

Supplementary Information for *A highly-resolved food web for insect seed predators in a species-rich tropical forest*

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1 Appendix S1: Supplementary methods

Processing the insect material to obtain (morpho)species identifications

When encountered in rearing pots, adult Coleoptera, Diptera and Hymenoptera were transferred to vials with ethanol, while Lepidoptera were spread and dried. Where insects (typically weevils) emerged from the seed and fruit samples as larvae, they were stored in 95% ethanol to allow molecular identification through DNA barcoding (Hebert *et al.* 2003). Where multiple similar-looking larvae were encountered in the same rearing pot on the same day they were assumed to belong to the same species. In such cases, one individual was stored in ethanol while remaining larvae were placed in pots with sterilised soil in an attempt to rear adults for morphology-based identification. Many (72.5%) of the 1889 larvae placed in soil pots did not emerge as adults. The likely species identity of these larvae – and of larvae in ethanol that were not DNA barcoded – was inferred from the DNA barcode of the paired larval samples stored in ethanol or from the identity of any adults emerging from the same soil pot.

All adult insects emerging from seeds or soil were assigned to a morphospecies based on their morphology. Initially, insect specimens reared from different plant species were processed separately and given different morphospecies-by-plant species codes. These were later merged to true species (or morphospecies) based on examination of selected specimens by experts on each taxonomic group. To ensure that the material did not include cryptic species (e.g. Hebert *et al.* 2004), up to 5 individuals per morphospecies excluding Hymenoptera (a total of 2733 adults and 244 larvae) were DNA barcoded (i.e. the mitochondrial COI gene sequenced; Hebert *et al.* 2003). DNA sequencing of adult specimens was done at the Biodiversity Institute of Ontario using their standard protocols and primers (Wilson 2012). DNA barcoding of larvae was done by Eero Vesterinen at the University of Turku. Barcode Index Numbers (Ratnasingham & Hebert 2013) were obtained for 35.8% of the (morpho)species in the full material and for 72.3% of the (morpho)species classified as seed predators (see below). In most cases there was a close match

between our initial morphospecies codes and the DNA barcodes, although in a few cases (notably within the Bruchinae), species assignments based on morphological characters proved difficult for non-specialists.

Assigning insect species and morphospecies to feeding guild

The seed and fruit samples inevitably yielded some insects that were not true seed predators, but pulp feeders, scavengers or fungivores, as well as natural enemies (parasitoids) associated with seed predators or members of the above-mentioned feeding guilds. In the context of the current study, we were exclusively interested in insects that are true seed predators, i.e. those that suppress the reproductive output of their hosts by killing seeds. Based on information about the ecology of different taxa, our own observations, and discussions with experts on different taxonomic groups, each insect species was assigned to its most likely feeding guild (seed predator versus other), following the principles outlined below: Of the Coleoptera, all bruchids (Bruchinae), Curculionidae (with the exception of Scolytinae; see below) and longhorn beetles (Cerambycidae) were classified as seed predators. While the majority of Scolytinae are likely to be pulp feeders or feeding on endocarps or the woody parts of fruits, one species (*Pagiocerus frontalis*) was classified as a seed predator based on clear evidence of feeding damage on the seeds of all of its documented host species (S. Gripenberg, *pers. obs.*). In terms of Lepidoptera, all members of the families Cosmopterigidae, Crambidae, Heliodinidae, Oecophoridae, Pyralidae, Sesiidae and Tortricidae were assumed to be seed predators. Based on expert opinion (Robert Robbins, *pers. comm.*) and feeding damage observed to seeds, three genera of Lycaenidae (*Strymon*, *Strephonota* and *Tmolus*) were assigned as seed predators. Tineidae were assumed to be scavengers, although the family includes diverse larval habits (Robinson 2009). Blastobasidae are historically assumed to be scavengers, although some species may feed on living tissue in fruits (Adamski *et al.* 2010). Most Hymenoptera reared from our samples are likely to be parasitoids of seed and fruit eating insects. Members of two families (Agaonidae and Eurytomidae) were labelled as seed predators based on what is known about their feeding habits in other contexts

(Donald Quicke, *pers. comm.*). In terms of Diptera, we recognise that some species reared from our seed and fruit samples (notably members of the families Tephritidae and Lonchaeidae) are likely to be seed predators. Nevertheless, since our data do not allow us to confidently assign individual dipteran species to the correct feeding guild we have refrained from including this species-rich order in our analyses. It will, however, be included in future analyses focusing on the wider insect communities associated with seeds and fruits (Basset *et al.*, in prep.). Overall, we believe our criteria for assigning species to feeding guild are strict: it is more likely that we have excluded seed predators than included non-seed predating species in our analyses. We note that there is a possibility that some seeds attacked by species scored as seed predators might still be viable (e.g. *Prioria copaifera* seeds with signs of insect seed predator attack have been observed to germinate; Dalling *et al.* 1997). Nevertheless, in the vast majority of interactions documented in this study, we believe the effect of the insects scored as seed predators to be lethal.

Details on analyses testing for phylogenetic signal

The D statistic (Fritz & Purvis 2010) which was used to test for phylogenetic signal in the incidence of seed predators across the plant community assesses the sum of changes in estimated nodal values of a binary trait across a phylogeny. The value of D was compared to D values found under models of phylogenetic randomness and evolution under Brownian motion. D values significantly smaller than 1 indicate that the examined trait is phylogenetically clumped and D values equal to 0 suggest that the trait is as clumped as if it had evolved under Brownian evolution. Whether observed D values deviated significantly from 1 and 0 was assessed using 1000 simulations (for details, see Fritz & Purvis 2010). Analyses were conducted for all seed predator taxa combined, and for each order (Coleoptera, Lepidoptera, Hymenoptera) separately. We tested for phylogenetic signal in seed predator richness and seed predation rates using Blomberg's K (Blomberg *et al.* 2003). To obtain P-values associated with K , we used the R package phytools (Revell 2012). To minimise potential issues resulting from variable sample sizes and incomplete sampling, only plant species with a minimum sample size of 200 seeds/fruits were included in

Trait	Well-Sampled Missing %	All Data Missing %
Lifeform	0.0	0.8
BCI genus-level diversity	3.3	7.3
BCI family-level diversity	8.0	6.1
Overlap in fruit production	8.5	26.7
Seed dry mass	14.6	30.7
Endocarp investment	14.6	30.1
Local Seed crop size	28.6	52.0
Interannual crop size variation	30.0	53.0
Tree height	34.3	50.5
Local Abundance	34.7	51.1
Relative Growth Rate	48.8	67.4
Polyphenol concentration	49.8	70.8

Table S1.1 Fraction of missing data for each trait in the plant dataset.

the analyses on phylogenetic signal.

Details on random forest analyses relating plant traits to seed predation Data were collated from a number of different sources, listed in Appendix S2. When assessing seed predation rate, we excluded plant species with seeds smaller than 1 mg, since our observations suggested that seeds smaller than this are likely to be too small to be attacked by endophagous seed predators. Amongst the well-sampled plant species (≥ 200 seeds/fruits) upon which we focussed our main analyses, the trait data completeness was above 50% for all the variables tested (Table S1.1). Missing values are dealt with by the default approach of the `cforest()` function, which uses surrogate splits where necessary (Hothorn *et al.* 2006).

Correlations between traits were generally low (Figure S1.1). The principal exception was seed crop variables (crop size, crop variation and fruit production overlap) that formed a distinct cluster. We sought to determine if a wide suite of traits could allow the prediction of our seed predator response variables with random forest models. This type of model builds a collection

of classification or regression trees to improve performance. The specification of random forest models can be altered by a wide range of ‘hyperparameters’, including the number and depth of classification trees and how the model’s performance is tested. The results that we present made use of the default settings of the `cforest()` function in the `party` package (Table S1.2) with one exception: the number of trees per model was increased to 5000. While exploring the data we tested a wide variety of different combinations, as well as other random forest modelling frameworks, but there was little meaningful improvement. Model performance was tested with out-of-bag testing. In this approach a model is fit using all-but-one result, and the ability to fit the sample left out is examined.

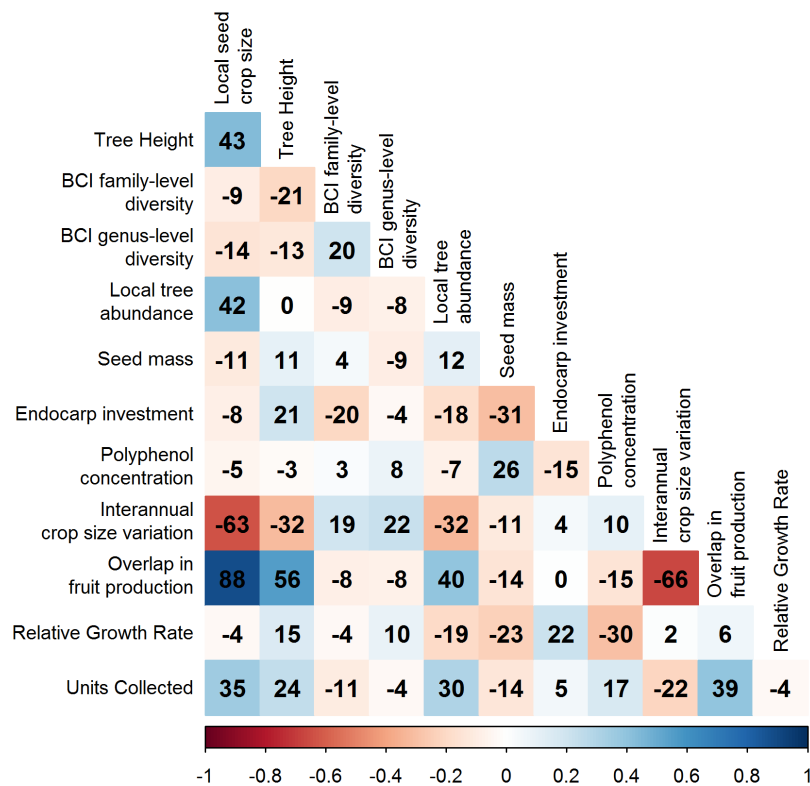


Figure S1.1. Correlations between the numeric continuous seed traits and sample size. Numbers and colour show Spearman’s rank correlation coefficient (rescaled to percentages for conciseness).

Setting name in cforest()	Explanation	Value
mtry	The number of variables to use in each tree	5
ntree	The number of classification or regression trees to include in each model	5000
mincriterion	The value of the test statistic that must be exceeded to implement a split	0 (i.e unbounded trees)

Table S1.2 Values of hyperparameters used for reported results.

Comparing the role of different variables in driving the accuracy of predictions is challenging in a random forest model, especially when the variables have differing levels of missingness, are sometimes categorical and may be somewhat correlated. Variable importance measures examine the mean decrease in accuracy if a predictor variable is randomised. To gain some insight into the driving features of our model we used the `varimp()` function in the `party` package. Since our data had a number of missing values, we used the approach detailed in Hapfelmeier *et al.* (2014).

Details on the estimation of species-specific seed abundances for the quantitative food web

Species-specific seed abundances were estimated based on a data set of seeds (or individual diaspores) and fruits (i.e. seed-bearing structures with one or more seeds) collected from a network of 200 seed traps (each 0.5m² in size) in the 50-ha Forest-GEO forest dynamics plot (Anderson-Teixeira *et al.* 2015) on a weekly basis from 1987 to 2015. For each species, the total counts of the following seed and fruit parts falling into the traps were recorded: *mature fruits*, *single diaspores* (i.e. ‘seeds’), *capsules* (part that vertebrates never eat; botanically this might be a capsule, pedicel, bract, etc.), *fragments of fruit* dropped by vertebrates (the number of fruit

represented was recorded by counting pedicels or the points of attachment to the mother plant), *immature fruits* (endosperm of seeds is not filled), *fruit with insect emergence hole* (only recorded for selected species), *aborted fruits* (fall soon after flowering, have a swollen ovule, and often have some flower parts attached), *fruit eaten by animal*. To estimate the total number of seeds produced for each species, we multiplied the number of fruits collected by the species-specific average number of seeds per fruit, and then added *either* the number of seeds *or* the number of capsules multiplied by species-specific average number of fruits per capsule multiplied by average number of seeds per fruit; whichever number was larger. The rationale for this approach is that since some of the seeds falling into the trap might have originated from the capsule, we might overestimate seed numbers if we were to use $(\text{fruits} \times \text{average seeds/fruit}) + \text{seeds} + (\text{capsules} \times \text{average seeds/fruit})$. Since many seed predators are likely to be pre-dispersal seed predators attacking the fruits before they reach maturity, immature fruits were included in the estimates.

For the majority (77.6%) of species, information on the typical number of seeds per fruit was obtained from fruit dissections carried out on BCI in the context of other research projects (S. J. Wright, unpubl. data). For remaining species, information on typical seed numbers per fruit was extracted from Croat (1978). (Where a range of seed numbers per fruit was reported for a species, we used the median value of this range.) For a small number of species ($n=27$) for which data on seed numbers per fruit were missing but for which there was information on seed numbers per fruit for congeneric species, we used the genus-specific average number of seeds per fruit (obtained from the above-mentioned sources). Following these approaches, we obtained an estimate for number of seeds per fruit for all but 11 species (3.1%) in the food web data set. We note that the species for which data on seeds per fruit were missing were typically berries, which were excluded from the food web for other reasons (estimating the proportion of seeds killed by seed predators was not possible for these species; see main text).

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2 Appendix S2: Origins of data sets on plant traits

The data sets needed to assess the relationship between community-level patterns of seed predator attack (incidence of seed predators, seed predator richness, and proportion of seeds scored as predated) and traits hypothesised to make plant species more or less prone to seed predation (Table 1 in the main text) were obtained from a variety of sources:

Local seed abundance – Data used to quantify seed abundances of individual tree and liana species in the BCI community were obtained from S. J. Wright’s long term study focusing on seed rain into a network of 200 seed traps (0.5 m²) located in the 50-ha forest dynamics plot on BCI (see e.g. Harms *et al.* 2000, Wright *et al.* 2005). For the species encountered in the seed traps, species-specific seed production was taken as a measure of seed abundance at the community level. Seed production was calculated by summing the counts of seeds falling into the seed traps during the period between January 1987 and October 2010.

Maximum tree height – Data on the maximum height (m) of trees were collected using methods described in Wright *et al.* (2010).

Confamilial species on BCI – For each sampled plant species, information on the number of plant species within the same family known to occur on BCI was obtained from a list of plant species recorded on BCI compiled by Carmen Galdames.

Congeneric species on BCI – Information on the number of plant species within the same genus known to occur on BCI was obtained from a list of plant species recorded on BCI compiled by Carmen Galdames.

Local abundance of adult trees – The local abundance of reproductive-sized adult trees was estimated using data from the 2010 census of the ForestGeo plot (Condit 1998, Hubbell *et al.* 1999, Hubbell *et al.* 2005). To estimate the number of reproductive adults in the 50-ha plot, we extracted species-specific maximum diameter at breast height (DBH_{max}) and selected all individuals with a DBH larger than $0.5 \times \text{DBH}_{\text{max}}$ (the known size threshold for tree reproduction; Visser *et al.* 2016).

Seed mass – Species-specific seed masses were available in the form of mean dry seed mass (expressed in grams) where a ‘seed’ is defined to include the endosperm and embryo only. For the majority of species, the mean seed mass was based on an average of 5 seeds collected from 5 individuals and dried to constant mass at 60°C (for some species, sample sizes were slightly lower).

Endocarp investment – To obtain a measure of the degree of investment in mechanical seed defences, we used a largely unpublished data set on species-specific protective tissue content, reflecting the proportion of diaspore mass made up by protective tissue (e.g. endocarps and seed coats) rather than seed mass. These data were obtained by dissecting diaspores into three parts: seed (embryo plus endosperm only), appendages to enable dispersal by wind (wings for virtually all species), and material to protect the seed. All material was oven dried at 60°C for at least 72 hours and then weighed for dry mass. The protective tissue content was taken as the dry weight of the seed protection material divided by the diaspore dry weight.

Polyphenol concentration – Data on polyphenol concentration in seeds (mg/g dry seed mass) were obtained from a study by Gripenberg *et al.* (2017, 2018).

Interannual variation in seed crop sizes – As a measure of the extent of interannual variation in the size of the seed crop we used a variable analogous to the variable CV_{year} in Wright *et al.* (2005), but implemented on a larger data set involving more species and in which seed fall for each trap was averaged across a longer time period (1987 to 2010) than in the primary publication.

Fruiting season – Based on the mean fruit fall date (as obtained from above-mentioned seed traps), species were assigned to ‘wet season species’ (mean fruit fall date in the period between 1st June and 30th November) or ‘dry season species’ (mean fruit fall date in the period between 15th January and 30th March). Species fruiting in the transitional months (April, May, December and early January) were not classified.

Overlap in fruit production by other species – The overlap in fruit production between plant species was taken as the total number of other species observed to fruit in the same week as a given plant in the seed trap dataset associated with the study by Wright *et al.* (2016).

Growth form – Based on their growth form, species were classified as trees or lianas.

Relative growth rate – The relative growth rate (RGR; cm per year) of saplings were collected using methods described in Wright *et al.* (2010).

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3 Appendix S3: Sample coverage

Sample coverage estimators offer the potential to indicate how complete an interaction network is based on the frequency of observations (Jordano 2016). Coverage estimators are well established at estimating species diversity measures with under-sampling (Gotelli & Colwell 2010). The abundance-based Chao estimator for sample coverage (Chao 1984) is calculated as:

$$1 - \frac{f_1}{n} \frac{(n-1)f_1}{(n-1)f_1 + 2f_2}$$

where n is the total number of observed interactions, f_1 is the number of interactions observed just once, and f_2 is the number of interactions observed exactly twice. For our full network using all observed interactions, $n = 471$, $f_1 = 123$, and $f_2 = 92$, giving an estimated sample coverage of 0.7396. This suggests that 74% of all plant species \times seed predator species interactions occurring in the community are represented in the sample, or in other words that (at least) 26% of the interactions remain unobserved. Note that this is distinct to network completeness, the proportion of ‘present’ interaction types that were observed. Using the `estimateR` function in the `vegan` package (Oksanen *et al.* 2018), the lower bound estimate for the total number of interactions was found to be 551.6. A rarefaction curve (Fig. S3.1) suggests that the rate of accumulation of interactions had significantly slowed. However, theory for the use of this approach designed for species richness is less developed for estimating interaction completeness (Jordano 2016), so it is unclear how close to this lower bound the true number of interactions is likely to be. The likely over-dispersion in our data, whereby clusters of observations of interactions are likely to occur, may bias these estimates, and as such they are only intended for use as an indicator that the sampling was sufficiently thorough to capture the principle trends.

