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## Andean orogeny and the diversification of lowland neotropical rain forest trees: A case study in Sapotaceae

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### ABSTRACT

Understanding how species diversify and evolve in species-rich areas like the lowland rain forest in the Neotropics is critical for conservation in times of unprecedented threats. To determine how the Andean uplift, the formation of the Panama land bridge, and Pleistocene climatic fluctuations affected dispersal and diversification in the Sapotaceae subfamily Chrysophylloideae, we collected 146 Chrysophylloideae accessions in previously under-explored areas, generating one of the most geographically complete data sets for neotropical Sapotaceae. Sapotaceae is a good model to test diversification hypotheses in lowland neotropical rain forests as it predominantly occurs <1000 m altitude, and it is an abundant and species-rich group in this biome. We generated a time calibrated phylogeny of 123 Sapotaceae species based upon the nuclear ribosomal internal transcribed spacer region that suggests migration between lineages to the east and the west Andean Cordilleras occurred before and after periods of major uplift, indicating that the Andes did not represent a significant barrier to dispersal for Sapotaceae, although it may have promoted vicariance in some cases. Dispersal between South and Central America occurred mainly prior to the formation of the Panama land bridge, suggesting that this event did not affect migration patterns in Chrysophylloideae. We inferred diversification rates and detected three shifts in the phylogeny, but they are not congruent with tectonic movements during the middle Miocene and climatic changes during the Pleistocene. Finally, some species with restricted distributions appear to be phylogenetically nested within species with broader ranges, suggesting ancestor descendent relationships and insights into patterns of speciation in rain forest trees.

### 1. Introduction

The lowland rain forest biome in northern South America hosts some of the most species-rich floras in the world, and it is represented by the forests in the biogeographic units of Chocó, Amazon, Catatumbo, and

Guiana. These forests are separated from one another by three branches of the Andean mountain range (Fig. 1), and are suggested to have been formed by distinct ecological and evolutionary processes (Hernández-Camacho et al., 1992; Morrone, 2001; Bernal et al., 2016; Lasso et al., 2018; Pérez-Escobar et al., 2019). These areas are considered of great

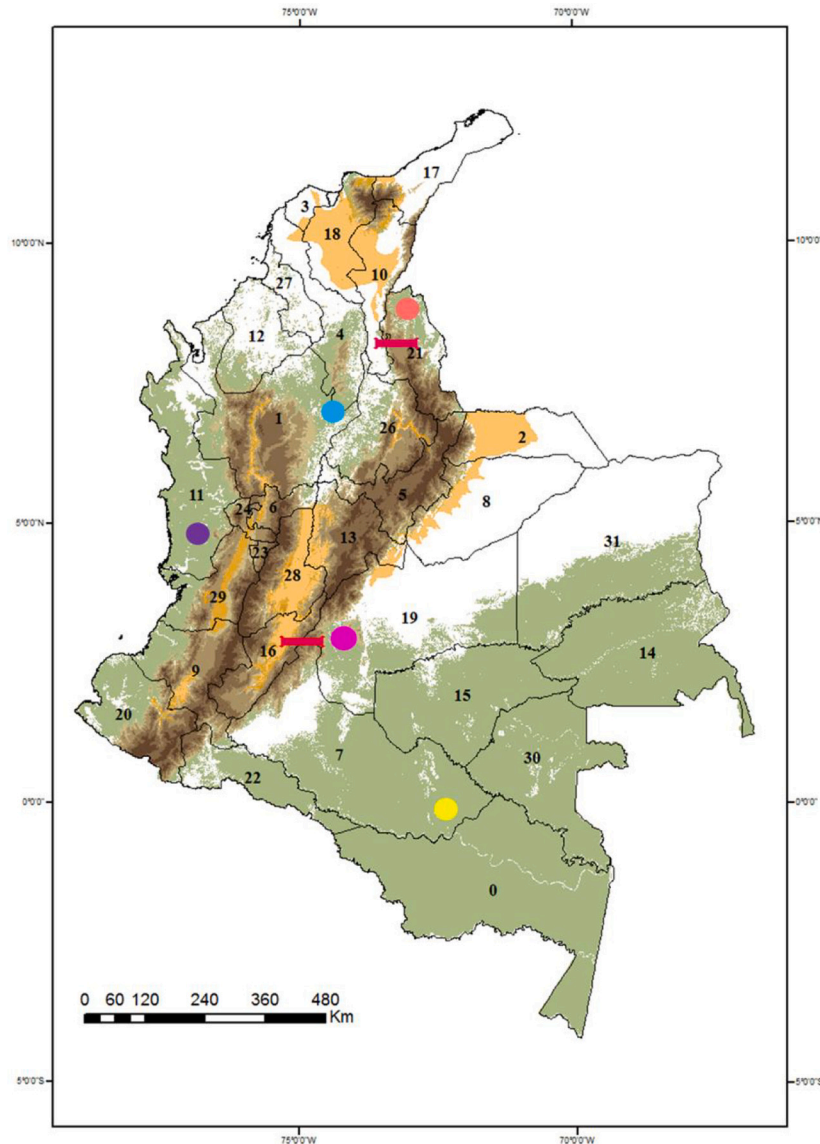
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conservation and economic value (Bernal et al., 2016), and to strengthen local policies and prevent species extinction, it is critical to understand how their diversity is distributed and has evolved. However, due to decades of civil conflict in countries like Colombia and lack of safe access to these areas, samples from these forests have not been included in previous studies, and consequently the patterns and processes driving the distribution of this vegetation are still unclear.

Previous work suggests that dispersal and diversification patterns of plant species in the Neotropics have been affected by the uplift of the Andes e.g. *Crematoperma* (Pirie et al., 2006), *Dussia* (Winterton et al., 2014), Orchids (Pérez-Escobar et al., 2017), palms (Bacon et al., 2018), Malvaceae (Richardson et al., 2015; Hoorn et al., 2019), *Begonia*

(Moonlight et al., 2015) and multiple paramo lineages (Madrinán et al., 2013). The Andean orogeny occurred in well differentiated phases (Gregory-Wodzicki, 2000; Mora et al., 2010), but it was generally initiated by major tectonic movements during the late Oligocene after the break-up of the Farallones plate, and the subsequent increment in convergence rates at the margins of the newly created Cocos and Nazca plates (Hoorn et al., 1995; Wortel, 1984). The northern part of the Andes now divides into the Eastern, Central and Western Cordilleras (Fig. 1). The Eastern Cordillera was formed as a continuous range in the middle Miocene (Winship, 1990; Hoorn et al., 1995; Albert et al., 2006), although the easternmost part (the Merida Andes) might not have reached 3000 m elevation until ca. 5–2 Ma, achieving their current ca.



**Fig. 1.** Lowland rain forests of Colombia. Coloured dots indicate the fragments of lowland rain forest that can be found in Colombia. These areas are characterized by evergreen vegetation occurring under ca. 800 m above sea level, which is dominated by angiosperm tree species adapted to low fluctuations in temperature, high precipitation (more than 2000 mm per year), with high beta and alpha diversity and an abundance of lianas and epiphytes (Burnham and Johnson, 2004; IDEAM, IGAC, IAvH, et al., 2007; Reynel et al., 2013). Brown shades represent major mountain ranges, from north to south: Sierra Nevada de Santa Marta, Eastern, Western, and Central Cordilleras. Areas in yellow represent areas of dry forest. Red bars represent areas of low elevation in the Andes below 1000 m. Black solid lines represent the administrative division of Colombia into municipalities 0: Amazonas, 1: Antioquia, 2: Arauca, 3: Atlántico, 4: Bolívar, 5: Boyacá, 6: Caldas, 7: Caquetá, 8: Casanare, 9: Cauca, 10: Cesar, 11: Chocó, 12: Córdoba, 13: Cundinamarca, 14: Guainía, 15: Guaviare, 16: Huila, 17: La Guajira, 18: Magdalena, 19: Meta, 20: Nariño, 21: Norte de Santander, 22: Putumayo, 23: Quindío, 24: Risaralda, 26: Santander, 27: Sucre, 28: Tolima, 29: Valle del Cauca, 30: Vaupes, 31: Vichada. Fragments of lowland rain forest are depicted as proposed by IDEAM et al. (2007), and dry forest areas were adapted from the WWF Ecorregions (Olson et al., 2001). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

KEY			
	Other Biomes		Choco
	Mountain forest		Amazon
	Lowland Rain Forest		Macarena
	Tropical Dry Forest		Catatumbo
			Inter-Andean valleys
			Points of low altitude

5000 m elevation even later (Kroonenberg et al., 1990). The Central Cordillera reached its current altitude during the late Miocene at ca. 10–4 Ma (Kroonenberg et al., 1990), creating altitudinal belts that at their lower points formed the Magdalena and Cauca valleys. This orogeny was partially contemporary to the accretion of the Western Cordillera, a process that initiated during the Oligocene and early Miocene, and caused the creation of high-altitude habitats, above ca. 4000 m, during the late Miocene (Kroonenberg et al., 1990; Graham, 2011). These uplifts are presumed to have had a significant impact on biogeographic patterns, especially as a physical barrier to dispersal of lowland restricted organisms (Pirie et al., 2006; Pennington et al., 2010; Richardson et al., 2018). The Eastern Cordillera might have had the most profound effect as a barrier, because it reaches northern coastal areas, whereas the other cordilleras do not and hence could be circumvented at their northern ends (Fig. 1).

Miocene tectonic activity also generated the Panama Land Bridge (Hoon et al., 1995; Farris et al., 2011), and together with the Andean orogeny redirected the Amazon and Orinoco rivers, which had previously emptied together into the Maracaibo basin near the northern tip of South America (Hoon et al., 1995; Díaz de Gamero, 1996; Hoon et al., 2010). The formation of the Panama Isthmus was followed by climatic changes during the Pleistocene with cold dry climates during glacial periods alternating with warm wet periods during interglacials.

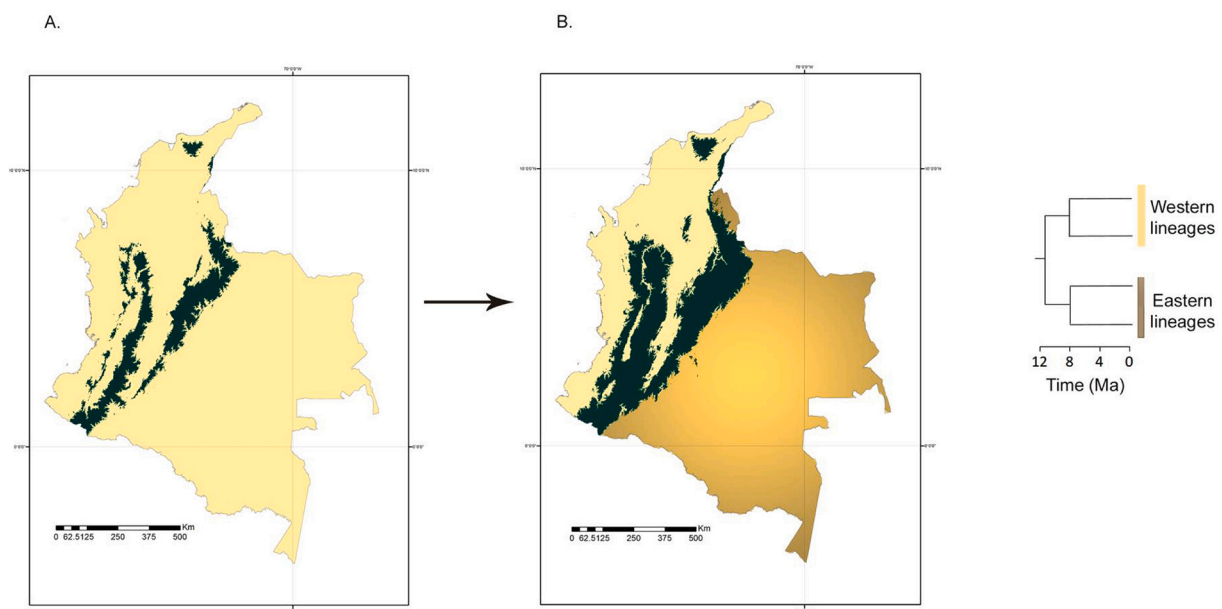
All of these events may have altered the paleogeography or climate in northern South America, creating novel habitats, while opening or closing migration routes (Hoon et al., 1995, 2010). Habitat fragmentation would hence have occurred at varying scales, from the large scale separation of the previously continuous lowland rain forests now separated in the Amazon, the inter-Andean valleys, and Chocó, to more local effects such as range changes during Pleistocene climatic fluctuations, and the development of drier climatic zones in inter-Andean valleys (Haffer, 1969; Prance, 1973; Richardson et al., 2001 but see Colinvaux et al., 2001; Pennington and Dick, 2004; Whinnett et al., 2005). These events may have influenced species diversification, but knowledge of how these factors affected the evolutionary history of the lowland rain forest of northern South America is far from complete.

Sapotaceae is a pantropical family of trees mainly restricted to

lowland tropical rain forest, thought to have first diversified in Asia at ca. 67.1–105 Ma (Richardson et al., 2014). It comprises three sub-families (Pennington, 1991; Faria et al., 2017), among which Chrysophylloideae is the most abundant in the Neotropics. This subfamily originated in Africa, with crown group divergence occurring around 78 Ma, then reaching the Americas, perhaps via long distance trans-oceanic dispersal in the late Cretaceous (Bartish et al., 2011). Previous work (e.g. Armstrong et al., 2014) suggested that Sapotaceae seeds may have been dispersed through trans-oceanic rafting in vegetations mats, or in the gut contents of birds. The subfamily has since become widespread and diverse in northern South America, where it is distributed almost exclusively in lowland rain forest. This restricted distribution makes it a perfect model for studying the effects of various geological and climatic processes on evolution and speciation within South American lowland rain forests.

This study aims to explore the dispersal and diversification history of Chrysophylloideae, and relate it to the geographical and climatic changes discussed above (Fig. 2). To achieve this, species of Chrysophylloideae were sampled from previously unexplored areas of lowland rain forests in northern South America. We present the first data set for neotropical Sapotaceae that includes collections from major areas of lowland rain forest on both sides of the Andes and the inter-Andean valleys. A dated phylogeny based on nuclear ribosomal internal transcribed spacer (ITS) sequences was constructed and used along with diversification rates analyses to test hypotheses of diversification, vicariance or migration caused by different geological or climatic events:

- (i) if phylogenetic splits were caused by the uplift of the Eastern Cordillera of the Andes, creating habitats too high for the family and causing vicariance (Fig. 2), then splits would have increased after ca. 12 Ma when this mountain range reached an elevation higher than about 2000 m (upper altitudinal limit of Sapotaceae species ranges).
- (ii) if the formation of the Isthmus of Panama created a terrestrial migration route for taxa previously unable to disperse across water, then evidence for migration between South and Central



**Fig. 2.** Hypothetical phylogenetic splits assuming speciation events due to the Andean uplift without subsequent dispersal. Panel A. representing Andean configuration and hypothetical species distribution (yellow) before the early-middle Miocene, and Panel B. representing Andean configuration and hypothetical species distribution (shades of yellow) after early-middle Miocene when the Andes reached current elevations. If the evolution of Sapotaceae was affected by early and middle Miocene orogeny without subsequent dispersal, dichotomies in the phylogeny would occur at ca. 12 Ma when the Eastern Cordillera was high enough to have prevented migration. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

America would be found mainly after the uplift of the Panamanian land bridge at ca. 13–15 Ma, although the land bridge formation is thought by some to have occurred much later (3 Ma; Coates & Obando, 1996).

- (iii) if the uplift of the Andes affected diversification rates in Chrysophylloideae, then shifts in diversification rates would be found after the middle Miocene and during periods of major tectonic activity in northern South America.
- (iv) if periodic range contractions during the Pleistocene led to diversification, then increased diversification rates would be found in this epoch.

## 2. Materials and methods

A total of 146 Chrysophylloideae accessions were collected in the previously under-explored Chocó, Magdalena Valley, Catatumbo, Amazon and Macarena lowland rain forests of Colombia, generating one of the most complete data sets in terms of geographic sampling for neotropical Sapotaceae. ITS sequence data were produced for the new collections. The remaining sequences were obtained from previous phylogenetic studies on Chrysophylloideae (Swenson et al., 2008; Gonzalez et al., 2009) and GenBank. We chose to focus our study on ITS data because it has been shown to be more variable than plastid markers (e.g. Armstrong et al., 2014), and the large amount of plastid data required to get a similar number of informative characters was beyond the scope of the present study. The full data set contains 400 accessions, with 378 individuals of neotropical Chrysophylloideae, and 22 from paleotropical Sapotaceae. Our data set represents 101 Chrysophylloideae species, 100% of the currently recognised neotropical genera, and 30% of the currently recognised species, including 71% of the species in Colombia. A list of taxa and voucher specimen information is shown in Appendix A.

### 2.1. DNA isolation, amplification and sequencing

Leaf tissue from silica-gel-dried collections was ground into a powder. Total DNA was isolated with the DNeasy® Plant Mini Kit (QIAGEN) following the manufacturer's procedures. The nuclear ITS region was amplified using primer pairs ITS5 and ITS8. PCR reactions were carried out in 20 µl volume reactions by adding 2 µl of dNTPs, 2 µl of 10× NH4 reaction buffer, 0.6 µl of MgCl<sub>2</sub>, 1.5 µl of each primer (10 µM), 4 µl of CES, 0.3 µl of Biotaq DNA polymerase buffer, 7.1 µl double distilled H<sub>2</sub>O (ddH<sub>2</sub>O) and 1 µl of DNA. The thermal cycling profile was: 3 min at 94 °C (denaturing) followed by 29 cycles of 1 min at 94 °C (denaturation), 1 min at 55 °C (annealing) and 1.5 min at 72 °C (extension), and an additional termination step of 5 min at 72 °C. The amplified fragments were electrophoresed on a 1% agarose gel to check for quantity. PCR products were then purified with ExoSAP-IT® (USB Corporation) which was added directly and incubated at 37 °C for 15 min followed by 80 °C for 15 min. PCR templates were used for the cycle-sequencing reactions using BigDye® Terminator v3.1 Cycle Sequencing Kit (Applied Biosystems, Inc.) and then were run on an ABI PRISM 310 sequencer (Applied Biosystems, Inc.). One of the samples in this study (*Chrysophyllum colombianum*) had two bands on the PCR gel. These were excised and sequenced separately (*C. colombianum* a and b). We detected no other examples of multiple copies of ITS in the samples used in this study.

