; Pobè to Cooun 2008; Pobè to papa, nursery 2019 to papa †; Grande Forêt to nursery 2021 †; Cooun to papa, garden 2022, two survived; Pobè to Cooun 2023	plantlet; stick	2	9/ 0.62	s			3	x
423	4Dicot	Malvaceae [Sterculiaceae]	***Leptonychia pubescens*** Keay	X	tree	GC	Pobè on Pierre 2006; Pobè to papa, Cooun 2016; Ahozon to garden 2019 †; Ahozon to Lissanou 2019 †; Dangbo to nursery 2019 †	plantlet	1	4	s			5	

424	4Dicot	Malvaceae [Sterculiaceae]	***Mansonia altissima*** (A.Chev.) A.Chev.	X	tree	GC	Ewè to papa, Cooun 2006; Ewè to Cooun, Gaston 2010	plantet	2	18/ 0.54	s	CR		2	
425	4Dicot	Malvaceae [Sterculiaceae]	***Mansonia altissima*** (A.Chev.) A.Chev., var. **nigeria** (absent in WFO)		tree		Ewè through Herbier National, to Cooun, Grande Forêt 2022;	potted plants	2		s			1	
426	4Dicot	Malvaceae [Tiliaceae]	***Microcos malacocarpa*** (Mast.) Burret [*Grewia malacocarpa*]		climber	SG	Ahozon to garden 2017		1	4	s			1	
427	4Dicot	Malvaceae [Sterculiaceae]	***Nesogordonia kabingaensis*** (K.Schum.) Capuron es R.Germ. (n. ***papaverifera*** (A.Chev.) Capuron	X	tree	GC	Ewè to Gaston 2010	plantlet	1	6.5	s	CR		1	
428	4Dicot	Malvaceae [Bombacaceae]	***Rhodognaphalon brevicuspe*** (Sprague) Roberty	X	tree	GC	Drabo to garden, Orojamè, Tofinou 1997; to Dansou 2010; to papa, Cooun, Pierre, Tofinou, Gaston, Dodja 2014; to Dansou, Dodja, AgoXwè 2015; Louis, Cooun, Emile, Fanto, etc. 2017; Grande Forêt, Cooun, Emile, Orojamè, corridor 2018; Cooun, Grande Forêt 2019; 2020, 2021, 2022 in each forest about 5/yr.;	sticks up to 5 m long!	4	35/ 2.15	i			1	x
429	4Dicot	Malvaceae	***Sida acuta*** Burm.f.		herb	Pt	in field		1		d		shade		x
430	4Dicot	Malvaceae	***Sida cordifoli***a L.		herb	Pt	in field		1		d		shade		x
431	4Dicot	Malvaceae	***Sida javensis*** Cav.		herb	Pt	in field		1		d		shade		x
432	4Dicot	Malvaceae	***Sida linifolia*** Cav.		herb	Pt	in field		1		d		shade		x
433	4Dicot	Malvaceae	***Sida urens*** L.		herb	GC	in field		1		d		shade		x
434	4Dicot	Malvaceae [Sterculiaceae]	***Sterculia foetida*** L.		tree	Pt	Calavi nursery to nursery 2001 †; Bot. Garden to MdJ 2017 †	plantlet	1		**L**		savannah?	2	
435	4Dicot	Malvaceae [Sterculiaceae]	***Sterculia tragacantha*** Lindl.		tree	SG	in field		5	12/ 0.50	s			1	x
436	4Dicot	Malvaceae [Sterculiaceae]	***Theobroma cacao*** L.		tree	Pt	Niaouli to Lissanou, Cooun 2011 †; Niaouli to cages, Cooun, papa 2018 †; Pobè to nursery 2019 †, 2021 †, J.bot. to Lissanou 2021 †	plantlet	1	0.3	**L**		drought	4	
437	4Dicot	Malvaceae [Sterculiaceae]	***Triplochiton scleroxylon*** K.Schum.	X	tree	GC	in field 1 huge tree Orojamè; Drabo to nursery to Cooun, Grande Forêt 1996; Pobè to Cooun, garden 2014	seed	2	35/ 1.26	s	EN		1	x
438	4Dicot	Malvaceae [Tiliaceae]	***Triumfetta rhomboidea*** Jacq.		herb	Pt	in field		2		d		shade		x
439	4Dicot	Malvaceae	***Urena lobata*** L.		herb	Pt	in field		1		d		shade		x
440	4Dicot	Malvaceae [Sterculiaceae]	***Waltheria indica*** L.		herb	Pt	in field		1		d		shade		x
441	4Dicot	Malvaceae	***Wissadula amplissima*** R.E.Fr.		herb	SZ	in field Grande Forêt		1		d		shade		x
442															
443	4Dicot	Melastomataceae	***Spathandra blakeoides*** (G.Don) Jacq.-Fél.		shrub	GC	Lanzron to garden, papa 2015, 2017 †, Ahozon to nursery, garden, Lissanou 2019 †	plantlet	1		**L**		drought	1	
444	4Dicot	Melastomataceae	***Heterotis rotundifolia*** (Sm.) Jacq.-Fél.		herb	At	Lama to garden 2003 †; Pobè to Cooun 2008 †; Lama to garden 2010 †; Togba to MdJ 2012 †; Ahozon to garden 2022; Togba to garden 2023	plantlet	1		d		drought	5	
445	4Dicot	Melastomataceae	***Melastomastrum segregatum*** (Benth.) A.Fern. & R.Fern.		herb	GE	Togba to garden 2010 †; Togba to garden 2012 †; Togba to garden 2014 †; Ahozon to garden 2021; Togba to mill hole 2023	plantlet	1		d		drought	5	
446	4Dicot	Melastomataceae	***Memecylon afzelii*** G.Don		tree	GC	Lama to Cooun, Lissanou, garden 2007	plantlet	2	2.5	s			1	