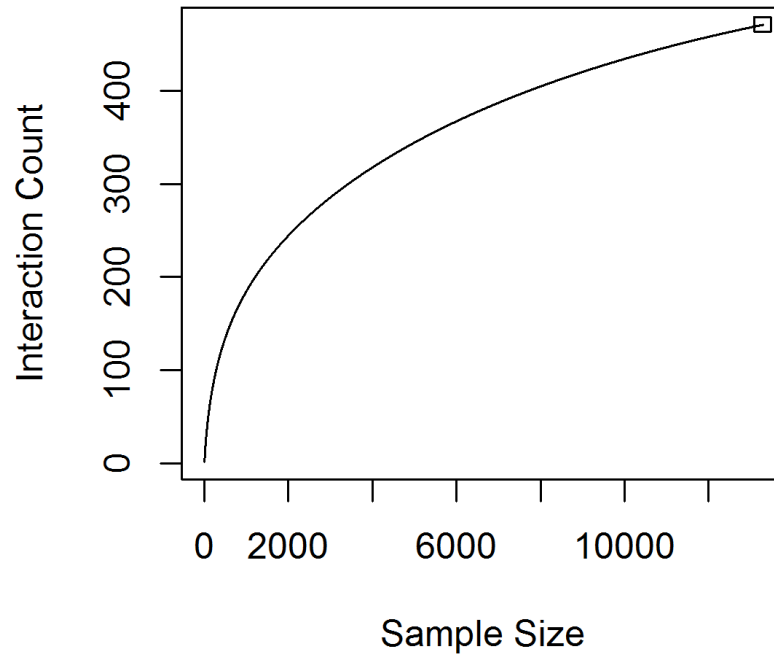


Figure S3.1 Rarefaction curve of sample size against accumulated interaction count. Although the accumulation curve has not plateaued, the rate of accumulation is low at large sample sizes.

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4 Appendix S4: Supplementary results from random forest analyses

The relative importance of individual plant traits in the analyses of the full data set are shown in Fig. S4.1. Although our models cannot predict our responses much better than random, it is notable that the same set of variables, in particular seed mass and tree height are consistently identified as important. This is despite tree height data only being available in 65% of cases (see Appendix S1) – many of the remainder are lianas, for which ‘height’ is not meaningful.

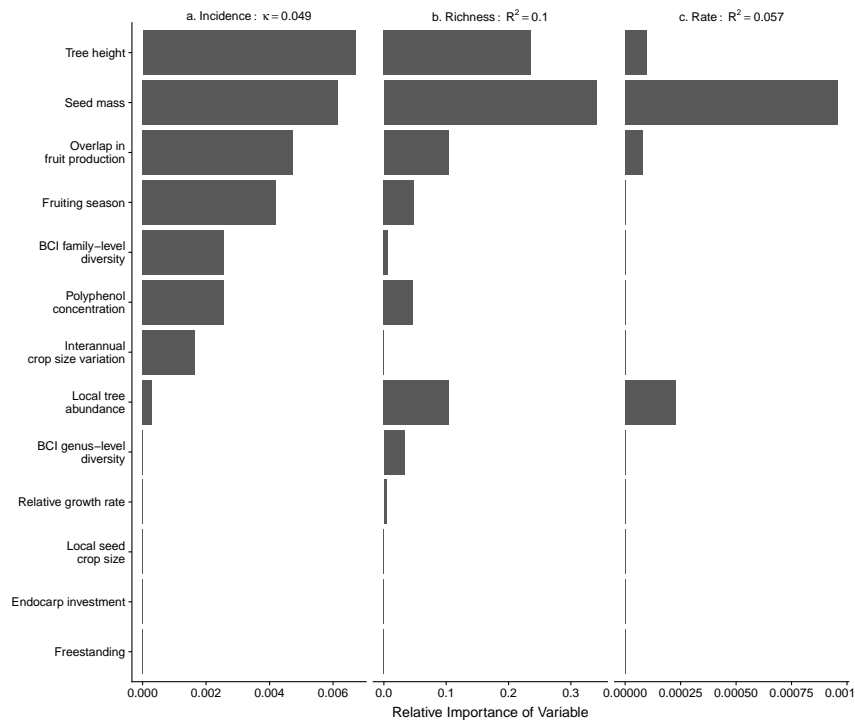


Figure S4.1. Relative trait variable importance for our three response variables for the ‘well-sampled’ dataset (including species with a minimum of 200 seeds/fruits). Variables are sorted according to their relative importance in explaining the incidence of seed predators.

An alternative approach to assessing how a model uses the information are partial dependence plots. These display how a model’s average predictions change as a predictor variable is

changed, all else being equal. The partial dependence plots for seed mass and tree height are shown in Fig. S4.2, and generally match the patterns in Fig. 3 in the main text.

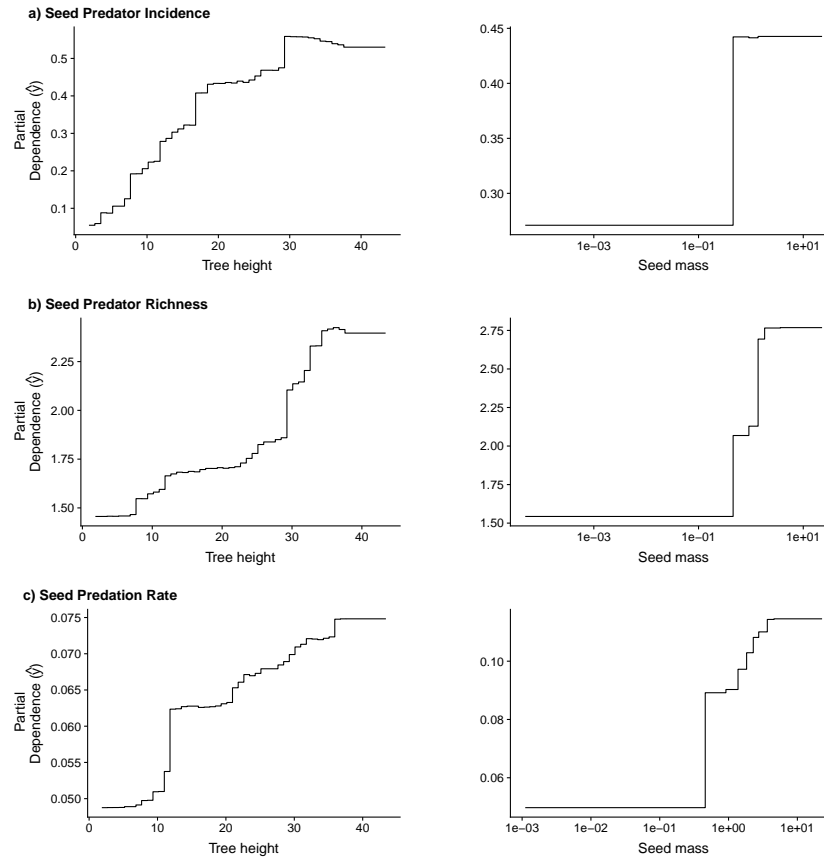


Figure S4.2. Partial dependence plots for tree height and seed mass. These plots show how the predictions of our random forest models change in response to shifts in the values of a particular trait, against a representative background of other traits. There is a positive relationship between tree height and the susceptibility of species to seed predator attack and between seed mass and the susceptibility to seed predator attack. Note the logarithmic scale for seed mass.

To confirm that filtering of plants to include only well sampled species was not affecting the results, we also conducted a parallel analysis in which all plant species were included along with sample size as an additional predictor variable. Seed predator incidence could be predicted quite well, ($\kappa = 0.36$), but by far the most important variable was the sample size ('Total Units Collected'; Fig. S4.3). Species richness was predicted moderately well (pseudo- $R^2 = 0.248$), but

this was again dominated by sample size. Species predation rate was poorly predicted on the full dataset ($\text{pseudo-}R^2 = 0.0455$), with sample size not driving rate.

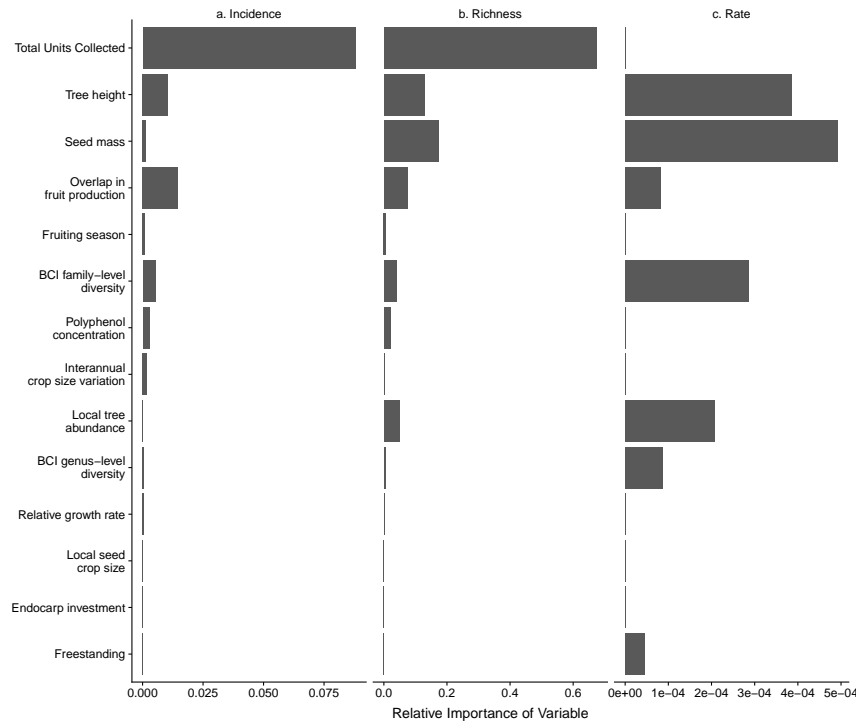


Figure S4.3. Relative variable importance plots using the full dataset, which includes poorly sampled species. For both incidence and richness, total units collected was a driving feature.

5 Table S1: List of sampled plant species

A list of the 478 plant species sampled for insect seed predators. For tree species occurring in the 50-ha forest dynamics plot, the nomenclature follows <http://conditdatacenter.org/taxonomy/BCI/BCIPlotFullTaxonomy.php> (accessed 14th December 2018). The nomenclature of remaining species follows <http://www.theplantlist.org> (accessed 8th January 2019). Code4 and Code6 are abbreviations of plant species names commonly used by researchers working on BCI. The column ‘Units collected’ shows the total number of seeds or fruits collected for insect rearing and the column ‘Phylogeny’ indicates whether or not (yes/no) the focal plant species was included in the phylogeny. Data on species-specific values of the 13 traits investigated in our analyses (Table 1 in the main text and Appendix S2) can be found in https://github.com/jcdterry/BCI_Seed_Predator/ (to be made publicly available upon publication).

Species	Family	Code4	Code6	Units collected	Phylogeny
<i>Abuta racemosa</i>	Menispermaceae	ABUR	ABUTRA	47	Yes
<i>Acalypha macrostachya</i>	Euphorbiaceae	ACA2	ACALMA	287	Yes
<i>Acalypha diversifolia</i>	Euphorbiaceae	ACAD	ACALDI	83	Yes
<i>Acacia polyphylla</i>	Fabaceae	ACAG	NA	16	Yes
<i>Acacia hayesii</i>	Fabaceae	ACAH	ACACHA	196	Yes
<i>Entadopsis polystachya</i>	Fabaceae	ADEP	ADE4PO	183	Yes
<i>Adelia triloba</i>	Euphorbiaceae	ADET	ADE1TR	235	Yes
<i>Aechmea setigera</i>	Bromeliaceae	AECS	NA	8	No
<i>Aegiphila cephalophora</i>	Lamiaceae	AEGC	AEGICE	477	Yes
<i>Aegiphila panamensis</i>	Lamiaceae	AEGP	AEGIPA	186	Yes
<i>Alchornea costaricensis</i>	Euphorbiaceae	ALCC	ALCHCO	323	Yes
<i>Alibertia edulis</i>	Rubiaceae	ALIE	ALIBED	166	Yes
<i>Allamanda cathartica</i>	Apocynaceae	ALLC	ALLACA	9	Yes
<i>Allophylus psilospermus</i>	Sapindaceae	ALLP	ALLOPS	1063	Yes
<i>Alseis blackiana</i>	Rubiaceae	ALSB	ALSEBL	5511	Yes
<i>Amaioua corymbosa</i>	Rubiaceae	AMAC	AMAICO	76	Yes
<i>Amphilophium paniculatum</i>	Bignoniaceae	AMPP	AMPHPA	362	Yes

<i>Anacardium excelsum</i>	Anacardiaceae	ANAE	ANACEX	396	Yes
<i>Anaxagorea panamensis</i>	Annonaceae	ANAP	ANAXPA	801	Yes
<i>Andira inermis</i>	Fabaceae	ANDI	ANDIIN	737	Yes
<i>Annona glabra</i>	Annonaceae	ANNG	ANNOGL	16	Yes
<i>Annona hayesii</i>	Annonaceae	ANNH	ANNOHA	46	Yes
<i>Annona spraguei</i>	Annonaceae	ANNS	ANNOSP	104	Yes
<i>Anomospermum chloranthum isthmicola</i>	Menispermaceae	ANOC	NA	89	No
<i>Anthurium acutangulum</i>	Araceae	ANTA	NA	350	No
<i>Anthurium brownii</i>	Araceae	ANTB	NA	2008	No
<i>Anthurium clavigerum</i>	Araceae	ANTC	ANTHCL	1484	No
<i>Anthurium friedrichsthalii</i>	Araceae	ANTF	NA	133	No
<i>Anthurium ochranthum</i>	Araceae	ANTO	NA	2	No
<i>Anthodon panamense</i>	Celastraceae	ANTP	ANTHPA	244	Yes
<i>Apeiba membranacea</i>	Malvaceae	APEM	APEIME	2070	Yes
<i>Apeiba tibourbou</i>	Malvaceae	APET	APEITI	711	Yes
<i>Ardisia bartlettii</i>	Myrsinaceae	ARDB	ARDIBA	183	Yes
<i>Ardisia standleyana</i>	Myrsinaceae	ARDF	ARDIFE	101	Yes
<i>Ardisia guianensis</i>	Myrsinaceae	ARDG	ARDIGU	136	Yes
<i>Aristolochia gigantea</i>	Aristolochiaceae	ARI2	ARISGI	3	Yes
<i>Aristolochia tonduzii</i>	Aristolochiaceae	ARIC	ARISTO	18	Yes
<i>Fridericia candicans</i>	Bignoniaceae	ARR1	ARRACA	127	Yes
<i>Fridericia chica</i>	Bignoniaceae	ARR2	ARRACH	138	Yes
<i>Fridericia dichotoma</i>	Bignoniaceae	ARR4	NA	194	Yes
<i>Fridericia florida</i>	Bignoniaceae	ARRF	ARRAFL	253	Yes
<i>Fridericia patellifera</i>	Bignoniaceae	ARRP	ARRAPA	239	Yes
<i>Fridericia schumanniana</i>	Bignoniaceae	ARRV	ARRAVE	24	Yes
<i>Aspidosperma desmanthum</i>	Apocynaceae	ASPC	ASPICR	30	Yes
<i>Astronium graveolens</i>	Anacardiaceae	ASTG	AST2GR	1160	Yes
<i>Astrocaryum standleyanum</i>	Arecaceae	ASTS	AST1ST	283	Yes
<i>Attalea rostrata</i>	Arecaceae	ATTB	SCH1ZO	404	Yes
<i>Bactris coloniata</i>	Arecaceae	BAC1	BACTC1	24	Yes
<i>Bactris coloradensis</i>	Arecaceae	BAC2	BACTC2	803	Yes

<i>Bactris maraja</i>	Arecaceae	BAC5	BACTM1	33	Yes
<i>Bactris major</i>	Arecaceae	BACM	BACTMA	183	Yes
<i>Bauhinia purpurea</i>	Fabaceae	BAU4	NA	42	Yes
<i>Bauhinia guianensis</i>	Fabaceae	BAUG	BAUHGU	91	Yes
<i>Bauhinia reflexa</i>	Fabaceae	BAUR	BAUHRE	26	Yes
<i>Beilschmiedia towarensis</i>	Lauraceae	BEIP	BEILPE	1986	Yes
<i>Pochota quinata</i>	Bombacaceae	BOMQ	POCHQU	59	Yes
<i>Pachira sessilis</i>	Malvaceae	BOMS	POCHSE	67	Yes
<i>Brosimum alicastrum</i>	Moraceae	BROA	BROSAL	562	Yes
<i>Bucida buceras</i>	Combretaceae	BUCB	BUCIBU	18	No
<i>Buchenavia tetraphylla</i>	Combretaceae	BUCT	BUCHCA	163	No
<i>Bunchosia nitida</i>	Malpighiaceae	BUNC	BUNCCO	46	No
<i>Bursera simaruba</i>	Burseraceae	BURS	BURSSI	2023	No
<i>Byrsonima crassifolia</i>	Malpighiaceae	BYRC	BYRSCR	74	No
<i>Canavalia gladiata</i>	Fabaceae	CAGL	NA	15	No
<i>Callichlamys latifolia</i>	Bignoniaceae	CAL1	CALLLA	473	Yes
<i>Calophyllum longifolium</i>	Clusiaceae	CAL2	CALOLO	996	Yes
<i>Calathea inocephala</i>	Marantaceae	CALI	NA	54	No
<i>Canavalia dictyota</i>	Fabaceae	CAND	NA	22	No
<i>Capparidastrium frondosa</i>	Capparaceae	CAPF	CAPPFR	144	Yes
<i>Vasconcellea cauliflora</i>	Caricaceae	CARC	CARICA	6	No
<i>Casearia aculeata</i>	Salicaceae	CAS1	CASEAC	121	Yes
<i>Casearia arborea</i>	Salicaceae	CAS2	CASEAR	1475	Yes
<i>Cassipourea elliptica</i>	Rhizophoraceae	CAS3	CASSEL	301	Yes
<i>Castilla elastica</i>	Moraceae	CAS4	CASTEL	7	No
<i>Casearia commersoniana</i>	Salicaceae	CASC	CASECO	608	Yes
<i>Casearia guianensis</i>	Salicaceae	CASG	CASEGU	103	Yes
<i>Cavanillesia platanifolia</i>	Malvaceae	CAVP	CAVAPL	294	Yes
<i>Cayaponia granatensis</i>	Cucurbitaceae	CAYG	CAYAGR	10	Yes
<i>Cecropia insignis</i>	Urticaceae	CECI	CECRIN	185	Yes
<i>Cecropia obtusifolia</i>	Urticaceae	CECO	CECROB	196	Yes
<i>Cecropia peltata</i>	Urticaceae	CECP	CECRPE	139	Yes