### 2.2. Sequence alignment and phylogenetic analysis

DNA sequences were assembled and edited using Geneious 10.1.2 (Kearse et al., 2012), automatically aligned using MUSCLE and edited manually with BioEdit (Hall, 1999). *Sarcosperma laurinum* was used as the outgroup in all analyses as it has been shown to be the sister to all other Sapotaceae (Anderberg and Swenson, 2003). Outgroups in other families could not be used because their ITS sequences could not be

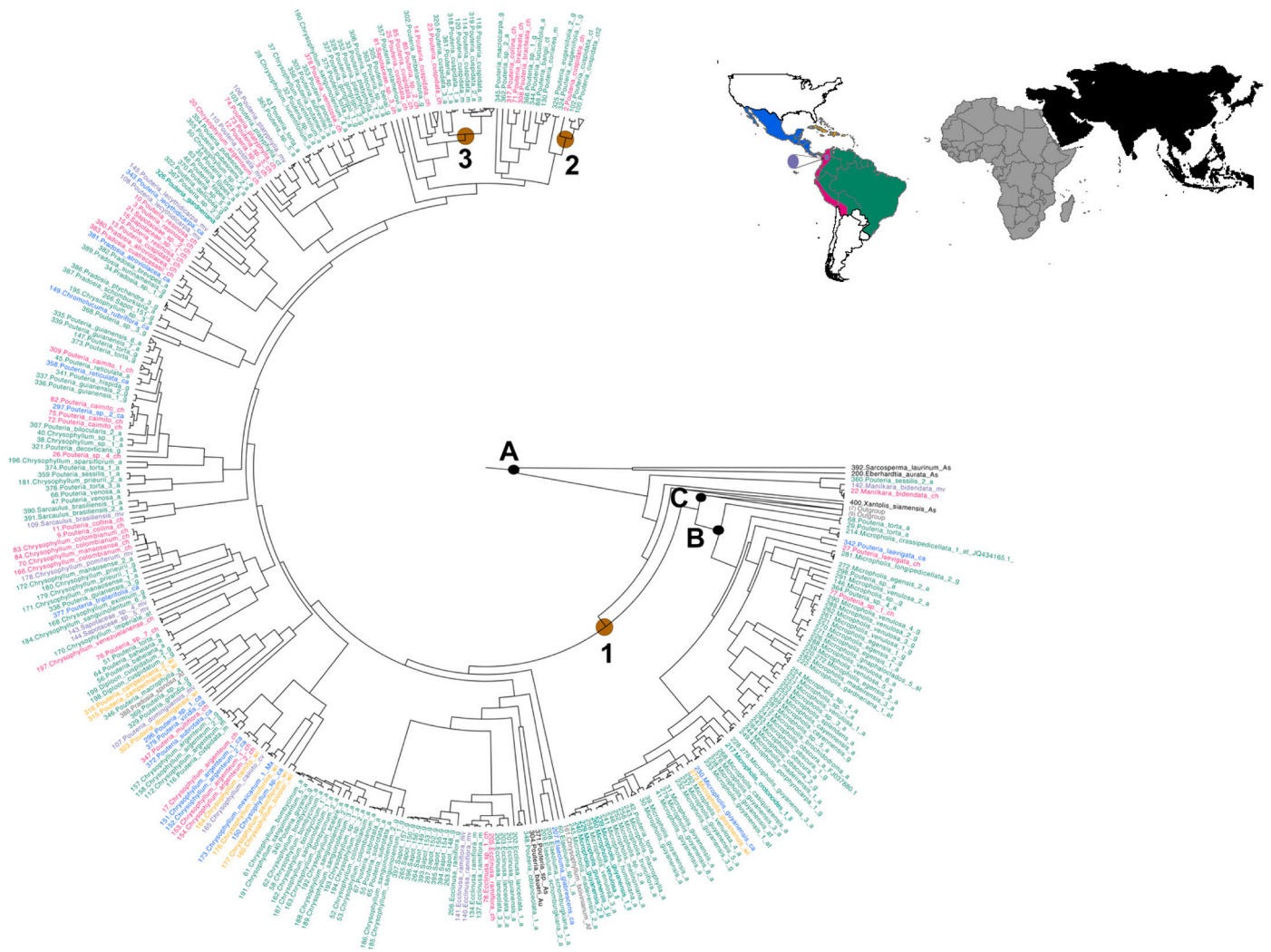
aligned unambiguously with our Sapotaceae data.

Bayesian analyses were carried out with MrBayes v3.2.6 (Huelsenbeck and Ronquist, 2001; Ronquist and Huelsenbeck, 2003) through the CIPRES gateway (Miller et al., 2010). A general time reversible (GTR) model with a gamma distribution and invariant sites was identified as the best-fit substitution model in jModelTest (Darrriba et al., 2012). Four independent runs of four MCMC chains were set to run for 30,000,000 cycles, sampling the Markov chain every 3000 cycles (10,000 samples) and saving branch lengths. After determining using Tracer v1.6 (Rambaut et al., 2014) that a burn-in of 25% sufficed to reach stationarity, the remaining samples were saved and used to construct a Maximum Clade Credibility tree. The average standard deviation was calculated every 30,000 generations, 1000 calculations in total. Tree probabilities were calculated and credibility intervals were set as a fraction of the highest posterior density. Clade support was represented by posterior probability (pp.) values, with weak and strong support indicated by pp. values of 50 to 95%, and over 95%, respectively (Swenson et al., 2008). ESS values were checked in Tracer v.1.6 and all parameters reached values >200.

### 2.3. Divergence time estimation

Divergence times were estimated using Bayesian dating analyses in BEAST v1.10.5 (Drummond and Rambaut, 2007). The XML (eXtensible Mark-up Language) input file was generated in BEAUti v1.10.5. The length of the chain was set to 40,000,000 cycles, logging parameters and printing to screen every 4000 cycles. An extra run of additional 40,000,000 cycles was set and combined with the first run to achieve ESS values higher than 200 for all parameters. A general time reversible (GTR) substitution model with a gamma distribution and invariant sites was used. Gamma categories were set to four and base frequencies were estimated. To test clock models and tree priors, Bayes Factors were calculated using path sampling and stepping-stone sampling. The clock model and tree priors that best fit our data were an uncorrelated relaxed clock with a lognormal distribution, using a speciation birth-death process. This model allows for changes in rates along the branches, and a speciation birth-death process accounts for background extinction. Priors for model parameters and statistics used a lognormal distribution for all fossil-based calibration points and a normal distribution for the secondary calibration point (Ho, 2007; Ho and Phillips, 2009).

Two fossil calibration points were used along with a secondary calibration point based on a dated phylogeny of a broader sample of asterids that utilized six well characterized fossils (Bremer et al., 2004). *Psilatricolporites maculosus* (Chrysophylloideae) has a more or less continuous sequence at the late Paleocene-early Eocene transition in the Maracaibo Basin in western Venezuela (Rull, 1997; Rull, 2000). The record of *Psilatricolporites* from Venezuela is probably the oldest reliably dated representative of Chrysophylloideae from the New World. Therefore, an offset with an age estimate of 55 Ma was used at the crown node that included all members in the New World (node B, Fig. 3). A mean of 0.001 was set so that 95% of the intervals in the log-normal distribution would include values between the estimated age and the latest boundary of the Late Paleocene. Pollen of *Psilastephanocolporites malacanthoides*, reported from the upper Eocene of Nigeria (Jan du Chêne et al., 1978), was assigned to *Malacantha alnifolia* (synonym of the accepted name *Pouteria alnifolia*). The stem node of *P. alnifolia* was therefore constrained to an offset of 35 Ma and a mean of 0.001 (node C, Fig. 3), so that 95% of the intervals in the log-normal distribution would include values between the estimated age and the latest boundary of the Late Eocene. Finally, the crown root node of the phylogeny was dated using a secondary calibration point of 102 Ma for the stem node of Sapotaceae, obtained from a dated phylogeny of asterids by Bremer et al. (2004) and Bremer (2009). Because we did not have any representatives of taxa that are sister to Sapotaceae in our analysis we could not recover the stem node, and therefore applied the age of the stem node of Sapotaceae to the crown root node of the phylogeny. We acknowledge that



**Fig. 3.** Maximum clade credibility tree from the BEAST analysis indicating relationships among neotropical Sapotaceae lineages. Three calibration points are indicated: node A – age estimate of Sapotaceae following [Bremer et al. \(2004\)](#); node B – Neotropical pollen; node C – *Malacantha abnifolia* pollen. Colours in tips and the map represent in pink: areas to the west of the Eastern Cordillera, in green: areas to the east of the Eastern Cordillera, in purple: inter-Andean valleys, in blue: Central America, in yellow: West Indies, in grey: Africa, and in black: Asia. Brown circles represent shifts in diversification rates recovered by (1) BAMM 2.5, and (2 and 3) by RevBayes 10. The colour palette was chosen using the colorblindFriendly function in the R package RColorBrewer 2.0. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

this will bias our estimates towards the older ages. The normal distribution was set with a mean of 102 and a standard deviation of three, so 95% of the intervals in a normal distribution would include the age estimated by [Bremer et al. \(2004\)](#) and [Bremer \(2009\)](#) +/- five years (node A, [Fig. 3](#)).

**2.4. Ancestral range reconstruction**

Ancestral range reconstructions were carried out using the R package BioGeoBEARS v1.1.1 ([Matzke Nicholas, 2018](#)). Areas were defined based on previous evidence suggesting evolutionary distinction ([Hernández-Camacho et al., 1992](#); [Morrone, 2001](#); [Bernal et al., 2016](#); [Lasso et al., 2018](#); [Pérez-Escobar et al., 2019](#)), and on isolation due to ocean, mountain or dry climate barriers: Amazon, Atlantic Forest, Catatumbo, Guyanas, Macarena, West Indies, Central America, Chocó, Cauca Valley, Magdalena Valley, Asia, and Africa ([Fig. 3](#)). The MCC tree obtained in the BEAST analyses was used as an input tree. The maximum number of areas was set to three as this was the maximum number of areas where any given taxon was found in our phylogeny. The DEC, DIVALIKE and BAYAREALIKE models were evaluated, and the model with the lowest AIC value was selected. Models including the “j”

parameter were not used considering the conceptual and methodological issues introduced by them ([Ree and Sanmartín, 2018](#)).

**2.5. Diversification rates**

We used BAMM 2.5.0 ([Rabosky, 2014](#)) to identify and quantify changes in evolutionary rates. BAMM uses a Markov chain Monte Carlo (MCMC) to compare evolutionary models of diversification. We ran a speciation-extinction model with a global sampling fraction of 0.3 to account for incomplete taxon sampling. Priors were set using the setBAMMpriors function in R ([R Core Team. R, 2018](#)). The analyses were run for 50,000,000 generations and 4 Markov chains. The mcmc output and the event file were written with a frequency of 5000. To analyse the output, we used the R package BAMMtools v2.1.6 ([Rabosky et al., 2014](#)). Using BAMMtools v2.1.6 we checked for convergence, computed the 95% credible set of shift configurations, and extracted the best configuration. To identify the number of rate shifts we calculated the Bayes Factor and compared among models. Changes in rates through time were plotted using the plotRateThroughTime function.

Issues related to the reliability of BAMM analyses were raised by previous studies (e.g. [Rabosky, 2014](#); [Moore et al., 2016](#); [Meyer and](#)

Román-Palacios, 2018; Rabosky, 2019) but under the parameters specified for our analyses with an expected number of shifts = 1, these issues should not hinder determination of patterns of diversification (Rabosky et al., 2017), except in cases where small rate shifts occurred. To account for that and other concerns related to BAMM, we also inferred branch specific diversification rates using RevBayes v10 (Höhna et al., 2016). RevBayes uses a MCMC under a birth-death process with diversification rates changing among branches. We used the time-calibrated phylogeny generated in BEAST as a starting tree, and the root age parameter was derived from it. The rate categories were set to six, and the effect of varying the number of rates categories from 3 to 10, was tested. To account for incomplete taxon sampling, the total number of species was set as the total number of species currently accepted for Sapotaceae. Diversification rates were calculated using the fnDiscretizeDistribution, and results were visualised using the R package RevGadgets v1.

### 3. Results

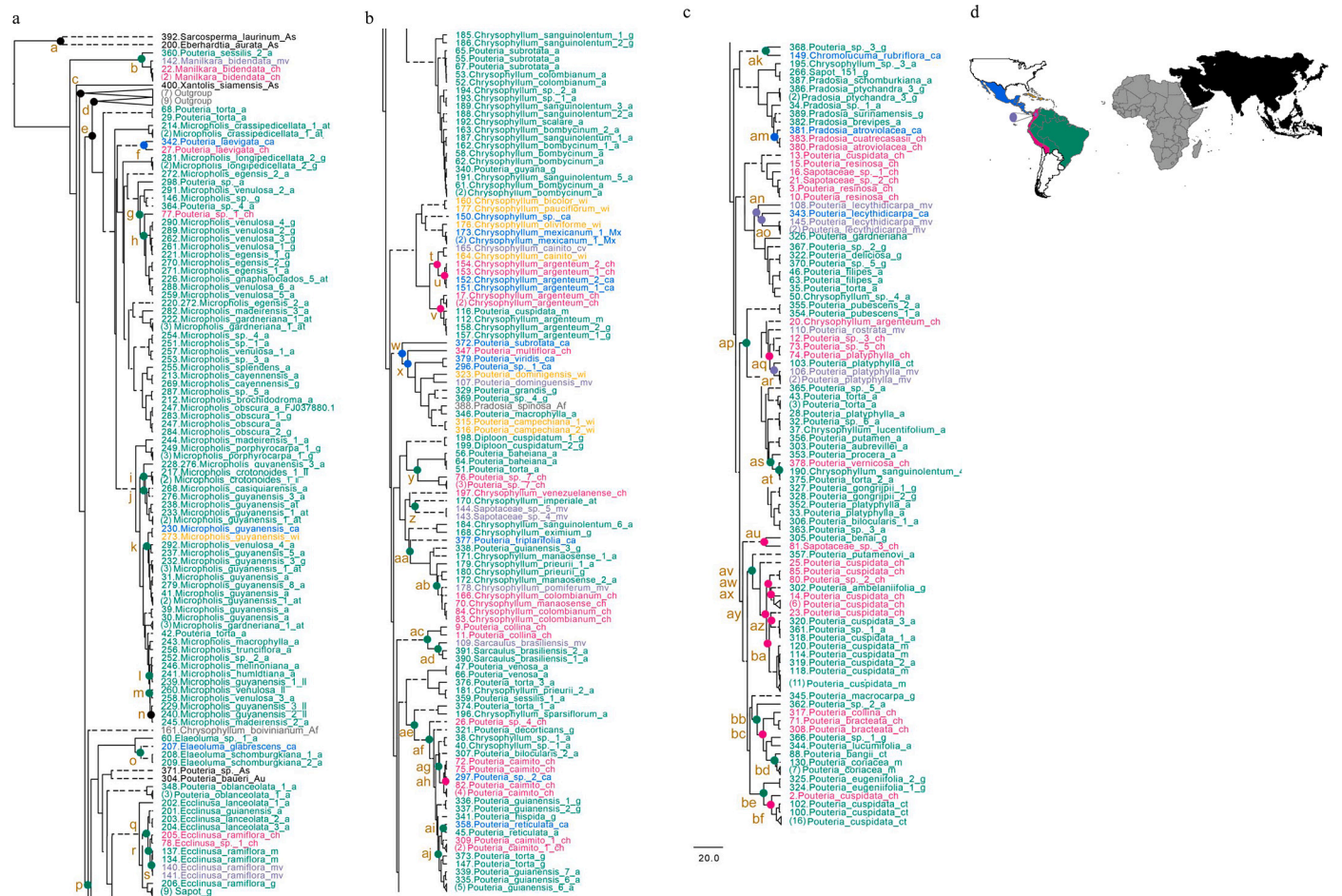
#### 3.1. Divergence time estimation and ancestral range reconstruction

Analyses were performed on 400 accessions with an aligned ITS data matrix of 1151 characters. The first diverging nodes of the phylogeny

are weakly supported, but posterior probability values increase for more apically placed clades. We investigated splits identified based on the divergence time estimation and on the ancestral range reconstruction analyses that were relevant to our hypotheses at all levels in the phylogeny.

An ancestral range reconstruction was performed in BioGeoBEARS where a dispersal–extinction–cladogenesis (DEC) model was found as the best-fit model (DEC AIC: 1406, DIVALIKE AIC: 1585, BAYAREALIKE AIC: 1734). The ancestral area for Sapotaceae was reconstructed as Asia (Fig. 4a Node a). Our results suggest that Sapotaceae arrived first to the Amazon from the Palaeotropics and from the Amazon it migrated to other areas in South and Central America, and the West Indies. After arrival to Central America, Chrysophylloideae colonised Choco and after arrival to the Atlantic Forest it colonised the Magdalena Valley. Direct dispersal from the Amazon was reconstructed for the Guianas and Macarena, and this was followed by multiple dispersals between South and Central America, and the West Indies (Table 1 and Fig. 4).

Thirty-two splits between west-Andean and east-Andean taxa were found from ca. 24 Ma onwards, of which 18 had posterior probability (pp.) values higher than 0.9 (Table 1; Fig. 4a–c). Fifteen splits among lineages in Central America and South America were found from ca. 33 Ma, nine of them with pp. > 0.9 (Fig. 4a). Lastly, ten splits between



**Fig. 4.** Maximum clade credibility tree from the BEAST analyses. Support across the phylogeny is indicated by dotted (pp < 0.9) and solid lines (pp > 0.9). Letters represent splits across the Panama Isthmus (assuming a date of ca. 13–15 Ma for its formation), splits among areas at the east and west of the Eastern Cordillera, and splits between the Paleotropics and the Neotropics. Colours in tips, nodes and the map represent in pink: areas west of the Eastern Cordillera, in green: areas east of the Eastern Cordillera, in purple: inter-Andean valleys, in blue: Central America, in yellow: West Indies, in grey: Africa, and in black: Asia. Colours of circles on the nodes represent the ancestral area of highest likelihood as estimated in BioGeoBEARS v.1.1.1. The colour palette was chosen using the colorblindFriendly function in the R package RColorBrewer v2.0. Letters after names indicate the following regions: a. Amazonia, Af. Africa, As. Asia, at. Atlantic forest, Au. Australia, ca. Central America, ch. Choco, ct. Catatumbo, cv. Cauca Valley, g. Guianas, ll. Llanos, m. Macarena, mv. Magdalena Valley, wi. West Indies. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

**Table 1**

Summary of the divergence time estimation. Divergence time estimation analyses were carried out using BEAST v1.8.4. HPD are given for those nodes with Posterior Probability values higher than 0.7. Splits were divided into: Trans-Andean (between Chocó/Cauca valley/Magdalena Valley and Amazon/Atlantic forest/ Macarena/Catatumbo); east-Andean (between Amazon, Catatumbo, and Macarena); Across the Panama Isthmus (between Central America and South American areas); trans-Atlantic (between Paleotropics and Neotropics); and Paleotropical for areas in Africa and Asia.