447	4Dicot	Meliaceae	***Azadirachta indica*** A.Juss.		tree	Pt	in field, formerly planted		1	9/ 0.87	d		shade		x
448	4Dicot	Meliaceae	***Carapa procera*** DC.		tree	SG	Niaouli to nursery 2009, 2010 †	stick	1		**L**		drought	2	
449	4Dicot	Meliaceae	***Entandrophragma angolense*** C.DC. **a**	X	tree	GC	Niaouli to Emile, Cooun, Gaston, papa 2012; Niaouli to nursery to Cooun 2014; Niaouli to Cooun 2016; Pobè to shower to papa 2018	plantlet	2	6	s	CR		4	
450	4Dicot	Meliaceae	***Khaya grandifoliola*** C.DC.	X	tree	GC	Pénéssoulou to garden 2005; Tobè to papa, Cooun 2010; Lama to nursery to papa, Louis 2011 †, 2012 †; Pobè to Cooun hole 2014 †	plantlet, seed	1	4	s	EN		4	
451	4Dicot	Meliaceae	***Khaya senegalensis*** A.Juss.		tree	S	Calavi, Cotonou to Grande Forêt, corridor, Emile, garden 1998	seed, mostly plantlet	2	30/ 1.26	s	EN	shade, medicinal	1	
452	4Dicot	Meliaceae	***Trichilia emetica*** Vahl		shrub	SZ	Ewè village to AgoXwe 2010	plantlet	1		d		savannah	1	
453	4Dicot	Meliaceae	***Trichilia megalantha*** Harms	X	tree	GO	in field Grande Forêt, Cooun; Niaouli to Cooun 2010; Grande Forêt to Pierre 2014	plantlet	2	18/ 0.87	s			1	x
454	4Dicot	Meliaceae	***Trichilia monadelpha*** (Thonn.) J.J.de Wilde		tree	GC	Pobè to Lissanou 2010; Pobè to papa 2015; Ahozon to garden 2017	plantlet	1	1.3	s			3	
455	4Dicot	Meliaceae	***Trichilia prieureana*** A.Juss.		tree	GC	in field; Pobè to Lissanou 2006; nursery to Dansou, Gaston 2010; Pobé to Cooun, papa 2014	plantlet	3	14/ 0.73 Do	s			2	x
456	4Dicot	Meliaceae	***Trichilia tessmannii*** Harms	X	tree	GC	Pobè to garden 2015 †; Pobè to garden 2016 †; J. bot. to garden 2017	plantlet	1	1.2	s			3	
457	4Dicot	Meliaceae	***Turraea heterophylla*** Sm.	X	shrub	GO	J. bot. from Lama to Cooun, Lissanou 2011; Cooun to garden, MdJ 2013, 2014; Cooun to Dodja 2022	plantlet	3		i	EN		1	
458	4Dicot	Menispermaceae	***Chasmanthera dependens*** Hochst.		climber.	SG	Drabo to garden 2010 †; J. bot. to nursery to Cooun, Gaston, papa 2011	stick	1		s			2	x
459	4Dicot	Menispermaceae	***Cissampelos owariensis*** Beauv. ex DC.	X	climber.	GC	Niaouli to nursery 2012 †; Pobè to nursery 2016; discovered on Emile 2017, spread 2021	plantlet	1		s		drought	2	
460	4Dicot	Menispermaceae	***Rhigiocarya racemifera*** Miers		climber.	GC	Niaouli to garden 2009 †, 2010 †; Zinvié to nursery 2011 †; Niaouli to Lissanou, Cooun 2011 †; Niaouli to nursery, garden 2012 †; Niaouli, Togba to garden 2014, 2021 †	root †; plantlet	1		**L**		drought	5	
461	4Dicot	Menispermaceae	***Sphenocentrum jollyanum*** Pierre	X	tree	GC	Pobè to Grande Forêt, garden, Cooun 2006, 2008; Niaouli to Cooun 2010	plantlet	2	1.1	s			3	
462	4Dicot	Menispermaceae	***Triclisia subcordata*** Oliv.		climber.	SG	in field		5		s				x
463	4Dicot	Metteniusaceae [Icacinaceae]	***Rhaphiostylis beninensis*** (Hook.f. ex Planch.) Planch. ex Benth.		climber.	GC	in field		3		s				x
464	4Dicot	Moraceae	***Antiaris toxicaria*** (J.F.Gmel.) Lesch.		tree	GC	in field		5	34/ 2.24; 38/ 2.23 Do	s				x
465	4Dicot	Moraceae	***Artocarpus altilis (***Parkinson) Fosberg		tree	At	in Drabo; Calavi planted on MdJ 2012 †	plantlet	1	8	**L**			1	x
466	4Dicot	Moraceae	***Ficus benjamina*** L.		tree	Pt	Calavi nursery to Lissanou, corridor 1998	potted plant	1	14	s			1	
467	4Dicot	Moraceae	***Ficus exasperata*** Vahl		tree	GC	in field		5	11/ 093	s				x
468	4Dicot	Moraceae	***Ficus sarmentosa Buch.-Ham. ex Sm*** [*Ficus ovata*]		tree	GC	Calavi to garden 1997	stick	1		s			1	
469	4Dicot	Moraceae	***Ficus mucuso*** Ficalho		tree	At	disovered on Emile, garden 2023		1		s				x
470	4Dicot	Moraceae	***Ficus natalensis*** Hochst.		tree	GC	IITA to Cooun 2002; Zinvié to Cooun 2007; Niaouli to nursery to Emile 2009; Iguidi to nursery to Cooun 2012, 2014	plantlet	1		s			4	

471	4Dicot	Moraceae	***Ficus polita*** Vahl		tree	At	in field and planted to road, Grande Forêt, MdJ 1997 ff.	stick	2	at mill 14, Grande Forêt 15	s			2	x
472	4Dicot	Moraceae	***Ficus sur*** Forssk.		tree	SG	in field, Emile etc.		1		d		shade?		x
473	4Dicot	Moraceae	***Ficus sycomorus*** L.		tree	SZ	in field		1		d				x
474	4Dicot	Moraceae	***Ficus thonningii*** Blume		tree	At	Drabo to nursery 1996 ff.; Calavi nursery to Dansou, papa 2010	sticks	1	14/ 0.34	d			2	
475	4Dicot	Moraceae	***Ficus trichopoda*** Baker		tree	At	Bantè to nursery 2003; Drabo to nursery 2010 †	stick	1		**L**			2	
476	4Dicot	Moraceae	***Ficus umbellata*** Vahl		tree	At	Drabo to Cooun 1996 ff.	stick	1		d			2	x
477	4Dicot	Moraceae	***Ficus vogeliana*** Miq.		tree	At	in field on papa (rediscovered 2016); Ouéga to nursery, Kakpo, Emile 2004; Niaouli to nursery 2006; Ouéga to nursery 2009; Ouéga to nursery 2011, most †; Dangbo to nursery 2016; Iguidi to mill hole 2023	stick	1		s			6	x
478	4Dicot	Moraceae	***Milicia excelsa*** (Welw.) C.C.Berg		tree	GC	in field		4	12; 32/ 2.24 Or	s	EN			x
479	4Dicot	Moraceae	***Treculia africana*** Decne. ex Trécul	X	tree	GC	Niaouli to nursery 2009, 2010 †; Niaouli to Gaston 2010; Niaouli to Cooun 2011; Niaouli to garden 2012; Niaouli to behind cages 2018 †	stick, plantlet	1	4.5	s			5	
480	4Dicot	Moraceae	***Trilepisium madagascariense*** DC.	X	tree	GC	Pobè to nursery to garage 2006; Pobè to Lissanou, Cooun 2008; from garage to papa, Cooun 2012; Pobè to shower to Cooun 2018	seed; plantlet	3	13/ 1.04	s			3	
481	4Dicot	Moringaceae	***Moringa oleifera*** Lam.		tree	Pt	Drabo on MdJ 2006 †; Drabo to MdJ, Cooun 2021; Drabo to garden 2022;	sticks, seeds	1	5	d		shade	3	x
482	4Dicot	Myristicaceae	***Pycnanthus angolensis*** (Welw.) Warb.	X	tree	GC	Ahozon to Lissanou †, mill 2006; Ahozon to Cooun, papa; Pobè to Cooun, Saliou 2008; Niaouli to garden, papa, Gaston 2009; Ahozon to nursery, Dodja 2011; nursery to papa († 2021), Cooun, Orojamè, Dodja 2013; Avrankou to Louis, Coun 2014; Togba to papa 2015, Togba to garden 2016; Ahozon to Cooun 2016, to Emile 2018; 1 on papa †, Togba to Cooun 2021; Ahozon to Cooun 2023	plantlet, seed	2	4.5	s	VU		10	
483	4Dicot	Myrtaceae	***Psidium guajava*** L.		tree	Pt	in field, formerly planted		4	14/ 0.29	d		shade		x
484	4Dicot	Myrtaceae	***Syzygium guineense*** DC.		tree	At	Tobè to Kakpo 2010	plantlet	1		d			1	
485	4Dicot	Myrtaceae	***Syzygium jambos*** (L.) Alston		tree	Pt	IITA 1999, Cotonou nursery to nursery 2000; to papa 2004, 2011, 2012	plantlet	1	all Syz. 2.0	d		shade	3	
486	4Dicot	Nyctaginaceae	***Boerhavia diffusa*** L.		herb	Pt	in field		1		d		shade		x
487	4Dicot	Nyctaginaceae	***Bougainvillea spectabilis*** Willd.		climber	Pt	Togba nursery to garden around 1998	plantlet	1		s		shade	1	
488	4Dicot	Nyctaginaceae	***Mirabilis jalapa*** L.		herb	Pt	Drabo to MdJ 2012	plantlet	1		s			1	x
489	4Dicot	Ochnaceae	***Campylospermum glaberrimum*** (P.Beauv.)		shrub	GC	Lama on Cooun, Lissanou, garden 2007; Iguidi to nursery to mill hole, Lissanou 2019	plantlet	2	2.2	s			2	
490	4Dicot	Ochnaceae	***Campylospermum flavum*** (Schumach.) Farron		shrub	GC	J. bot. to Lissanou, Cooun, nursery 2014; 2023 to Cooun	plantlet, seed	1	5	s			1	
491	4Dicot	Ochnaceae	***Lophira lanceolata*** Tiegh. ex Keay		tree	S	Tobè to Emile 2007 †; Ahozon to Emile 2008 †; Tobè to corridor 2010 2011 †; Tobè to AgoXwe 2011 †; Ahozon to Emile 2012, 2013 most †, 2018 †; Ahozon to MdJ 2019 †	plantlet, root stock	1	0.1	**L**		shade, soil? savannah	6	