<i>Cedrela odorata</i>	Meliaceae	CEDO	CEDROD	104	Yes
<i>Ceiba pentandra</i>	Malvaceae	CEIP	CEIBPE	580	Yes
<i>Celtis iguanaea</i>	Cannabaceae	CELI	CELTIG	283	Yes
<i>Celtis schippii</i>	Cannabaceae	CELS	CELTSC	360	Yes
<i>Tanaecium tetragonolobum</i>	Bignoniaceae	CERT	CERATE	452	Yes
<i>Chamaedorea tepejilote</i>	Arecaceae	CHAW	CHA1TE	603	Yes
<i>Chomelia psilocarpa</i>	Rubiaceae	CHOP	CHOMPS	8	Yes
<i>Chondrodendron tomentosum</i>	Menispermaceae	CHOT	CHONTO	81	Yes
<i>Chrysophyllum argenteum</i>	Sapotaceae	CHRA	CHR2AR	397	Yes
<i>Chrysophyllum cainito</i>	Sapotaceae	CHRC	CHR2CA	410	Yes
<i>Cissus erosa</i>	Vitaceae	CISE	CISSER	472	Yes
<i>Cissus verticillata</i>	Vitaceae	CISS	CISSSI	64	Yes
<i>Clitoria javitensis</i>	Fabaceae	CLIJ	CLITJA	36	Yes
<i>Clidemia octona</i>	Melastomataceae	CLIO	CLIDOC	122	Yes
<i>Clidemia septuplinervia</i>	Melastomataceae	CLIS	CLIDSE	153	Yes
<i>Clusia minor</i>	Clusiaceae	CLUM	NA	4	No
<i>Clusia peninsularis</i>	Clusiaceae	CLUP	NA	113	No
<i>Clusia uvitana</i>	Clusiaceae	CLUU	NA	444	No
<i>Cnestidium rufescens</i>	Connaraceae	CNER	CNESRU	1121	Yes
<i>Coccoloba aculeata</i>	Polygonaceae	COC2	COCCA2	145	Yes
<i>Coccoloba coronata</i>	Polygonaceae	COCC	COCCCO	1420	Yes
<i>Coccoloba manzinellensis</i>	Polygonaceae	COCM	COCCMA	2908	Yes
<i>Coccoloba excelsa</i>	Polygonaceae	COCP	COCCP1	671	Yes
<i>Cochlospermum vitifolium</i>	Bixaceae	COCV	COCHVI	1	No
<i>Colubrina glandulosa</i>	Rhamnaceae	COLG	COLUGL	215	No
<i>Combretum cacoucia</i>	Combretaceae	COMC	COMBCA	45	Yes
<i>Combretum decandrum</i>	Combretaceae	COMD	COMBDE	618	Yes
<i>Combretum fruticosum</i>	Combretaceae	COMF	COMBFR	719	Yes
<i>Combretum laxum</i>	Combretaceae	COML	COMBLA	348	Yes
<i>Conostegia cinnamomea</i>	Melastomataceae	CONC	CONOCI	335	Yes
<i>Connarus panamensis</i>	Connaraceae	CONP	CONNPA	559	Yes
<i>Connarus turczaninowii</i>	Connaraceae	CONT	CONNTU	434	Yes

<i>Copaifera aromatica</i>	Fabaceae	COPA	COPAAR	23	No
<i>Cordia alliodora</i>	Cordiaceae	CORA	CORDAL	2630	Yes
<i>Cordia bicolor</i>	Cordiaceae	CORB	CORDBI	1684	Yes
<i>Cordia lasiocalyx</i>	Cordiaceae	CORL	CORDLA	335	Yes
<i>Cordia panamensis</i>	Boraginaceae	CORP	CORDPA	280	Yes
<i>Cosmibuena grandiflora</i>	Rubiaceae	COSS	COSMGR	4	No
<i>Coussarea curvigemmia</i>	Rubiaceae	COUC	COU2CU	2273	Yes
<i>Coutarea hexandra</i>	Rubiaceae	COUH	COUTHE	31	Yes
<i>Couratari guianensis</i>	Lecythidaceae	COUP	COURPA	5	No
<i>Mosannonia garwoodii</i>	Annonaceae	CRES	MALMSP	99	Yes
<i>Croton billbergianus</i>	Euphorbiaceae	CROB	CROTBI	803	Yes
<i>Cuervea kappleriana</i>	Celastraceae	CUEK	CUERKA	41	Yes
<i>Cupania latifolia</i>	Sapindaceae	CUPL	CUPALA	507	Yes
<i>Cupania rufescens</i>	Sapindaceae	CUPR	CUPARU	46	Yes
<i>Cupania seemannii</i>	Sapindaceae	CUPS	CUPASY	746	Yes
<i>Bignonia aequinoctialis</i>	Bignoniaceae	CYDA	CYDIAE	235	Yes
<i>Solanum circinatum</i>	Solanaceae	CYPH	CYPHHA	2	Yes
<i>Dalechampia dioscoreifolia</i>	Euphorbiaceae	DALD	DALEDI	12	Yes
<i>Davilla nitida</i>	Dilleniaceae	DAVN	DAVINI	983	Yes
<i>Dendropanax arboreus</i>	Araliaceae	DENA	DENDAR	2239	Yes
<i>Desmodium axillare</i>	Fabaceae	DESA	DESMAX	206	Yes
<i>Desmodium incanum</i>	Fabaceae	DESC	NA	32	Yes
<i>Desmoncus orthacanthos</i>	Arecaceae	DESI	DES1OR	514	Yes
<i>Desmopsis panamensis</i>	Annonaceae	DESP	DES2PA	298	Yes
<i>Dichapetalum gentryi</i>	Dichapetalaceae	DICG	NA	3	No
<i>Diospyros artanthifolia</i>	Ebenaceae	DIO2	DIO2AR	11	Yes
<i>Dioclea wilsonii</i>	Fabaceae	DIOW	DIOCWI	85	Yes
<i>Dipteryx oleifera</i>	Fabaceae	DIPP	DIPTPA	607	Yes
<i>Doliocarpus major</i>	Dilleniaceae	DOL1	DOLIMA	940	Yes
<i>Doliocarpus multiflorus</i>	Dilleniaceae	DOL2	DOLIMU	669	Yes
<i>Doliocarpus dentatus</i>	Dilleniaceae	DOLD	DOLIDE	2	Yes
<i>Doliocarpus olivaceus</i>	Dilleniaceae	DOLO	DOLIOL	842	Yes

<i>Drypetes standleyi</i>	Putranjivaceae	DRYS	DRYPST	289	Yes
<i>Enterolobium cyclocarpum</i>	Fabaceae	ENTC	ENTECY	19	Yes
<i>Entada rhedii</i>	Fabaceae	ENTM	ENTAMO	76	Yes
<i>Enterolobium schomburgkii</i>	Fabaceae	ENTS	ENTESC	180	Yes
<i>Epiphyllum phyllanthus var.rubrocoronatum</i>	Cactaceae	EPPR	NA	3	No
<i>Erythrina costaricensis</i>	Fabaceae	ERYC	ERY1CO	2	Yes
<i>Eugenia coloradoensis</i>	Myrtaceae	EUGC	EUGECO	464	Yes
<i>Eugenia galalonensis</i>	Myrtaceae	EUGG	EUGEGA	84	Yes
<i>Eugenia nesiotica</i>	Myrtaceae	EUGN	EUGENE	278	Yes
<i>Eugenia oerstediana</i>	Myrtaceae	EUGO	EUGEOE	152	Yes
<i>Eugenia venezuelensis</i>	Myrtaceae	EUGV	EUGEVE	508	Yes
<i>Faramea luteovirens</i>	Rubiaceae	FARL	FARALU	146	Yes
<i>Faramea occidentalis</i>	Rubiaceae	FARO	FARAOC	3085	Yes
<i>Fevillea cordifolia</i>	Cucurbitaceae	FEVC	FEVICO	36	Yes
<i>Ficus colubrinae</i>	Moraceae	FIC1	FICUC1	273	Yes
<i>Ficus costaricana</i>	Moraceae	FIC2	FICUC2	17	Yes
<i>Ficus citrifolia</i>	Moraceae	FICI	FICUCI	1497	Yes
<i>Ficus insipida</i>	Moraceae	FIIN	FICUIN	519	Yes
<i>Ficus maxima</i>	Moraceae	FIMA	FICUMA	56	Yes
<i>Ficus nymphaeifolia</i>	Moraceae	FINY	FICUNY	126	Yes
<i>Ficus obtusifolia</i>	Moraceae	FIOB	FICUOB	107	Yes
<i>Ficus pertusa</i>	Moraceae	FIP2	FICUPE	861	Yes
<i>Ficus paraensis</i>	Moraceae	FIPA	FICUPA	32	Yes
<i>Ficus popenoei</i>	Moraceae	FIPO	FICUPO	269	Yes
<i>Fischeria blepharopetala</i>	Apocynaceae	FISF	FISCBL	5	No
<i>Ficus tonduzii</i>	Moraceae	FITO	FICUTO	25	Yes
<i>Ficus trigonata</i>	Moraceae	FITR	FICUTR	219	Yes
<i>Ficus yoponensis</i>	Moraceae	FIYO	FICUYO	64	Yes
<i>Forsteronia acouci</i>	Apocynaceae	FORV	FORSVI	129	Yes
<i>Geonoma congesta</i>	Arecaceae	GEC2	GEONCO	120	No
<i>Genipa americana</i>	Rubiaceae	GENA	GENIAM	59	Yes
<i>Geonoma cuneata procumbens</i>	Arecaceae	GEOC	GEONCU	144	No

<i>Geophila repens</i>	Rubiaceae	GEOR	NA	21	No
<i>Gnetum leyboldii</i>	Gnetaceae	GNEL	GNETLE	140	Yes
<i>Gouania colombiana</i>	Rhamnaceae	GOUC	GOUACO	62	Yes
<i>Gouania lupuloides</i>	Rhamnaceae	GOUL	GOUALU	723	Yes
<i>Gouania polygama</i>	Rhamnaceae	GOUP	GOUAPO	135	Yes
<i>Guarea grandifolia</i>	Meliaceae	GUA1	GUARGR	636	Yes
<i>Guarea guidonia</i>	Meliaceae	GUA2	GUARGU	443	Yes
<i>Guatteria amplifolia</i>	Annonaceae	GUAA	GUATAM	266	Yes
<i>Guatteria lucens</i>	Annonaceae	GUAD	GUATDU	778	Yes
<i>Guapira standleyana</i>	Nyctaginaceae	GUAS	GUAPST	1785	Yes
<i>Guazuma ulmifolia</i>	Malvaceae	GUAU	GUAZUL	320	Yes
<i>Guettarda foliacea</i>	Rubiaceae	GUEF	GUETFO	527	Yes
<i>Gustavia superba</i>	Lecythidaceae	GUSS	GUSTSU	602	Yes
<i>Hamelia axillaris</i>	Rubiaceae	HAM1	HAMEAX	96	Yes
<i>Hamelia patens</i>	Rubiaceae	HAMP	HAMEPA	38	Yes
<i>Hasseltia floribunda</i>	Salicaceae	HASF	HASSFL	331	Yes
<i>Clusia flavida</i>	Clusiaceae	HAVF	HAVEFL	190	No
<i>Heisteria acuminata</i>	Erythropalaceae	HEIA	HEISAC	429	Yes
<i>Heisteria concinna</i>	Erythropalaceae	HEIC	HEISCO	879	Yes
<i>Heliconia platystachys</i>	Heliconiaceae	HEL1	NA	55	No
<i>Henriettea succosa</i>	Melastomataceae	HENS	HENRSU	68	No
<i>Herrania purpurea</i>	Malvaceae	HERP	HERRPU	35	Yes
<i>Heteropteris laurifolia</i>	Malpighiaceae	HETL	HETELA	353	Yes
<i>Hippocratea volubilis</i>	Celastraceae	HIPV	HIPPVO	575	Yes
<i>Hiraea reclinata</i>	Malpighiaceae	HIR1	HIRARE	650	Yes
<i>Hiraea fagifolia</i>	Malpighiaceae	HIR3	HIRAF1	22	Yes
<i>Hirtella americana</i>	Chrysobalanaceae	HIRA	HIRTAM	73	Yes
<i>Hiraea faginea</i>	Malpighiaceae	HIRF	HIRAFA	184	Yes
<i>Hiraea grandifolia</i>	Malpighiaceae	HIRG	HIRAGR	152	Yes
<i>Hiraea smilacina</i>	Malpighiaceae	HIRQ	HIRACU	152	Yes
<i>Hirtella triandra</i>	Chrysobalanaceae	HIRT	HIRTTR	181	Yes
<i>Hura crepitans</i>	Euphorbiaceae	HURC	HURACR	23	Yes

<i>Pombalia prunifolia</i>	Violaceae	HYBP	HYBAPR	694	Yes
<i>Hieronyma alchorneoides</i>	Euphorbiaceae	HYEL	HYERAL	7480	Yes
<i>Hylенаа praeцelsa</i>	Celastraceae	HYLP	HYLEPR	466	Yes
<i>Hymenaea courbaril</i>	Fabaceae	HYMC	HYMECO	89	No
<i>Inga acuminata</i>	Fabaceae	INA1	INGAS1	32	Yes
<i>Inga cocleensis</i>	Fabaceae	INCO	INGACO	42	Yes
<i>Inga laurina</i>	Fabaceae	INFA	INGARU	505	Yes
<i>Inga alba</i>	Fabaceae	INGAAL	INGAAL	2	Yes
<i>Inga goldmanii</i>	Fabaceae	INGO	INGAGO	11	Yes
<i>Inga mucuna</i>	Fabaceae	INM1	INGAM1	19	Yes
<i>Inga multijuga</i>	Fabaceae	INM2	INGAM2	73	Yes
<i>Inga marginata</i>	Fabaceae	INMA	INGAMA	168	Yes
<i>Inga oersterdiana</i>	Fabaceae	INMI	INGAMI	24	Yes
<i>Inga pauciflora</i>	Fabaceae	INPA	INGAPA	120	Yes
<i>Inga peзizifera</i>	Fabaceae	INPE	INGAPE	35	Yes
<i>Inga punctata</i>	Fabaceae	INPU	INGAPU	315	Yes
<i>Inga nobilis</i>	Fabaceae	INQU	INGAQU	13	Yes
<i>Inga ruiziana</i>	Fabaceae	INRU	INGARU	17	Yes
<i>Inga sapindoides</i>	Fabaceae	INSA	INGASA	305	Yes
<i>Inga thibaudiana</i>	Fabaceae	INTH	INGATH	39	Yes
<i>Inga umbellifera</i>	Fabaceae	INUM	INGAUM	39	Yes
<i>Jacaranda copaia</i>	Bignoniaceae	JACC	JAC1CO	626	Yes
<i>Jacaratia spinosa</i>	Caricaceae	JACS	JAC2SP	2	No
<i>Lacistema aggregatum</i>	Lacistemataceae	LACA	LACIAG	1019	Yes
<i>Lacmellea panamensis</i>	Apocynaceae	LACP	LACMPA	783	Yes
<i>Laetia procera</i>	Salicaceae	LAEP	LAETPR	78	Yes
<i>Laetia thamnia</i>	Salicaceae	LAET	LAETTH	232	Yes
<i>Lafoensia puniceifolia</i>	Lythraceae	LAFP	LAFOPU	312	Yes
<i>Lagerstroemia speciosa</i>	Lythraceae	LAGS	LAGESP	61	No
<i>Lasiacis maculata</i>	Poaceae	LASS	NA	690	No
<i>Leandra dichotoma</i>	Melastomataceae	LEAD	LEANDI	842	Yes
<i>Licania hypoleuca</i>	Chrysobalanaceae	LICH	LICAHY	2	Yes

<i>Licania platypus</i>	Chrysobalanaceae	LICP	LICAPL	627	Yes
<i>Lindackeria laurina</i>	Achariaceae	LINL	LINDLA	902	Yes
<i>Lonchocarpus luteomaculatus</i>	Fabaceae	LON1	NA	358	Yes
<i>Lonchocarpus ferrugineus</i>	Fabaceae	LONF	LONCFE	77	Yes
<i>Lonchocarpus heptaphyllus</i>	Fabaceae	LONL	LONCLA	654	Yes
<i>Lozania pittieri</i>	Lacistemataceae	LOZP	LOZAPI	30	Yes
<i>Luehea seemannii</i>	Malvaceae	LUE1	LUEHSE	778	Yes
<i>Lycianthes maxonii</i>	Solanaceae	LYCM	LYCIMA	48	Yes
<i>Mabea occidentalis</i>	Euphorbiaceae	MABO	MABEOC	750	No
<i>Machaerium microphyllum</i>	Fabaceae	MAC1	MACHM1	142	Yes
<i>Machaerium milleflorum</i>	Fabaceae	MAC2	MACHM2	443	Yes
<i>Machaerium arboreum</i>	Fabaceae	MACA	MACHAR	279	Yes
<i>Macrocnemum roseum</i>	Rubiaceae	MACG	MACRGL	1741	Yes
<i>Machaerium kegelii</i>	Fabaceae	MACK	MACHKE	295	Yes
<i>Machaerium seemannii</i>	Fabaceae	MACS	MACHSE	614	Yes
<i>Dolichandra unguis-cati</i>	Bignoniaceae	MACU	MACFUN	56	Yes
<i>Mangifera indica</i>	Anacardiaceae	MANI	MANGIN	1	No
<i>Maquira guianensis</i>	Moraceae	MAQC	MAQUCO	17	Yes
<i>Margaritaria nobilis</i>	Phyllanthaceae	MAR2	MARGNO	199	No
<i>Martinella obovata</i>	Bignoniaceae	MARO	MARTOB	13	Yes
<i>Maripa panamensis</i>	Convolvulaceae	MARP	MAR2PA	733	Yes
<i>Markea panamensis</i>	Solanaceae	MARU	MARKUL	8	Yes
<i>Adelphia hiraia</i>	Malpighiaceae	MASH	MASCHI	1094	Yes
<i>Mascagnia divaricata</i>	Malpighiaceae	MASN	MASCNE	1040	Yes
<i>Mascagnia ovatifolia</i>	Malpighiaceae	MASO	MASCNE	8	Yes
<i>Matayba apetala</i>	Sapindaceae	MATA	MATAAP	50	No
<i>Maytenus schippii</i>	Celastraceae	MAYS	MAYTSC	38	Yes
<i>Mendoncia gracilis</i>	Acanthaceae	MENG	MENDGR	116	Yes
<i>Mendoncia retusa</i>	Acanthaceae	MENL	MENDLI	67	Yes
<i>Mesechites trifidus</i>	Apocynaceae	MEST	MESETR	97	Yes
<i>Miconia affinis</i>	Melastomataceae	MIC1	MICOAF	481	Yes
<i>Miconia argentea</i>	Melastomataceae	MIC2	MICOAR	1446	Yes