Node	Posterior probability	Mean age and HPD (Mya)	Type of split	Ancestral Area (highest likelihood)
a	0.83	65.66 [35.22, 94.92]	Trans-Atlantic	Asia
aa	0.19	27.1	Panama Isthmus	Amazon
ab	0.32	6.93	Trans-Andean	Amazon
ac	1	14.3 [7.47, 20.29]	Trans-Andean	Amazon
ad	1	6.11 [2.45, 8.92]	Trans-Andean	Amazon
ae	0.87	24 [15.9, 31.37]	Trans-Andean	Amazon
af	0.86	13.01 [6.99, 19.49]	Panama Isthmus	Amazon
ag	0.25	5.8	Trans-Andean	Amazon
ah	0.2	1.1	Panama Isthmus	Chocó
ai	0.23	1.6	Panama Isthmus	Amazon
aj	0.39	6	Trans-Andean	Guianas
ak	1	9.4 [3.66, 14.79]	Panama Isthmus	Guianas
am	1	2.7 [0.69, 3.70]	Panama Isthmus	Central America
an	0.95	15.9 [9.64, 21.13]	Panama Isthmus	Magdalena valley
ao	0.92	13.1 [7.24, 18.06]	Panama Isthmus	Magdalena valley
ap	0.89	23.7 [15.95, 30.56]	Trans-Andean	Amazon
aq	0.3	7.8	Trans-Andean	Chocó
ar	1	4.96 [1.90, 6.78]	Trans-Andean	Magdalena valley
as	0.99	6 [2.74, 8.41]	Trans-Andean	Amazon
at	1	1.4 [0.06, 1.76]	Trans-Andean	Amazon
au	1	10.65 [4.5, 16.12]	Panama Isthmus	Chocó
av	0.15	19.79	Trans-Andean	Amazon
aw	0.71	7.84 [4.18, 10.31]	Trans-Andean	Chocó
ax	0.39	6.94	Trans-Andean	Chocó
ay	0.04	7.2	Trans-Andean	Chocó
az	0.35	10.16	Trans-Andean	Chocó
b	1	8.1 [2.89, 12.96]	Trans-Andean	Amazon
ba	0.05	8.2	Trans-Andean	Chocó
bb	1	16 [11.09, 20.74]	Trans-Andean	Amazon
bc	0.99	12.3 [7.74, 15.61]	Trans-Andean	Chocó
bd	1	3.9 [1.33, 5.48]	Trans-Andean	Catatumbo
be	0.96	12.1 [6.4, 17.07]	Trans-Andean	Guyanas
bf	0.98	6.5 [2.83, 9.43]	Trans-Andean	Chocó
c	0.34	50	Paleotropical	Africa
d	0.88	40 [35.08, 46.19]	Paleotropical	Africa
e	0.17	44	Trans-Atlantic	Africa
f	0.99	5.6 [1.11, 9.76]	Panama Isthmus	Central America
g	0.41	9.74	Trans-Andean	Amazon
h	0.98	6.57 [3.24, 8.07]	Trans-Andean	Amazon
i	0.96	7 [3.95, 9.68]	East-Andean	Amazon

**Table 1 (continued)**

Node	Posterior probability	Mean age and HPD (Mya)	Type of split	Ancestral Area (highest likelihood)
j	0.12	5.9	East-Andean	Amazon
k	0.03	3.8	Panama Isthmus	Amazon
l	0.11	1	East-Andean	Amazon
m	0.95	1.2 [0.01, 1.49]	East-Andean	Amazon
n	0.1	1	East-Andean	Llanos
o	0.48	9.09	Panama Isthmus	Amazon
p	0.13	47	Trans-Atlantic	Africa
q	1	4 [1.49, 5.47]	Trans-Andean	Amazon
r	0.95	2.4 [0.55, 3.17]	Trans-Andean	Amazon
s	0.99	1.5 [0.05, 1.11]	Trans-Andean	Macarena
t	1	6.8 [2.84, 9.64]	Trans-Andean	Chocó
u	1	2 [0.23, 2.75]	Panama Isthmus	Chocó
v	1	4.8 [1.79, 7]	Trans-Andean	Chocó
w	0.99	33 [24.18, 40.64]	Panama Isthmus	Central America
x	0.96	28 [20.68, 36.33]	Panama Isthmus	Central America
y	0.99	21.6 [12.62, 29.78]	Trans-Andean	Amazon
z	0.73	23 [12.68, 34.53]	Trans-Andean	Atlantic forest

neotropical Sapotaceae species occurred during the Pleistocene epoch, seven of them with pp. > 0.9.

We found two major neotropical clades derived from African lineages at ca. 44 Ma (Fig. 4a Node e, pp. 0.17) and ca. 47 Ma (Node p. Fig. 4a, pp. 0.13), respectively. Additionally, a well-supported neotropical clade nested within the Asian Sapotaceae was found and includes taxa from the Amazon, Magdalena Valley and Chocó (ca. 8.1 [2.89–12.96 HPD] Ma, Fig. 4a Node b, pp. 1).

The earliest well-supported split between Chocó and any other area in the Neotropics occurred at ca. 33 (24.18–40.64 HPD) Ma (Fig. 4b Node w, pp. 0.99), between Chocó and Central America (pp. 0.99). Further splits between Chocó and the Guyanas occurred between ca. 13 and 6.5 Ma (Table 1). Well supported splits between Chocó and Central America occurred at 28 Ma (20.68–36.33 HPD; Fig. 4a Node x, pp. 0.96), and more recently at ca. 5.6 Ma (1.11–9.76 HPD; Fig. 4a Node f, pp. 0.99), 2.7 (0.69–3.70 HPD) Ma (0.69–3.70 HPD; Fig. 4c Node am, pp. 1), and 2 (0.23, 2.75 HPD) Ma (Fig. 4b Node u, pp. 1).

Three well supported splits between Central America and other areas in South America occurred at ca. 15.9 (9.64–21.13 HPD), 13 (7.24–18.06 HPD) and 9.4 (3.66–14.79 HPD) Ma (Fig. 4c Nodes an, ao, ak). Six additional splits among lineages in Central America and South America were found from 27.1 Ma to 1.6 Ma, but without strong statistical support (Fig. 4a,b, Nodes aa, o, ai, k, aj).

The oldest split between lineages from Chocó and the Amazon occurred at ca. 24 (15.9–31.37 HPD) Ma (Fig. 4b Node ae, pp. 0.87). However, this and a later split at ca. 23.7 (15.95–30.56 HPD) Ma (Fig. 4b Node ap) are weakly supported (pp. 0.87 and 0.89, respectively). Node y (Fig. 4b) is the earliest well supported (pp. 0.99) split between lineages from Chocó and the Amazon at ca. 21.6 (12.62–29.78 HPD) Ma. Six additional well-supported splits between taxa in Chocó and the Amazon were found between ca. 16 and 1.4 Ma (Table 1). Eight splits with pp. < 0.9 occurred between taxa in the Amazon and Chocó from ca. 19.7 (35.08–46.19 HPD) Ma to ca. 5.1 Ma (Fig. 4a,b,c Nodes av., az, g, ab, ag).

The oldest split between Chocó and other areas in northern South America such as the Cauca valley was found at ca. 6.8 (2.84–9.64 HPD) Ma (Fig. 4b Node t, pp. 1), and between Chocó and Magdalena Valley at ca. 14.3 (7.47–20.29 HPD) Ma (Fig. 4b Node ac, pp. 1). Another split



between Chocó and Magdalena Valley occurred at ca. 2.4 (0.55–3.17 HPD) Ma (Fig. 4a Node r, pp. 0.95).

Node z (Fig. 4b) at ca. 23 (12.68–34.53 HPD) Ma (pp. 0.73) indicates the time when lineages in the Magdalena valley and the Atlantic forest in Brazil last shared a common ancestor. The earliest split between taxa in the Magdalena valley and the Amazon occurred at 8.1 (2.89–12.96 HPD) Ma (Fig. 4a Node b, pp. 1), taxa shared between these areas also diverged later at ca. 6.1 Ma (2.45–8.92 HPD; Fig. 4b Node ad, pp. 1). The age of node s (Fig. 4a) at ca. 1.5 (0.05–1.11 HPD) Ma (pp. 0.99) represents a younger split between lineages from the Magdalena valley and Macarena.

Two main clades of lineages from Macarena are represented by nodes ba and bd (Fig. 4c). Node ba represents the most recent common ancestor shared between lineages from Macarena and Chocó/Amazon at ca. 8.2 Ma. This relationship is weakly supported (pp. 0.05). Node bd indicates the most recent common ancestor shared between taxa in Catatumbo and in Macarena at ca. 3.9 (1.33–5.48 HPD) Ma (pp. 1). Taxa in Macarena were found to also share a common ancestor with taxa in the Amazon at ca. 4 Ma (pp.1) and in Chocó at ca. 4.8 (1.79–7 HPD) Ma (Fig. 4d Node V, pp. 1) and 2.4 (0.55, 3.17) Ma (Fig. 4a Node r, pp. 0.95).

Catatumbo lineages (Fig. 4c Node be) diverged from lineages from Chocó at ca. 6.5 (2.83, 9.43 HPD) Ma (Fig. 4c Node bf, pp. 0.98). The stem node of that clade was found at ca. 12 Ma (pp. 0.96) and represents the split between taxa in the Guyanas and clade 4.13. Taxa from Catatumbo split from taxa in the Magdalena valley at ca. 4.9 (1.90, 6.78 HPD) and 7.8 (1.90–6.78 HPD) Ma (Fig. 4c Nodes ar and aq, pp. 1 and 0.3). Lineages from Los Llanos split from taxa from the Amazon at ca. 1 Ma (Fig. 4a Node n, pp. 0.1 and Node l, pp. 0.11), 1.2 (0.01, 1.49 HPD) Ma (Fig. 4a Node m, pp. 0.95), 5.9 Ma (Node j, pp. 0.12) and 7 (3.95, 9.68 HPD) Ma (Node i, pp. 0.96).

### 3.2. Diversification rates

In our phylogeny the probability of a null model was too low and it could not be calculated by BAMM. However, BAMM sampled models with 1:5 and 7 shift regimes, favouring a model with a single shift at the basal node of the Neotropical groups (Fig. 3). Branch specific speciation rates calculated by RevBayes recovered two additional shifts in diversification during the late Miocene at ca. 6–8 Ma (Fig. 3), for lineages in the Catatumbo and Macarena forests. Changes in diversification rates coinciding with periods of major uplift of the Andes, the closure of the Isthmus of Panama, or Pleistocene climatic changes were not supported (Fig. 3).

## 4. Discussion

The uplift of the Andes, the formation of the Panama land bridge and the climatic changes in the Pleistocene reconfigured the Neotropics generating barriers that could assist and prevent dispersal and promote diversification. In our analyses we did not, however, find evidence supporting the hypotheses of increases in diversification rates caused by the Andean uplift or the Pleistocene climatic changes. Our data suggest that dispersal has played an important role in the evolutionary history of neotropical Chrysophylloideae at various scales, with deep signatures of its effects in our phylogeny from the arrival of the subfamily to South America possibly via trans-oceanic dispersal, to migration events across the Andes and the Panama land bridge, to fine patterns of evolution within and between species across Sapotaceae's geographical range.

The earliest record for a possible Sapotaceae migration from Asia to the Neotropics was found in a well-supported neotropical clade nested within the Asian species with a stem node age of ca. 60 (56–67 HDP) Ma (Fig. 4a Node b). We found evidence for further and later migration to the Neotropics from Africa at ca. 47 and 44 Ma. Arrival in the Neotropics was accompanied by a significant shift in diversification rates (Fig. 3), although this may be an artefact of low sampling of palaeotropical lineages. These dispersal events postdate the physical isolation of South

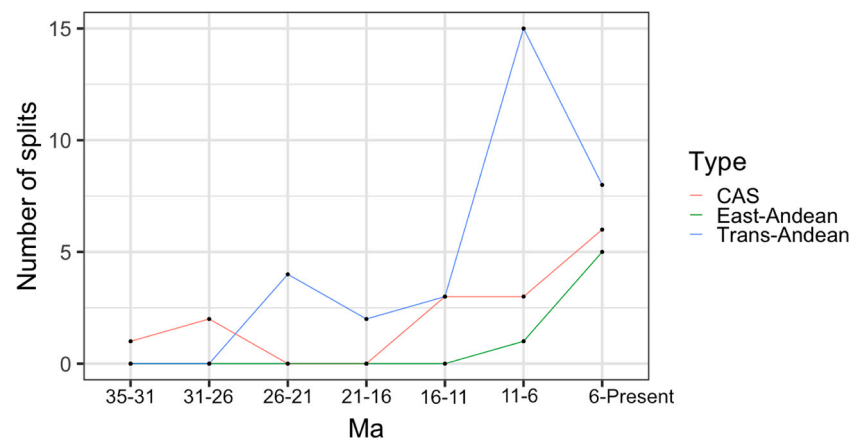
America from Africa, and coincided with the existence of the megathermal boreotropical rain forest in the northern hemisphere during the Paleocene/Eocene (Wolfe, 1975). However, one would expect South American lineages to be nested within Central American ones if South America had been colonised from northern boreotropical regions. According to the ancestral reconstruction in BioGeoBEARS, the earliest occurrence of Sapotaceae in the Neotropics was in the region currently occupied by the Amazon basin (Fig. 4 and Table 1). Hence, Sapotaceae could have dispersed instead via oceanic currents from Africa to the eastern coast of South America as previously suggested for the Sapotaceae genus *Manilkara* (Armstrong et al., 2014) (Table 1). Chrysophylloideae then migrated on multiple occasions to Central America, to the West Indies, and other areas in South America.

Evidence suggesting a strong role of dispersal in Chrysophylloideae's history was also found at finer scales in our phylogeny where we identified non-monophyletic species with wider distributions, which may be the ancestors of species with narrower ranges that are phylogenetically nested within them. This pattern deserves further study and was found in species such as *Chrysophyllum cainito* that is nested within *C. argenteum*, *Micropholis casiquariensis* that is nested within *M. guyanensis*, and *Pouteria reticulata* and *P. cainito* that are nested within the more broadly distributed *P. guianensis*. Wide distributional ranges in lowland rain forest could be the result of dispersal events followed by successful colonisation in areas where empty spaces were created after periods of frequent disturbance (Pennington and Lavin, 2016). Isolation and drift or strong selection may be sufficient to lead to species formation in peripheral populations.

### 4.1. Trans-Andean Vicariance (Hypothesis i)

Thirty-two splits were found between taxa at either side of the Eastern Cordillera from ca. 24 (15.9–31.37 HPD) Ma onwards (Figs. 4 and 5, and Table 1). Twenty-six of those (14 with pp. > 0.9 and 14 with pp. < 0.9) occurred from ca. 12 Ma onwards (Table 1). We acknowledge that the total number of splits will vary if additional collections were added, yet our phylogeny includes 30% of the currently recognised species in neotropical Chrysophylloideae, including 71% of the known species in Colombia, one of the most species-rich areas and where the Andes branches in three ranges separating important fragments of lowland rain forest. Our taxon sampling is adequate to recover important evidence for migration across mountain barriers and reject a hypothesis of vicariance caused by the uplift of the Eastern Cordillera (Fig. 2). Under this vicariance hypothesis we would expect splits on either side to have occurred mainly from ca. 12 Ma. Timing of isolation across the Cordillera in our analyses is spread through time rather than concentrated at one point as a vicariance model would predict (Fig. 5). This indicates that the Andes were not a significant barrier to dispersal, and that isolation of Sapotaceae lineages on either side of the Andes's Eastern Cordillera after the middle Miocene, the time frame of major uplift in northern South America, occurred only in some cases. Frequent dispersal among areas separated by the Andes has been reported in other studies by Fine et al. (2014), Dexter et al. (2017), Hazzi et al. (2018), Pérez-Escobar et al. (2019), and like Serrano et al. (2018) they indicate that migration may have prevented provincialism in Sapotaceae species distributions (but see for examples where dispersal may have been less prevalent Trénel et al., 2007; Albert et al., 2006; Pirie et al., 2006; Arrivillaga et al., 2002; Winterton et al., 2014; De-Silva et al., 2016).

Migration in Chrysophylloideae between areas to the west of the Eastern Cordillera, i.e. Chocó, and the inter-Andean valleys, would not have been limited by altitude as these areas are all connected by fragments of lowland rain forest. These fragments are in the departments of Antioquia, Córdoba and Bolívar (Gentry, 1982) (Fig. 1). Dispersal between Chocó and other areas in northern South America has also been reported in other taxa such as Arecaceae and Burseraceae (Fine et al., 2014; Dexter et al., 2017; Bacon et al., 2018). *trans*-Andean migration of Sapotaceae between areas that are not connected by corridors of



**Fig. 5.** Number of phylogenetic splits found in Sapotaceae through geological time in northern South America. Types of splits were divided into Trans Andean: between Cauca valley/Chocó/Magdalena Valley and Amazon/Atlantic forest/Catatumbo/ Llanos/Macarena; east-Andean: between Amazon, Atlantic forest, Catatumbo, Llanos and Macarena; and Across CAS (Central American Seaway): between Central America/Mexico and South American areas.

lowland rain forest such as Catatumbo and the inter-Andean valleys, could have occurred through mountain passes where altitudes in the Eastern Cordillera are lower (Hazzi et al., 2018; Serrano et al., 2018) (red bars Fig. 1, Fig. 4).

#### 4.2. Migration across the Panama Isthmus (Hypothesis ii)

Fifteen migration events, nine of them well supported, were found between Central and South America (Figs. 4 and 5). The rise of the Isthmus of Panama was a crucial event for Neotropical biotic evolution as it connected North and South America allowing the interchange of terrestrial species (Simpson, 1980). According to Coates & Obando (1996) the formation of the Isthmus of Panama did not occur in one single event, but was reportedly completed in the Middle Pliocene at around 3.4–3.1 Ma. However, more recent studies based on river deposit evidence from Northern South America, indicate that the land bridge may actually have been formed at around 13–15 Ma. The migration events found in our phylogeny occurred from ca. 33 (24.18–40.64 HPD) Ma (Node w, Fig. 4b.) onwards, prior to and after the closure of the Panama land bridge, assuming a date of closure of ca. 13–15 Ma (Hoorn and Flantua, 2015; Bacon et al., 2015). Our results corroborate Cody et al. (2010) who compared plant and animal migration patterns across the isthmus, and found that dispersal of plant taxa was spread through the Cenozoic and often preceded the formation of the land bridge (whether regarded as occurring at 3 Ma or 13–15 Ma). They are also similar to those of Bartish et al. (2011) who suggested that the closure of the Central American Seaway initiated a possible route for migration but was not essential for the expansion of Sapotaceae's distributional range. Considering that there is evidence for transatlantic dispersal in Sapotaceae (e.g. Bartish et al., 2011), migration could have taken place from South America to Central and North America, directly across the relatively narrow seaway present before the formation of the Isthmus of Panama.