492	4Dicot	Ochnaceae	***Ochna membranacea*** Oliv.	X	shrub	GC	Niaouli to nursery 2009 †; J. bot. to Cooun, papa 2011 †; J. bot to nursery 2014 †; Iguidi to nursery to Cooun 2019	plantlet	1	3.8	s			4	
493	4Dicot	Ochnaceae	***Ochna schweinfurthiana*** F.Hoffm.	X	tree	SG	in field Fanto, to Cooun, papa, corridor, Emile 2016	plantlet	3	5	s				x
494	4Dicot	Olacaceae	***Olax gambecola*** Baill.	X	shrub	GC	Ahozon to Cooun 2006; Niaouli to Lissanou 2008; Ahozon to Cooun 2009; Togba to nursery 2013; Pobè to nursery 2014; Ahozon to papa 2016; Ahozon to papa 2023	plantlet; in 2014 seed	2	1.8	s			7	
495	4Dicot	Olacaceae	***Olax subscorpioidea*** Oliv.		climber	GC	in field		3		i				x
496	4Dicot	Olacaceae	***Strombosia pustulata*** Oliv. **a**	X	tree	GC	Pobè, Dangbo to garden, papa, Cooun 2015; Dangbo to garden, papa, Cooun 2016; Dangbo to garden, papa, Cooun 2017	plantlet	2	3.5	s	EN		3	
497	4Dicot	Olacaceae	***Ximenia americana*** L.		tree	Pt	in field 1 bush on Fanto; Fanto to Emile, Dansou 2002, to MdJ 2012; yearly distribution of fruits	seed, stick, fruits	3	9	s		shade		x
498	4Dicot	Oleaceae	***Jasminum dichotomum*** Vahl		climber.	GC	in field; planted on MdJ 2017		1		s			1	x
499	4Dicot	Oleaceae	***Jasminum pauciflorum*** Benth.		climber.	GC	in field in Dodja; Dodja to garden, papa 2012	plantlet	1		s			1	x
500	4Dicot	Opiliaceae	***Opilia amentacea*** Roxb.		climber.	SZ	in field		5		i				x
501	4Dicot	Oxalidaceae	***Averrhoa carambola*** L.		tree	Pt	Porto Novo to papa 2000	plantlet	1	6	s			1	
502	4Dicot	Pandaceae	***Microdesmis keayana*** J.Léonard	X	shrub	GC	Pobè to Kakpo, garden 2006; Niaouli, Ahozon to Kakpo 2007 †; Zinvié to papa 2008 †, 2010 †; Niaouli to nursery, Gaston 2011 †; Zinvié to nursery 2013†	seeds, plantlet	1		s			6	
503	4Dicot	Papaveraceae	***Argemone mexicana*** L.		herb	Pt	Drabo to MdJ 2011 †; Dantokpa to MdJ 2014 †	seed	1		**L**		shade	2	x
504	4Dicot	Passifloraceae	***Adenia cissampeloides*** (Planch. ex Benth.) Harms		climber.	GC	in field Dodja, to Cooun, garden 2012	plantlet	1		s				x
505	4Dicot	Passifloraceae	***Adenia lobata*** (Jacq.) Engl.		climber.	GC	in field		4		s				x
506	4Dicot	Passifloraceae	***Barteria nigritana*** Hook.f.	X	tree	GE	Ahozon to mill hole 2006 †; Ahozon to nursery, mill hole, papa 2011; Ahozon to Cooun, corridor, Emile, Gaston 2012; Ahozon to Pierre, Cooun 2013; Ahozon to papa 2014; Ahozon to mill hole, nursery 2019; Ahozon to Cooun 2022; to garden, Cooun 2023	plantlets, stick †; plantlet (plus seed †)	3	4.3	s	CR		8	
507	4Dicot	Passifloraceae	***Paropsia guineensis*** Oliv.	X	tree	GC	Ewè to MdJ 2006; Ahozon to papa 2006; Pobè to Lissanou, Cooun, papa, corridor 2014	plantlets (stick †)	1	13/ 0.36	s			3	
508	4Dicot	Passifloraceae	***Passiflora edulis*** Sims		climber.	Pt	Drabo to MdJ 2006; J. bot. to garden 2011; Calavi to MdJ 2012	plantlet	1		d		shade	3	x
509	4Dicot	Passifloraceae	***Passiflora foetida*** L.		climber.	Pt	in field; Niaouli to Gaston 2011	seed	1		d		shade	1	x
510	4Dicot	Pedaliaceae	***Martynia annua*** L.		herb	Pt	Drabo to MdJ 2006 †; Drabo to MdJ 2008	plantlet, seed	1		d			2	x
511	4Dicot	Pedaliaceae	***Sesamum indicum*** L.		herb	Pt	Drabo to garden 2022		1		d		savannah		