<i>Miconia nervosa</i>	Melastomataceae	MICN	MICONE	47	Yes
<i>Mikania leiostachya</i>	Compositae	MIKL	MIKALE	10400	Yes
<i>Mimosa pigra</i>	Fabaceae	MIMP	NA	16	No
<i>Monstera dubia</i>	Araceae	MODU	MONSDU	25	No
<i>Mouriri myrtilloides</i>	Melastomataceae	MOUM	MOURMY	817	Yes
<i>Mucuna mutisiana</i>	Fabaceae	MUCM	MUCUMU	2	Yes
<i>Myrospermum frutescens</i>	Fabaceae	MYR2	MYROFR	14	Yes
<i>Myroxylum balsamum</i>	Fabaceae	MYRB	MYR3BA	16	No
<i>Myrcia splendens tip. gatunensis</i>	Myrtaceae	MYRG	MYRCGA	796	Yes
<i>Myrcia zetekiana</i>	Myrtaceae	MYRZ	MYRCZE	16	Yes
<i>Nectandra cissiflora</i>	Lauraceae	NECC	NECTCI	291	Yes
<i>Nectandra lineata</i>	Lauraceae	NECL	NECTGL	413	Yes
<i>Damburneya umbrosa</i>	Lauraceae	NECP	NECTPU	96	No
<i>Neea amplifolia</i>	Nyctaginaceae	NEEA	NEEAAM	219	Yes
<i>Ochroma pyramidale</i>	Malvaceae	OCHP	OCHRPY	413	Yes
<i>Ocotea cernua</i>	Lauraceae	OCOC	OCOTCE	37	Yes
<i>Ocotea oblonga</i>	Lauraceae	OCOO	OCOTOB	116	Yes
<i>Ocotea puberula</i>	Lauraceae	OCOP	OCOTPU	958	Yes
<i>Ocotea whitei</i>	Lauraceae	OCOS	OCOTWH	60	Yes
<i>Odontocarya tamoides</i>	Menispermaceae	ODO1	ODO2TA	88	Yes
<i>Odontocarya truncata</i>	Menispermaceae	ODO2	ODO2TR	149	Yes
<i>Odontadenia macrantha</i>	Apocynaceae	ODOM	ODO1MA	343	Yes
<i>Oenocarpus mapora</i>	Arecaceae	OENM	OENOMA	2362	Yes
<i>Trophis caucana</i>	Moraceae	OLMA	OLMEAS	8	Yes
<i>Omphalea diandra</i>	Euphorbiaceae	OMPD	OMPHDI	38	Yes
<i>Ormosia amazonica</i>	Fabaceae	ORMA	ORMOAM	300	Yes
<i>Ormosia coccinea</i>	Fabaceae	ORMC	ORMOCR	30	Yes
<i>Ormosia macrocalyx</i>	Fabaceae	ORMM	ORMOMA	294	Yes
<i>Ormosia panamensis</i>	Fabaceae	ORMP	NA	3	Yes
<i>Ouratea lucens</i>	Ochnaceae	OURL	OURALU	270	Yes
<i>Pachira aquatica</i>	Malvaceae	PACA	POCHAQ	29	Yes
<i>Pachyptera kerere</i>	Bignoniaceae	PACK	MANSKE	1	Yes

<i>Palicourea guianensis</i>	Rubiaceae	PALG	PALIGU	1952	Yes
<i>Parmentiera ceraifera</i>	Bignoniaceae	PARC	PARMCE	1	No
<i>Tanaecium pyramidatum</i>	Bignoniaceae	PARP	PAR1PY	43	Yes
<i>Passiflora ambigua</i>	Passifloraceae	PAS1	PASSAM	53	Yes
<i>Passiflora auriculata</i>	Passifloraceae	PAS2	PASSAU	62	Yes
<i>Passiflora seemannii</i>	Passifloraceae	PASS	PASSSE	15	Yes
<i>Paullinia baileyi</i>	Sapindaceae	PAU1	PAULBA	294	Yes
<i>Paullinia fuscescens</i>	Sapindaceae	PAU3	PAULFU	67	Yes
<i>Paullinia glomerulosa</i>	Sapindaceae	PAU4	PAULG2	57	Yes
<i>Paullinia pinnata</i>	Sapindaceae	PAU5	PAULPI	577	Yes
<i>Paullinia pterocarpa</i>	Sapindaceae	PAU6	PAULPT	95	Yes
<i>Paullinia fibrigera</i>	Sapindaceae	PAUF	PAULFI	38	Yes
<i>Paullinia rugosa</i>	Sapindaceae	PAUR	PAULRU	435	Yes
<i>Paullinia turbacensis</i>	Sapindaceae	PAUT	PAULTU	228	Yes
<i>Pentagonia macrophylla</i>	Rubiaceae	PENM	PENTMA	60	Yes
<i>Pera arborea</i>	Peraceae	PERA	PERAAR	129	No
<i>Petrea volubilis</i>	Verbenaceae	PETA	PETRAS	336	Yes
<i>Cinnamomum triplinerve</i>	Lauraceae	PHOM	PHOECI	651	Yes
<i>Bignonia corymbosa</i>	Bignoniaceae	PHRC	PHRYCO	9	Yes
<i>Picramnia latifolia</i>	Picramniaceae	PICL	PICRLA	701	Yes
<i>Amphilophium crucigerum</i>	Bignoniaceae	PITC	PIT2CR	410	Yes
<i>Cojoba rufescens</i>	Fabaceae	PITR	PIT1RU	208	Yes
<i>Platypodium elegans</i>	Fabaceae	PLAE	PLA2EL	1209	Yes
<i>Platymiscium pinnatum</i>	Fabaceae	PLAP	PLA1PI	855	Yes
<i>Posoqueria latifolia</i>	Rubiaceae	POSL	POSOLA	245	Yes
<i>Pouteria stipitata</i>	Sapotaceae	POU2	POUTST	228	Yes
<i>Poulsenia armata</i>	Moraceae	POUA	POULAR	151	Yes
<i>Pourouma bicolor</i>	Urticaceae	POUB	POURBI	749	Yes
<i>Pouteria fossicola</i>	Sapotaceae	POUF	POUTFO	13	Yes
<i>Pouteria reticulata</i>	Sapotaceae	POUU	POUTRE	941	Yes
<i>Prestonia portobellensis</i>	Apocynaceae	PREP	PRESPO	62	Yes
<i>Prionostemma aspera</i>	Celastraceae	PRIA	PRI1AS	354	Yes

<i>Prioria copaifera</i>	Fabaceae	PRIC	PRI2CO	352	Yes
<i>Protium costaricense</i>	Burseraceae	PROC	PROTCO	621	Yes
<i>Protium panamense</i>	Burseraceae	PROP	PROTPA	1284	Yes
<i>Protium tenuifolium</i>	Burseraceae	PROT	PROTTE	1516	Yes
<i>Pseudobombax septenatum</i>	Malvaceae	PSE1	PSE1SE	75	Yes
<i>Psidium guineense</i>	Myrtaceae	PSI1	PSIDG1	26	Yes
<i>Chamguava schippii</i>	Myrtaceae	PSIA	CHA2SC	2	Yes
<i>Psiguria triphylla</i>	Cucurbitaceae	PSIB	PSIGBI	7	Yes
<i>Psidium friedrichsthalianum</i>	Myrtaceae	PSIF	PSIDFR	51	Yes
<i>Psiguria warscewiczii</i>	Cucurbitaceae	PSIW	PSIGWA	3	Yes
<i>Pterocarpus hayesii</i>	Fabaceae	PTER	PTERRO	446	Yes
<i>Palicourea acuminata</i>	Rubiaceae	PYAC	PSYCAC	428	Yes
<i>Psychotria gracilentia</i>	Rubiaceae	PYB2	PSYCB2	384	Yes
<i>Psychotria capitata</i>	Rubiaceae	PYC1	PSYCC1	380	Yes
<i>Psychotria chagensis</i>	Rubiaceae	PYCH	PSYCCH	45	Yes
<i>Psychotria longicuspis</i>	Rubiaceae	PYCI	PSYCCI	223	Yes
<i>Palicourea deflexa</i>	Rubiaceae	PYDE	PSYCDE	973	Yes
<i>Ronabea emetica</i>	Rubiaceae	PYEM	PSYCEM	154	Yes
<i>Ronabea latifolia</i>	Rubiaceae	PYER	PSYCER	107	Yes
<i>Palicourea hoffmannseggiana</i>	Rubiaceae	PYFU	PSYCFU	264	Yes
<i>Psychotria grandis</i>	Rubiaceae	PYG3	PSYCG3	657	Yes
<i>Psychotria horizontalis</i>	Rubiaceae	PYHO	PSYCHO	744	Yes
<i>Carapichea ipecacuanha</i>	Rubiaceae	PYIP	PSYCIP	80	Yes
<i>Psychotria limonensis</i>	Rubiaceae	PYLI	PSYCLI	1750	Yes
<i>Psychotria marginata</i>	Rubiaceae	PYMA	PSYCMA	1184	Yes
<i>Psychotria micrantha</i>	Rubiaceae	PYMI	PSYCMI	1335	Yes
<i>Palicourea cyanococca</i>	Rubiaceae	PYPI	PSYCPI	50	Yes
<i>Palicourea racemosa</i>	Rubiaceae	PYRA	PSYCRA	825	Yes
<i>Quararibea asterolepis</i>	Malvaceae	QUA1	QUARAS	2872	Yes
<i>Quassia amara</i>	Simaroubaceae	QUA2	QUASAM	1	Yes
<i>Quararibea pterocalyx</i>	Malvaceae	QUAP	QUARPT	23	Yes
<i>Randia armata</i>	Rubiaceae	RANA	RANDAR	242	Yes

<i>Renealmia alpinia</i>	Zingiberaceae	RENA	NA	3	No
<i>Garcinia madruno</i>	Clusiaceae	RHEA	GAR2MA	50	Yes
<i>Garcinia recondita</i>	Clusiaceae	RHEE	GAR2IN	1264	Yes
<i>Rhynchosia pyramidalis</i>	Fabaceae	RHYP	RHYCPY	11	Yes
<i>Rinorea squamata</i>	Violaceae	RIN1	RINOSQ	54	Yes
<i>Rinorea sylvatica</i>	Violaceae	RIN2	RINOSY	599	Yes
<i>Rourea adenophora</i>	Connaraceae	ROUA	NA	55	Yes
<i>Rourea glabra</i>	Connaraceae	ROUG	ROURGL	19	Yes
<i>Saccharum spontaneum</i>	Poaceae	SACS	SACCSP	13	No
<i>Sapium glandulosum</i>	Euphorbiaceae	SAPG	SAPIAU	175	Yes
<i>Schefflera morototoni</i>	Araliaceae	SCHM	SCH2MO	480	No
<i>Schizolobium parahyba</i>	Fabaceae	SCHP	SCHIPA	18	Yes
<i>Securidaca diversifolia</i>	Polygalaceae	SECD	SECUDI	50	Yes
<i>Senna dariensis</i>	Fabaceae	SEND	SENDA	67	Yes
<i>Senna reticulata</i>	Fabaceae	SENR	SENNRE	252	Yes
<i>Senna undulata</i>	Fabaceae	SENU	SENNUN	138	Yes
<i>Serjania circumvallata</i>	Sapindaceae	SER1	SERJCI	409	Yes
<i>Serjania cornigera</i>	Sapindaceae	SER2	SERJCO	149	Yes
<i>Serjania paucidentata</i>	Sapindaceae	SER3	SERJPA	320	Yes
<i>Serjania pluvialiflorens</i>	Sapindaceae	SER4	SERJPL	158	Yes
<i>Serjania tenuifolia</i>	Sapindaceae	SER5	NA	65	Yes
<i>Serjania atrolineata</i>	Sapindaceae	SERA	SERJAT	2	Yes
<i>Serjania decapleuria</i>	Sapindaceae	SERD	SERJDE	541	Yes
<i>Serjania mexicana</i>	Sapindaceae	SERM	SERJME	1234	Yes
<i>Serjania trachygona</i>	Sapindaceae	SERT	SERJTR	205	Yes
<i>Simarouba amara</i>	Simaroubaceae	SIMA	SIMAAM	1359	Yes
<i>Siparuna guianensis</i>	Siparunaceae	SIP2	SIPAGU	41	Yes
<i>Siparuna cristata</i>	Siparunaceae	SIPG	SIPAGU	19	Yes
<i>Siparuna pauciflora</i>	Siparunaceae	SIPP	SIPAPA	67	Yes
<i>Sloanea terniflora</i>	Elaeocarpaceae	SLOT	SLOATE	442	Yes
<i>Smilax domingensis</i>	Smilacaceae	SMIL	SMILLA	597	Yes
<i>Smilax mollis</i>	Smilacaceae	SMIM	SMILMO	522	Yes

<i>Smilax purhampuy</i>	Smilacaceae	SMIP	SMILPA	146	Yes
<i>Socratea exorrhiza</i>	Arecaceae	SOCE	SOCREX	792	Yes
<i>Solanum asperum</i>	Solanaceae	SOL4	SOLAAS	18	Yes
<i>Solanum lanceifolium</i>	Solanaceae	SOL5	SOLALA	127	Yes
<i>Solanum hayesii</i>	Solanaceae	SOLH	SOLAHA	172	Yes
<i>Solanum jamaicense</i>	Solanaceae	SOLJ	SOLAJA	101	Yes
<i>Solanum adhaerens</i>	Solanaceae	SOLL	NA	15	Yes
<i>Sorocea affinis</i>	Moraceae	SORA	SOROAF	1910	Yes
<i>Souroubea sympetala</i>	Marcgraviaceae	SOUS	SOURSJ	232	Yes
<i>Spachea membranacea</i>	Malpighiaceae	SPAM	SPACME	650	Yes
<i>Spondias mombin</i>	Anacardiaceae	SPOM	SPONMO	1112	Yes
<i>Spondias radlkoferi</i>	Anacardiaceae	SPOR	SPONRA	1078	Yes
<i>Sterculia apetala</i>	Malvaceae	STEA	STERAP	142	Yes
<i>Tabernaemontana grandiflora</i>	Apocynaceae	STEG	STEMGR	28	Yes
<i>Stigmaphyllon hypargyreum</i>	Malpighiaceae	STIH	STIGHY	1	Yes
<i>Stigmaphyllon lindenianum</i>	Malpighiaceae	STIL	STIGLI	262	Yes
<i>Strychnos brachistanta</i>	Loganiaceae	STRB	STRYBR	18	Yes
<i>Strychnos bredemeyeri</i>	Loganiaceae	STRD	STRYDA	30	Yes
<i>Strychnos panamensis</i>	Loganiaceae	STRP	STRYPA	138	Yes
<i>Strychnos toxifera</i>	Loganiaceae	STRT	STRYTO	6	Yes
<i>Stylogyne turbacensis</i>	Myrsinaceae	STYS	STYLST	42	Yes
<i>Swartzia simplex</i> var. <i>grandiflora</i>	Fabaceae	SWA1	SWARS1	126	Yes
<i>Swartzia simplex</i> var. <i>continentalis</i>	Fabaceae	SWA2	SWARS2	367	Yes
<i>Symphonia globulifera</i>	Clusiaceae	SYMG	SYMPGL	117	Yes
<i>Syngonium podophyllum</i>	Araceae	SYNP	NA	1	No
<i>Tabernaemontana arborea</i>	Apocynaceae	TABA	TAB2AR	88	Yes
<i>Handroanthus guayacan</i>	Bignoniaceae	TABG	TAB1GU	476	Yes
<i>Tabernaemontana panamensis</i>	Apocynaceae	TABP	TAB2PA	1	Yes
<i>Tabebuia rosea</i>	Bignoniaceae	TABR	TAB1RO	1082	Yes
<i>Tachigali panamensis</i>	Fabaceae	TACV	TACHVE	221	Yes
<i>Talisia nervosa</i>	Sapindaceae	TALN	TALINE	835	Yes
<i>Terminalia amazonia</i>	Combretaceae	TERA	TERMAM	2006	Yes

<i>Terminalia oblonga</i>	Combretaceae	TERO	TERMOB	838	Yes
<i>Tetracera portobellensis</i>	Dilleniaceae	TET1	TET1PO	433	Yes
<i>Tetragastris panamensis</i>	Burseraceae	TET2	TET2PA	1024	Yes
<i>Tetrapterys discolor</i>	Malpighiaceae	TETD	TET3DI	399	Yes
<i>Tetracera hydrophila</i>	Dilleniaceae	TETH	TET1HY	558	Yes
<i>Tetrathylacium johansenii</i>	Salicaceae	TETJ	TET4JO	239	Yes
<i>Tetrapterys goudotiana</i>	Malpighiaceae	TETM	TET3MA	379	Yes
<i>Tetracera volubilis</i>	Dilleniaceae	TETV	TET1VO	195	Yes
<i>Thevetia ahouai</i>	Apocynaceae	THEA	THEVAH	23	Yes
<i>Theobroma cacao</i>	Malvaceae	THEC	THEOCA	14	Yes
<i>Thinouia myriantha</i>	Sapindaceae	THIM	THINMY	697	Yes
<i>Tocoyena pittieri</i>	Rubiaceae	TOCP	TOCOPI	146	Yes
<i>Tontelea ovalifolia</i>	Celastraceae	TONO	TONTOV	111	Yes
<i>Topobea parasitica</i>	Melastomataceae	TOPP	NA	66	No
<i>Tovomita longifolia</i>	Clusiaceae	TOVL	TOVOLO	28	Yes
<i>Chrysochlamys eclipses</i>	Clusiaceae	TOVN	CHR1EC	140	Yes
<i>Tovomita stylosa</i>	Clusiaceae	TOVS	TOVOST	8	Yes
<i>Trattinnickia aspera</i>	Burseraceae	TRAA	TRATAS	1064	Yes
<i>Trema interregima</i>	Cannabaceae	TREI	TREMIN	78	Yes
<i>Trema micrantha</i>	Cannabaceae	TREM	TREMMI	873	Yes
<i>Trichilia pallida</i>	Meliaceae	TRI1	TRI2PA	431	Yes
<i>Trichilia pleeana</i>	Meliaceae	TRI2	TRI2PL	71	Yes
<i>Trichilia tuberculata</i>	Meliaceae	TRI3	TRI2TU	6810	Yes
<i>Trichospermum galeottii</i>	Malvaceae	TRI6	TRI4GA	209	No
<i>Triplaris cumingiana</i>	Polygonaceae	TRIC	TRIPCU	1139	Yes
<i>Trichanthera gigantea</i>	Acanthaceae	TRIG	TRI1GI	72	Yes
<i>Trichilia hirta</i>	Meliaceae	TRIH	TRI2HI	546	Yes
<i>Trophis racemosa</i>	Moraceae	TROR	TROPRA	303	Yes
<i>Turpinia occidentalis</i>	Tapisciaceae	TURO	TURPOC	441	Yes
<i>Tynnanthus croatianus</i>	Bignoniaceae	TYNC	TYNNCR	249	Yes
<i>Unonopsis pittieri</i>	Annonaceae	UNOP	UNONPI	280	Yes
<i>Vatairea erythrocarpa</i>	Fabaceae	VATE	VATAER	123	No

<i>Virola sebifera</i>	Myristicaceae	VIR1	VIROSE	679	Yes
<i>Virola nobilis</i>	Myristicaceae	VIR2	VIROSU	1061	Yes
<i>Virola multiflora</i>	Myristicaceae	VIR3	VIROSP	65	Yes
<i>Vismia macrophylla</i>	Clusiaceae	VISM	VISMMA	41	Yes
<i>Vitis tiliifolia</i>	Vitaceae	VITT	VITITI	1956	No
<i>Vochysia ferruginea</i>	Vochysiaceae	VOCF	VOCHFE	94	Yes
<i>Witheringia solanacea</i>	Solanaceae	WITS	WITHSO	50	No
<i>Xylopia macrantha</i>	Annonaceae	XYLM	XYL1MA	20	Yes
<i>Zanthoxylum panamense</i>	Rutaceae	ZAN1	ZANTP1	254	Yes
<i>Zanthoxylum acuminatum</i>	Rutaceae	ZAN2	ZANTPR	2362	Yes
<i>Zanthoxylum ekmanii</i>	Rutaceae	ZANB	ZANTBE	76	Yes
<i>Zuelania guidonia</i>	Salicaceae	ZUEG	ZUELGU	166	Yes
<i>Zygia latifolia</i>	Fabaceae	ZYGL	ZYGILA	79	No

6 Table S2: List of documented interactions between plant species and seed predator species

A list of the 471 documented interactions between plant species and insect seed predator species documented in our study. The 'Count' column indicates how many times each plant species \times seed predator species interaction was observed. The species codes used for seed predator species that could not be assigned to known species correspond to codes in S. Gripenberg's seed predator reference collection (kept at the Smithsonian Tropical Research Institute; Panama). For insect species that were successfully barcoded, the Barcode Index Number (BIN) is given. Interactions are sorted according to plant species, with plant species listed in alphabetical order.