#### 4.3. Diversification after the Andean uplift (Hypothesis iii)

Sapotaceae diversified at a constant rate until about 49.5 Ma when arrival in the Neotropics coincided with shifts in diversification rates (Figs. 3 and 5). Two additional diversification shifts occurred in the late Miocene in clades representing taxa at the Macarena and Catatumbo forests. The hypothesis of increased diversification rates being associated with periods of major uplift in the Andes was not supported. Because Sapotaceae species do not generally occur above 2000 m in South America, so they would not have been affected by the creation of novel montane habitats by the Andean uplift. This uplift could, however,

have affected the evolution of Chrysophylloideae and other lowland rain forest restricted taxa by altering the edaphic and hydrological systems in lowland areas (Burnham and Graham, 1999; Hoorn et al., 2010), but the effects of these alterations did not significantly increase diversification rates in our analyses.

#### 4.4. Pleistocene diversification (Hypothesis iv)

Despite early work suggesting that speciation in animals from the lowland rain forest of South America mostly predates the Pleistocene (Moritz et al., 2000), more recently examples have accumulated suggesting origin of neotropical rain forest species during the Pleistocene including in *Inga* (Fabaceae), *Guatteria* (Annonaceae) and *Meliaceae* (Richardson et al., 2001; Koenen et al., 2015). Thirteen splits (seven with  $pp. > 0.9$ ) among South American Sapotaceae occurred during the Pleistocene (Fig. 5). Our results add to a building picture that species diversification in neotropical trees has occurred recently, and Pleistocene dates for speciation in Sapotaceae (Fig. 5 and Table 1) are consistent in timing with a speciation model driven by climatic changes. However, Pleistocene speciation is not responsible for the majority of Sapotaceae speciation as early “refuge theory” models of neotropical speciation hypothesised (Haffer, 1969; Prance, 1973; Richardson et al., 2001; Pérez-Escobar et al., 2019).

## 5. Conclusions

The study of patterns of evolution in northern South America, is a fundamental piece to our understanding of the origins of the great plant diversity of the Neotropics. Yet, due to decades of civil conflict in countries like Colombia, the addition of plant collections from forests on both sides of the Andes, was highly restricted. Here we addressed this gap and tested hypotheses focussed on the role of geographic barriers and climatic changes in the biogeographic history of the Chrysophylloideae subfamily in Sapotaceae. Our results uncover patterns suggesting a strong role for dispersal in the history of neotropical Sapotaceae and the lowland rain forest biome, where they are most abundant.

#### Author contributions

Conceived and designed the experiments: JER, JS. Generated the data and ran analyses JS. Wrote the paper: JS, JER, RTP, RIM, RCB, GAM, JAH, IVB, MG, JC, SM, DC, SDC.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Appendix A

List of specimens included in the phylogenetic analyses. Internal transcribed spacers of rDNA (ITS) sequence data was generated. A total of 146 Chrysophylloideae accessions were collected in the Choco, Magdalena valley, Catatumbo, Amazon and Macarena lowland rain forests of Colombia. The remaining sequences were obtained from previous phylogenetic studies on Chrysophylloideae (Sánchez-C. et al., 2021; Gonzalez et al., 2009; Swenson et al., 2008) and GenBank

\*sterile specimens not deposited at official herbarium collections.

Taxon	Locality	Collector (herbarium)/GenBank number
<i>Breviea sericea</i> (A. Chev.) Aubrév. & Pellegr.	Africa	Letouzey 8319 (P) DQ246666
<i>Chromolucuma rubriflora</i> Ducke	Central America	Anderberg et al. 20 (S)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Serrano 280 (UDBC)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Serrano 286 (UDBC)
<i>Chrysophyllum argenteum</i> Jacq.	Macarena	Serrano 158 (UDBC)
<i>Chrysophyllum argenteum</i> Jacq.	Guyanas	Baraloto 3203 (CAY) NH200191
<i>Chrysophyllum argenteum</i> Jacq.	Guyanas	Baraloto, Engel & Riera s.n. (CAY) NH200307
<i>Chrysophyllum argenteum</i> Jacq.	Central America	Dick 79 (STRI)
<i>Chrysophyllum argenteum</i> Jacq.	Central America	Dick 80 (STRI)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Dick 81 (STRI)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Dick 82 (STRI)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Dick 85 (STRI)
<i>Chrysophyllum argenteum</i> Jacq.	Choco	Dick 87 (STRI)
<i>Chrysophyllum bangweolense</i> R.E. Fr.	Africa	Malaisse 9600 (WAG)
<i>Chrysophyllum bicolor</i> Poir.	West Indies	JF912987*
<i>Chrysophyllum boivinianum</i> (Pierre) Baehni	Africa	McPherson 14426 (MO, P, WAG)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 118 (UDBC)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 120 (UDBC)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 121 (UDBC)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 135 (UDBC)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 139 (UDBC)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8671 (E)
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8673 (E)
<i>Chrysophyllum cainito</i> L.	West Indies	Chantaranonthai 2304 (KKU)
<i>Chrysophyllum cainito</i> L.	Cauca Valley	Richardson et al. 357 (E)
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 100 (UDBC)
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Choco	Serrano 319 (UDBC)
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Choco	Serrano 320 (UDBC)
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 98 (UDBC)
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Choco	Gentry, Faber-Langendoen & Monsalve 56806 (K)
<i>Chrysophyllum cuneifolium</i> (Rudge) A. DC.	Guyanas	Mori et al. 19135 (K)
<i>Chrysophyllum eximium</i> Ducke	Guyanas	Baraloto 3135 (CAY)
<i>Chrysophyllum fenerivense</i> (Aubrév.) G.E. Schatz & L. Gaut	Africa	NH200106
<i>Chrysophyllum imperiale</i> (Linden ex K. Koch & Fintelm.) Benth. & Hook. f.	Atlantic Forest	Pennington s.n. (S)
<i>Chrysophyllum</i> L.	Magdalena Valley	Serrano 38 (UDBC)
<i>Chrysophyllum</i> L.	Central America	Anderberg et al. 31*
<i>Chrysophyllum</i> L.	Amazon	Garcia 8581 (E)
<i>Chrysophyllum</i> L.	Amazon	Garcia 8647 (E)
<i>Chrysophyllum</i> L.	Amazon	TBC*
<i>Chrysophyllum</i> L.	Amazon	Serrano 64 (UDBC)
<i>Chrysophyllum</i> L.	Amazon	Serrano 67 (UDBC)
<i>Chrysophyllum lucentifolium</i> Cronquist	Amazon	Serrano 62 (UDBC)
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Choco	Serrano 296 (UDBC)
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	Richardson et al. 334 (E)
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	TBC*
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP256 JF912991
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP341 JF912989

(continued on next page)

(continued)

Taxon	Locality	Collector (herbarium)/GenBank number
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP398 JF912990
<i>Chrysophyllum oliviforme</i> L.	West Indies	Gutiérrez & Nilsson 1 (S)
<i>Chrysophyllum pauciflorum</i> Lam	West Indies	JF912986
<i>Chrysophyllum pomiferum</i> (Eyma) T.D. Penn.	Magdalena Valley	Pennington et al. 12386*
<i>Chrysophyllum prieurii</i> A. DC.	Guyanas	Baraloto, Engler & Chave s.n. (CAY) P01860227
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Garcia 8583 (E)
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Richardson et al. 326 (E)
<i>Chrysophyllum pruniforme</i> Pierre ex Engl.	Africa	Jongkind 3762 (WAG)
<i>Chrysophyllum roxburghii</i> G. Don	Africa	Randrianasolo 33 (WAG)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Guyanas	Baraloto 3016 (CAY)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Guyanas	Baraloto 3196 (CAY) NH200177
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	FJ037869
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8236 (E)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8645 (E)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 305 (E)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 310 (E)
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 348 (E)
<i>Chrysophyllum scalare</i> T.D. Penn.	Amazon	Richardson et al. 320 (E)
<i>Chrysophyllum sparsiflorum</i> Klotzsch ex Miq.	Amazon	DQ021882
<i>Chrysophyllum venezuelanense</i> (Pierre) T.D. Penn.	Choco	Stähl et al. 5755 (S)
<i>Diploon cuspidatum</i> (Hoehe) Cronquist	Guyanas	Baraloto 3209 (CAY) NL110264
<i>Diploon cuspidatum</i> (Hoehe) Cronquist	Guyanas	Pennington et al. 13843 (U)
<i>Eberhardtia aurata</i> (Pierre ex Dubard) Lecomte	Asia	Hao 534 (S) EF558617
<i>Ecclinusa guianensis</i> Eyma	Amazon	Ducke Res. 05-906 (K)
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8675 (E)
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8689 (E)
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Richardson et al. 314 (E)
<i>Ecclinusa</i> Mart.	Choco	Serrano 309 (UDBC)
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 170 (UDBC)
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 177 (UDBC)
<i>Ecclinusa ramiflora</i> Mart.	Guyanas	Irwing et al. 55081 (S)
<i>Ecclinusa ramiflora</i> Mart.	Choco	Monsalve B1319 (K)
<i>Elaeoluma</i> Baill.	Amazon	Serrano 131 (UDBC)
<i>Elaeoluma glabrescens</i> (Mart. & Eichler) Aubrév.	Central America	Anderberg et al. 33 (S)
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	DQ246679
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	Keel & Koelho 243 (S)
<i>Englerophytum magalismontanum</i> (Sond.) T.D. Penn.	Africa	Swenson & Karis 631 (S) DQ246680
<i>Englerophytum natalense</i> (Sond.) T.D. Penn.	Africa	Kayombo 3483 (S) AY552150
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Choco	Serrano 245 (UDBC)
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Magdalena Valley	Serrano 28 (UDBC)
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Choco	Serrano 294 (UDBC)
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Choco	Serrano 334 (UDBC)
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Serrano 89 (UDBC)
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 737*
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 799 *
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Avila et al. 2733 (UDBC)
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Garcia 8618 (E)
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Sanchez et al. 22*
<i>Micropholis brochidodroma</i> T.D. Penn.	Amazon	JR-JH-1*
<i>Micropholis casiuariensis</i> Aubrév.	Amazon	Richardson et al. 340 (E)
<i>Micropholis cayennensis</i> T.D. Penn	Guyanas	Baraloto, Engel & Riera s.n. (CAY) NH200222
<i>Micropholis cayennensis</i> T.D. Penn	Amazon	FJ037875.1
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	JQ434164.1
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	JQ434165.1
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	NH200222
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	ESR89*
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	JRM24*
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	Ramirez et al. 50 *
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Avila 2746*
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Betancur, Echeverry, Kress & Roessel 2848 (K)
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Dionizia, Coêlho & Ernesto 73 (U)
<i>Micropholis egensis</i> (A. DC.) Pierre	Guyanas	DQ246681
<i>Micropholis egensis</i> (A. DC.) Pierre	Guyanas	FJ037876.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	JQ434158.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	JQ434158.2
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	JQ434159.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	JQ434160.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	JQ434161.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 52 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 53 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 66 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 68 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 71 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 77 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Avila 2684 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	Baraloto 3107 (CAY) NL110516

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Taxon	Locality	Collector (herbarium)/GenBank number
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	Baraloto, Engel & Riviera s.n. (CAY) NH200477
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Central America	DQ246682.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	FJ037878.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8242 (E)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8620 (E)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	JQ434166.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	JQ434167.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	JQ434168.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	KF943856.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 93*
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 93*
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Piñeros et al. 14 (UDBC)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson n.d *
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson et al. 328 (E)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	West Indies	Taylor 11691 (MO)
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	CR194*
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	JR-PA-08*
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	TBC*
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	TBC*
<i>Micropholis humboldtiana</i> (Roem. & Schult.) T.D. Penn.	Amazon	PU72 (COAH)
<i>Micropholis longipedicellata</i> Aubrév.	Guyanas	Baraloto 3210 (CAY) FJ037879
<i>Micropholis longipedicellata</i> Aubrév.	Guyanas	Baraloto 3210 (CAY) NL110459
<i>Micropholis longipedicellata</i> Aubrév.	Atlantic Forest	FJ037879.1
<i>Micropholis macrophylla</i> (Krause) T.D. Penn.	Amazon	EP102*
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Cortés et al. 2869 (UDBC)
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	MS3660*
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Richardson et al. 329 (E)
<i>Micropholis melinoniana</i> Pierre	Amazon	Alvarez 1999*
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	Baraloto 3217 (CAY) P00610293
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	Baraloto 3218 (CAY) NH200217
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	FJ037880.1
<i>Micropholis obscura</i> T.D. Penn.	Amazon	TBC*
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	Baraloto 3219 (CAY) NH200696
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	Baraloto 3220 (CAY) NH200404
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	FJ037882.1
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	FJ037883.1
<i>Micropholis splendens</i> Gilly ex Aubrév.	Amazon	Avila et al. 2693 (UDBC)
<i>Micropholis trunciflora</i> Ducke	Amazon	Cardenas 12266*
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	AD8893
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Assunção 122 (U)
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Avila et al. 2704 (UDBC)
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto 3114 (CAY) NL110297
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto 3128 (CAY) NL110260
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	DQ246683.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	FJ037884.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	FJ037885.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8005 (E)
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8238 (E)
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Llanos	Sanchez et al. 124*
<i>Omphalocarpum pachysteloides</i> Mildbr. ex Hutch. & Dalziel	Africa	Jongkind 2351 (WAG) AY552151
<i>Omphalocarpum strombocarpum</i> Y.B. Harv. & Lovett	Africa	Frimodt-Møller et al. 538 (c) DQ246685
<i>Omphalocarpum strombocarpum</i> Y.B. Harv. & Lovett	Africa	Frimodt-Møller et al. 538 (C)
<i>Pouteria adolfi-friedericii</i> (Engl.) A. Meeuse	Africa	Friis et al. 3502 (UPS)
<i>Pouteria alnifolia</i> (Baker) Roberty	Africa	Jongkind & Noyes 1322 (MO)
<i>Pouteria altissima</i> (A. Chev.) Baehni	Africa	Friis et al. 4145 (UPS)
<i>Pouteria ambelaniifolia</i> (Sandwith) T.D. Penn.	Guyanas	Baraloto s.n. (CAY) NH200025
<i>Pouteria</i> Aubl.	Guyanas	TBC*
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 51 (S)
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 60 (S)
<i>Pouteria</i> Aubl.	Asia	Armstrong 317*
<i>Pouteria</i> Aubl.	Amazon	Garcia 8623 (E)
<i>Pouteria</i> Aubl.	Amazon	Garcia 8632 (E)
<i>Pouteria</i> Aubl.	Amazon	Garcia 8640 (E)
<i>Pouteria</i> Aubl.	Amazon	Garcia 8641 (E)
<i>Pouteria</i> Aubl.	Amazon	Garcia 8777 (E)
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino K383
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino K989
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino P213
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino Q423
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino V819
<i>Pouteria</i> Aubl.		TBC*
<i>Pouteria</i> Aubl.	Choco	Serrano 307 (UDBC)
<i>Pouteria</i> Aubl.	Choco	Serrano 312 (UDBC)
<i>Pouteria</i> Aubl.	Choco	Serrano 267 (UDBC)
<i>Pouteria</i> Aubl.	Choco	Serrano 338 (UDBC)
<i>Pouteria</i> Aubl.	Choco	Serrano 301 (UDBC)

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Taxon	Locality	Collector (herbarium)/GenBank number
<i>Pouteria Aubl.</i>	Amazon	Serrano 54 (UDBC)
<i>Pouteria Aubl.</i>	Choco	Serrano 244 (UDBC)
<i>Pouteria Aubl.</i>	Choco	Serrano 246 (UDBC)
<i>Pouteria Aubl.</i>	Choco	Serrano 247 (UDBC)
<i>Pouteria Aubl.</i>	Choco	Serrano 306 (UDBC)
<i>Pouteria aubrevillei Bernardi</i>	Amazon	Richardson et al. 327 (E)
<i>Pouteria baehniiana Monach.</i>	Amazon	Serrano 116 (UDBC)
<i>Pouteria baehniiana Monach.</i>	Amazon	Serrano 144 (UDBC)
<i>Pouteria bangii (Rusby) T.D. Penn.</i>	Catatumbo	Serrano 198 (UDBC)
<i>Pouteria baueri (Montrouz.) Baehni</i>	Australia	TBC*
<i>Pouteria benai (Aubrév. &amp; Pellegr.) T.D. Penn.</i>	Guyanas	Mori et al. 27353 (K)
<i>Pouteria bilocularis (H.J.P. Winkl.) Baehni</i>	Amazon	Garcia 8763 (E)
<i>Pouteria bilocularis (H.J.P. Winkl.) Baehni</i>	Amazon	Richardson et al. 345 (E)
<i>Pouteria bracteata T.D. Penn.</i>	Choco	Serrano 298 (UDBC)
<i>Pouteria bracteata T.D. Penn.</i>	Choco	Palacios 13699 (K)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Serrano 299 (UDBC)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Serrano 305 (UDBC)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Serrano 311 (UDBC)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Serrano 318 (UDBC)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 377 (E)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 386 (E)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 387 (E)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 388 (E)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 390 (E)
<i>Pouteria caimito (Ruiz &amp; Pav.) Radlk.</i>	Choco	Richardson et al. 391 (E)
<i>Pouteria campechiana (Kunth) Baehni</i>	West Indies	Fagerlind 2754 (S)
<i>Pouteria campechiana (Kunth) Baehni</i>	West Indies	Wang W00798 (HAST)
<i>Pouteria collina (Little) T.D. Penn.</i>	Choco	Serrano 258 (UDBC)
<i>Pouteria collina (Little) T.D. Penn.</i>	Choco	Serrano 263 (UDBC)
<i>Pouteria collina (Little) T.D. Penn.</i>	Choco	Gentry, Faber–Langendoen & Echevarria 62908 (K)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 164 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 165 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 165 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 168 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 168 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 169 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 173 (UDBC)
<i>Pouteria coriacea (Pierre) Pierre</i>	Macarena	Serrano 174 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 156 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 157 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 159 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 159 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 160 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 160 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 161 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 161 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 162 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 162 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 166 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Macarena	Serrano 167 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 185 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 193 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 203 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 204 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 205 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 207 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 208 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 209 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 210 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 211 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 212 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 215 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 218 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 219 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 219 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 221 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Catatumbo	Serrano 224 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 241 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 242 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 249 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 268 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 269 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 284 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 285 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 321 (UDBC)
<i>Pouteria cuspidata (A. DC.) Baehni</i>	Choco	Serrano 335 (UDBC)