512	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Antidesma laciniatum*** Müll.Arg.	X	tree	GC	Ahozon to garden 2021; Iguidi to garden 2023	plantlet	1	1.4	s			2	
513	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Bridelia atroviridis*** Müll.Arg.	X	tree	GC	Ahozon to Cooun 2013 †; Togba to nursery to Cooun 2014 †; Ahozon to garden, MdJ, Cooun, papa 2016 †; Dangbo to garden 2017 †; Ahozon to garden 2018 †	plantlet	1		**L**		drought	5	
514	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Bridelia ferruginea*** Benth.		tree	SG	in field		1	5	d		shade		x
515	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Bridelia micrantha*** (Hochst.) Baill.	X	tree	At	Niaouli to papa 2009; Niaouli to Cooun, Gaston 2010; Togba to Cooun 2013; Avrankou to Cooun 2013	plantlet	2	8	s			4	
516	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Flueggea virosa*** (Roxb. ex Willd.) Royle [*Securinega virosa]*		shrub	PAL	in field		2		d		shade		x
517	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Hymenocardia acida*** Tul.		tree	SZ	Bantè 2007 †; Tobè to Emile 2010 †; J. Bot. to AgoXwe 2014 †	seed; plantlet	1		**L**		seed, savannah	3	
518	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Margaritaria discoidea*** (Baill.) G.L.Webster	X	tree	SG	in field, Grande Forêt, Cooun, Fanto; from corridor to Cooun 2021		2	18/ 0.98	s				x
519	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Phyllanthus amarus*** Schumach. & Thonn.		herb	Pt	in field		1		d		shade		x
520	4Dicot	Phyllanthaceae [Euphorbiaceae]	***Phyllanthus odontadenius*** Müll.Arg.		herb	At	IITA to nursery 2021 to MdJ, garden, Coun 2022		1		d			2	
521	4Dicot	Phytolaccaceae	***Hilleria latifolia*** (Lam.) H.Walter		herb	PAL	in field; Drabo to MdJ, Cooun 2006; to Dansou, Gaston, AgoXwe 2010	plantlet	4		i			1	x
522	4Dicot	Phytolaccaceae	***Petiveria alliacea*** L.		herb	Pt	Niaouli to Cooun, Lissanou 2009; nursery to Cooun 2014; Pobè to garden 2016	plantlet	1		s			3	
523	4Dicot	Piperaceae	***Peperomia obtusifolia*** (L.) A.Dietr.		herb	Pt	IITA to garden 2010 †	plantlet	1		**L**			1	
524	4Dicot	Piperaceae	***Peperomia pellucida*** (L.) Kunth		herb	Pt	Ouéga to garden 2013, spread to Cooun, papa	plantlet	4		i			1	
525	4Dicot	Piperaceae	***Piper guineens***e Thonn.	X	climber .	GC	Togba nursery to garden 1999; Niaouli to garden 2007; Pobè to Lissanou, Cooun 2008	plantlets	3		s		drought	3	
526	4Dicot	Plantaginaceae [Scrophulariaceae]	***Scoparia dulcis*** L.		herb	Pt	Agongbè to garden 2007 †; Drabo to garden 2009	plantlet	1		d			2	x
527	4Dicot	Plumbaginaceae	***Plumbago zeylanica*** L.		herb	SG	in field		1		d		shade		x
528	4Dicot	Polygalaceae	***Carpolobia lutea*** G.Don		shrub	GC	in field		5		s				x
529	4Dicot	Polygonaceae	***Coccoloba uvifera*** L.		shrub	Pt	Cotonou to mill 1998, † around 2005	plantlet	1		**L**		shade	1	
530	4Dicot	Polygonaceae	***Persicaria acuminata*** (Kunth) M.Gómez		herb	At	in field Cooun		1		d		shade		x
531	4Dicot	Rhamnaceae	***Lasiodiscus mannii*** Hook.f.		tree	GC	Ewè to Gaston 2010, in 2011 †	plantlet	1		**L**			1	
532	4Dicot	Rhamnaceae	***Maesopsis eminii*** Engl.		tree	GC	Pobè to Cooun, garden, Emile, nursery 2006 †; nursery to mill 2008, 2010 †; nursery to Gaston, Cooun 2011 †; nursery to Cooun 2013 †, 2014 †; Pobè to nursery, papa, Cooun 2014 most †; nursery to Cooun 2015 †; Pobè to nursery, papa, Cooun 2015 †; Pobè to papa 2016 †, shower 2018 †, to nursery 2019 †; J. bot., Pobè to Cooun 2023	seed, plantlet; plants sprouted from dormant seeds up to 7 yrs. later	1	0.3	(d)		drought, disease?	5	
533	4Dicot	Rhamnaceae	***Ventilago africana*** Exell		climber .	GC	Niaouli to nursery 2011; Niaouli to nursery 2012 †	stick	1		**L**			2	
534	4Dicto	Rhizophoraceae	***Cassipourea barteri*** (Hook.f. ex Oliv.) N.E.Br.		tree	GC	Togba to Cooun path 2016, 2021 †	plantlet	1		**L**			1	

535	4Dicot	Rhizophoraceae	***Cassipourea congensis*** R.Br.	X	tree	SG	IITA to garden 2003; Lama to Cooun 2007; Avrankou to mill hole 2013	plantlet	1	7/ 0.28	s			3	
536	4Dicot	Rubiaceae	***Aidia genipiflora*** (DC.) Dandy	X	tree	GC	Niaouli to nursery 2009 †; Lanzron to nursery 2011 †; Lanzron to nursery as seed 2012 †; Pobè to nursery, Cooun far end, papa 2014 †; Pobè to garden 2015, to Cooun 2018; Pobè to Cooun 2023	stick †; seeds to nurs. not emerged; plantlet	1	6	s	NT		6	
537	4Dicot	Rubiaceae	***Argocoffeopsis rupestris*** (Hiern) Robbr.		shrub	SG	Tobè to garden, Cooun, papa 2006	plantlet	1	2	s			1	
538	4Dicot	Rubiaceae	***Chassalia kolly*** (Schumach.) Hepper		shrub	GC	in field		5		s				x
539	4Dicot	Rubiaceae	***Coffea canephora*** Pierre ex A.Froehner	X	tree	At	Calavi to nursery to garden, garage 1998; Pobè, Ahozon to Cooun, garden 2016	plantlet	2	5.5	s			2	
540	4Dicot	Rubiaceae	**Coffea mannii** (Hook.f.) A.P.Davis [*Psilanthus mannii*]		shrub	GC	Dangbo to papa 2015 †; Dangbo to papa, garden, Cooun 2016; Dangbo to garden 2017; Iguidi to nursery 2019; Dangbo to nursery 2019	plantlet	2	1.7	s	CR		5	
541	4Dicot	Rubiaceae	***Craterispermum cerinanthum*** Hiern	X	shrub	GC	Lanzron, Zinvié to nursery 2013; Zinvié to Cooun, papa 2016 †; Ahozon to papa 2016 †, nursery to Cooun 2017, to Lissanou 2018, transplanted to Cooun 2021	plantlet, seed	1		s			3	
542	4Dicot	Rubiaceae	***Cremaspora triflora*** K.Schum.		climber .	At	in field, common in Fanto, Grande Forêt; Drabo to Cooun 2012	plantlet	5		i			1	x
543	4Dicot	Rubiaceae	***Crossopteryx febrifuga*** Benth.		tree	SZ	in field Fanto, 2022 †; Tobè to nursery 2007 †; Ewè to AgoXwe 2010 †	seed †; plantlet	1	10	**L**		savannah	2	x
544	4Dicot	Rubiaceae	***Euclinia longiflora*** Salisb.	X	shrub	GC	Pobè to nursery 2006 †; Dangbo to garden, papa 2015 †; Dangbo to garden 2016 †; Pobè to papa 2018; Dangbo to Cooun 2021	plantlet	1	1.4	s	EN		5	
545	4Dicot	Rubiaceae	***Gardenia erubescens*** Stapf & Hutch.		shrub	S	Tobè to garden 2007	seed, plantlet	1		d			1	
546	4Dicot	Rubiaceae	***Gardenia nitida*** Hook.	X	shrub	GC	Pobè to nursery 2008 to Cooun, Lissanou, Grande Forêt 2009	seed, then plantlet	1	3.3	s	EN		1	
547	4Dicot	Rubiaceae	***Gardenia ternifolia*** Schumach. & Thonn.		shrub	SG	in field, Fanto only, 2012 †; Hossévié, Drabo to MdJ 2013	plantlet, rootstock	1		d		shade	1	x
548	4Dicot	Rubiaceae	***Geophila obvallata*** Didr.		herb	SG	Drabo Louis to garden 2013 †; Togba and Pobè to garden 2023	plantlet	1		d		drought	2	x
549	4Dicot	Rubiaceae	***Ixora brachypoda*** DC.	X	shrub	SG	Zinvié to papa 2006, re-discovered 2010; Dangbo to nursey 2021 to Cooun 2022;	plantlet	1	3.2	s			2	
550	4Dicot	Rubiaceae	***Hexasepalum sarmentosum*** (Sw.) Delprete & J.H.Kirkbr. [*Diodia sarmentosa*]		herb	Pt	in field		1		d		shade		x
551	4Dicot	Rubiaceae	***Keetia hispida*** (Benth.) Bridson **a**		climber .	GC	Zinvié to garden 2008; Niaouli to Gaston 2010; Ahozon to papa, Cooun, Emile 2011	plantlet	3		s			3	
552	4Dicot	Rubiaceae	***Leptactina arborescens*** (Welw. ex Benth. & Hook.f.) De Block [*Dictyandra arborescens*]		tree	GC	Pobè to Grande Forêt, Cooun 2006; Ahozon to papa 2007; Niaouli to garden, Cooun 2010; Pobè to Grande Forêt 2014; Pobè to Cooun 2023	plantlet, rootstock	3	6/ 0.24	s			5	
553	4Dicot	Rubiaceae	***Leptactina involucrata*** Hook.f. [*Dictyandra involucrata*] **a**		herb	GC	in field on Lissanou, Cooun, papa; to Cooun 2008	plantlet	3		s				x