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Stator aegrotus</i>	Chrysomelidae	Coleoptera	BOLD:AAJ5083	Acacia hayesii	Fabaceae	40
<i>Stator monachus</i>	Chrysomelidae	Coleoptera		Acacia hayesii	Fabaceae	2
<i>Stator trisignatus</i>	Chrysomelidae	Coleoptera	BOLD:AAH9942	Acacia hayesii	Fabaceae	2
<i>Pyra lep3275G</i>	Pyralidae	Lepidoptera	BOLD:ACG0975	Acacia polyphylla	Fabaceae	1
<i>Stator monachus</i>	Chrysomelidae	Coleoptera		Acacia polyphylla	Fabaceae	2
<i>Stator trisignatus</i>	Chrysomelidae	Coleoptera	BOLD:AAH9942	Acacia polyphylla	Fabaceae	12
<i>Anthonomus sp. cur133SG</i>	Curculionidae	Coleoptera	BOLD:ABV0303	Adelphia hiraeta	Malpighiaceae	2
<i>Apogeshia stenialisDHJ02</i>	Crambidae	Lepidoptera	BOLD:AAA0336	Adelphia hiraeta	Malpighiaceae	1
<i>Bothriopterion sp. cur85SG</i>	Brentidae	Coleoptera	BOLD:ABU8658	Adelphia hiraeta	Malpighiaceae	333
<i>Gele sp. lep326SG</i>	Gelechiidae	Lepidoptera	BOLD:ACG2471	Adelphia hiraeta	Malpighiaceae	2
<i>Merobruchus sp. bru3SG</i>	Chrysomelidae	Coleoptera		Albizia sp.	Fabaceae	5
<i>Cosm sp. lep299SG</i>	Cosmopterigidae	Lepidoptera	BOLD:AAH5906	Alchornea costaricensis	Euphorbiaceae	37
<i>Eurn sp. hym22SG</i>	Eurytomidae	Hymenoptera		Alibertia edulis	Rubiaceae	18
<i>Eurn sp. hym235G</i>	Eurytomidae	Hymenoptera		Alibertia edulis	Rubiaceae	19
<i>Aeatus costulatus</i>	Curculionidae	Coleoptera	BOLD:ABV0286	Amphilophium crucigerum	Bignoniaceae	84
<i>Aeatus sp. cur242SG</i>	Curculionidae	Coleoptera	BOLD:ABV0287	Amphilophium crucigerum	Bignoniaceae	3
<i>Clydonopterion pomporius</i>	Crambidae	Lepidoptera	BOLD:AAP2098	Amphilophium crucigerum	Bignoniaceae	6
<i>Pyra sp. lep815G</i>	Pyralidae	Lepidoptera		Amphilophium crucigerum	Bignoniaceae	3
<i>Aeatus costulatus</i>	Curculionidae	Coleoptera	BOLD:ABV0286	Amphilophium paniculatum	Bignoniaceae	188

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Aaatus sp. cur2635G</i>	Curculionidae	Coleoptera	BOLD:ACS6695	<i>Amphilophium paniculatum</i>	Bignoniaceae	2
<i>Curc sp. cur1805G</i>	Curculionidae	Coleoptera	BOLD:ACJ5780	<i>Amphilophium paniculatum</i>	Bignoniaceae	2
<i>Anacampsis phytomiella</i>	Gelechiidae	Lepidoptera	BOLD:AAP2073	<i>Anacardium excelsum</i>	Anacardiaceae	13
<i>Conotrachelus sp. cur2495G</i>	Curculionidae	Coleoptera		<i>Anacardium excelsum</i>	Anacardiaceae	1
<i>Conotrachelus sp. cur688G</i>	Curculionidae	Coleoptera	BOLD:ACG2730	<i>Anacardium excelsum</i>	Anacardiaceae	15
<i>Gele sp. lep3025G</i>	Gelechiidae	Lepidoptera	BOLD:ACJ4457	<i>Anacardium excelsum</i>	Anacardiaceae	1
<i>Cerambycidae sp. colcer75G</i>	Cerambycidae	Coleoptera	BOLD:ACJ3952	<i>Andira inermis</i>	Fabaceae	3
<i>Trichapion sp. cur1015G</i>	Brentidae	Coleoptera	BOLD:ACG1965	<i>Andira inermis</i>	Fabaceae	31
<i>Cerconota anonella</i>	Oecophoridae	Lepidoptera	BOLD:ABV2177	<i>Annona hayesii</i>	Annonaceae	23
<i>Cerconota anonella</i>	Oecophoridae	Lepidoptera	BOLD:ABV2177	<i>Annona spraguei</i>	Annonaceae	23
<i>Pyra sp. lep4788G</i>	Pyralidae	Lepidoptera	BOLD:ABW7510	<i>Anthodon panamense</i>	Celastraceae	1
<i>Amblycerus whiteheadi</i>	Chrysomelidae	Coleoptera	BOLD:ABV3598	<i>Apeiba membranacea</i>	Malvaceae	71
<i>Desmia bijulalis</i>	Crambidae	Lepidoptera	BOLD:AAA0408	<i>Apeiba membranacea</i>	Malvaceae	11
<i>Amblycerus whiteheadi</i>	Chrysomelidae	Coleoptera	BOLD:ABV3598	<i>Apeiba tibourbou</i>	Malvaceae	21
<i>Cosm sp. lep4595G</i>	Cosmopterigidae	Lepidoptera		<i>Apeiba tibourbou</i>	Malvaceae	1
<i>Cryptorhynchus sp. cur275G</i>	Curculionidae	Coleoptera		<i>Apeiba tibourbou</i>	Malvaceae	1
<i>Desmia bijulalis</i>	Crambidae	Lepidoptera	BOLD:AAA0408	<i>Apeiba tibourbou</i>	Malvaceae	4
<i>Metanasius sp. cur1345G</i>	Dryophthoridae	Coleoptera	BOLD:ACA8671	<i>Astrocaryum standleyanum</i>	Arecaceae	5
<i>Pachymerus bactris</i>	Chrysomelidae	Coleoptera	BOLD:ABV3600	<i>Astrocaryum standleyanum</i>	Arecaceae	42
<i>Pachymerus sp. briu675G</i>	Chrysomelidae	Coleoptera	BOLD:ACL6561	<i>Astrocaryum standleyanum</i>	Arecaceae	2
<i>Pseudobaris sp. cur1455G</i>	Curculionidae	Coleoptera		<i>Astrocaryum standleyanum</i>	Arecaceae	16
<i>Cosm sp. lep2715G</i>	Cosmopterigidae	Lepidoptera	BOLD:ACF9942	<i>Astronium graveolens</i>	Anacardiaceae	11
<i>Bruc sp. briu545G</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4643	<i>Attalea rostrata</i>	Arecaceae	2
<i>Bruc sp. briu665G</i>	Chrysomelidae	Coleoptera	BOLD:ACJ6014	<i>Attalea rostrata</i>	Arecaceae	2
<i>Specimerus giganteus</i>	Chrysomelidae	Coleoptera	BOLD:ABV3599	<i>Attalea rostrata</i>	Arecaceae	32
<i>Gale sp. lep355G</i>	Gelechiidae	Lepidoptera	BOLD:ABV2181	<i>Bactris coloniata</i>	Arecaceae	1
<i>Pachymerus bactris</i>	Chrysomelidae	Coleoptera	BOLD:ABV3600	<i>Bactris major</i>	Arecaceae	2

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Pseudobaris sp. cur145SG</i>	Curculionidae	Coleoptera	BOLD:ACG0001	Bactris major	Arecaceae	13
<i>Bruc sp. bru38SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4487	Bauhinia guianensis	Fabaceae	14
<i>Bruc sp. bru43SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4490	Bauhinia guianensis	Fabaceae	4
<i>Bruc sp. bru49SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4489	Bauhinia guianensis	Fabaceae	10
<i>Bruc sp. bru43SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4490	Bauhinia reflexa	Fabaceae	1
<i>Bruc sp. bru49SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4489	Bauhinia reflexa	Fabaceae	2
<i>Heilipus sp. cur243SG</i>	Curculionidae	Coleoptera	BOLD:ABV0296	Beilschmiedia tovarensis	Lauraceae	2
<i>Heilipus sp. cur50SG</i>	Curculionidae	Coleoptera	BOLD:ACG0412	Beilschmiedia tovarensis	Lauraceae	8
<i>Histura panamana</i>	Tortricidae	Lepidoptera	BOLD:ABV2176	Beilschmiedia tovarensis	Lauraceae	23
<i>Stehlopotamia streblopa</i>	Tortricidae	Lepidoptera	BOLD:ABV2183	Beilschmiedia tovarensis	Lauraceae	1
<i>Oeco sp. lep4SG</i>	Oecophoridae	Lepidoptera	BOLD:ABV2156	Beilschmiedia tovarensis	Lauraceae	2
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	Beilschmiedia tovarensis	Lauraceae	2072
<i>Pyra sp. lep248SG</i>	Pyralidae	Lepidoptera		Beilschmiedia tovarensis	Lauraceae	2
<i>Pyra sp. lep346SG</i>	Pyralidae	Lepidoptera	BOLD:AAA1807	Beilschmiedia tovarensis	Lauraceae	3
<i>Aeatus sp. cur108SG</i>	Curculionidae	Coleoptera		Bignonia aequinoctialis	Bignoniaceae	1
<i>Clydonopteron pomponius</i>	Crambidae	Lepidoptera	BOLD:AAP2098	Bignonia aequinoctialis	Bignoniaceae	1
<i>Curc sp. cur177SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5713	Bignonia aequinoctialis	Bignoniaceae	22
<i>Curc sp. cur188SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5921	Bignonia aequinoctialis	Bignoniaceae	3
<i>Semnorhynchus fulvopictus</i>	Curculionidae	Coleoptera	BOLD:ABV0293	Bignonia aequinoctialis	Bignoniaceae	1
<i>Semnorhynchus sp. cur44SG</i>	Curculionidae	Coleoptera	BOLD:ABV0295	Bignonia aequinoctialis	Bignoniaceae	2
<i>Oxytenopterus sp. cur204SG</i>	Curculionidae	Coleoptera	BOLD:ACJ3891	Buchenaia tetraphylla	Combretaceae	152
<i>Loncophorus sp. cur16SG</i>	Curculionidae	Coleoptera	BOLD:ABV3554	Bunchosia nitida	Malpighiaceae	14
<i>Aeatus sp. cur262SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5665	Callichlamys latifolia	Bignoniaceae	7
<i>Clydonopteron pomponius</i>	Crambidae	Lepidoptera	BOLD:AAP2098	Callichlamys latifolia	Bignoniaceae	29
<i>Cryptorhynchus sp. cur54SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5914	Callichlamys latifolia	Bignoniaceae	1
<i>Curc sp. cur184SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5817	Callichlamys latifolia	Bignoniaceae	1
<i>Anchonus sp. cur32SG</i>	Curculionidae	Coleoptera		Calophyllum longifolium	Clusiaceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Conotrachelus sp. cur124SG nr. punctiventris</i>	Curculionidae	Coleoptera	BOLD:ACG1073	<i>Calophyllum longifolium</i>	Clusiaceae	46
<i>Conotrachelus sp. cur164SG</i>	Curculionidae	Coleoptera	BOLD:ACG0847	<i>Calophyllum longifolium</i>	Clusiaceae	1
<i>Conotrachelus sp. cur22SG nr. punctiventris</i>	Curculionidae	Coleoptera		<i>Calophyllum longifolium</i>	Clusiaceae	1
<i>Conotrachelus sp. cur30SG</i>	Curculionidae	Coleoptera		<i>Calophyllum longifolium</i>	Clusiaceae	29
<i>Curc sp. cur183SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5814	<i>Calophyllum longifolium</i>	Clusiaceae	5
<i>Gele sp. lep106SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2170	<i>Calophyllum longifolium</i>	Clusiaceae	8
<i>Geobyrza nodifera</i>	Curculionidae	Coleoptera		<i>Calophyllum longifolium</i>	Clusiaceae	1
<i>Bruc sp. bru47SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4644	<i>Canavalia dictyota</i>	Fabaceae	2
<i>Bruc sp. bru55SG</i>	Chrysomelidae	Coleoptera		<i>Canavalia dictyota</i>	Fabaceae	4
<i>Bruc sp. bru42SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4573	<i>Canavalia gladiata</i>	Fabaceae	6
<i>Curc sp. cur213SG</i>	Curculionidae	Coleoptera		<i>Cappariastrum frondosa</i>	Capparaceae	2
<i>Pyra sp. lep291SG</i>	Pyrilidae	Lepidoptera	BOLD:ACG2223	<i>Cappariastrum frondosa</i>	Capparaceae	4
<i>Pyra sp. lep307SG</i>	Pyrilidae	Lepidoptera		<i>Cappariastrum frondosa</i>	Capparaceae	1
<i>Schacontia AAP1991</i>	Pyrilidae	Lepidoptera	BOLD:AAP1991	<i>Cappariastrum frondosa</i>	Capparaceae	11
<i>Conotrachelus sp. cur132SG</i>	Curculionidae	Coleoptera	BOLD:ACC9965	<i>Casearia commersoniana</i>	Salicaceae	9
<i>Ricula sp. lep494SG</i>	Tortricidae	Lepidoptera	BOLD:ACJ4292	<i>Casearia commersoniana</i>	Salicaceae	4
<i>Anthonomus sp. cur45SG</i>	Curculionidae	Coleoptera	BOLD:ABW5965	<i>Casearia guianensis</i>	Salicaceae	2
<i>Conotrachelus sp. cur132SG</i>	Curculionidae	Coleoptera	BOLD:ACC9965	<i>Casearia guianensis</i>	Salicaceae	29
<i>Gele sp. lep308SG</i>	Gelechiidae	Lepidoptera		<i>Casearia guianensis</i>	Salicaceae	1
<i>Oeco sp. lep311SG</i>	Oecophoridae	Lepidoptera	BOLD:ACJ4735	<i>Cavanillesia platanifolia</i>	Malvaceae	4
<i>Pyra sp. lep312SG</i>	Pyrilidae	Lepidoptera		<i>Cavanillesia platanifolia</i>	Malvaceae	1
<i>Conotrachelus sp. cur203SG</i>	Curculionidae	Coleoptera	BOLD:ACJ3710	<i>Cedrela odorata</i>	Meliaceae	5
<i>Cerambycidae sp. colcer3SG</i>	Cerambycidae	Coleoptera	BOLD:ABV0428	<i>Ceiba pentandra</i>	Malvaceae	1
<i>Cryptorhynchus sp. cur26SG</i>	Curculionidae	Coleoptera	BOLD:ABU9975	<i>Ceiba pentandra</i>	Malvaceae	512
<i>Lechriops parotica</i>	Curculionidae	Coleoptera	BOLD:ABU9974	<i>Ceiba pentandra</i>	Malvaceae	17
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	<i>Ceiba pentandra</i>	Malvaceae	1
<i>Curc sp. cur208SG</i>	Curculionidae	Coleoptera	BOLD:ACL6950	<i>Celtis iguanaea</i>	Cannabaceae	14