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Taxon	Locality	Collector (herbarium)/GenBank number
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Choco	Serrano 336 (UDBC)
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Choco	Serrano 337 (UDBC)
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8624 (E)
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8769 (E)
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Richardson et al. 337 (E)
<i>Pouteria decorticans</i> T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera s.n. (CAY) NL110158
<i>Pouteria deliciosa</i> T.D. Penn.	Guyanas	Sabatier & Molino 903*
<i>Pouteria dominigensis</i> (C.F. Gaertn.) Baehni	Magdalena Valley	Serrano 351 (UDBC)
<i>Pouteria dominigensis</i> (C.F. Gaertn.) Baehni	West Indies	Gutiérrez & Nilsson 13 (S)
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	Guyanas	Baraloto 3136 (CAY) NH200045
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	Guyanas	Baraloto, Engel, Chave & Riera s.n. (CAY) NH200157
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 140 (UDBC)
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 73 (UDBC)
<i>Pouteria gardneriana</i> (A. DC.) Radlk.	Argentina	Schwarz 8216 (UPS)
<i>Pouteria gongrijpii</i> Eyma	Guyanas	Baraloto 3087 (CAY) NL110210
<i>Pouteria gongrijpii</i> Eyma	Guyanas	Baraloto 3098 (CAY) NL110282
<i>Pouteria grandis</i> Eyma	Guyanas	Sabatier & Molino 995 *
<i>Pouteria guianensis</i> Aubl.	Guyanas	Baraloto & Engel s.n. (CAY) M17116516
<i>Pouteria guianensis</i> Aubl.	Guyanas	Baraloto, Engel, Chave & Riera 3102 (CAY) NL110300
<i>Pouteria guianensis</i> Aubl.	Amazon	Garcia 8631 (E)
<i>Pouteria guianensis</i> Aubl.	Guyanas	Poncy 1745 (P)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 309 (E)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 323 (E)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 332 (E)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 333 (E)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 342 (E)
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 351 (E)
<i>Pouteria hispida</i> Eyma	Guyanas	Mori et al. 25432 (NY)
<i>Pouteria laevigata</i> (Mart.) Radlk.	Choco	Serrano 339 (UDBC)
<i>Pouteria laevigata</i> (Mart.) Radlk.	Central America	Anderberg et al. 49 (S)
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 18 (UDBC)
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 24 (UDBC)
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 352 (UDBC)
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 44 (UDBC)
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Central America	Anderberg et al. 34 (S)
<i>Pouteria lucumifolia</i> (Reissek ex Maxim.) T.D. Penn.	Amazon	Richardson et al. 306 (E)
<i>Pouteria macrocarpa</i> (Mart.) D. Dietr.	Guyanas	Baraloto, Engel, Chave & Riera 3095 (CAY) NL110257
<i>Pouteria macrophylla</i> (Lam.) Eyma	Amazon	Seidel et al. 5905 (K)
<i>Pouteria multiflora</i> (A. DC.) Eyma	Choco	Villa & Rivaz 257 (BM)
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8625 (E)
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8634 (E)
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8635 (E)
<i>Pouteria oblanceolata</i> Pires	Amazon	Richardson et al. 307 (E)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Catatumbo	Serrano 223 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Choco	Serrano 303 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 348 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 350 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 359 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Amazon	Serrano 55 (UDBC)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Amazon	Richardson et al. 313 (E)
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Amazon	Serrano 49 (UDBC)
<i>Pouteria procera</i> (Mart.) K. Hammer	Amazon	Richardson et al. 339 (E)
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T.D. Penn.	Amazon	Garcia 8636 (E)
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T.D. Penn.	Amazon	TBC*
<i>Pouteria putamen-ovi</i> T.D. Penn.	Amazon	Garcia 8774 (E)
<i>Pouteria putamen-ovi</i> T.D. Penn.	Amazon	TBC*
<i>Pouteria resinosa</i> T.D. Penn.	Choco	Serrano 243 (UDBC)
<i>Pouteria resinosa</i> T.D. Penn.	Choco	Serrano 259 (UDBC)
<i>Pouteria reticulata</i> (Engl.) Eyma	Amazon	Serrano 72 (UDBC)
<i>Pouteria reticulata</i> (Engl.) Eyma	Central America	Anderberg et al. 7 (S)
<i>Pouteria rostrata</i> (Huber) Baehni	Magdalena Valley	Serrano 357 (UDBC)
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Garcia 8637 (E)
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Richardson et al. 321 (E)
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 112 (UDBC)
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 145 (UDBC)
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 151 (UDBC)
<i>Pouteria subrotata</i> Cronquist	Central America	Anderberg et al. 48 (S)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 105 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 153 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 50 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 58 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 59 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 69 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 70 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 78 (UDBC)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 90 (UDBC)

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Taxon	Locality	Collector (herbarium)/GenBank number
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Anderberg et al. 47 (S)
<i>Pouteria torta</i> (Mart.) Radlk.	Guyanas	Baraloto, Engel & Riera (CAY) NH200224
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 336 (E)
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 338 (E)
<i>Pouteria triplarifolia</i> Standl. & L.O. Williams ex T.D. Penn	Central America	Villa et al. 1304 (BM)
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 149 (UDBC)
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 76 (UDBC)
<i>Pouteria vernicosa</i> T.D. Penn.	Choco	Swenson et al. 738 (S)
<i>Pouteria viridis</i> (Pittier) Cronquist	Central America	Faber–Langendoen & Renteria 1127 (K)
<i>Pradosia atroviolacea</i> Ducke	Choco	Anderberg et al. 52 (S)
<i>Pradosia atroviolacea</i> Ducke	Central America	Lindeman 6743 (U)
<i>Pradosia brevipes</i> (Pierre) T.D. Penn.	Amazon	Cuatrecasas 13988 (K)
<i>Pradosia cuatrecasasii</i> (Aubrév.) T.D. Penn.	Choco	Baraloto, Engel & Riera s.n. (CAY) NH200016
<i>Pradosia Liatis</i>	Amazon	Serrano 56 (UDBC)
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera (CAY) NL110310
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera 3111 (CAY) NL110514
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Ducke Reserve 05–1829 (K)
<i>Pradosia schomburgkiana</i> (A. DC.) Cronquist	Amazon	Isembe 508 (WAG)
<i>Pradosia spinosa</i> Ewango & Breteler	Africa	Harris 1076 (U)
<i>Pradosia surinamensis</i> (Eyma) T.D. Penn.	Guyanas	Harris 1076 (U)
<i>Sapotaceae</i> Juss.	Guyanas	Guy 13*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 2*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 24*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 26*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 3*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 32*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 37*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 47*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 55*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 74*
<i>Sapotaceae</i> Juss.	Guyanas	Guy 76*
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano (UDBC)
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano (UDBC)
<i>Sapotaceae</i> Juss.	Guyanas	TBC*
<i>Sapotaceae</i> Juss.	Choco	Serrano 278 (UDBC)
<i>Sapotaceae</i> Juss.	Choco	Serrano 288 (UDBC)
<i>Sapotaceae</i> Juss.	Choco	Serrano 315 (UDBC)
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano 355 (UDBC)
<i>Sarcocaulis brasiliensis</i> (A. DC.) Eyma	Amazon	Paniagua et al. 4852 (MO)
<i>Sarcocaulis brasiliensis</i> (A. DC.) Eyma	Amazon	Richardson et al. 322 (E)
<i>Sarcocaulis brasiliensis</i> (A. DC.) Eyma	Amazon	Richardson et al. 322 (E)
<i>Sarcosperma laurinum</i> (Benth.) Hook. f.	Asia	Saunders s.n. (S) AM408055
<i>Synsepalum dulcificum</i> (Schumacher & Thonn.) Daniell	Africa	Welsing et al. 24 (WAG) DQ246697
<i>Synsepalum passargei</i> (Engl.) T.D. Penn.	Africa	Magogo 2452 (UPS) DQ246698
<i>Xantolis siamensis</i> (Fletcher) P. Royen	Asia	Smitairi 1 (L)

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## Corrigendum to “Andean orogeny and the diversification of lowland neotropical rain forest trees: A case study in Sapotaceae” [Global and Planetary Change 201 (2021) 103481]

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## ARTICLE INFO

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The authors apologise for omitting a full record of GenBank numbers, and a complete list is provided here together with an update on the Acknowledgements section.

**Appendix 1.** List of specimens included in the phylogenetic analyses. Internal transcribed spacers of rDNA (ITS) sequence data was generated. A total of 146 Chrysophylloideae accessions were collected in the Chocó, Magdalena valley, Catatumbo, Amazon and Macarena lowland rain forests of Colombia. The remaining sequences were generated by Roosevelt Garcia, and obtained from previous phylogenetic studies on Chrysophylloideae (Sánchez-C. et al., 2021; Gonzalez et al., 2009; Swenson et al., 2008), and GenBank.

Taxon	Locality	Colector	Genebank
<i>Brevia sericea</i> (A. Chev.) Aubrév. & Pellegr.	Africa	Letouzey 8319 (P) Anderberg et al. 20 (S)	DQ246666 EF558614

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Taxon	Locality	Colector	Genebank
<i>Chromolucuma rubriflora</i> Ducke	Central America		
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Chocó	Dick 81 (STRI)	AY635511
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Central America	Dick 80 (STRI)	AY635513
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Chocó	Dick 85 (STRI)	AY635515
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Guyanas	Baraloto, Engel & Riera (CAY)	FJ037865
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Central America	Dick 79 (STRI)	JX987536.1
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Chocó	Dick 87 (STRI)	JX987537
<i>Chrysophyllum</i> <i>argenteum</i> Jacq.	Chocó	Dick 82 (STRI)	JX987538

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Taxon	Locality	Colector	Genebank
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Serrano 286 (UDBC)	MZ329867
<i>Chrysophyllum argenteum</i> Jacq.	Macarena	Serrano nn367 <sup>a</sup>	MZ329868
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Serrano 280 (UDBC)	MZ329869
<i>Chrysophyllum argenteum</i> Jacq.	Guyanas	Baraloto 3203 (CAY)	FJ037864
<i>Chrysophyllum bangweolense</i> R.E. Fr.	Africa	Malaise 9600 (WAG)	AY552152.1
<i>Chrysophyllum bicolor</i> Poir.	West Indies	JP57 (DAV)	JF912987
<i>Chrysophyllum boivinianum</i> (Pierre) Baehni	Africa	McPherson 14,426 (MO, P, WAG)	DQ246667.1
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 118 (UDBC)	MZ329972
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 121 (UDBC)	MZ329973
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 120 (UDBC)	MZ329974
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 135 (UDBC)	MZ329975
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 139 (UDBC)	MZ329976
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8671 (E)	MZ470016
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8673 (E)	MZ470017
<i>Chrysophyllum cainito</i> L.	West Indies	Chantaranonthai 2304 (KKU)	AY552153.1
<i>Chrysophyllum cainito</i> L.	Cauca Valley	Richardson et al. 357 (E)	MZ469952
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 320 (UDBC)	MZ329873
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 319 (UDBC)	MZ329874
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 98 (UDBC)	MZ329970
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 100 (UDBC)	MZ329971
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Gentry, Faber–Langendoen & Monsalve 56,806 (K)	MZ469957
<i>Chrysophyllum cuneifolium</i> (Rudge) A. DC.	Guyanas	Mori et al. 19,135 (K)	DQ246668.1
<i>Chrysophyllum eximium</i> Ducke	Guyanas	Baraloto 3135 (CAY)	FJ037866.1
<i>Chrysophyllum fenerivense</i> (Aubrév.) G.E. Schatz & L. Gaut	Africa	Rabehovitra et al. 4223 (MO)	DQ246669
<i>Chrysophyllum imperiale</i> (Linden ex K. Koch & Fintelm.) Benth. & Hook. f.	Atlantic Forest	Pennington s.n. (S)	EF558615.1
<i>Chrysophyllum</i> L.	Amazon	Serrano 80 (UDBC)	MZ329882
<i>Chrysophyllum</i> L.	Amazon	Serrano 67 (UDBC)	MZ329958
<i>Chrysophyllum</i> L.	Amazon	Serrano 64 (UDBC)	MZ329959
<i>Chrysophyllum</i> L.	Amazon	Garcia 8647 (E)	MZ469953
<i>Chrysophyllum</i> L.	Central America	Anderberg et al. 31 <sup>a</sup>	MZ470012
<i>Chrysophyllum</i> L.	Amazon	Garcia 8581 (E)	MZ470013
<i>Chrysophyllum lucentifolium</i> Cronquist	Amazon	Serrano 49 (UDBC)	MZ329902

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Taxon	Locality	Colector	Genebank
<i>Chrysophyllum lucentifolium</i> Cronquist	Amazon	Serrano 62 (UDBC)	MZ329904
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 296 (UDBC)	MZ329875
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	S. coll. 2 <sup>a</sup>	MZ468590
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	Richardson et al. 334 (E)	MZ469955
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP341 (DAV)	JF912989
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP398 (DAV)	JF912990
<i>Chrysophyllum mexicanum</i> Brandegee ex Standl.	Mexico	JP256 (DAV)	JF912991
<i>Chrysophyllum oliviforme</i> L.	West Indies	Gutiérrez & Nilsson 1 (S)	DQ246670
<i>Chrysophyllum pauciflorum</i> Lam	West Indies	JP56 (DAV)	JF912986
<i>Chrysophyllum pomiferum</i> (Eyma) T. D. Penn.	Magdalena Valley	Pennington et al. 12,386 <sup>a</sup>	MZ469956
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Richardson et al. 326 (E)	MZ469958
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Garcia 8583 (E)	MZ469982
<i>Chrysophyllum prieurii</i> A. DC.	Guyanas	Baraloto, Engel & Chave s.n. (CAY)	P01860227
<i>Chrysophyllum pruniforme</i> Pierre ex Engl.	Africa	Jongkind 3762 (WAG)	DQ246671
<i>Chrysophyllum roxburghii</i> G. Don	Africa	Solo & Randrianasolo 33 (WAG)	DQ246672
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Guyanas	Baraloto 3016 (CAY)	FJ037868
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Guyanas	Baraloto 3196 (CAY)	FJ037869.2
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8645 (E)	MZ469968
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 305 (E)	MZ469980
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 310 (E)	MZ470011
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 348 (E)	MZ470015
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8236 (E)	MZ470018
<i>Chrysophyllum scalare</i> T. D. Penn.	Amazon	Richardson et al. 320 (E)	MZ470014
<i>Chrysophyllum sparsiflorum</i> Klotzsch ex Miq.	Amazon	GUY71 <sup>a</sup>	DQ021882
<i>Chrysophyllum venezuelanense</i> (Pierre) T.D. Penn.	Chocó	Stähl et al. 5755 (S)	DQ246673
<i>Diploon cuspidatum</i> (Hoehne) Cronquist	Guyanas	Pennington et al. 13,843 (U)	DQ246676
<i>Diploon cuspidatum</i> (Hoehne) Cronquist	Guyanas	Baraloto 3209 (CAY)	FJ037870
<i>Eberhardtia aurata</i> (Pierre ex Dubard) Lecomte	Asia	Hao 534 (S)	EF558617
<i>Ecclinusa guianensis</i> Eyma	Amazon	Ducke 05–906 (K)	DQ246677

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Taxon	Locality	Colector	Genebank
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Richardson et al. 314 (E)	MZ470007
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8689 (E)	MZ470008
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8675 (E)	MZ470009
<i>Ecclinusa</i> Mart.	Chocó	Serrano 309 (UDBC)	MZ329966
<i>Ecclinusa ramiflora</i> Mart.	Guyanas	Irwing et al. 55,081 (S)	DQ246678
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 170 (UDBC)	MZ329964
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 177 (UDBC)	MZ329965
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano nn360 <sup>a</sup>	MZ468579
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano nn361 <sup>a</sup>	MZ468580
<i>Ecclinusa ramiflora</i> Mart.	Chocó	Monsalve B1319 (K)	MZ470010
<i>Elaeoluma</i> Baill.	Amazon	Serrano 131 (UDBC)	MZ329963
<i>Elaeoluma glabrescens</i> (Mart. & Eichler) Aubrév.	Central America	Anderberg et al. 33 (S)	EF558616
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	Keel & Coelho 243 (S)	DQ246679
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	Keel & Coelho s.n. (S)	MZ470006
<i>Englerophytum magalismontanum</i> (Sond.) T.D. Penn.	Africa	Swenson & Karis 631 (S)	DQ246680
<i>Englerophytum natalense</i> (Sond.) T.D. Penn.	Africa	Kayombo 3483 (S)	AY552150
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Magdalena Valley	Serrano 28 (UDBC)	MZ329856
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 294 (UDBC)	MZ329857
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 334 (UDBC)	MZ329858
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 245 (UDBC)	MZ329859
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 737 <sup>a</sup>	MF574537
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 799 <sup>a</sup>	MF574538
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Sanchez et al. 22 <sup>a</sup>	MF574539
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Avila et al. 2733 (UDBC)	MF574540
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Garcia 8618 (E)	MZ470022
<i>Micropholis brochidodroma</i> T.D. Penn.	Amazon	JR-JH-1 <sup>a</sup>	MF574503
<i>Micropholis casiquiarensis</i> Aubrév.	Amazon	Richardson et al. 340 (E)	MF574504
<i>Micropholis cayennensis</i> T.D. Penn.	Guyanas	Baraloto, Engel & Riera s.n. (CAY)	FJ037875.2
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	NH200222.a (CAY)	FJ037881
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	C.V. 171 (CEPEC)	JQ434164.1
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	C.V. 181 (CEPEC)	JQ434165.1
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	Ramirez et al. 50 <sup>a</sup>	MF574506
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	ESR89 <sup>a</sup>	MF574507
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	JRM24 <sup>a</sup>	MF574508
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Dionizia, Coelho & Ernesto 73 (U)	DQ246681