554	4Dicot	Rubiaceae	***Macrosphyra longistyla*** (DC.) Hook.f. ex Hiern		shrub	SG	in field		3		s				x
555	4Dicot	Rubiaceae	***Mitracarpus hirtus*** DC.		herb	At	in field		1		d		shade		x
556	4Dicot	Rubiaceae	***Morelia senegalensis*** A.Rich. ex DC.	X	tree	SG	Lama to Cooun, papa 2013; Pobè to shower 2018 †		1	1.5	s			2	
557	4Dicot	Rubiaceae	***Morinda lucida*** Benth.		tree	Pt	in field		3	11/ 0.41	s				x
558	4Dicot	Rubiaceae	***Morinda morindoides*** (Baker) Milne-Redh.		climber.	GC	Lanzron, Niaouli to nursery 2010 †, to mill hole, garden, Cooun 2011 †; Niaouli to nursery, garden, mill hole, Cooun 2014 †, nursery to papa 2016, †	seed, then plantlet	1		**L**			2	
559	4Dicot	Rubiaceae	***Mussaenda elegans*** Schumach. & Thonn.		climber.	GC	in field Dodja only; Pobè to nursery 2006, to mill hole, Lissanou 2008; Dodja to Cooun, Lissanou 2010; Tobè to papa 2010	stick; plantlet	3		s			2	x
560	4Dicot.	Rubiaceae	***Mussaenda isertiana*** DC.		climber.	GC	Pobè to papa 2014	plantlet	1		s			1	
561	4Dicot	Rubiaceae	***Nauclea diderrichii*** Merr.	X	tree	GC	Niaouli to nursery to Cooun 2012 †; Lama to Emile 2016	plantlet	1	4	s	EN	drought	2	
562	4Dicot	Rubiaceae	***Nauclea latifolia*** Sm. [*Sarcocephalus) latifolius*]	X	tree	SZ	Drabo to garden 2000 †, Drabo to garden 2008 †; Lama to mill hole 2006 †; Lama to Lissanou 2008, 2011 †; Lama to MdJ 2013	plantlet	1	5	s		shade	3	x
563	4Dicot	Rubiaceae	***Oldenlandia corymbosa*** L.		herb	Pt	in field, along paths		1		d		shade		x
564	4Dicot	Rubiaceae	***Oxyanthus racemosus*** (Schumach. & Thonn.) Keay		tree	GC	in field, in 1996 only 1 in Grande Forêt, spreading; Grande Forêt to burnt places, Cooun, garden 2013	plantlet	4	5	i				x
565	4Dicot	Rubiaceae	***Oxyanthus tenuis*** Stapf.		shrub	GC	Discovered in Dodja forest and identified in 2024		1		s				x
566	4Dicot	Rubiaceae	***Oxyanthus unilocularis*** Hiern	X	tree	SG	Zinvié to nursery 2008; Niaouli to Lissanou 2009; Niaouli to Cooun 2010	plantlet	2	6.5	s			3	
567	4Dicot	Rubiaceae	***Pavetta corymbos***a F.N.Williams		tree	SG	in field, in 1996 only 1 in Grande Forêt, 2006 a few, 2009 everywhere; Grande Forêt to Dodja 2011, to Louis, Emile 2012; to Grande Forêt burnt places 2013; to Cooun 2014		4	5	i				x
568	4Dicot	Rubiaceae	***Pouchetia africana*** A.Rich. ex DC.	X	tree	SG	Lama to Cooun 2007	plantlet	1	5.5	s			1	
569	4Dicot	Rubiaceae	***Psychotria articulata*** (Hiern) E.M.A.Petit		herb	GC	in field, a few on AgoXwè; Ahozon, Zinvié to Cooun 2008; Georg to mill hole, garden 2008	plantlet	1		s			1	x
570	4Dicot	Rubiaceae	***Psychotria umbellata*** Thonn. [*Psychotria calva*]		herb	GC	Lama to Lissanou 2007; Ahozon to nursery 2007; Niaouli, Ahozon to garden, Cooun 2008; Togba to nursery 2014	plantlet	2		s			4	
571	4Dicot	Rubiaceae	***Psychotria psychotrioides*** (DC.) Roberty		shrub	SG	IITA to garden, Cooun 2017; Georg to Lissanou 2019	potted plant	1	2.5	s			2	
572	4Dicot	Rubiaceae	***Psychotria vogeliana*** Benth.		shrub	SG	in field Grande Forêt, Ago, Kakpo; Pobè to nursery 2008	plantlet	4		i			1	x
573	4Dicot	Rubiaceae	***Psydrax horizontalis*** (K.Schum. & Thonn.) Bridson	X	climber	At	Pobè to nursery 2019, to garden 2022		1	2.5	s			1	
574	4Dicot	Rubiaceae	***Psydrax parviflorus*** (Afzel.) Bridson [*Psydrax parviflora*]	X	tree	SG	in field, Orojamè 2 big trees only, 2010 also on AgoXwe; Ahozon to mill, Emile 2006 †; Ewè to Gaston 2007; Orojamè to MdJ 2010; Avrankou to Pierre, Coun 2010; Iguidi to Cooun, papa 2012; Pobè to Cooun 2013; 2014	plantlet	3	8; 24/ 1.44 Or	s			5	x