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Cosm sp. lep406SG</i>	Cosmopterigidae	Lepidoptera		Chamaedorea tepejilote	Arecaceae	7
<i>Conotrachelus sp. cur181SG</i>	Curculionidae	Coleoptera		Chrysophyllum argenteum	Sapotaceae	3
<i>Gele sp. lep264SG</i>	Gelechiidae	Lepidoptera	BOLD:ACG1531	Chrysophyllum argenteum	Sapotaceae	4
<i>Myrmex sp. 128SG</i>	Curculionidae	Coleoptera		Chrysophyllum argenteum	Sapotaceae	4
<i>Myrmex sp. cur48SG nr. panamensis</i>	Curculionidae	Coleoptera	BOLD:ACG0025	Chrysophyllum argenteum	Sapotaceae	2
<i>Heilipus dnco</i>	Curculionidae	Coleoptera	BOLD:ABV0306	Cinnamomum triplinerve	Lauraceae	2
<i>Riculorampha ancyloides</i>	Tortricidae	Lepidoptera	BOLD:ABV2167	Cinnamomum triplinerve	Lauraceae	4
<i>Oeco sp. lep13SG</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Cnestidium rufescens	Connaraceae	5
<i>Conotrachelus sp. cur92SG</i>	Curculionidae	Coleoptera	BOLD:ACD0125	Coccoloba excelsa	Polygonaceae	8
<i>Curc sp. cur201SG</i>	Curculionidae	Coleoptera	BOLD:ACL6812	Coccoloba excelsa	Polygonaceae	2
<i>Curc sp. cur203SG</i>	Curculionidae	Coleoptera	BOLD:ACL6814	Coccoloba excelsa	Polygonaceae	44
<i>Curc sp. cur213SG</i>	Curculionidae	Coleoptera		Coccoloba excelsa	Polygonaceae	8
<i>Conotrachelus pumilio</i>	Curculionidae	Coleoptera	BOLD:ACF9943	Coccoloba manzinellensis	Polygonaceae	33
<i>Conotrachelus sp. cur92SG</i>	Curculionidae	Coleoptera	BOLD:ACD0125	Coccoloba manzinellensis	Polygonaceae	105
<i>Curc sp. cur193SG</i>	Curculionidae	Coleoptera	BOLD:ACL5605	Coccoloba manzinellensis	Polygonaceae	2
<i>Curc sp. cur198SG</i>	Curculionidae	Coleoptera	BOLD:ACL6681	Coccoloba manzinellensis	Polygonaceae	3
<i>Amblycerus perfectus</i>	Chrysomelidae	Coleoptera	BOLD:ABV3602	Combretum fruticosum	Combretaceae	26
<i>Amblycerus sp. bru17SG</i>	Chrysomelidae	Coleoptera	BOLD:ABV3597	Combretum fruticosum	Combretaceae	3
<i>Anchonus sp. cur62SG</i>	Curculionidae	Coleoptera	BOLD:ABV0290	Combretum fruticosum	Combretaceae	1
<i>Conotrachelus sp. cur141SG</i>	Curculionidae	Coleoptera		Combretum fruticosum	Combretaceae	1
<i>Curc sp. cur129SG</i>	Curculionidae	Coleoptera		Combretum fruticosum	Combretaceae	1
<i>Curc sp. cur187SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5920	Combretum fruticosum	Combretaceae	8
<i>Rhyssomatus sp. cur72SG</i>	Curculionidae	Coleoptera		Combretum fruticosum	Combretaceae	2
<i>Amblycerus sp. bru17SG</i>	Chrysomelidae	Coleoptera	BOLD:ABV3597	Combretum laxum	Combretaceae	3
<i>Depr sp. lep186SG</i>	Depressariidae	Lepidoptera	BOLD:ABV2153	Connarus panamensis	Connaraceae	5
<i>Oeco sp. lep13SG</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Connarus panamensis	Connaraceae	6
<i>Depr sp. lep186SG</i>	Depressariidae	Lepidoptera	BOLD:ABV2153	Connarus turezaniinowii	Connaraceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Oeco sp. lep135G</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Conarus turczaninowii	Connaraceae	4
<i>Amblycerus vegai</i>	Chrysomelidae	Coleoptera	BOLD:ACG1138	Cordia alliodora	Cordiaceae	27
<i>Cosm sp. lep3135G</i>	Cosmopterigidae	Lepidoptera	BOLD:ACU7675	Cordia alliodora	Cordiaceae	1
<i>Aeatus vestitus</i>	Curculionidae	Coleoptera		Cordia bicolor	Cordiaceae	94
<i>Amblycerus sp. bru59SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4830	Cordia bicolor	Cordiaceae	4
<i>Amblycerus clumpioni</i>	Chrysomelidae	Coleoptera		Cordia bicolor	Cordiaceae	1
<i>Amblycerus sp. bru225G</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4831	Cordia bicolor	Cordiaceae	92
<i>Bruc sp. bru44SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4642	Cordia bicolor	Cordiaceae	4
<i>Bruc sp. bru45SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4645	Cordia bicolor	Cordiaceae	2
<i>Eurn sp. hym166SG</i>	Eurytomidae	Hymenoptera		Cordia bicolor	Cordiaceae	2
<i>Eurn sp. hym276SG</i>	Eurytomidae	Hymenoptera		Cordia bicolor	Cordiaceae	1
<i>Eury sp. hym167SG</i>	Eurytomidae	Hymenoptera		Cordia lasiocalyx	Cordiaceae	1
<i>Eurytoma sp. 1SG</i>	Eurytomidae	Hymenoptera		Cordia lasiocalyx	Cordiaceae	1
<i>Eurytoma sp. 2SG</i>	Eurytomidae	Hymenoptera		Cordia lasiocalyx	Cordiaceae	1
<i>Gele sp. lep514SG</i>	Gelechiidae	Lepidoptera	BOLD:ACJ4456	Couratari guianensis	Lecythidaceae	2
<i>Carmentia sp. lep15G</i>	Sesiidae	Lepidoptera	BOLD:ABV4212	Coussarea curvigemma	Rubiaceae	45
<i>Eury sp. hym268SG</i>	Eurytomidae	Hymenoptera		Coussarea curvigemma	Rubiaceae	1
<i>Eury sp. hym295G</i>	Eurytomidae	Hymenoptera		Coussarea curvigemma	Rubiaceae	2
<i>Eury sp. hym305G</i>	Eurytomidae	Hymenoptera		Coussarea curvigemma	Rubiaceae	4
<i>Tyrannion sp. cur335G</i>	Curculionidae	Coleoptera	BOLD:ABV0980	Coussarea curvigemma	Rubiaceae	141
<i>Plocetes beluosus</i>	Curculionidae	Coleoptera	BOLD:ACS6350	Coutarea hexandra	Rubiaceae	52
<i>Oeco sp. lep135G</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Cupania latifolia	Sapindaceae	1
<i>Curc sp. cur1735G</i>	Curculionidae	Coleoptera	BOLD:ACC9906	Cupania seemannii	Sapindaceae	52
<i>Oeco sp. lep135G</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Cupania seemannii	Sapindaceae	1
<i>Pyra sp. lep310SG</i>	Pyralidae	Lepidoptera	BOLD:AAG0530	Cupania seemannii	Sapindaceae	2
<i>Strephonota tephraeus</i>	Lycaenidae	Lepidoptera	BOLD:ABW7063	Cupania seemannii	Sapindaceae	1
<i>Tmolus echionDHJ01</i>	Lycaenidae	Lepidoptera	BOLD:AAK2129	Cupania seemannii	Sapindaceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Baris sp. cur46SG</i>	Curculionidae	Coleoptera	BOLD:ABV3556	Davilla nitida	Dilleniaceae	2
<i>Oeco sp. lep192SG</i>	Oecophoridae	Lepidoptera	BOLD:ACJ4736	Davilla nitida	Dilleniaceae	2
<i>Baris sp. cur100SG</i>	Curculionidae	Coleoptera		Desmoncus orthacanthos	Arecaceae	6
<i>Cyrtionyx sp. cur69SG</i>	Curculionidae	Coleoptera		Desmopsis panamensis	Annonaceae	1
<i>Cyrtionyx sp. cur91SG</i>	Curculionidae	Coleoptera	BOLD:ACC9960	Desmopsis panamensis	Annonaceae	93
<i>Talponia sp. lep40SG</i>	Tortricidae	Lepidoptera	BOLD:ABV2175	Desmopsis panamensis	Annonaceae	41
<i>Caryedes brasiliensis</i>	Chrysomelidae	Coleoptera		Dioclea wilsonii	Fabaceae	679
<i>Baris sp. cur7SG</i>	Curculionidae	Coleoptera	BOLD:ABV3553	Doliocarpus major	Dilleniaceae	31
<i>Pseudobaris sp. cur19SG</i>	Curculionidae	Coleoptera		Doliocarpus major	Dilleniaceae	1
<i>Baris sp. cur7SG</i>	Curculionidae	Coleoptera	BOLD:ABV3553	Doliocarpus multiflorus	Dilleniaceae	197
<i>Borisauletes sp. cur1SG</i>	Curculionidae	Coleoptera	BOLD:ABV3591	Doliocarpus multiflorus	Dilleniaceae	11
<i>Pyra sp. lep117SG</i>	Pyrilidae	Lepidoptera	BOLD:AAA3587	Doliocarpus multiflorus	Dilleniaceae	1
<i>Sycophila sp. 3SG</i>	Eurytomidae	Hymenoptera		Doliocarpus multiflorus	Dilleniaceae	1
<i>Baris sp. cur7SG</i>	Curculionidae	Coleoptera	BOLD:ABV3553	Doliocarpus olivaceus	Dilleniaceae	44
<i>Borisauletes sp. cur1SG</i>	Curculionidae	Coleoptera	BOLD:ABV3591	Doliocarpus olivaceus	Dilleniaceae	3
<i>Grapholithini sp. lep181SG</i>	Tortricidae	Lepidoptera		Doliocarpus olivaceus	Dilleniaceae	5
<i>Amblycerus sp. bru28SG</i>	Chrysomelidae	Coleoptera		Drypetes standleyi	Putranjivaceae	10
<i>Minosestes enterolobii</i>	Chrysomelidae	Coleoptera	BOLD:ABV3595	Enterolobium cyclocarpum	Fabaceae	20
<i>Minosestes enterolobii</i>	Chrysomelidae	Coleoptera	BOLD:ABV3595	Enterolobium schomburgkii	Fabaceae	3
<i>Gele sp. lep41SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2154	Eugenia nesiotica	Myrtaceae	2
<i>Atractomerus caligatus</i>	Curculionidae	Coleoptera	BOLD:ABU8995	Eugenia oerstediana	Myrtaceae	24
<i>Curc sp. cur178SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5755	Eugenia oerstediana	Myrtaceae	2
<i>Curc sp. cur210SG</i>	Curculionidae	Coleoptera	BOLD:ACL7823	Eugenia oerstediana	Myrtaceae	2
<i>Gele sp. lep41SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2154	Eugenia oerstediana	Myrtaceae	1
<i>Conotrachelus sp. cur11SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5935	Eugenia venezuelensis	Myrtaceae	5
<i>Carmentis sp. lep1SG</i>	Sesiidae	Lepidoptera	BOLD:ABV4212	Faramaea luteovirens	Rubiaceae	46
<i>Carmentis sp. lep1SG</i>	Sesiidae	Lepidoptera	BOLD:ABV4212	Faramaea occidentalis	Rubiaceae	159

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Carmentis</i> sp. lep539SG	Sesiidae	Lepidoptera	BOLD:ABV4213	<i>Faramaea occidentalis</i>	Rubiaceae	1
<i>Eurm</i> sp. hym199SG	Eurytomidae	Hymenoptera		<i>Faramaea occidentalis</i>	Rubiaceae	1
<i>Eurm</i> sp. hym275SG	Eurytomidae	Hymenoptera		<i>Faramaea occidentalis</i>	Rubiaceae	2
<i>Eury</i> sp. hym375SG	Eurytomidae	Hymenoptera		<i>Faramaea occidentalis</i>	Rubiaceae	1
<i>Gele</i> sp. lep106SG	Gelechiidae	Lepidoptera		<i>Faramaea occidentalis</i>	Rubiaceae	1
<i>Sycophila</i> sp. 3SG	Eurytomidae	Hymenoptera		<i>Faramaea occidentalis</i>	Rubiaceae	23
<i>Agao</i> sp. hym895SG	Agaonidae	Hymenoptera		<i>Ficus citrifolia</i>	Moraceae	1
<i>Ceratopius</i> sp. cur259SG	Curculionidae	Coleoptera	BOLD:ACL6680	<i>Ficus citrifolia</i>	Moraceae	2
<i>Ceratopius</i> sp. cur81SG	Curculionidae	Coleoptera	BOLD:ACJ3977	<i>Ficus citrifolia</i>	Moraceae	4
<i>Cosm</i> sp. lep55SG	Cosmopterigidae	Lepidoptera	BOLD:ABV2189	<i>Ficus citrifolia</i>	Moraceae	7
<i>Gele</i> sp. lep282SG	Pyralidae	Lepidoptera		<i>Ficus citrifolia</i>	Moraceae	1
<i>Pyra</i> sp. lep147SG	Pyralidae	Lepidoptera	BOLD:ACJ4602	<i>Ficus citrifolia</i>	Moraceae	2
<i>Pyra</i> sp. lep147SG	Pyralidae	Lepidoptera	BOLD:ACJ4602	<i>Ficus colubrinae</i>	Moraceae	1
<i>Agao</i> sp. hym105SG	Agaonidae	Hymenoptera		<i>Ficus insipida</i>	Moraceae	11
<i>Ceratopius</i> <i>bisignatus</i>	Curculionidae	Coleoptera	BOLD:ABV0300	<i>Ficus insipida</i>	Moraceae	51
<i>Ceratopius</i> sp. cur2SG	Curculionidae	Coleoptera	BOLD:ABV0301	<i>Ficus insipida</i>	Moraceae	48
<i>Ceratopius</i> sp. cur5SG	Curculionidae	Coleoptera	BOLD:ACG0136	<i>Ficus insipida</i>	Moraceae	1
<i>Ceratopius</i> sp. cur5SG	Curculionidae	Coleoptera	BOLD:ACG0136	<i>Ficus obtusifolia</i>	Moraceae	2
<i>Ceratopius</i> sp. cur137SG	Curculionidae	Coleoptera	BOLD:ACG0631	<i>Ficus popenoei</i>	Moraceae	11
<i>Ceratopius</i> sp. cur5SG	Curculionidae	Coleoptera	BOLD:ACG0136	<i>Ficus popenoei</i>	Moraceae	28
<i>Ceratopius</i> sp. cur81SG	Curculionidae	Coleoptera	BOLD:ACJ3977	<i>Ficus popenoei</i>	Moraceae	5
<i>Eury</i> sp. hym705SG	Eurytomidae	Hymenoptera		<i>Ficus popenoei</i>	Moraceae	1
<i>Curc</i> sp. cur1835SG	Curculionidae	Coleoptera	BOLD:ACJ5814	<i>Ficus tonduzii</i>	Moraceae	24
<i>Ceratopius</i> sp. cur237SG	Curculionidae	Coleoptera		<i>Ficus trigonata</i>	Moraceae	1
<i>Ceratopius</i> sp. cur238SG	Curculionidae	Coleoptera	BOLD:ACG0137	<i>Ficus trigonata</i>	Moraceae	1
<i>Ceratopius</i> sp. cur385SG	Curculionidae	Coleoptera	BOLD:ABV0298	<i>Ficus trigonata</i>	Moraceae	21
<i>Ceratopius</i> sp. cur5SG	Curculionidae	Coleoptera	BOLD:ACG0136	<i>Ficus trigonata</i>	Moraceae	4

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Ceratitis sp. cur81SG</i>	Curculionidae	Coleoptera	BOLD:ACJ3977	Ficus trigonata	Moraceae	291
<i>Ceratitis bisignatus</i>	Curculionidae	Coleoptera	BOLD:ABV0300	Ficus yoponensis	Moraceae	3
<i>Clydonopteron pomponius</i>	Crambidae	Lepidoptera	BOLD:AAP2098	Fridericia candicans	Bignoniaceae	2
<i>Pseudobaris sp. cur188SG</i>	Curculionidae	Coleoptera	BOLD:ACJ3578	Fridericia candicans	Bignoniaceae	3
<i>Curc sp. cur181SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5812	Fridericia florida	Bignoniaceae	2
<i>Curc sp. cur182SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5813	Fridericia florida	Bignoniaceae	2
<i>Cosm sp. lep34SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ABV2184	Garcinia madruno	Clusiaceae	3
<i>Cosm sp. lep34SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ABV2184	Garcinia recondita	Clusiaceae	254
<i>Erioscia guttifera</i>	Tortricidae	Lepidoptera	BOLD:ABV2165	Garcinia recondita	Clusiaceae	3
<i>Grapholita mabea</i>	Tortricidae	Lepidoptera	BOLD:ABV2185	Garcinia recondita	Clusiaceae	5
<i>Spinipogon triangularis</i>	Tortricidae	Lepidoptera	BOLD:AAA2890	Guapira standleyana	Nyctaginaceae	7
<i>Heli sp. lep102SG</i>	Heliodinidae	Lepidoptera	BOLD:ABV2172	Guapira standleyana	Nyctaginaceae	3
<i>Heli sp. lep52SG</i>	Heliodinidae	Lepidoptera	BOLD:ABV2180	Guapira standleyana	Nyctaginaceae	50
<i>Sternachus sp. cur65SG</i>	Curculionidae	Coleoptera	BOLD:ABV0288	Guapira standleyana	Nyctaginaceae	190
<i>Conotrachelus sp. cur138SG</i>	Curculionidae	Coleoptera	BOLD:ACG1267	Guarea grandifolia	Meliaceae	14
<i>Conotrachelus sp. cur182SG</i>	Curculionidae	Coleoptera	BOLD:ACJ3628	Guarea grandifolia	Meliaceae	1
<i>Conotrachelus verticalis</i>	Curculionidae	Coleoptera	BOLD:ACJ6094	Guarea grandifolia	Meliaceae	1
<i>Myrmex sp. cur48SG nr. panamensis</i>	Curculionidae	Coleoptera	BOLD:ACG0025	Guarea grandifolia	Meliaceae	2
<i>Semnorhynchus fulvopictus</i>	Curculionidae	Coleoptera	BOLD:ABV0293	Guarea grandifolia	Meliaceae	5
<i>Sesi sp. lep101</i>	Sesiidae	Lepidoptera	BOLD:ABV2173	Guarea grandifolia	Meliaceae	2
<i>Conotrachelus sp. cur138SG</i>	Curculionidae	Coleoptera	BOLD:ACG1267	Guarea guidonia	Meliaceae	20
<i>Cosm sp. lep425SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ACJ4377	Guarea guidonia	Meliaceae	2
<i>Anthonomus sp. cur150SG</i>	Curculionidae	Coleoptera		Guatteria lucens	Annonaceae	1
<i>Pseudomopsis sp. cur254SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5756	Guatteria lucens	Annonaceae	2
<i>Pseudomopsis sp. cur34SG</i>	Curculionidae	Coleoptera	BOLD:ABV0299	Guatteria lucens	Annonaceae	10
<i>Amblycerus sp. briu39SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ3956	Guazuma ulmifolia	Malvaceae	39
<i>Amblycerus cistelinus</i>	Chrysomelidae	Coleoptera	BOLD:ACG0463	Guazuma ulmifolia	Malvaceae	72