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Taxon	Locality	Colector	Genebank
<i>Micropholis egensis</i> (A. DC.) Pierre	Guyanas	Baraloto s.n. (CAY)	FJ037876
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Avila 2746 <sup>a</sup>	MF574512
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Betancur, Echeverry, Kress & Roesel 2848 (K)	MZ470021
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 177 (CEPEC)	JQ434158.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 205 (CEPEC)	JQ434159.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 70 (CEPEC)	JQ434160.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 215 (CEPEC)	JQ434161.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	West Indies	Taylor 11,691 (MO)	DQ246682
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	Baraloto, Engel & Riviera NH200477 (CAY)	FJ037877
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	Baraloto et al. (CAY)	FJ037878.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 113 (CEPEC)	JQ434166.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 200 (CEPEC)	JQ434167.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 24 (CEPEC)	JQ434168.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	ALCB 110909 <sup>a</sup>	KF943856.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	CR194 <sup>a</sup>	MF574513
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 93 <sup>a</sup>	MF574514
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 106 <sup>a</sup>	MF574515
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Avila 2684 <sup>a</sup>	MF574516
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Pineros et al. 14 <sup>a</sup>	MF574517
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson et al. 328 (E)	MF574518
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 68 (UDBC)	MZ329979
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 71 (UDBC)	MZ329980
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 53 (UDBC)	MZ329981
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 77 (UDBC)	MZ329985
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 66 (UDBC)	MZ329986
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 52 (UDBC)	MZ329987
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	S. coll. 5 <sup>a</sup>	MZ468592
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	JR-PA-08 <sup>a</sup>	MZ468593
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	S. coll. 3 <sup>a</sup>	MZ468595
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8620 (E)	MZ470024
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8242 (E)	MZ470025
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson s.n. (E)	MZ470026
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Guyanas	Baraloto 3107 (CAY)	NL110516
<i>Micropholis humboldtiana</i> (Roem. & Schult.) T.D. Penn.	Amazon	PU72 (COAH)	MF574525
<i>Micropholis longipedicellata</i> Aubrév.	Guyanas	Baraloto 3210 (CAY)	FJ037879
<i>Micropholis longipedicellata</i> Aubrév.	Guyanas	Baraloto 3210a (CAY)	NL110459

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Taxon	Locality	Colector	Genebank
<i>Micropholis longipedicellata</i> Aubrév.			
<i>Micropholis macrophylla</i> (Krause) T.D. Penn.	Amazon	EP102 <sup>a</sup>	MF574528.1
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Cortes et al. 2869 (UDBC)	MF574529
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	MS3660 <sup>a</sup>	MF574530
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Richardson et al. 329 (E)	MF574531
<i>Micropholis melinoniana</i> Pierre	Amazon	Alvarez 1999 <sup>a</sup>	MF574532
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	Baraloto 3218 (CAY)	FJ037880.1
<i>Micropholis obscura</i> T.D. Penn.	Amazon	S. coll. 4 <sup>a</sup>	MZ468591
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	Baraloto 3218a (CAY)	NH200217
<i>Micropholis obscura</i> T.D. Penn.	Guyanas	Baraloto 3217 (CAY)	P00610293
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	Baraloto 3220 (CAY)	FJ037882.1
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	Guyanas	Baraloto 3219 (CAY)	FJ037883.1
<i>Micropholis splendens</i> Gilly ex Aubrév.	Amazon	Avila et al. 2693 (UDBC)	MF574541
<i>Micropholis trunciflora</i> Ducke	Amazon	Cardenas 12266 <sup>a</sup>	MF574542
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Assunção 122 (U)	DQ246683.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto (CAY)	FJ037884.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto (CAY)	FJ037885.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	AD8893 (UDBC)	MF574543
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Avila et al. 2704	MF574549
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Llanos	Sanchez et al. 124 <sup>a</sup>	MZ468594
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	S. coll. 1 <sup>a</sup>	MZ468596
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8005 (E)	MZ470020
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8238 (E)	MZ470023
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto 3128 (CAY)	NL110260
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Guyanas	Baraloto 3114 (CAY)	NL110297
<i>Omphalocarpum pachysteloides</i> Mildbr. ex Hutch. & Dalziel	Africa	Jongkind 2351 (WAG)	AY552151
<i>Omphalocarpum strombocarpum</i> Y.B. Harv. & Lovett	Africa	Frimodt-Møller et al. 538 (C)	DQ246685
<i>Pouteria adolfi-friedericii</i> (Engl.) A. Meeuse	Africa	Friis et al. 3502 (UPS)	AY552115
<i>Pouteria alnifolia</i> (Baker) Roberty	Africa	Jongkind & Noyes 1322 (MO)	DQ246686
<i>Pouteria altissima</i> (A. Chev.) Baehni	Africa	Friis et al. 4145 (UPS)	DQ246687

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Taxon	Locality	Colector	Genebank
<i>Pouteria ambelaniifolia</i> (Sandwith) T.D. Penn.	Guyanas	Baraloto s.n. (CAY)	FJ037886
<i>Pouteria</i> Aubl.	Chocó	Serrano 244 (UDBC)	MZ329862
<i>Pouteria</i> Aubl.	Chocó	Serrano 306 (UDBC)	MZ329864
<i>Pouteria</i> Aubl.	Chocó	Serrano 246 (UDBC)	MZ329865
<i>Pouteria</i> Aubl.	Chocó	Serrano 247 (UDBC)	MZ329866
<i>Pouteria</i> Aubl.	Chocó	Serrano 301 (UDBC)	MZ329871
<i>Pouteria</i> Aubl.	Chocó	Serrano 338 (UDBC)	MZ329877
<i>Pouteria</i> Aubl.	Chocó	Serrano 267 (UDBC)	MZ329893
<i>Pouteria</i> Aubl.	Amazon	Serrano 54 (UDBC)	MZ329903
<i>Pouteria</i> Aubl.	Chocó	Serrano 312 (UDBC)	MZ329938
<i>Pouteria</i> Aubl.	Chocó	Serrano 307 (UDBC)	MZ329977
<i>Pouteria</i> Aubl.	Asia	Armstrong 317 <sup>a</sup>	KF686303
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino Q423 <sup>a</sup>	MZ468562
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino 383 (K)	MZ468564
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino 213 (P)	MZ468565
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino 989 (K)	MZ468567
<i>Pouteria</i> Aubl.	Guyanas	Sabatier & Molino V819 <sup>a</sup>	MZ468569
<i>Pouteria</i> Aubl.	Amazon	S. coll. 8 <sup>a</sup>	MZ468572
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 51 (S)	MZ469959
<i>Pouteria</i> Aubl.	Amazon	Garcia 8777 (E)	MZ469963
<i>Pouteria</i> Aubl.	Amazon	Garcia 8632 (E)	MZ469965
<i>Pouteria</i> Aubl.	Amazon	Garcia 8641 (E)	MZ469972
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 60 (S)	MZ469996
<i>Pouteria</i> Aubl.	Amazon	Garcia 8623 (E)	MZ470019
<i>Pouteria aubrevillei</i> Bernardi	Amazon	Richardson et al. 327 (E)	MZ469969
<i>Pouteria baehniiana</i> Monach	Amazon	Serrano 144 (UDBC)	MZ329860
<i>Pouteria baehniiana</i> Monach	Amazon	Serrano 116 (UDBC)	MZ329861
<i>Pouteria bangii</i> (Rusby) T.D. Penn.	Catatumbo	Serrano 198 (UDBC)	MZ329932
<i>Pouteria baueri</i> (Montrouz.) Baehni	Australia	Munzinger 340	AY552113
<i>Pouteria benai</i> (Aubrév. & Pellegr.) T.D. Penn.	Guyanas	Mori et al. 27,353 (K)	ED902434
<i>Pouteria bilocularis</i> (H.J. P. Winkl.) Baehni	Amazon	Richardson et al. 345 (E)	ED90242
<i>Pouteria bilocularis</i> (H.J. P. Winkl.) Baehni	Amazon	Garcia 8763 (E)	MZ469995
<i>Pouteria bracteata</i> T.D. Penn.	Chocó	Serrano 298 (UDBC)	MZ329925
<i>Pouteria bracteata</i> T.D. Penn.	Chocó	Palacios 13,699 (K)	MZ469974
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 318 (UDBC)	MZ329954
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 311 (UDBC)	MZ329955
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 305 (UDBC)	MZ329956
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 299 (UDBC)	MZ329957
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 388 (E)	MZ469985
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 391 (E)	MZ469986
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 386 (E)	MZ469994
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 387 (E)	MZ469997
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 377 (E)	MZ469998
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 390 (E)	MZ469999
<i>Pouteria campechiana</i> (Kunth) Baehni	West Indies	Wang W00798 (HAST)	DQ246688
<i>Pouteria collina</i> (Little) T. D. Penn.	Chocó	Serrano 258 (UDBC)	MZ329948

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Taxon	Locality	Colector	Genebank
<i>Pouteria collina</i> (Little) T. D. Penn.	Chocó	Serrano 263 (UDBC)	MZ329949
<i>Pouteria collina</i> (Little) T. D. Penn.	Chocó	Gentry, Faber–Langendoen & Echevarria 62,908 (K)	MZ469973
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 165 (UDBC)	MZ329926
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 174 (UDBC)	MZ329927
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 168 (UDBC)	MZ329928
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 173 (UDBC)	MZ329929
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 169 (UDBC)	MZ329930
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 164 (UDBC)	MZ329931
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano nn365 <sup>a</sup>	MZ468570
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano nn364 <sup>a</sup>	MZ468571
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 337 (UDBC)	MZ329906
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 210 (UDBC)	MZ329907
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 211 (UDBC)	MZ329908
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 208 (UDBC)	MZ329909
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 205 (UDBC)	MZ329910
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 224 (UDBC)	MZ329911
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 207 (UDBC)	MZ329912
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 219 (UDBC)	MZ329913
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 215 (UDBC)	MZ329914
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 212 (UDBC)	MZ329915
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 242 (UDBC)	MZ329916
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 203 (UDBC)	MZ329917
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 209 (UDBC)	MZ329918
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 204 (UDBC)	MZ329919
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 193 (UDBC)	MZ329920
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 218 (UDBC)	MZ329921
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 185 (UDBC)	MZ329922
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 221 (UDBC)	MZ329923
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 336 (UDBC)	MZ329924
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 268 (UDBC)	MZ329933
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 335 (UDBC)	MZ329934
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 285 (UDBC)	MZ329935
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 269 (UDBC)	MZ329936
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 249 (UDBC)	MZ329937
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 321 (UDBC)	MZ329939
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 161 (UDBC)	MZ329940
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 159 (UDBC)	MZ329941
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 167 (UDBC)	MZ329942

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Taxon	Locality	Colector	Genebank
<i>Pouteria cuspidata</i> (A. DC.) Baehni			
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 166 (UDBC)	MZ329943
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 160 (UDBC)	MZ329944
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 156 (UDBC)	MZ329945
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 157 (UDBC)	MZ329946
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 162 (UDBC)	MZ329947
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn363 <sup>a</sup>	MZ329982
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 284 (UDBC)	MZ329983
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 241 (UDBC)	MZ329984
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 158 (UDBC)	MZ468556
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 175 (UDBC)	MZ468573
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn368 <sup>a</sup>	MZ468574
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn369 <sup>a</sup>	MZ468575
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn366 <sup>a</sup>	MZ468576
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn370 <sup>a</sup>	MZ468577
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 176 (UDBC)	MZ468578
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Richardson et al. 337 (E)	MZ469976
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8624 (E)	MZ469977
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8769 (E)	MZ469978
<i>Pouteria decorticans</i> T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037887
<i>Pouteria deliciosa</i> T.D. Penn.	Guyanas	Sabatier & Molino 903 <sup>a</sup>	MZ468563
<i>Pouteria dominigensis</i> (C. F. Gaertn.) Baehni	West Indies	Gutiérrez & Nilsson 13 (S)	AY552106
<i>Pouteria dominigensis</i> (C. F. Gaertn.) Baehni	Magdalena Valley	Serrano 351 (UDBC)	MZ329876
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	Guyanas	Baraloto 3136 (CAY)	FJ037888
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	Guyanas	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037889.1
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 140 (UDBC)	MZ329884
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 73 (UDBC)	MZ329885
<i>Pouteria gardneriana</i> (A. DC.) Radlk.	Argentina	Schwarz 8216 (UPS)	DQ246689
<i>Pouteria gongrijpii</i> Eyma	Guyanas	Baraloto 3087 (CAY)	FJ037890
<i>Pouteria gongrijpii</i> Eyma	Guyanas	Baraloto 3098 (CAY)	FJ037891
<i>Pouteria grandis</i> Eyma	Guyanas	Sabatier & Molino 995 <sup>a</sup>	MZ469960
<i>Pouteria guianensis</i> Aubl.	Guyanas	Poncy 1745 (P)	DQ246690
<i>Pouteria guianensis</i> Aubl.	Guyanas	Baraloto & Engel s.n. (CAY)	FJ037892
<i>Pouteria guianensis</i> Aubl.	Guyanas	Baraloto, Engel, Chave & Riera 3102 (CAY)	FJ037893
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 332 (E)	MZ469954
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 342 (E)	MZ469987
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 309 (E)	MZ469988
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 323 (E)	MZ469989
<i>Pouteria guianensis</i> Aubl.	Amazon	Garcia 8631 (E)	MZ469990
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 351 (E)	MZ469991
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 333 (E)	MZ469992
<i>Pouteria hispida</i> Eyma	Guyanas	Mori et al. 25,432 (NY)	DQ246691

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Taxon	Locality	Colector	Genebank
<i>Pouteria laevigata</i> (Mart.) Radlk.	Chocó	Serrano 339 (UDBC)	MZ329960
<i>Pouteria laevigata</i> (Mart.) Radlk.	Central America	Anderberg et al. 49 (S)	MZ470001
<i>Pouteria lecythidicarpa</i> P. E. Sánchez & Poveda	Magdalena Valley	Serrano 24 (UDBC)	MZ329878
<i>Pouteria lecythidicarpa</i> P. E. Sánchez & Poveda	Magdalena Valley	Serrano 352 <sup>a</sup>	MZ329879
<i>Pouteria lecythidicarpa</i> P. E. Sánchez & Poveda	Magdalena Valley	Serrano 18 (UDBC)	MZ329880
<i>Pouteria lecythidicarpa</i> P. E. Sánchez & Poveda	Magdalena Valley	Serrano 44 (UDBC)	MZ329881
<i>Pouteria lecythidicarpa</i> P. E. Sánchez & Poveda	Central America	Anderberg et al. 34 (S)	MZ469961
<i>Pouteria lucumifolia</i> (Reissek ex Maxim.) T. D. Penn.	Amazon	Richardson et al. 306 (E)	MZ469975
<i>Pouteria macrocarpa</i> (Mart.) D. Dietr.	Guyanas	Baraloto, Engel, Chave & Riera 3095 (CAY)	FJ037894
<i>Pouteria macrophylla</i> (Lam.) Eyma	Amazon	Seidel et al. 5905 (K)	DQ246692
<i>Pouteria multiflora</i> (A. DC.) Eyma	Chocó	Villa & Rivaz 257 (BM)	DQ246693
<i>Pouteria oblanceolata</i> Pires	Amazon	Richardson et al. 307 (E)	MZ470002
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8625 (E)	MZ470003
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8635 (E)	MZ470004
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8634 (E)	MZ470005
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Chocó	Serrano 303 (UDBC)	MZ329870
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Magdalena Valley	Serrano 359 <sup>a</sup>	MZ329892
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Catatumbo	Serrano 223 (UDBC)	MZ329894
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Magdalena Valley	Serrano 348 <sup>a</sup>	MZ329895
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Magdalena Valley	Serrano 350 <sup>a</sup>	MZ329896
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Amazon	Serrano 55 (UDBC)	MZ329897
<i>Pouteria platyphylla</i> (A. C. Sm.) Baehni	Amazon	Richardson et al. 313 (E)	MZ469964
<i>Pouteria procera</i> (Mart.) K. Hammer	Amazon	Richardson et al. 339 (E)	MZ469966
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T. D. Penn.	Amazon	S. coll. 6 <sup>a</sup>	MZ468566
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T. D. Penn.	Amazon	Garcia 8636 (E)	MZ469962
<i>Pouteria putamen-ovi</i> T. D. Penn.	Amazon	S. coll. 7 <sup>a</sup>	MZ468568
<i>Pouteria putamen-ovi</i> T. D. Penn.	Amazon	Garcia 8774 (E)	MZ469970
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 270 (UDBC)	MZ329886
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 259 (UDBC)	MZ329887
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 243 (UDBC)	MZ329889
<i>Pouteria reticulata</i> (Engl.) Eyma	Amazon	Serrano 72 (UDBC)	MZ329951
<i>Pouteria reticulata</i> (Engl.) Eyma	Central America	Anderberg et al. 7 (S)	MZ469993
<i>Pouteria rostrata</i> (Huber) Baehni	Magdalena Valley	Serrano 357 (UDBC)	MZ329891
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Garcia 8637 (E)	MZ469951
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Richardson et al. 321 (E)	MZ469983
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 145 (UDBC)	MZ329967
	Amazon	Serrano 151 (UDBC)	MZ329968

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Taxon	Locality	Colector	Genebank
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 112 (UDBC)	MZ329969
<i>Pouteria subrotata</i> Cronquist	Central America	Anderberg et al. 48 (S)	MZ470000
<i>Pouteria torta</i> (Mart.) Radlk.	Guyanas	Baraloto, Engel & Riera s.n. (CAY)	FJ037895
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 90 (UDBC)	MZ329863
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 58 (UDBC)	MZ329883
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 70 (UDBC)	MZ329898
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 59 (UDBC)	MZ329899
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 105 (UDBC)	MZ329900
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 78 (UDBC)	MZ329901
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 153 (UDBC)	MZ329961
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 50 (UDBC)	MZ329962
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 69 (UDBC)	MZ329978
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Guy 55 <sup>a</sup>	MZ468588
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 338 (E)	MZ469967
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Anderberg et al. 47 (S)	MZ469981
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 336 (E)	MZ469984
<i>Pouteria triplarifolia</i> Standl. & L.O. Williams ex T.D. Penn.	Central America	Swenson et al. 738 (S)	MZ469971
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 149 (UDBC)	MZ329952
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 76 (UDBC)	MZ329953
<i>Pouteria vernicosa</i> T.D. Penn.	Chocó	Villa et al. 1304 (BM)	DQ246694
<i>Pouteria viridis</i> (Pittier) Cronquist	Central America	Faber-Langendoen & Renteria 1127 (K)	MZ468561
<i>Pradosia atroviolacea</i> Ducke	Central America	Anderberg et al. 52 (S)	KM042306
<i>Pradosia atroviolacea</i> Ducke	Chocó	Cuatrecasas 13,988 (K)	KM042310
<i>Pradosia brevipes</i> (Pierre) T.D. Penn.	Amazon	Lindeman 6743 (U)	AY552158
<i>Pradosia cuatrecasasii</i> (Aubrév.) T.D. Penn.	Chocó	Baraloto, Engel & Riera s.n. (CAY)	FJ037897
<i>Pradosia Liais</i>	Amazon	Serrano 56 (UDBC)	MZ329872
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera 3111 (CAY)	FJ037898
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037899.1
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	Guyanas	Baraloto, Engel, Chave & Riera 3111 (CAY)	MZ468557
<i>Pradosia schomburgkiana</i> (A. DC.) Cronquist	Amazon	Ducke Reserve 05-1829 (K)	AY552156
<i>Pradosia spinosa</i> Ewango & Breteler	Africa	Isembe 508 (WAG)	DQ246695
<i>Pradosia surinamensis</i> (Eyma) T.D. Penn.	Guyanas	Harris 1076 (U)	AY552157
<i>Sapotaceae</i> Juss.	Guyanas	Guy 37 <sup>a</sup>	FJ037896
<i>Sapotaceae</i> Juss.	Chocó	Serrano 288 (UDBC)	MZ329888
<i>Sapotaceae</i> Juss.	Chocó	Serrano 278 (UDBC)	MZ329890
<i>Sapotaceae</i> Juss.	Chocó	Serrano 315 (UDBC)	MZ329905
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano 38 (UDBC)	MZ468558
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano 39 (UDBC)	MZ468559
<i>Sapotaceae</i> Juss.	Guyanas	Guy 24 <sup>a</sup>	MZ468581
<i>Sapotaceae</i> Juss.	Guyanas	Guy 3 <sup>a</sup>	MZ468582

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Taxon	Locality	Colector	Genebank
<i>Sapotaceae</i> Juss.	Guyanas	Guy 76 <sup>a</sup>	MZ468583
<i>Sapotaceae</i> Juss.	Guyanas	Guy 13 <sup>a</sup>	MZ468584
<i>Sapotaceae</i> Juss.	Guyanas	Guy 2 <sup>a</sup>	MZ468585
<i>Sapotaceae</i> Juss.	Guyanas	Guy 74 <sup>a</sup>	MZ468586
<i>Sapotaceae</i> Juss.	Guyanas	Guy 47 <sup>a</sup>	MZ468587
<i>Sapotaceae</i> Juss.	Guyanas	Guy 32 <sup>a</sup>	MZ468589
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Amazon	Paniagua et al. 4852 (MO)	DQ246696
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Magdalena Valley	Serrano 355 <sup>a</sup>	MZ329950
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Amazon	Richardson et al. 322 (E)	MZ469979
<i>Sarcosperma laurinum</i> (Benth.) Hook. f.	Asia	Saunders s.n. (S)	AM408055
<i>Synsepalum dulcificum</i> (Schumach. & Thonn.) Daniell	Africa	Welsing et al. 24 (WAG)	DQ246697
<i>Synsepalum passargei</i> (Engl.) T.D. Penn.	Africa	Magogo 2452 (UPS)	DQ246698
<i>Xantolis siamensis</i> (Fletcher) P. Royen	Asia	Smitairi 1 (L)	AY552154.1

<sup>a</sup> sterile specimens not deposited at official herbarium collections.