575	4Dicot	Rubiaceae	***Psydrax subcordatus*** (DC.) Bridson [*Psydrax subcordata*]	X	tree	At	Pobè to garden 2019;	stick	1	0.9	s			1	
576	4Dicot	Rubiaceae	***Richardia scabra*** L.		herb	Pt	in field		1		d		shade		x
577	4Dicot	Rubiaceae	***Rothmannia hispida*** (K.Schum.) Fagerl.	X	tree	GC	Pobè to Lissanou 2008; Pobè to papa 2018	plantlet	4	12	s			2	
578	4Dicot	Rubiaceae	***Rothmannia longiflora*** Salisb.		tree	GC	in field; Pobè to corridor 2006	seed	3	5	s			1	x
579	4Dicot	Rubiaceae	***Rothmannia urcelliformis*** Bullock. ex Robyns		tree	GC	Pobè to nursery 2006 to Cooun, Emile, Lissanou 2008	seed	2	17/ 0.72	s			2	
580	5nonid	Rubiaceae	***Rutidea nigerica*** Bridson		climber	GE	Pobè to Cooun hole near Caloncoba, 2005?	plantlet	1		s			1	
581	4Dicot	Rubiaceae	***Rutidea parviflora*** **DC.**		climber	At	Ahozon to garden 2018		1		s			1	
582	4Dicot	Rubiaceae	***Rutidea smithii*** Hiern		climber .	GC	Ahozon to garden 2008; Niaouli to Lissanou 2009; Niaouli to Cooun 2010; Niaouli to Lissanou, Cooun 2011; Niaouli to Cooun 2012; Ahozon to papa, Cooun 2014; Pobè to papa, Cooun 2015; Ahozon to garden 2017, to Emile 2018	plantlet	2		s			8	
583	4Dicot	Rubiaceae	***Rytigynia nigerica*** Robyns		tree	GO	in field Cooun		1	1	s				x
584	4Dicot	Rubiaceae	***Rytigynia senegalensis*** Blume		tree	SG	in field; Niaouli to corridor 2012	plantlet	3	6	s			1	x
585	4Dicot	Rubiaceae	***Rytigynia umbellulata*** Robyns		tree	GC	in field Cooun		1	1	s				x
586	4Dicot	Rubiaceae	***Sabicea calycina*** Benth.	X	climber .	GC	Lanzron, Zinvié to garden 2009 †; Lanzron to garden 2010 most †; garden to mill hole 2012; to Pierre 2013; re-discovered on Cooun 2013	plantlet	1		s			2	
587	5nonid	Rubiaceae	***Sherbournia bignoniiflora*** (Welw.) Hua		climber	At	Pobè to garden, nursery 2019; to Cooun 2021	pllantlet	1		s			1	
588	4Dicot	Rubiaceae	***Sherbournia millenii*** (Wernham) Hepper	X	climber .	GC	Pobè to Cooun 2005?, rediscovered 2009; Togba to nuersery to Cooun 2023	plantlet	1		s			1	
589	4Dicot	Rubiaceae	***Spermacoce exilis*** (L.O.Williams) C.D.Adams		herb	Pt	in field		1		d		shade		x
590	4Dicot	Rubiaceae	***Spermacoce verticillata*** L.		herb	At	in field		1		d		shade		x
591	4Dicot	Rubiaceae	***Tricalysia coriacea*** (Benth.) Hiern		tree	GC	Ahozon to Cooun, garden 2006; Ahozon to Cooun 2011 †		1	5	s			2	
592	4Dicot	Rutaceae	***Afraegle paniculata*** (Schumach. & Thonn.) Engl.		tree	SG	J. bot. to garden 2017 †, 2018 †, 2021 nursery, Cooun †; J. bot. to nursery to garden 2023	plantlet	1		(s)	EN		4	
593	4Dicot	Rutaceae	***Citrus aurantiifoli***a (Christm.) Swingle		tree	Pt	in field Grande Forêt; † around 2015	seed	1	6.5	**L**		shade		x
594	4Dicot	Rutaceae	***Citrus aurantium*** L. [*Citrus sinensis*]		tree	Pt	in field Grande Forêt		1		d		shade		x
595	4Dicot	Rutaceae	***Clausena anisata*** (Willd.) Hook.f.		shrub	SG	in field		4	5	s		shade		x
596	4Dicot	Rutaceae	***Murraya paniculata*** (L.) Jack		shrub	Pt	Calavi nursery to garden 1998 ff.	plantlet	1	4	s			1	
597	4Dicot	Rutaceae	***Vepris verdoorniana*** (Exell & Mendonça) Mziray [*Teclea verdoorniana*]	X	tree	GC	in field Orojamè, 1 big tree only; in field Dodja; Bonou to Cooun, papa 2011; Dodja to garden 2012	plantlet	1	0.6; 9/ 050 Or	s			1	x
598	4Dicot	Rutaceae	***Zanthoxylum leprieurii*** Guill. & Perr.	X	tree	GC	in field Dodja, Cooun; Pobè to Cooun 2006; Pobè to Lissanou, Cooun 2008	plantlet	2	9; 10/ 0.37 Do	s			2	x
599	4Dicot	Rutaceae	***Zanthoxylum zanthoxyloides*** (Lam.) B.Zepernick & Timler		tree	GO	in field		4	14/ 0.78	i	VU			x
600	4Dicot	Salicaceae [Flacourtiaceaae]	***Casearia prismatocarpa*** Mast.		tree	GC	Ahozon to garden 2006, in 2010 †;	plantlet	1		**L**			1	
601	4Dicot	Salicaceae [Flacourtiaceaae]	***Dovyalis zenkeri*** Gilg	X	tree	SG	Ewè to Cooun 2009; J.Bot. to nursery 2017 †	plantlet, fruit	1	6	d			2	