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Amblycerus sp. briu30SG</i>	Chrysomelidae	Coleoptera	BOLD:ABW8381	Guazuma ulmifolia	Malvaceae	15
<i>Curc sp. cur202SG</i>	Curculionidae	Coleoptera	BOLD:ACL6813	Guettarda foliacea	Rubiaceae	2
<i>Busckella lecythidis</i>	Curculionidae	Coleoptera	BOLD:ACF9829	Gustavia superba	Lecythidaceae	8
<i>Carmentia foraseminis</i>	Sesiidae	Lepidoptera	BOLD:ABV2190	Gustavia superba	Lecythidaceae	83
<i>Lamprospilus collucia</i>	Lycaenidae	Lepidoptera	BOLD:AAE6101	Gustavia superba	Lecythidaceae	1
<i>Ziegleria hesperitisDHJ01</i>	Lycaenidae	Lepidoptera	BOLD:AAD4593	Gustavia superba	Lecythidaceae	2
<i>Aeatus sp. cur144SG</i>	Curculionidae	Coleoptera		Handroanthus guayacan	Bignoniaceae	34
<i>Eury sp. hym128SG</i>	Eurytomidae	Hymenoptera		Handroanthus guayacan	Bignoniaceae	3
<i>Hypocosmia bimaculalis</i>	Pyrilidae	Lepidoptera	BOLD:AAA1759	Handroanthus guayacan	Bignoniaceae	2
<i>Lamprospilus collucia</i>	Lycaenidae	Lepidoptera	BOLD:AAE6101	Handroanthus guayacan	Bignoniaceae	1
<i>Grapholita? sp. lep55SG</i>	Tortricidae	Lepidoptera	BOLD:ACJ4358	Hasseltia floribunda	Salicaceae	1
<i>Gele sp. lep275SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2166	Heisteria acuminata	Erythropalaceae	1
<i>Maenactes sp. cur75SG</i>	Curculionidae	Coleoptera	BOLD:ABV0302	Heisteria acuminata	Erythropalaceae	1
<i>Ricula croceus</i>	Tortricidae	Lepidoptera	BOLD:ABV2186	Heisteria acuminata	Erythropalaceae	16
<i>Eulechtriops sp. cur53SG</i>	Curculionidae	Coleoptera	BOLD:ABV0292	Heisteria concinna	Erythropalaceae	3
<i>Platynota obliqua complex</i>	Tortricidae	Lepidoptera		Heisteria concinna	Erythropalaceae	1
<i>Ricula croceus</i>	Tortricidae	Lepidoptera	BOLD:ABV2186	Heisteria concinna	Erythropalaceae	81
<i>Strymon ziba</i>	Lycaenidae	Lepidoptera	BOLD:AAJ4460	Heliconia platystachys	Heliconiaceae	2
<i>Anthonominiae sp. 248SG</i>	Curculionidae	Coleoptera	BOLD:ACL7471	Heteropteris laurifolia	Malpighiaceae	51
<i>Curc sp. cur194SG</i>	Curculionidae	Coleoptera	BOLD:ACL5639	Heteropteris laurifolia	Malpighiaceae	2
<i>Eurn sp. hym48SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	1
<i>Eurn sp. hym49SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	7
<i>Eury sp. hym91SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	2
<i>Eury sp. hym92SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	3
<i>Eury sp. hym93SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	3
<i>Sycophila sp. hym243SG</i>	Eurytomidae	Hymenoptera		Hieronyma alchomeoides	Euphorbiaceae	2
<i>Anthonominiae sp. 247SG</i>	Curculionidae	Coleoptera	BOLD:ACL6562	Hiraea reclinata	Malpighiaceae	6

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Anthonomus sp. cur133SG</i>	Curculionidae	Coleoptera	BOLD:ABV0303	Hiraea reclinata	Malpighiaceae	2
<i>Bothriopterion darlingtoni</i>	Brentidae	Coleoptera	BOLD:ACG1146	Hiraea reclinata	Malpighiaceae	78
<i>Bothriopterion sp. cur85SG</i>	Brentidae	Coleoptera	BOLD:ABU8658	Hiraea reclinata	Malpighiaceae	5
<i>Bothriopterion sp. 23SG</i>	Brentidae	Coleoptera	BOLD:ABU8657	Hiraea smilacina	Malpighiaceae	6
<i>Cosm sp. lep499SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ACJ4545	Hirtella triandra	Chrysobalanaceae	2
<i>Cosm sp. lep542SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ACJ4462	Hirtella triandra	Chrysobalanaceae	1
<i>Eurm sp. hym975SG</i>	Eurytomidae	Hymenoptera		Hirtella triandra	Chrysobalanaceae	5
<i>Eurytoma? sp. hym95SG</i>	Eurytomidae	Hymenoptera		Hirtella triandra	Chrysobalanaceae	10
<i>Tenuipetiolus? sp. hym98SG</i>	Eurytomidae	Hymenoptera		Hirtella triandra	Chrysobalanaceae	2
<i>Myrmex sp. cur48SG nr. panamensis</i>	Curculionidae	Coleoptera	BOLD:ACG0025	Hura crepitans	Euphorbiaceae	1
<i>Pyra sp. lep296SG</i>	Pyralidae	Lepidoptera	BOLD:AAH5480	Hymenaea courbaril	Fabaceae	230
<i>Rhinoclenus stigma</i>	Curculionidae	Coleoptera	BOLD:ACG0000	Hymenaea courbaril	Fabaceae	152
<i>Gele sp. lep295SG</i>	Gelechiidae	Lepidoptera		Inga codeensis	Fabaceae	1
<i>Anth sp. ant3SG</i>	Anthribidae	Coleoptera	BOLD:ACG0844	Inga codeensis	Fabaceae	1
<i>Conotrachelus sp. cur104SG</i>	Curculionidae	Coleoptera		Inga laurina	Fabaceae	5
<i>Pyra sp. lep9SG</i>	Pyralidae	Lepidoptera	BOLD:ABV2171	Inga laurina	Fabaceae	4
<i>Rhyssomatus sp. cur174SG</i>	Curculionidae	Coleoptera	BOLD:ACJ4033	Inga laurina	Fabaceae	41
<i>Cosm sp. lep274SG</i>	Cosmopterigidae	Lepidoptera	BOLD:AAL8816	Inga mucuna	Fabaceae	7
<i>Oeco sp. lep289SG</i>	Oecophoridae	Lepidoptera		Inga mucuna	Fabaceae	1
<i>Oeco sp. lep293SG</i>	Oecophoridae	Lepidoptera	BOLD:AAA1020	Inga mucuna	Fabaceae	1
<i>Cydia pyraspis complex ACJ4819</i>	Tortricidae	Lepidoptera	BOLD:ACJ4819	Inga multijsa	Fabaceae	1
<i>Synanthedon sp. lep500SG</i>	Sesiidae	Lepidoptera	BOLD:ACJ4196	Inga multijsa	Fabaceae	1
<i>Atripartus sp. 1SG</i>	Cerambycidae	Coleoptera	BOLD:ABV0425	Inga punctata	Fabaceae	2
<i>Cosm sp. lep274SG</i>	Cosmopterigidae	Lepidoptera	BOLD:AAL8816	Inga punctata	Fabaceae	1
<i>Cosm sp. lep274SG</i>	Cosmopterigidae	Lepidoptera	BOLD:AAL8816	Inga ruiziana	Fabaceae	2
<i>Cosm sp. lep425SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ACJ4377	Inga ruiziana	Fabaceae	1
<i>Gele sp. lep281SG</i>	Gelechiidae	Lepidoptera	BOLD:ACJ4591	Inga ruiziana	Fabaceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Gele sp. lep295SG</i>	Gelechiidae	Lepidoptera		Inga sapindoides	Fabaceae	1
<i>Synanthedon sp. lep413SG</i>	Sesiidae	Lepidoptera	BOLD:ACJ4195	Inga sapindoides	Fabaceae	1
<i>Gele sp. lep281SG</i>	Gelechiidae	Lepidoptera	BOLD:ACJ4591	Inga thibaudiana	Fabaceae	1
<i>Cydia pyraspis complex AA4047</i>	Tortricidae	Lepidoptera	BOLD:AAA4047	Inga umbellifera	Fabaceae	1
<i>Curc sp. cur185SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5840	Jacaranda copaia	Bignoniaceae	30
<i>Curc sp. cur186SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5919	Lacistema aggregatum	Lacistemataceae	66
<i>Ricula lacistema</i>	Tortricidae	Lepidoptera	BOLD:AAV4670	Lacistema aggregatum	Lacistemataceae	19
<i>Ricula sp. 545SG nr. deflexa</i>	Tortricidae	Lepidoptera	BOLD:ACU7912	Lacistema aggregatum	Lacistemataceae	1
<i>Pycnothentis sp. cur47SG</i>	Curculionidae	Coleoptera	BOLD:ABV3492	Lacmellea panamensis	Apocynaceae	1
<i>Anthonomus sp. cur45SG</i>	Curculionidae	Coleoptera	BOLD:ABW5965	Laetia procera	Salicaceae	1
<i>Carmentis foraseminis</i>	Sesiidae	Lepidoptera	BOLD:ABV2190	Lafoensia puniceifolia	Lythraceae	2
<i>Gele sp. lep60SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2178	Lafoensia puniceifolia	Lythraceae	20
<i>Conotrachelus posticatus</i>	Curculionidae	Coleoptera	BOLD:ACJ3962	Licania platypus	Chrysobalanaceae	1
<i>Conotrachelus sp. cur176SG</i>	Curculionidae	Coleoptera	BOLD:ACC9932	Licania platypus	Chrysobalanaceae	38
<i>Oeco sp. lep419SG</i>	Oecophoridae	Lepidoptera		Lindackeria laurina	Achariaceae	1
<i>Conotrachelus sp. cur152SG</i>	Curculionidae	Coleoptera		Lonchocarpus heptaphyllus	Fabaceae	57
<i>Pyra sp. lep449SG</i>	Pyralidae	Lepidoptera	BOLD:AAA5505	Lonchocarpus heptaphyllus	Fabaceae	1
<i>Coelocephalopion sp. cur13SG</i>	Brentidae	Coleoptera	BOLD:ABV4175	Lonchocarpus luteomaculatus	Fabaceae	1
<i>Ctenocolum colburni</i>	Chrysomelidae	Coleoptera	BOLD:ABV3608	Lonchocarpus luteomaculatus	Fabaceae	2
<i>Amblycerus simulator</i>	Chrysomelidae	Coleoptera	BOLD:ABV3596	Luehea seemannii	Malvaceae	32
<i>Cerambycidae sp. colcer5SG</i>	Cerambycidae	Coleoptera	BOLD:ABW7350	Mabea occidentalis	Euphorbiaceae	1
<i>Grapholita mabea</i>	Tortricidae	Lepidoptera	BOLD:ABV2185	Mabea occidentalis	Euphorbiaceae	109
<i>Apion sp. cur183SG</i>	Brentidae	Coleoptera	BOLD:ACJ3666	Machaerium arboreum	Fabaceae	69
<i>Eury sp. hym234SG</i>	Eurytomidae	Hymenoptera		Machaerium arboreum	Fabaceae	25
<i>Pyra sp. lep449SG</i>	Pyralidae	Lepidoptera	BOLD:AAA5505	Machaerium milleflorum	Fabaceae	1
<i>Apion sp. cur180SG</i>	Brentidae	Coleoptera	BOLD:ACJ3612	Machaerium seemannii	Fabaceae	2
<i>Talponia sp. lep273SG</i>	Tortricidae	Lepidoptera	BOLD:ACG2213	Macrocnemum roseum	Rubiaceae	11

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Megacerus lunulatus</i>	Chrysomelidae	Coleoptera	BOLD:ABV3601	Maripa panamensis	Convolvulaceae	149
<i>Oeco sp. lep4SG</i>	Oecophoridae	Lepidoptera	BOLD:ABV2156	Maripa panamensis	Convolvulaceae	3
<i>Spilomelinae sp. 80YB</i>	Crambidae	Lepidoptera	BOLD:AAP1702	Maripa panamensis	Convolvulaceae	5
<i>Bothriopterion darlingtoni</i>	Brentidae	Coleoptera	BOLD:ACG1146	Mascagnia divaricata	Malpighiaceae	1
<i>Amblycerus sp. bru27SG nr piurae</i>	Chrysomelidae	Coleoptera		Mendoncia gracilis	Acanthaceae	4
<i>Gele sp. lep185SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2157	Miconia argentea	Melastomataceae	1
<i>Sibinia sp. cur154SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5979	Mimosa pigra	Fabaceae	29
<i>Gele sp. lep39SG</i>	Gelechiidae	Lepidoptera	BOLD:ACG1530	Mouriri myrtilloides	Melastomataceae	4
<i>Anthonomus sp. cur158SG</i>	Curculionidae	Coleoptera	BOLD:ACF9809	Myrcia splendens.tip.-gatunensis	Myrtaceae	4
<i>Anthonomus sp. cur245SG</i>	Curculionidae	Coleoptera	BOLD:ACS3899	Myrcia splendens.tip.-gatunensis	Myrtaceae	3
<i>Curc sp. cur1795G</i>	Curculionidae	Coleoptera	BOLD:ACJ5779	Nectandra cissiflora	Lauraceae	4
<i>Curc sp. cur204SG</i>	Curculionidae	Coleoptera	BOLD:ACL6815	Nectandra cissiflora	Lauraceae	7
<i>Heilipus draco</i>	Curculionidae	Coleoptera	BOLD:ABV0306	Nectandra cissiflora	Lauraceae	4
<i>Riculorampha ancyloides</i>	Tortricidae	Lepidoptera	BOLD:ABV2167	Nectandra cissiflora	Lauraceae	16
<i>Curc sp. cur175SG</i>	Curculionidae	Coleoptera	BOLD:ACC9991	Nectandra lineata	Lauraceae	2
<i>Curc sp. cur1795G</i>	Curculionidae	Coleoptera	BOLD:ACJ5779	Nectandra lineata	Lauraceae	4
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	Nectandra lineata	Lauraceae	15
<i>Pyra sp. lep305SG</i>	Pyrilidae	Lepidoptera		Nectandra lineata	Lauraceae	2
<i>Riculorampha ancyloides</i>	Tortricidae	Lepidoptera	BOLD:ABV2167	Nectandra lineata	Lauraceae	6
<i>Heli sp. lep438SG</i>	Heliodinidae	Lepidoptera	BOLD:ACJ4711	Neea amplifolia	Nyctaginaceae	2
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	Ocotea oblonga	Lauraceae	366
<i>Riculorampha ancyloides</i>	Tortricidae	Lepidoptera	BOLD:ABV2167	Ocotea oblonga	Lauraceae	7
<i>Curc sp. cur1765G</i>	Curculionidae	Coleoptera	BOLD:ACC9992	Ocotea puberula	Lauraceae	6
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	Ocotea puberula	Lauraceae	71
<i>Heilipus sp. cur155G nr. lauri</i>	Curculionidae	Coleoptera	BOLD:ABV0055	Ocotea whitei	Lauraceae	1
<i>Oeco sp. lep4SG</i>	Oecophoridae	Lepidoptera	BOLD:ABV2156	Ocotea whitei	Lauraceae	2
<i>Riculorampha ancyloides</i>	Tortricidae	Lepidoptera	BOLD:ABV2167	Ocotea whitei	Lauraceae	2

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Curc sp. cur1725G</i>	Curculionidae	Coleoptera		Oenocarpus mapora	Arecaceae	6
<i>Curc sp. cur1925G</i>	Curculionidae	Coleoptera	BOLD:ACJ6049	Oenocarpus mapora	Arecaceae	2
<i>Geraneus sp. cur515G</i>	Curculionidae	Coleoptera	BOLD:ABV4317	Oenocarpus mapora	Arecaceae	112
<i>Pycnotheantis sp. cur475G</i>	Curculionidae	Coleoptera	BOLD:ABV3492	Oenocarpus mapora	Arecaceae	98
<i>Zyzygra sp. cur425G</i>	Curculionidae	Coleoptera	BOLD:ABV3555	Oenocarpus mapora	Arecaceae	219
<i>Curc sp. cur1915G</i>	Curculionidae	Coleoptera	BOLD:ACJ6005	Ormosia macrocalyx	Fabaceae	2
<i>Eulechriops sp. cur535G</i>	Curculionidae	Coleoptera	BOLD:ABV0292	Ouratea lucens	Ochnaceae	66
<i>Heli sp. lep2535G</i>	Heliodinidae	Lepidoptera	BOLD:ACJ1788	Ouratea lucens	Ochnaceae	30
<i>Cosm sp. lep4065G</i>	Cosmopterigidae	Lepidoptera	BOLD:ACJ4291	Paullinia fibrigera	Sapindaceae	1
<i>Oeco sp. lep135G</i>	Oecophoridae	Lepidoptera	BOLD:AAA0941	Paullinia pinnata	Sapindaceae	5
<i>Oeco sp. lep4645G</i>	Oecophoridae	Lepidoptera		Paullinia pinnata	Sapindaceae	2
<i>Sycophila sp. hym1735G</i>	Eurytomidae	Hymenoptera		Paullinia pterocarpa	Sapindaceae	2
<i>Oeco sp. lep4665G</i>	Oecophoridae	Lepidoptera		Paullinia rugosa	Sapindaceae	1
<i>Eurm sp. hym1425G</i>	Eurytomidae	Hymenoptera		Paullinia turbacensis	Sapindaceae	28
<i>Strephonota ambrax</i>	Lycanidae	Lepidoptera	BOLD:ABV4118	Paullinia turbacensis	Sapindaceae	1
<i>Anthonomus sp. cur2115G nr. monostigma</i>	Curculionidae	Coleoptera	BOLD:ACS4123	Pera arborea	Peraceae	4
<i>Curc sp. cur2115G</i>	Curculionidae	Coleoptera		Petrea volubilis	Verbenaceae	2
<i>Conotrachelus sp. cur1525G</i>	Curculionidae	Coleoptera	BOLD:ACC9959	Picramnia latifolia	Picramniaceae	167
<i>Dichrorampha? sp. lep3245G</i>	Tortricidae	Lepidoptera	BOLD:ACG1391	Picramnia latifolia	Picramniaceae	6
<i>Pseudobaris sp. cur2025G</i>	Curculionidae	Coleoptera	BOLD:ACJ3579	Platymiscium pinnatum	Fabaceae	1
<i>Amblycerus sp. bru215G</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4774	Platypodium elegans	Fabaceae	10
<i>Atriparius sp. 15G</i>	Cerambycidae	Coleoptera	BOLD:ABV0425	Platypodium elegans	Fabaceae	14
<i>Cydia? sp. lep3565G</i>	Tortricidae	Lepidoptera	BOLD:ABV2351	Platypodium elegans	Fabaceae	1
<i>Pyra sp. lep4495G</i>	Pyralidae	Lepidoptera	BOLD:AAA5505	Platypodium elegans	Fabaceae	3
<i>Cyrtionyx sp. cur915G</i>	Curculionidae	Coleoptera		Pombalia prunifolia	Violaceae	11
<i>Anchonus sp. cur535G</i>	Curculionidae	Coleoptera	BOLD:ACS6334	Poulsonia armata	Moraceae	1
<i>Sycophila sp. 15G</i>	Eurytomidae	Hymenoptera		Poulsonia armata	Moraceae	12