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## Corrigendum to “Andean orogeny and the diversification of lowland neotropical rain forest trees: A case study in Sapotaceae” [Global and Planetary Change 201 (2021) 103481]

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The authors apologise for omitting a full record of GenBank numbers, and a complete list is provided here (Table Appendix 1) together with an update on the Acknowledgements section.-

Appendix 1 List of specimens included in the phylogenetic analyses. Internal transcribed spacers of rDNA (ITS) sequence data was generated. A total of 146 new Chrysophylloideae accessions were collected in the Chocó, Magdalena valley, Catatumbo, Amazon and Macarena lowland rain forests of Colombia. The remaining sequences were generated by Roosevelt Garcia, and obtained from previous phylogenetic studies on Chrysophylloideae (Sánchez-C. et al., 2021; Gonzalez et al., 2009; Swenson et al., 2008), and GenBank.

Taxon	Locality	Colector	Genebank
<i>Breviea sericea</i> (A. Chev.) Aubrév. & Pellegr.	Africa	Letouzey 8319 (P)	DQ246666
<i>Chromolucuma rubriflora</i> Ducke	Central America	Anderberg et al. 20 (S)	EF558614
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Dick 81 (STRI)	AY635511
<i>Chrysophyllum argenteum</i> Jacq.	Central America	Dick 80 (STRI)	AY635513
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Dick 85 (STRI)	AY635515
<i>Chrysophyllum argenteum</i> Jacq.	<b>Guianas</b>	Baraloto, Engel & Riera (CAY)	FJ037865
<i>Chrysophyllum argenteum</i> Jacq.	Central America	Dick 79 (STRI)	JX987536.1
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Dick 87 (STRI)	JX987537
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Dick 82 (STRI)	JX987538
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Serrano 286 (UDBC)	MZ329867
<i>Chrysophyllum argenteum</i> Jacq.	Macarena	Serrano nn367 <sup>a</sup>	MZ329868
<i>Chrysophyllum argenteum</i> Jacq.	Chocó	Serrano 280 (UDBC)	MZ329869
<i>Chrysophyllum argenteum</i> Jacq.	<b>Guianas</b>	Baraloto 3203 (CAY)	FJ037864
<i>Chrysophyllum bangweolense</i> R.E. Fr.	Africa	Malaise 9600 (WAG)	AY552152.1
<i>Chrysophyllum bicolor</i> Poir.	West Indies	JP57 (DAV)	JF912987

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Taxon	Locality	Collector	Genebank
<i>Chrysophyllum boiviniatum</i> (Pierre) Baehni	Africa	McPherson 14,426 (MO, P, WAG)	DQ246667.1
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 118 (UDBC)	MZ329972
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 121 (UDBC)	MZ329973
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 120 (UDBC)	MZ329974
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 135 (UDBC)	MZ329975
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Serrano 139 (UDBC)	MZ329976
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8671 (E)	MZ470016
<i>Chrysophyllum bombycinum</i> T.D. Penn.	Amazon	Garcia 8673 (E)	MZ470017
<i>Chrysophyllum cainito</i> L.	West Indies	Chantaranothai 2304 (KKU)	AY552153.1
<i>Chrysophyllum cainito</i> L.	Cauca Valley	Richardson et al. 357 (E)	MZ469952
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 320 (UDBC)	MZ329873
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 319 (UDBC)	MZ329874
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 98 (UDBC)	MZ329970
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Amazon	Serrano 100 (UDBC)	MZ329971
<i>Chrysophyllum colombianum</i> (Aubrév.) T.D. Penn.	Chocó	Gentry, Faber–Langendoen & Monsalve 56,806 (K)	MZ469957
<i>Chrysophyllum cuneifolium</i> (Rudge) A. DC.	<b>Guianas</b>	Mori et al. 19,135 (K)	DQ246668.1
<i>Chrysophyllum eximium</i> Ducke	<b>Guianas</b>	Baraloto 3135 (CAY)	FJ037866.1
<i>Chrysophyllum fenerivense</i> (Aubrév.) G.E. Schatz & L. Gaut	Africa	Baraloto (CAY)	FJ037867
<i>Chrysophyllum imperiale</i> (Linden ex K. Koch & Fintelm.) Benth. & Hook. f.	Atlantic Forest	Pennington s.n. (S)	EF558615.1
<i>Chrysophyllum</i> L.	Amazon	Serrano 80 (UDBC)	MZ329882
<i>Chrysophyllum</i> L.	Amazon	Serrano 67 (UDBC)	MZ329958
<i>Chrysophyllum</i> L.	Amazon	Serrano 64 (UDBC)	MZ329959
<i>Chrysophyllum</i> L.	Amazon	Garcia 8647 (E)	MZ469953
<i>Chrysophyllum</i> L.	Central America	Anderberg et al. 31 <sup>a</sup>	MZ470012
<i>Chrysophyllum</i> L.	Amazon	Garcia 8581 (E)	MZ470013
<i>Chrysophyllum lucentifolium</i> Cronquist	Amazon	Serrano 49 (UDBC)	MZ329902
<i>Chrysophyllum lucentifolium</i> Cronquist	Amazon	Serrano 62 (UDBC)	MZ329904
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Chocó	Serrano 296 (UDBC)	MZ329875
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	S. coll. 2 <sup>a</sup>	MZ468590
<i>Chrysophyllum manaosense</i> (Aubrév.) T.D. Penn.	Amazon	Richardson et al. 334 (E)	MZ469955
<i>Chrysophyllum mexicanum</i> Brandegees ex Standl.	Mexico	JP341 (DAV)	JF912989
<i>Chrysophyllum mexicanum</i> Brandegees ex Standl.	Mexico	JP398 (DAV)	JF912990
<i>Chrysophyllum mexicanum</i> Brandegees ex Standl.	Mexico	JP256 (DAV)	JF912991
<i>Chrysophyllum oliviforme</i> L.	West Indies	Guttiérrez & Nilsson 1 (S)	DQ246670
<i>Chrysophyllum pauciflorum</i> Lam	West Indies	JP56 (DAV)	JF912986
<i>Chrysophyllum pomiferum</i> (Eyma) T.D. Penn.	Magdalena Valley	Pennington et al. 12,386 <sup>a</sup>	MZ469956
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Richardson et al. 326 (E)	MZ469958
<i>Chrysophyllum prieurii</i> A. DC.	Amazon	Garcia 8583 (E)	MZ469982
<i>Chrysophyllum prieurii</i> A. DC.	<b>Guianas</b>	Baraloto, Engel & Chave s.n. (CAY)	P01860227
<i>Chrysophyllum pruniforme</i> Pierre ex Engl.	Africa	Jongkind 3762 (WAG)	DQ246671
<i>Chrysophyllum roxburghii</i> G. Don	Africa	Solo & Randrianasolo 33 (WAG)	DQ246672
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	<b>Guianas</b>	Baraloto 3016 (CAY)	FJ037868
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	<b>Guianas</b>	Baraloto 3196 (CAY)	FJ037869.2
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8645 (E)	MZ469968
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 305 (E)	MZ469980
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 310 (E)	MZ470011
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Richardson et al. 348 (E)	MZ470015
<i>Chrysophyllum sanguinolentum</i> (Pierre) Baehni	Amazon	Garcia 8236 (E)	MZ470018
<i>Chrysophyllum scalare</i> T.D. Penn.	Amazon	Richardson et al. 320 (E)	MZ470014
<i>Chrysophyllum sparsiflorum</i> Klotzsch ex Miq.	Amazon	GUY71 <sup>a</sup>	DQ021882
<i>Chrysophyllum venezuelanense</i> (Pierre) T.D. Penn.	Chocó	Stähl et al. 5755 (S)	DQ246673
<i>Diploon cuspidatum</i> (Hoehne) Cronquist	<b>Guianas</b>	Pennington et al. 13,843 (U)	DQ246676
<i>Diploon cuspidatum</i> (Hoehne) Cronquist	<b>Guianas</b>	Baraloto 3209 (CAY)	FJ037870
<i>Eberhardtia aurata</i> (Pierre ex Dubard) Lecomte	Asia	Hao 534 (S)	EF558617
<i>Ecclinusa guianensis</i> Eyma	Amazon	Ducke 05–906 (K)	DQ246677
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Richardson et al. 314 (E)	MZ470007
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8689 (E)	MZ470008
<i>Ecclinusa lanceolata</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8675 (E)	MZ470009
<i>Ecclinusa</i> Mart.	Chocó	Serrano 309 (UDBC)	MZ329966
<i>Ecclinusa ramiflora</i> Mart.	<b>Guianas</b>	Irving et al. 55,081 (S)	DQ246678
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 170 (UDBC)	MZ329964
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano 177 (UDBC)	MZ329965
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano nn360 <sup>a</sup>	MZ468579
<i>Ecclinusa ramiflora</i> Mart.	Macarena	Serrano nn361 <sup>a</sup>	MZ468580
<i>Ecclinusa ramiflora</i> Mart.	Chocó	Monsalve B1319 (K)	MZ470010
<i>Elaeoluma</i> Baill.	Amazon	Serrano 131 (UDBC)	MZ329963
<i>Elaeoluma glabrescens</i> (Mart. & Eichler) Aubrév.	Central America	Anderberg et al. 33 (S)	EF558616
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	Keel & Koelho 243 (S)	DQ246679
<i>Elaeoluma schomburgkiana</i> (Miq.) Baill.	Amazon	Keel & Koelho s.n. (S)	MZ470006
<i>Englerophytum magalimontanum</i> (Sond.) T.D. Penn.	Africa	Swenson & Karis 631 (S)	DQ246680
<i>Englerophytum natalense</i> (Sond.) T.D. Penn.	Africa	Kayombo 3483 (S)	AY552150
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Magdalena Valley	Serrano 28 (UDBC)	MZ329856
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 294 (UDBC)	MZ329857
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 334 (UDBC)	MZ329858
<i>Manilkara bidentata</i> (A. DC.) A. Chev	Chocó	Serrano 245 (UDBC)	MZ329859
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 737 <sup>a</sup>	MF574537

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Taxon	Locality	Colector	Genebank
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Alvarez 799 <sup>a</sup>	MF574538
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Sanchez et al. 22 <sup>b</sup>	MF574539
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Avila et al. 2733 (UDBC)	MF574540
<i>Micropholis</i> (Griseb.) Pierre	Amazon	Garcia 8618 (E)	MZ470022
<i>Micropholis brochidodroma</i> T.D. Penn.	Amazon	JR-JH-1 <sup>b</sup>	MF574503
<i>Micropholis casiquiarensis</i> Aubrév.	Amazon	Richardson et al. 340 (E)	MF574504
<i>Micropholis cayennensis</i> T.D. Penn.	<b>Guianas</b>	Baraloto, Engel & Riera s.n. (CAY)	FJ037875.2
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	NH200222.a (CAY)	FJ037881
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	C.V. 171 (CEPEC)	JQ434164.1
<i>Micropholis crassipedicellata</i> (Mart. & Eichler ex Miq.) Pierre	Atlantic Forest	C.V. 181 (CEPEC)	JQ434165.1
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	Ramirez et al. 50 <sup>a</sup>	MF574506
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	ESR89 <sup>b</sup>	MF574507
<i>Micropholis crotonoides</i> (Pierre) Pierre	Llanos	JRM24 <sup>a</sup>	MF574508
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Dionizia, Coelho & Ernesto 73 (U)	DQ246681
<i>Micropholis egensis</i> (A. DC.) Pierre	<b>Guianas</b>	Baraloto s.n. (CAY)	FJ037876
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Avila 2746 <sup>b</sup>	MF574512
<i>Micropholis egensis</i> (A. DC.) Pierre	Amazon	Betancur, Echeverry, Kress & Roesel 2848 (K)	MZ470021
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 177 (CEPEC)	JQ434158.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 205 (CEPEC)	JQ434159.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 70 (CEPEC)	JQ434160.1
<i>Micropholis gardneriana</i> (A. DC.) Pierre	Atlantic Forest	C.V. 215 (CEPEC)	JQ434161.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	West Indies	Taylor 11,691 (MO)	DQ246682
<i>Micropholis guyanensis</i> (A. DC.) Pierre	<b>Guianas</b>	Baraloto, Engel & Riviera NH200477 (CAY)	FJ037877
<i>Micropholis guyanensis</i> (A. DC.) Pierre	<b>Guianas</b>	Baraloto et al. (CAY)	FJ037878.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 113 (CEPEC)	JQ434166.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 200 (CEPEC)	JQ434167.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	C.V. 24 (CEPEC)	JQ434168.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Atlantic Forest	ALCB 110909 <sup>a</sup>	KF943856.1
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	CR194 <sup>a</sup>	MF574513
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 93 <sup>a</sup>	MF574514
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Llanos	Miranda et al. 106 <sup>a</sup>	MF574515
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Avila 2684 <sup>a</sup>	MF574516
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Pineros et al. 14 <sup>a</sup>	MF574517
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson et al. 328 (E)	MF574518
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 68 (UDBC)	MZ329979
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 71 (UDBC)	MZ329980
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 53 (UDBC)	MZ329981
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 77 (UDBC)	MZ329985
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 66 (UDBC)	MZ329986
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Serrano 52 (UDBC)	MZ329987
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	S. coll. 5 <sup>a</sup>	MZ468592
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	JR-PA-08 <sup>a</sup>	MZ468593
<i>Micropholis guyanensis</i> (A. DC.) Pierre	<b>Guianas</b>	S. coll. 3 <sup>a</sup>	MZ468595
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8620 (E)	MZ470024
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Garcia 8242 (E)	MZ470025
<i>Micropholis guyanensis</i> (A. DC.) Pierre	Amazon	Richardson s.n. (E)	MZ470026
<i>Micropholis guyanensis</i> (A. DC.) Pierre	<b>Guianas</b>	Baraloto 3107 (CAY)	NL110516
<i>Micropholis humboldtiana</i> (Roem. & Schult.) T.D. Penn.	Amazon	PU72 (COAH)	MF574525
<i>Micropholis longipedicellata</i> Aubrév.	<b>Guianas</b>	Baraloto 3210 (CAY)	FJ037879
<i>Micropholis longipedicellata</i> Aubrév.	Atlantic Forest	Baraloto s.n. (CAY)	FJ037879.1
<i>Micropholis longipedicellata</i> Aubrév.	<b>Guianas</b>	Baraloto 3210a (CAY)	NL110459
<i>Micropholis macrophylla</i> (Krause) T.D. Penn.	Amazon	EP102 <sup>b</sup>	MF574528.1
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Cortes et al. 2869 (UDBC)	MF574529
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	MS3660 <sup>a</sup>	MF574530
<i>Micropholis madeirensis</i> (Baehni) Aubrév.	Amazon	Richardson et al. 329 (E)	MF574531
<i>Micropholis melinoniana</i> Pierre	Amazon	Alvarez 1999 <sup>a</sup>	MF574532
<i>Micropholis obscura</i> T.D. Penn.	<b>Guianas</b>	Baraloto 3218 (CAY)	FJ037880.1
<i>Micropholis obscura</i> T.D. Penn.	Amazon	S. coll. 4 <sup>a</sup>	MZ468591
<i>Micropholis obscura</i> T.D. Penn.	<b>Guianas</b>	Baraloto 3218a (CAY)	NH200217
<i>Micropholis obscura</i> T.D. Penn.	<b>Guianas</b>	Baraloto 3217 (CAY)	P00610293
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	<b>Guianas</b>	Baraloto 3220 (CAY)	FJ037882.1
<i>Micropholis porphyrocarpa</i> (Baehni) Monach.	<b>Guianas</b>	Baraloto 3219 (CAY)	FJ037883.1
<i>Micropholis splendens</i> Gilly ex Aubrév.	Amazon	Avila et al. 2693 (UDBC)	MF574541
<i>Micropholis trunciflora</i> Ducke	Amazon	Cardenas 12266 <sup>a</sup>	MF574542
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Assunção 122 (U)	DQ246683.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	<b>Guianas</b>	Baraloto (CAY)	FJ037884.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	<b>Guianas</b>	Baraloto (CAY)	FJ037885.1
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	AD8893 (UDBC)	MF574543
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Avila et al. 2704	MF574549
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Llanos	Sanchez et al. 124 <sup>a</sup>	MZ468594
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	S. coll. 1 <sup>a</sup>	MZ468596
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8005 (E)	MZ470020
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	Amazon	Garcia 8238 (E)	MZ470023
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	<b>Guianas</b>	Baraloto 3128 (CAY)	NL110260
<i>Micropholis venulosa</i> (Mart. & Eichler) Pierre	<b>Guianas</b>	Baraloto 3114 (CAY)	NL110297
<i>Omphalocarpum pachysteloides</i> Mildbr. ex Hutch. & Dalziel	Africa	Jongkind 2351 (WAG)	AY552151