602	4Dicot	Salicaceae [Flacourtiaceaae]	***Flacourtia indica*** (Burm.f.) Merr.		tree	GC	in field		3	6; 6 Fa	d		shade		x
603	4Dicot	Salicaceae [Flacourtiaceaae]	***Homalium letestui*** Pellegr.	X	tree	GC	Dangbo to Cooun 2015; Pobè to garden 2016	plantlet	1	1.8	s	EN		2	
604	4Dicot	Salicaceae [Flacourtiaceaae]	***Oncoba spinosa*** Forssk.		tree	SZ	Ouega to garden, garage 2001 †, Dansou, AgoXwe 2010; MdJ 2013 †	seed; plantlet	1	6	d		shade	3	
605	4Dicot	Sapindaceae	***Allophylus africanus*** P.Beauv.		shrub	Pt	in field		3		d		shade		x
606	4Dicot	Sapindaceae	***Allophylus spicatus*** Radlk.		shrub	SZ	in field		3		d		shade		x
607	4Dicot	Sapindaceae	***Blighia sapida*** K.D.Koenig		tree	Pt	in field		5	18/ 1.15;	s				x
608	4Dicot	Sapindaceae	***Blighia unijugata*** Baker		tree	GC	in field		5	38/ 3.10; >30/ 3.45 Do	s				x
609	4Dicot	Sapindaceae	***Deinbollia pinnata*** Schumach. & Thonn.		tree	GC	in field Orojamè, Grande Forêt, Cooun, Tofinou, Emile; Ahozon to Cooun 2023		2	1	d		shade	1	x
610	4Dicot	Sapindaceae	***Dodonaea viscosa*** Jacq.		tree	Pt	UAC from Lomè through Herbier Nat. 2007, few emerged in 2008 to Emile, 2010 †	seed	1		**L**		shade, seed	1	
611	4Dicot	Sapindaceae	***Lecaniodiscus cupanioides*** Planch.		tree	GC	in field		5	18/ 0.86	s				x
612	4Dicot	Sapindaceae	***Paulinia pinnata*** L.		climber .	At	in field		3		d		shade		x
613	4Dicot	Sapindaceae	***Pancovia bijuga*** Willd.		shrub	GC	in field in Dodja; Lama to Cooun 2007; Dodja to Orojame 2011; Dodja to nursery, garden, Lissanou, papa 2013; Pobè to cages, Cooun 2018	plantlet	4		s			2	x
614	4Dicot	Sapindaceae	***Pancovia turbinata*** Radlk. [*Pancovia pedicellaris*]	X	shrub	GC	Dangbo to garden 2017 †; Ahozon to garden 2018	plantlet	1		s			2	
615	4Dicot	Sapotaceae	***Chrysophyllum albidum*** G.Don		tree	GC	Drabo to garden, papa, Cooun, Lissanou 1997; to Dansou, Gaston 2010; to Dodja 2011; to Fanto, Dodja 2015; from Cooun to Emile, 2018; every year in each forest part out of garden ca. 3/yr.	seed, plantlet	4	15/ 0.64	i	VU		1	x
616	4Dicot	Sapotaceae	***Englerophytum oblancoelatum*** (S.Moore)T.D.Penn.		tree	GC	Adakplamè-Ewè to Cooun, garden 2023	plantlet	1		(s)			1	
617	4Dicot	Sapotaceae	***Manilkara zapota*** (L.) P.Royen		tree	Pt	Togba nursery to garage, papa, Emile 1999; Togba nursery to garage 2015	plantlet	1	1	d		drought	2	
618	4Dicot	Sapotaceae	***Manilkara obovata*** (Sabine & G.Don) J.H.Hemsl. [*Manilkara multinervis*]	X	tree	SG	Tobè to Cooun, papa, Lissanou 2008; Tobè to papa, Cooun 2010	plantlet	2	7	s			2	
619	4Dicot	Sapotaceae	***Mimusops andongensis*** Hiern	X	tree	GC	Lama to garage 2003; Lama to Lissanou, Cooun 2007	plantlet	1	11/ 0.42	s	EN		2	
620	4Dicot	Sapotaceae	***Pouteria alnifolia*** (Baker) Roberty		tree	At	in field		5	16/ 0.97	s				x
621	4Dicot	Sapotaceae	***Synsepalum brevipes*** (Baker) T.D.Penn.		tree	SG	Lanzron on papa 2011, by 2022 †	plantlet	1	0.6	**L**			1	
622	4Dicot	Sapotaceae	***Synsepalum dulcificum*** (Schumach. & Thonn.) Daniell	X	tree	GC	Togba nursery to garden, garage 1999; IITA/Bioversity to MdJ, papa, Cooun, Louis 2014; nursery to Cooun 2023	plantlet	2	5.5	s	EN		2	
623	4Dicot	Sapotaceae	***Vitellaria paradoxa*** C.F.Gaertn.		tree	S	J. bot.to AgoXwe 2011, 2012 †; Tobè to nursery 2011 †	plantlet; seed	1		**L**	VU	savannah	2	
624	4Dicot		***Harissonia abyssinica*** Oliv.		tree	SG	in field, a few Cooun, Dodja, (MdJ 2010 †)		1	10;15/ 0.57 Do	d		shade		x
625	4Dicot	Simaroubaceae	***Pierreodendron kerstingii*** (Engl.) Little	X	tree	GO	J. bot. to garden, papa, Cooun 2016 †; Pobè to garden, Cooun 2016 †; Pobè	stick; seed	1	0.6	s	EN		4	

							to nursery 2017 †; to shower 2018 †; J. bot. to nursery 2019, to garden 2021								
626	4Dicot	Solanaceae	***Capsicum annuum*** L.		herb	Pt	in field and planted		1		d		shade		x
627	4Dicot	Solanaceae	***Capsicum frutescens*** L.		herb	Pt	in field		1		d		shade		x
628	[Verbenaceae	Solanaceae	***Physalis minima*** L.		herb	Pt	in field		1		d		shade		x
629	4Dicot		***Schwenkia americana*** L.		herb	At	in field		1		d		shade		x
630	4Dicot	Solanaceae	***Solanum anguivi*** Lam.		herb	SG	Parakou to MdJ 2013, † 2016?	seed	1		**L**		shade	1	
631	4Dicot	Solanaceae	***Solanum erianthum*** D.Don		herb	Pt	in field		1		d				x
632		Solanaceae	***Solanum torvum*** Sw.		herb	Pt	Pobè to garden 2023		1		s			1	
633	4Dicot	Talinaceae [Portulacaceae]	***Talinum fruticosum*** (L.) Juss . [*Talinum triangulare*]		herb	Pt	in field		1		d		shade		x
634	4Dicot	Ulmaceae	***Chaetachme aristata*** Planch.	X	tree	GC	Ewè, Pobè to Grande Forêt 2006 †; Ewè to Gaston, Cooun 2011; Niaouli to Gaston, papa 2014	plantlet	1	4	s			3	
635	4Dicot	Ulmaceae	***Holoptelea grandis*** (Hutch.) Mildbr.	X	tree	GC	Pobè to papa 2006; Pobè to nursery, garden, papa, Cooun 2015; Pobè to shower to Cooun 2018	plantlet	2	13/ 0.36	s			3	
636	4Dicot	Urticaceae	***Laportea aestuans*** (L.) Chew		herb	At	in field, irregular		1		d		shade		x
637	4Dicot	Urticaceae	***Laportea ovalifolia*** (Schumach.) Chew		climber	At	Niaouli to Gaston 2011; Niaouli to papa, Cooun 2012	plantlet	1		d		shade	2	
638	4Dicot	Verbenaceae	***Lantana camara*** L.		shrub	Pt	in field		2		d		shade		x
639	4Dicot	Verbenaceae	***Lippia multiflora*** Moldenke		herb	At	Tobè to garden 2011 †; UAC to MdJ 2016 †; UAC to garden 2017 †; UAC to garden 2021 †, to new garden 2021	sticks	2		d			5	
640	4Dicot	Verbenaceae	***Stachytarpheta cayennensis*** (Rich.) Vahl		herb	Pt	in field		4		d		shade		x
641		Violaceae	***Rinorea batesii*** Chipp	X	shrub	GC	Ewè to Cooun 2010		1	4	s			1	
642	4Dicot	Violaceae	***Rinorea dentata*** Kuntze	X	shrub	GC	in field; Banté to garden 1997; Pobè to Cooun 2023	plantlet	2	2.5	s	EN		2	
643	4Dicot	Vitaceae	***Ampelocissus bombycina*** Planch.		climber	SG	in field on Emile 2019		3		s			1	x
644	4Dicot	Vitaceae	***Cayratia debilis*** (Baker) Suess.		climber	GC	Tobè to garden 2005; Niaouli to corridor, Cooun 2006; Niaouli to garden 2007; Tobè to papa 2010; Pobè to garden 2019; Cooun to Dodja 2022;		1		s				x
645	4Dicot	Vitaceae	***Cissus aralioides*** Planch.		climber .	At	in field; Ewè to garden 2006 †; Pobè to garden, Emile 2014	branch sections	2		s			5	
646	4Dicot	Vitaceae	***Cissus petiolata*** Hook.f.		climber .	SG	Pobè to garden 2014	plantlet	1		s			2	x
647	4Dicot	Vitaceae	***Cissus populnea*** Guill. & Perr.		climber .	SG	in field	plantlet	1		s			1	
648	4Dicot	Vitaceae	***Cissus quadrangularis*** L.		climber .	Pt	Niaouli to garden, Lissanou 2007; Zinvié; Niaouli to garden, Lissanou 2008; Niaouli to Cooun 2009 †, 2012 †; Pobè to nursery, Cooun 2015; IITA to Cooun 2016; Iguidi to mill hole 2023		4		s				x
649	4Dicot	Vitaceae	***Leea guineensis*** G.Don	X	herb	SG	in field, new MdJ, to papa; Iguidi to mill hole 2023	plantlet	1		s			2	
650	4Dicot	Vitaceae	***Cyphostemma adenocaule*** Desc. ex Wild & R.B.Drumm.		climber .	At			1		d				x
651	5nonid	Annonaceae	***Monanthotaxis*** *sp.*		climber	?	Pobè to Cooun, papa 2016; Pobè to nursery 2019; Pobè to corridor, Cooun 2020;	plantlet	2		s	CR?		2	