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Taxon	Locality	Colector	Genebank
<i>Omphalocarpum strombocarpum</i> Y.B. Harv. & Lovett	Africa	Frimodt-Møller et al. 538 (C)	DQ246685
<i>Pouteria adolfi-friedericii</i> (Engl.) A. Meuse	Africa	Friis et al. 3502 (UPS)	AY552115
<i>Pouteria alnifolia</i> (Baker) Roberty	Africa	Jongkind & Noyes 1322 (MO)	DQ246686
<i>Pouteria altissima</i> (A. Chev.) Baehni	Africa	Friis et al. 4145 (UPS)	DQ246687
<i>Pouteria ambelaniifolia</i> (Sandwith) T.D. Penn.	<b>Guianas</b>	Baraloto s.n. (CAY)	FJ037886
<i>Pouteria</i> Aubl.	Chocó	Serrano 244 (UDBC)	MZ329862
<i>Pouteria</i> Aubl.	Chocó	Serrano 306 (UDBC)	MZ329864
<i>Pouteria</i> Aubl.	Chocó	Serrano 246 (UDBC)	MZ329865
<i>Pouteria</i> Aubl.	Chocó	Serrano 247 (UDBC)	MZ329866
<i>Pouteria</i> Aubl.	Chocó	Serrano 301 (UDBC)	MZ329871
<i>Pouteria</i> Aubl.	Chocó	Serrano 338 (UDBC)	MZ329877
<i>Pouteria</i> Aubl.	Chocó	Serrano 267 (UDBC)	MZ329893
<i>Pouteria</i> Aubl.	Amazon	Serrano 54 (UDBC)	MZ329903
<i>Pouteria</i> Aubl.	Chocó	Serrano 312 (UDBC)	MZ329938
<i>Pouteria</i> Aubl.	Chocó	Serrano 307 (UDBC)	MZ329977
<i>Pouteria</i> Aubl.	Asia	Armstrong 317 <sup>a</sup>	KF686303
<i>Pouteria</i> Aubl.	<b>Guianas</b>	Sabatier & Molino Q423 <sup>a</sup>	MZ468562
<i>Pouteria</i> Aubl.	<b>Guianas</b>	Sabatier & Molino 383 (K)	MZ468564
<i>Pouteria</i> Aubl.	<b>Guianas</b>	Sabatier & Molino 213 (P)	MZ468565
<i>Pouteria</i> Aubl.	<b>Guianas</b>	Sabatier & Molino 989 (K)	MZ468567
<i>Pouteria</i> Aubl.	<b>Guianas</b>	Sabatier & Molino V819 <sup>a</sup>	MZ468569
<i>Pouteria</i> Aubl.	Amazon	S. coll. 8 <sup>a</sup>	MZ468572
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 51 (S)	MZ469959
<i>Pouteria</i> Aubl.	Amazon	Garcia 8777 (E)	MZ469963
<i>Pouteria</i> Aubl.	Amazon	Garcia 8632 (E)	MZ469965
<i>Pouteria</i> Aubl.	Amazon	Garcia 8641 (E)	MZ469972
<i>Pouteria</i> Aubl.	Central America	Anderberg et al. 60 (S)	MZ469996
<i>Pouteria</i> Aubl.	Amazon	Garcia 8623 (E)	MZ470019
<i>Pouteria aubrevillei</i> Bernardi	Amazon	Richardson et al. 327 (E)	MZ469969
<i>Pouteria baehni</i> Monach	Amazon	Serrano 144 (UDBC)	MZ329860
<i>Pouteria baehni</i> Monach	Amazon	Serrano 116 (UDBC)	MZ329861
<i>Pouteria bangii</i> (Rusby) T.D. Penn.	Catatumbo	Serrano 198 (UDBC)	MZ329932
<i>Pouteria baueri</i> (Montrouz.) Baehni	Australia	Munzinger 340	AY552113
<i>Pouteria benai</i> (Aubrév. & Pellegr.) T.D. Penn.	<b>Guianas</b>	Mori et al. 27,353 (K)	ED902434
<i>Pouteria bilocularis</i> (H.J.P. Winkl.) Baehni	Amazon	Richardson et al. 345 (E)	ED090242
<i>Pouteria bilocularis</i> (H.J.P. Winkl.) Baehni	Amazon	Garcia 8763 (E)	MZ469995
<i>Pouteria bracteata</i> T.D. Penn.	Chocó	Serrano 298 (UDBC)	MZ329925
<i>Pouteria bracteata</i> T.D. Penn.	Chocó	Palacios 13,699 (K)	MZ469974
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 318 (UDBC)	MZ329954
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 311 (UDBC)	MZ329955
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 305 (UDBC)	MZ329956
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Serrano 299 (UDBC)	MZ329957
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 388 (E)	MZ469985
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 391 (E)	MZ469986
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 386 (E)	MZ469994
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 387 (E)	MZ469997
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 377 (E)	MZ469998
<i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.	Chocó	Richardson et al. 390 (E)	MZ469999
<i>Pouteria campechiana</i> (Kunth) Baehni	West Indies	Wang W00798 (HAST)	DQ246688
<i>Pouteria collina</i> (Little) T.D. Penn.	Chocó	Serrano 258 (UDBC)	MZ329948
<i>Pouteria collina</i> (Little) T.D. Penn.	Chocó	Serrano 263 (UDBC)	MZ329949
<i>Pouteria collina</i> (Little) T.D. Penn.	Chocó	Gentry, Faber-Langendoen & Echevarria 62,908 (K)	MZ469973
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 165 (UDBC)	MZ329926
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 174 (UDBC)	MZ329927
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 168 (UDBC)	MZ329928
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 173 (UDBC)	MZ329929
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 169 (UDBC)	MZ329930
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano 164 (UDBC)	MZ329931
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano nn365 <sup>a</sup>	MZ468570
<i>Pouteria coriacea</i> (Pierre) Pierre	Macarena	Serrano nn364 <sup>a</sup>	MZ468571
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 337 (UDBC)	MZ329906
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 210 (UDBC)	MZ329907
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 211 (UDBC)	MZ329908
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 208 (UDBC)	MZ329909
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 205 (UDBC)	MZ329910
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 224 (UDBC)	MZ329911
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 207 (UDBC)	MZ329912
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 219 (UDBC)	MZ329913
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 215 (UDBC)	MZ329914
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 212 (UDBC)	MZ329915
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 242 (UDBC)	MZ329916
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 203 (UDBC)	MZ329917
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 209 (UDBC)	MZ329918
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 204 (UDBC)	MZ329919
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 193 (UDBC)	MZ329920
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 218 (UDBC)	MZ329921

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Taxon	Locality	Colector	Genebank
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 185 (UDBC)	MZ329922
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 221 (UDBC)	MZ329923
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 336 (UDBC)	MZ329924
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 268 (UDBC)	MZ329933
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 335 (UDBC)	MZ329934
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 285 (UDBC)	MZ329935
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 269 (UDBC)	MZ329936
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 249 (UDBC)	MZ329937
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 321 (UDBC)	MZ329939
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 161 (UDBC)	MZ329940
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 159 (UDBC)	MZ329941
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 167 (UDBC)	MZ329942
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 166 (UDBC)	MZ329943
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 160 (UDBC)	MZ329944
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 156 (UDBC)	MZ329945
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 157 (UDBC)	MZ329946
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Macarena	Serrano 162 (UDBC)	MZ329947
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn363 <sup>3</sup>	MZ329982
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 284 (UDBC)	MZ329983
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Chocó	Serrano 241 (UDBC)	MZ329984
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 158 (UDBC)	MZ468556
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 175 (UDBC)	MZ468573
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn368 <sup>3</sup>	MZ468574
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn369 <sup>3</sup>	MZ468575
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn366 <sup>3</sup>	MZ468576
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano nn370 <sup>3</sup>	MZ468577
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Catatumbo	Serrano 176 (UDBC)	MZ468578
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Richardson et al. 337 (E)	MZ469976
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8624 (E)	MZ469977
<i>Pouteria cuspidata</i> (A. DC.) Baehni	Amazon	Garcia 8769 (E)	MZ469978
<i>Pouteria decorticans</i> T.D. Penn.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037887
<i>Pouteria delicosa</i> T.D. Penn.	<b>Guianas</b>	Sabatier & Molino 903 <sup>7</sup>	MZ468563
<i>Pouteria dominigensis</i> (C.F. Gaertn.) Baehni	West Indies	Gutiérrez & Nilsson 13 (S)	AY552106
<i>Pouteria dominigensis</i> (C.F. Gaertn.) Baehni	Magdalena Valley	Serrano 351 (UDBC)	MZ329876
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	<b>Guianas</b>	Baraloto 3136 (CAY)	FJ037888
<i>Pouteria eugeniifolia</i> (Pierre) Baehni	<b>Guianas</b>	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037889.1
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 140 (UDBC)	MZ329884
<i>Pouteria filipes</i> Eyma	Amazon	Serrano 73 (UDBC)	MZ329885
<i>Pouteria gardneriana</i> (A. DC.) Radlk.	Argentina	Schwarz 8216 (UPS)	DQ246689
<i>Pouteria gongrijpii</i> Eyma	<b>Guianas</b>	Baraloto 3087 (CAY)	FJ037890
<i>Pouteria gongrijpii</i> Eyma	<b>Guianas</b>	Baraloto 3098 (CAY)	FJ037891
<i>Pouteria grandis</i> Eyma	<b>Guianas</b>	Sabatier & Molino 995 <sup>7</sup>	MZ469960
<i>Pouteria guianensis</i> Aubl.	<b>Guianas</b>	Poncy 1745 (P)	DQ246690
<i>Pouteria guianensis</i> Aubl.	<b>Guianas</b>	Baraloto & Engel s.n. (CAY)	FJ037892
<i>Pouteria guianensis</i> Aubl.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera 3102 (CAY)	FJ037893
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 332 (E)	MZ469954
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 342 (E)	MZ469987
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 309 (E)	MZ469988
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 323 (E)	MZ469989
<i>Pouteria guianensis</i> Aubl.	Amazon	Garcia 8631 (E)	MZ469990
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 351 (E)	MZ469991
<i>Pouteria guianensis</i> Aubl.	Amazon	Richardson et al. 333 (E)	MZ469992
<i>Pouteria hispida</i> Eyma	<b>Guianas</b>	Mori et al. 25,432 (NY)	DQ246691
<i>Pouteria laevigata</i> (Mart.) Radlk.	Chocó	Serrano 339 (UDBC)	MZ329960
<i>Pouteria laevigata</i> (Mart.) Radlk.	Central America	Anderberg et al. 49 (S)	MZ470001
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 24 (UDBC)	MZ329878
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 352 <sup>3</sup>	MZ329879
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 18 (UDBC)	MZ329880
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Magdalena Valley	Serrano 44 (UDBC)	MZ329881
<i>Pouteria lecythidicarpa</i> P.E. Sánchez & Poveda	Central America	Anderberg et al. 34 (S)	MZ469961
<i>Pouteria lucumifolia</i> (Reissek ex Maxim.) T.D. Penn.	Amazon	Richardson et al. 306 (E)	MZ469975
<i>Pouteria macrocarpa</i> (Mart.) D. Dietr.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera 3095 (CAY)	FJ037894
<i>Pouteria macrophylla</i> (Lam.) Eyma	Amazon	Seidel et al. 5905 (K)	DQ246692
<i>Pouteria multiflora</i> (A. DC.) Eyma	Chocó	Villa & Rivaz 257 (BM)	DQ246693
<i>Pouteria oblanceolata</i> Pires	Amazon	Richardson et al. 307 (E)	MZ470002
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8625 (E)	MZ470003
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8635 (E)	MZ470004
<i>Pouteria oblanceolata</i> Pires	Amazon	Garcia 8634 (E)	MZ470005
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Chocó	Serrano 303 (UDBC)	MZ329870
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 359 <sup>3</sup>	MZ329892
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Catatumbo	Serrano 223 (UDBC)	MZ329894
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 348 <sup>3</sup>	MZ329895
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Magdalena Valley	Serrano 350 <sup>3</sup>	MZ329896
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Amazon	Serrano 55 (UDBC)	MZ329897
<i>Pouteria platyphylla</i> (A.C. Sm.) Baehni	Amazon	Richardson et al. 313 (E)	MZ469964
<i>Pouteria procera</i> (Mart.) K. Hammer	Amazon	Richardson et al. 339 (E)	MZ469966

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Taxon	Locality	Collector	Genebank
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T.D. Penn.	Amazon	S. coll. 6 <sup>a</sup>	MZ468566
<i>Pouteria pubescens</i> (Aubrév. & Pellegr.) T.D. Penn.	Amazon	Garcia 8636 (E)	MZ469962
<i>Pouteria putamen-ovi</i> T.D. Penn.	Amazon	S. coll. 7 <sup>a</sup>	MZ468568
<i>Pouteria putamen-ovi</i> T.D. Penn.	Amazon	Garcia 8774 (E)	MZ469970
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 270 (UDBC)	MZ329886
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 259 (UDBC)	MZ329887
<i>Pouteria resinosa</i> T.D. Penn.	Chocó	Serrano 243 (UDBC)	MZ329889
<i>Pouteria reticulata</i> (Engl.) Eyma	Amazon	Serrano 72 (UDBC)	MZ329951
<i>Pouteria reticulata</i> (Engl.) Eyma	Central America	Anderberg et al. 7 (S)	MZ469993
<i>Pouteria rostrata</i> (Huber) Baehni	Magdalena Valley	Serrano 357 (UDBC)	MZ329891
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Garcia 8637 (E)	MZ469951
<i>Pouteria sessilis</i> T.D. Penn.	Amazon	Richardson et al. 321 (E)	MZ469983
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 145 (UDBC)	MZ329967
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 151 (UDBC)	MZ329968
<i>Pouteria subrotata</i> Cronquist	Amazon	Serrano 112 (UDBC)	MZ329969
<i>Pouteria subrotata</i> Cronquist	Central America	Anderberg et al. 48 (S)	MZ470000
<i>Pouteria torta</i> (Mart.) Radlk.	<b>Guianas</b>	Baraloto, Engel & Riera s.n. (CAY)	FJ037895
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 90 (UDBC)	MZ329863
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 58 (UDBC)	MZ329883
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 70 (UDBC)	MZ329898
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 59 (UDBC)	MZ329899
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 105 (UDBC)	MZ329900
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 78 (UDBC)	MZ329901
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 153 (UDBC)	MZ329961
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 50 (UDBC)	MZ329962
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Serrano 69 (UDBC)	MZ329978
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Guy 55 <sup>a</sup>	MZ468588
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 338 (E)	MZ469967
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Anderberg et al. 47 (S)	MZ469981
<i>Pouteria torta</i> (Mart.) Radlk.	Amazon	Richardson et al. 336 (E)	MZ469984
<i>Pouteria triplarifolia</i> Standl. & L.O. Williams ex T.D. Penn.	Central America	Swenson et al. 738 (S)	MZ469971
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 149 (UDBC)	MZ329952
<i>Pouteria venosa</i> (Mart.) Baehni	Amazon	Serrano 76 (UDBC)	MZ329953
<i>Pouteria vernicosa</i> T.D. Penn.	Chocó	Villa et al. 1304 (BM)	DQ246694
<i>Pouteria viridis</i> (Pittier) Cronquist	Central America	Faber–Langendoen & Renteria 1127 (K)	MZ468561
<i>Pradosia atroviolacea</i> Ducke	Central America	Anderberg et al. 52 (S)	KM042306
<i>Pradosia atroviolacea</i> Ducke	Chocó	Cuatrecasas 13,988 (K)	KM042310
<i>Pradosia brevipes</i> (Pierre) T.D. Penn.	Amazon	Lindeman 6743 (U)	AY552158
<i>Pradosia cuatrecasasii</i> (Aubrév.) T.D. Penn.	Chocó	Baraloto, Engel & Riera s.n. (CAY)	FJ037897
<i>Pradosia Liais</i>	Amazon	Serrano 56 (UDBC)	MZ329872
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera 3111 (CAY)	FJ037898
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera s.n. (CAY)	FJ037899.1
<i>Pradosia ptychandra</i> (Eyma) T.D. Penn.	<b>Guianas</b>	Baraloto, Engel, Chave & Riera 3111 (CAY)	MZ468557
<i>Pradosia schomburgkiana</i> (A. DC.) Cronquist	Amazon	Ducke Reserve 05–1829 (K)	AY552156
<i>Pradosia spinosa</i> Ewango & Breteler	Africa	Isembe 508 (WAG)	DQ246695
<i>Pradosia surinamensis</i> (Eyma) T.D. Penn.	<b>Guianas</b>	Harris 1076 (U)	AY552157
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 37 <sup>a</sup>	FJ037896
<i>Sapotaceae</i> Juss.	Chocó	Serrano 288 (UDBC)	MZ329888
<i>Sapotaceae</i> Juss.	Chocó	Serrano 278 (UDBC)	MZ329890
<i>Sapotaceae</i> Juss.	Chocó	Serrano 315 (UDBC)	MZ329905
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano 38 (UDBC)	MZ468558
<i>Sapotaceae</i> Juss.	Magdalena Valley	Serrano 39 (UDBC)	MZ468559
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 24 <sup>a</sup>	MZ468581
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 3 <sup>a</sup>	MZ468582
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 76 <sup>a</sup>	MZ468583
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 13 <sup>a</sup>	MZ468584
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 2 <sup>a</sup>	MZ468585
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 74 <sup>a</sup>	MZ468586
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 47 <sup>a</sup>	MZ468587
<i>Sapotaceae</i> Juss.	<b>Guianas</b>	Guy 32 <sup>a</sup>	MZ468589
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Amazon	Paniagua et al. 4852 (MO)	DQ246696
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Magdalena Valley	Serrano 355 <sup>a</sup>	MZ329950
<i>Sarcaulus brasiliensis</i> (A. DC.) Eyma	Amazon	Richardson et al. 322 (E)	MZ469979
<i>Sarcosperma laurinum</i> (Benth.) Hook. f.	Asia	Saunders s.n. (S)	AM408055
<i>Synsepalum dulcificum</i> (Schumacher & Thonn.) Daniell	Africa	Welsing et al. 24 (WAG)	DQ246697
<i>Synsepalum passargei</i> (Engl.) T.D. Penn.	Africa	Magogo 2452 (UPS)	DQ246698
<i>Xantolis siamensis</i> (Fletcher) P. Royen	Asia	Smitairi 1 (L)	AY552154.1

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