652	5nonid	Passifloraceae?	nr. big *Caloncoba* on Cooun, dried and grew back; not yet flowering		climber	?	Niaouli to Cooun 2012; resprouts from roots 2021; Dangbo to nursery, garden 2019, lost	plantlet	1		s	CR?		2	
653	5nonid	Cucurbitaceae?	Climber; not yet flowering		climber	?	Since 2010?, crossing path	plantlet	1		s			1	
654	5nonid	Moraceae	***Ficus*** sp. near ***mucuso***, huge leaves		tree	?	in field, big tree on Emile		1		s				x
655	5nonid	Apocynacee	***Vincetoxicum*** sp. Round leaves [*Tylophora* sp.]		climber	?	Cooun far end right		1		s				x

Table 6 Supplementary files: Threatened plants established at the 'Sanctuaire des singes' in Drabo Gbo. Family, species, IUCN classification (for Benin), origin (see Table B Supplementary files), size (height in m, diameter in m with two decimals) and abundance score.

Family	Species	IUCN †	Local*	Origin§	Height (m) /∅(m)	Score
Achariaceae	***Caloncoba echinata***	**CR**	*	GO	3	2
Acanthaceae	***Acanthus montanus***	**CR**	*	GC		3
Apocynaceae	*Carissa spinarum*	VU		PAL		1
Apocynaceae	*Rauvolfia vomitoria*	NT	*	SG	4	4
Apocynaceae	*Tabernaemontana eglandulosa*	EN	*	GC		2
Apocynaceae	*Tabernaemontana pachysiphon*	EN	*	At	6, 0.25	2
Apocynaceae	*Voacanga africana*	VU	*	At	5	1
Annonaceae	***Uvariopsis tripetala***	**CR**	*	GC	2	2
Annonaceae	*Monodora myristica*	EN	*	GC	7. 0.31	3
Annonaceae	*Xylopia aethiopica*	VU	*	At	1	1
Arecaceae	*Borassus aethiopum*	VU		SZ		1
Asclepiadaceae	*Mondia whytei*	VU		SG		3
Bignoniaceae	*Kigelia africana*	VU		SG	7.5, 0.45	2
Capparaceae	*Maerua duchesnei*	EN	*	SG	4	1
Cannabaceae	*Celtis mildbraedii*	EN	*	GC	30, 1.6	3
Clusiaceae	*Garcinia kola*	EW	*	GC	1.6	1

Clusiaceae	*Pentadesma butyracea*	VU	*	SG	1.2	1
Combretaceae	*Terminalia superba*	EN	*	GC	22, 0.95	3
Ebenaceae	***Diospyros barteri** a*	CR?	*	GC	3	3
Euphorbiaceae	*Macaranga barteri*	NT	*	GC	0.5	2
Leg.-Caesalp.	*Afzelia africana*	EN+	*	S	16, 0.71	4
Leg.-Caesalp.	*Guilandina bonduc*	EW	*	Pt		3
Leg.-Mimosaceae	*Albizia ferruginea*	VU+	*	GC	27, 2.36	3
Leg.-Mimosaceae	***Anthonota fragrans***	**CR**	*	GC	0.1	1
Leg.-Mimosaceae	*Guilandina bonduc*	EW	*	Pt		3
Leg.-Mimosaceae	*Detarium senegalense*	VU	*	GC		2
Leg.-Mimosaceae	*Distemonanthus benthamianus*	EN	*	GC	4	1
Leg.-Mimosaceae	*Pentaclethra macrophylla*	VU		GC	16	3
Leg.-Mimosaceae	*Piptadeniastrum africanum*	VU	*	GC	13, 0.58	2
Leg.-Mimosaceae	*Tetrapleura tetraptera*	VU	*	GC	13, 0.54	2
Malpighiaceae	*Acridocarpus alternifolius*	EN	*	GC		3
Malpighiaceae	*Acridocarpus smeathmannii*	EN	*	GC	6	1
Malvaceae	***Mansonia altissima***	**CR+**	*	GC	18, 0.54	2
Malvaceaae	***Nesogordonia cabingaensis***	**CR**	*	GC	6.5	1
Malvaceae	*Triplochiton scleroxylon*	EN+		GC	35, 1.26	2
Meliaceae	***Entadrophragma angolense***	**CR+**	*	GC	6	2
Meliaceae	*Khaya grandifoliola*	EN+	*	GC	4	1
Meliaceae	*Khaya senegalensis*	EN+	*	S	30, 1.26	2
Meliaceae	*Turraea heterophylla*	EN	*	GO		3
Moraceae	*Milicia excelsa*	EN+		GC	32, 2.24	4

Myristicaceae	*Pycnanthus angolensis*	VU	*	GC	4.5	2
Orchidaceae	*Angraecum distichum*	EN	*	GC	6	1
Olacaceae	*Strombosia pustulata*	EN	*	GC	3.5	2
Passifloraceae	***Barteria nigritiana***	**CR**	*	GE	4.3	3
Rubiaceae	*Aidia genipifolia*	NT	*	GC	6	1
Rubiaceae	*Euclinia longiflora*	EN	*	GC	1.4	1
Rubiaceae	*Gardenia nitida*	EN	*	GC	3.3	1
Rubiaceae	*Nauclea diderrichii*	EN+	*	GC	4	1
Rubiaceae	***Coffea mannii***	**CR**	*	GC	1.7	2
Rutaceae	*Afraegle paniculata*	EN	*	At		1
Rutaceae	*Zanthoxylum zanthoxyloides*	VU		GO	14, 0.78	4
Salicaceae	*Homalium letestui*	EN	*	GC	1.8	1
Sapotaceae	*Chysophyllum albidum*	VU		GC	15, 0.64	4
Sapotaceae	*Mimusops andongensis*	EN	*	GC	11, 0.42	1
Sapotaceae	*Synsepalum dulcificum*	EN	*	GC	5.5	2
Simaroubaceae	*Pierreodendron kerstingii*	EN+	*	GO	0.6	1
Violaceae	*Rinorea dentata*	EN	*	GC	2.5	2

[†] IUCN classification for Benin (Adomou et al., 2011): NT near threatened, VU vulnerable, EN endangered, **CR** critically endangered, EW extinct in the wild. + on international Red List. * Introduced. a = Dodja, only known site in Benin. [§] origin: GC Guineo-Congolian (GO Upper Guinean, GE Lower Guinean), SG Sudano-Guinean, SZ Sudanian, S Sahelian, At Afrotropical, PAL Paleotropical, Pt Pantropical. Score: Abundance 1-5.