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Sycophila</i> sp. 2SG	Eurytomidae	Hymenoptera		<i>Poulsenia armata</i>	Moraceae	13
<i>Eubulus</i> sp. cur151SG	Curculionidae	Coleoptera	BOLD:ACF9999	<i>Pourouma bicolor</i>	Urticaceae	4
<i>Atripariius</i> sp. 1SG	Cerambycidae	Coleoptera	BOLD:ABV0425	<i>Pouteria reticulata</i>	Sapotaceae	1
<i>Conotrachelus</i> sp. cur163SG	Curculionidae	Coleoptera		<i>Pouteria reticulata</i>	Sapotaceae	59
<i>Conotrachelus turbatus</i>	Curculionidae	Coleoptera	BOLD:ACJ3631	<i>Pouteria reticulata</i>	Sapotaceae	1
<i>Curc</i> sp. cur103SG	Curculionidae	Coleoptera		<i>Pouteria reticulata</i>	Sapotaceae	1
<i>Curc</i> sp. cur1905G	Curculionidae	Coleoptera	BOLD:ACJ5957	<i>Pouteria reticulata</i>	Sapotaceae	6
<i>Curc</i> sp. cur206SG	Curculionidae	Coleoptera	BOLD:ACL6820	<i>Pouteria reticulata</i>	Sapotaceae	2
<i>Eubulus</i> sp. cur90SG cf. <i>dumicolus</i>	Curculionidae	Coleoptera	BOLD:ACG1557	<i>Pouteria reticulata</i>	Sapotaceae	5
<i>Myrmex</i> sp. cur94SG	Curculionidae	Coleoptera	BOLD:ACG1997	<i>Pouteria reticulata</i>	Sapotaceae	2
<i>Conotrachelus</i> sp. cur17SG	Curculionidae	Coleoptera		<i>Pouteria stipitata</i>	Sapotaceae	3
<i>Conotrachelus</i> sp. cur18SG	Curculionidae	Coleoptera	BOLD:ACG2729	<i>Pouteria stipitata</i>	Sapotaceae	56
<i>Carmenta</i> sp. lep111SG	Sesiidae	Lepidoptera	BOLD:ABV4214	<i>Prioria copaifera</i>	Fabaceae	33
<i>Cryptaspasma perseana</i>	Tortricidae	Lepidoptera	BOLD:AAB0277	<i>Prioria copaifera</i>	Fabaceae	5
<i>Eubulus fulvosquamis</i>	Curculionidae	Coleoptera	BOLD:ABV0277	<i>Prioria copaifera</i>	Fabaceae	632
<i>Anth</i> sp. ant1SG	Anthribidae	Coleoptera	BOLD:ABV3606	<i>Prioria copaifera</i>	Fabaceae	9
<i>Pyra</i> sp. lep9SG	Pyrilidae	Lepidoptera	BOLD:ABV2171	<i>Prioria copaifera</i>	Fabaceae	45
<i>Apogostma stenialis</i>	Crambidae	Lepidoptera	BOLD:AAM8762	<i>Protium tenuifolium</i>	Burseraceae	4
<i>Curc</i> sp. cur174SG	Curculionidae	Coleoptera	BOLD:ACC9931	<i>Protium tenuifolium</i>	Burseraceae	2
<i>Depr</i> sp. lep8SG	Depressariidae	Lepidoptera	BOLD:ABV2188	<i>Protium tenuifolium</i>	Burseraceae	2
<i>Lechriops</i> sp. cur97SG	Curculionidae	Coleoptera		<i>Protium tenuifolium</i>	Burseraceae	2
<i>Megacerus lunulatus</i>	Chrysomelidae	Coleoptera	BOLD:ABV3601	<i>Protium tenuifolium</i>	Burseraceae	14
<i>Cerambycidae</i> sp. colcer3SG	Cerambycidae	Coleoptera	BOLD:ABV0428	<i>Pseudobombax septenatum</i>	Malvaceae	2
<i>Colobothea</i> sp. 1SG	Cerambycidae	Coleoptera	BOLD:ACJ3953	<i>Pseudobombax septenatum</i>	Malvaceae	1
<i>Cryptorhynchus</i> sp. cur26SG	Curculionidae	Coleoptera	BOLD:ABU9975	<i>Pseudobombax septenatum</i>	Malvaceae	5
<i>Lechriops parotica</i>	Curculionidae	Coleoptera	BOLD:ABU9974	<i>Pseudobombax septenatum</i>	Malvaceae	49
<i>Platynota obliqua complex</i>	Tortricidae	Lepidoptera	BOLD:ABV2162	<i>Pseudobombax septenatum</i>	Malvaceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Cosm sp. lep528SG</i>	Cosmopterigidae	Lepidoptera		<i>Psychotria capitata</i>	Rubiaceae	1
<i>Eurm sp. hym253SG</i>	Eurytomidae	Hymenoptera		<i>Psychotria capitata</i>	Rubiaceae	32
<i>Sycophila sp. 2SG</i>	Eurytomidae	Hymenoptera		<i>Psychotria capitata</i>	Rubiaceae	13
<i>Eurm sp. hym137SG</i>	Eurytomidae	Hymenoptera		<i>Psychotria limonensis</i>	Rubiaceae	5
<i>Sycophila sp. 1SG</i>	Eurytomidae	Hymenoptera		<i>Psychotria limonensis</i>	Rubiaceae	1
<i>Sycophila sp. hym171SG</i>	Eurytomidae	Hymenoptera		<i>Psychotria marginata</i>	Rubiaceae	3
<i>Amblycerus pterocarpae</i>	Chrysomelidae	Coleoptera		<i>Pterocarpus hayesii</i>	Fabaceae	2
<i>Chelotomys sp. 1SG</i>	Curculionidae	Coleoptera	BOLD:ABV0294	<i>Quararibea asterolepis</i>	Malvaceae	93
<i>Conotrachelus sp. cur141SG</i>		Coleoptera	BOLD:ACC9894	<i>Quararibea asterolepis</i>	Malvaceae	24
<i>Gale sp. lep19SG</i>	Gelechiidae	Lepidoptera	BOLD:AAA0886	<i>Quararibea asterolepis</i>	Malvaceae	7
<i>Myrmex sp. cur48SG nr. panamensis</i>	Curculionidae	Coleoptera	BOLD:ACG0025	<i>Quararibea asterolepis</i>	Malvaceae	1
<i>Cosm sp. lep38SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ABV2182	<i>Rinorea sylvatica</i>	Violaceae	47
<i>Bruc sp. bru41SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4488	<i>Senna reticulata</i>	Fabaceae	108
<i>Semnius lawrencei</i>	Chrysomelidae	Coleoptera	BOLD:ACG0207	<i>Senna reticulata</i>	Fabaceae	192
<i>Bruc sp. bru37SG</i>	Chrysomelidae	Coleoptera	BOLD:ACJ4572	<i>Senna undulata</i>	Fabaceae	149
<i>Fundella argentina</i>	Pyrilidae	Lepidoptera	BOLD:AAA0902	<i>Senna undulata</i>	Fabaceae	11
<i>Pyra sp. 496SG</i>	Pyrilidae	Lepidoptera	BOLD:ACL6679	<i>Serjania decapleuria</i>	Sapindaceae	4
<i>Geraeus sp. cur64SG</i>	Curculionidae	Coleoptera	BOLD:ABV0289	<i>Simarouba amara</i>	Simaroubaceae	1
<i>Conotrachelus sp. cur29SG</i>	Curculionidae	Coleoptera		<i>Sloanea terniflora</i>	Elaeocarpaceae	1
<i>Curc sp. cur205SG</i>	Curculionidae	Coleoptera	BOLD:ACL6816	<i>Socratea exorrhiza</i>	Arecaceae	4
<i>Eury sp. hym207SG</i>	Eurytomidae	Hymenoptera		<i>Socratea exorrhiza</i>	Arecaceae	1
<i>Eutoxus sp. cur21SG</i>	Curculionidae	Coleoptera	BOLD:ACS9632	<i>Socratea exorrhiza</i>	Arecaceae	35
<i>Gale sp. lep427SG</i>	Gelechiidae	Lepidoptera	BOLD:ACJ4667	<i>Souroubea sympetala</i>	Marcgraviaceae	1
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	<i>Souroubea sympetala</i>	Marcgraviaceae	1
<i>Conotrachelus sp. cur8SG</i>	Curculionidae	Coleoptera	BOLD:ABW8996	<i>Spondias mombin</i>	Anacardiaceae	78
<i>Curc sp. cur189SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5951	<i>Spondias mombin</i>	Anacardiaceae	2
<i>Ceratopis sp. cur2SG</i>	Curculionidae	Coleoptera	BOLD:ABV0301	<i>Spondias radlkoferi</i>	Anacardiaceae	1

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Conotrachelus sp. cur256SG</i>	Curculionidae	Coleoptera	BOLD:ACD0167	<i>Spondias radlkoferi</i>	Anacardiaceae	2
<i>Conotrachelus sp. cur8SG</i>	Curculionidae	Coleoptera	BOLD:ABW8996	<i>Spondias radlkoferi</i>	Anacardiaceae	326
<i>Cerambycidae sp. colcer1SG</i>	Cerambycidae	Coleoptera	BOLD:ACJ3675	<i>Sterculia apetala</i>	Malvaceae	16
<i>Cerambycidae sp. colcer3SG</i>	Cerambycidae	Coleoptera	BOLD:ABV0428	<i>Sterculia apetala</i>	Malvaceae	2
<i>Lepturges sp. 1SG</i>	Cerambycidae	Coleoptera	BOLD:ABV0431	<i>Sterculia apetala</i>	Malvaceae	2
<i>Eury sp. hym252SG</i>	Eurytomidae	Hymenoptera		<i>Stigmaphyllon lindenianum</i>	Malpighiaceae	1
<i>Carmenta sp. lep131</i>	Sesiidae	Lepidoptera	BOLD:ABV2191	<i>Strychnos panamensis</i>	Loganiaceae	2
<i>Curc sp. cur20SG</i>	Curculionidae	Coleoptera		<i>Strychnos panamensis</i>	Loganiaceae	1
<i>Eriosocia guttifera</i>	Tortricidae	Lepidoptera	BOLD:ABV2165	<i>Symphonia globulifera</i>	Clusiaceae	97
<i>Aeatu costulatus</i>	Curculionidae	Coleoptera	BOLD:ABV0286	<i>Tabebuia rosea</i>	Bignoniaceae	21
<i>Pagiocerus frontalis</i>	Curculionidae	Coleoptera	BOLD:ABV0305	<i>Tabebuia rosea</i>	Bignoniaceae	2
<i>Nealcidion sp. 1SG</i>	Cerambycidae	Coleoptera	BOLD:ACJ3565	<i>Tabernaemontana arborea</i>	Apocynaceae	3
<i>Amblycerus tachigalae</i>	Chrysomelidae	Coleoptera	BOLD:ABV3605	<i>Tachigali panamensis</i>	Fabaceae	16
<i>Sennius sp. bru58SG</i>	Chrysomelidae	Coleoptera	BOLD:ABV3603	<i>Tachigali panamensis</i>	Fabaceae	2
<i>Sennius sp. bru8SG</i>	Chrysomelidae	Coleoptera	BOLD:ABV3604	<i>Tachigali panamensis</i>	Fabaceae	2
<i>Curc sp. cur131SG</i>	Curculionidae	Coleoptera		<i>Terminalia amazonia</i>	Combretaceae	2
<i>Curc sp. cur209SG</i>	Curculionidae	Coleoptera	BOLD:ACL7472	<i>Terminalia oblonga</i>	Combretaceae	2
<i>Baris sp. cur121SG</i>	Curculionidae	Coleoptera	BOLD:ACG1145	<i>Tetracera portobellensis</i>	Dilleniaceae	12
<i>Conotrachelus sp. cur8SG</i>	Curculionidae	Coleoptera		<i>Tetragastris panamensis</i>	Burseraceae	1
<i>Gele sp. lep3SG</i>	Gelechiidae	Lepidoptera	BOLD:ABV2181	<i>Tetragastris panamensis</i>	Burseraceae	51
<i>Anthonomus sp. cur136SG</i>	Curculionidae	Coleoptera	BOLD:ACF9998	<i>Tetrapterys discolor</i>	Malpighiaceae	14
<i>Phymatophosus sp. cur37SG</i>	Curculionidae	Coleoptera	BOLD:ABU9761	<i>Tetrapterys discolor</i>	Malpighiaceae	44
<i>Pseudomopsis sp. cur168SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5601	<i>Tetrapterys discolor</i>	Malpighiaceae	2
<i>Curc sp. cur199SG</i>	Curculionidae	Coleoptera	BOLD:ACL6683	<i>Tetrapterys goudotiana</i>	Malpighiaceae	2
<i>Phymatophosus sp. cur107SG</i>	Curculionidae	Coleoptera	BOLD:ACG1442	<i>Tetrapterys goudotiana</i>	Malpighiaceae	14
<i>Phymatophosus sp. cur197SG</i>	Curculionidae	Coleoptera		<i>Tetrapterys goudotiana</i>	Malpighiaceae	5
<i>Cosm sp. lep5SG</i>	Cosmopterigidae	Lepidoptera	BOLD:ABV2189	<i>Tetrathylacium johansenii</i>	Salicaceae	8

Insect species	Insect family	Insect order	BIN	Host species	Host family	Count
<i>Atripariius sp. 1SG</i>	Cerambycidae	Coleoptera	BOLD:ABV0425	<i>Trattinnickia aspera</i>	Burseraeae	1
<i>Conotrachelus sp. cur139SG</i>	Curculionidae	Coleoptera		<i>Trichilia hirta</i>	Meliaceae	2
<i>Conotrachelus sp. cur10SG</i>	Curculionidae	Coleoptera	BOLD:ACJ5904	<i>Trichilia tuberculata</i>	Meliaceae	78
<i>Conotrachelus sp. cur175SG</i>	Curculionidae	Coleoptera	BOLD:ACC9961	<i>Trichilia tuberculata</i>	Meliaceae	21
<i>Pyra sp. lep231SG</i>	Pyrilidae	Lepidoptera	BOLD:ACF3503	<i>Trichilia tuberculata</i>	Meliaceae	2
<i>Ricula sp. lep218SG</i>	Tortricidae	Lepidoptera	BOLD:ACG2639	<i>Trichilia tuberculata</i>	Meliaceae	1
<i>Oeco sp. lep441SG</i>	Oecophoridae	Lepidoptera	BOLD:AAH5205	<i>Trichospermum galeottii</i>	Malvaceae	1
<i>Conotrachelus sp. cur58SG</i>	Curculionidae	Coleoptera	BOLD:ABV0304	<i>Triplaris cumingiana</i>	Polygonaceae	33
<i>Oeco sp. lep250SG</i>	Oecophoridae	Lepidoptera		<i>Unonopsis pittieri</i>	Annonaceae	1
<i>Oxytenopterus sp. cur55SG</i>	Curculionidae	Coleoptera	BOLD:ABV0291	<i>Unonopsis pittieri</i>	Annonaceae	21
<i>Apion sp. cur255SG</i>	Brentidae	Coleoptera		<i>Vatairea erythrocarpa</i>	Fabaceae	27
<i>Cure sp. cur196SG</i>	Curculionidae	Coleoptera	BOLD:ACL6563	<i>Viola nobilis</i>	Myristicaceae	2
<i>Eubulus sp. cur24SG</i>	Curculionidae	Coleoptera	BOLD:ABV4089	<i>Viola nobilis</i>	Myristicaceae	5
<i>Leclitriops sp. cur40SG</i>	Curculionidae	Coleoptera	BOLD:ABV0297	<i>Viola nobilis</i>	Myristicaceae	12
<i>Anthonomus sp. cur14SG</i>	Curculionidae	Coleoptera	BOLD:ABV0278	<i>Viola sebifera</i>	Myristicaceae	1
<i>Eubulus sp. cur24SG</i>	Curculionidae	Coleoptera	BOLD:ABV4089	<i>Viola sebifera</i>	Myristicaceae	4
<i>Anth sp. ant2SG</i>	Anthribidae	Coleoptera	BOLD:ABW8380	<i>Viola sebifera</i>	Myristicaceae	1
<i>Tallula sp. lep229SG</i>	Pyrilidae	Lepidoptera	BOLD:AAA3603	<i>Zanthoxylum acuminatum</i>	Rutaceae	1
<i>Anthonomus sp. cur45SG</i>	Curculionidae	Coleoptera	BOLD:ABW5965	<i>Zuelania guidonia</i>	Salicaceae	47
<i>Platynota subargentea</i>	Tortricidae	Lepidoptera	BOLD:AAA0948	<i>Zuelania guidonia</i>	Salicaceae	1

7 Table S3: Phylogenetic signal in seed predator incidence, seed predator richness, and seed predation rate

Table S3. Results from analyses testing for phylogenetic signal in the incidence of seed predators, seed predator richness, and seed predation rates in the sampled plant community. In the analyses of phylogenetic signal in incidence, D values significantly smaller than 1 indicate phylogenetic clustering. D values not significantly different from 0 suggest that the trait is as clumped as if it had evolved under Brownian evolution. In the analyses of phylogenetic signal in seed predator richness and rate, absolute values of κ smaller than 1 indicate that the phylogenetic signal is smaller than expected under a Brownian motion process. P-values <0.05 suggest that the phylogenetic signal is still larger than random.

Incidence	Seed predator richness	Seed predation rate					
Trait	Estimated D	PD=0	PD<1	K	P	K	P
Overall (all orders)	0.779	0.001	0.006	0.004	0.051	0.0006	0.082
Coleoptera	0.501	<0.001	<0.001				
Lepidoptera	0.662	0.005	0.001				
Hymenoptera	0.653	0.076	0.054				

8 Table S4: Analyses on host specialisation using a data set that excludes singleton observations

Table S4. The measured level of host specialisation will to some degree be influenced by the sampling intensity and/or potential errors in data recording leading to singleton interactions being recorded at a higher frequency than at which they occur in reality. To assess the robustness of the results presented in the main text, we re-run all analyses relating to host specialisation on three smaller data sets: 1) **well-sampled:** includes only ‘well-sampled’ insect species (species with a minimum of 10 individuals), no restrictions in terms of singleton interactions, 2) **singleton interactions excluded:** singleton interactions removed, but otherwise no restrictions in terms of number of insect individuals reared per species, and 3) **well-sampled, singleton interactions excluded:** singleton interactions removed, only well-sampled insect species included. In the summary tables below, these are all compared to the analyses presented in the main text (**‘all data’**; including singleton interactions and no restrictions on the number of individuals per species).

Metric	All data	Well-sampled	Singleton interactions excluded	Well-sampled, singleton interactions excluded
d' (median)	0.831	0.990	0.897	1
d' (min)	0.204	0.447	0.204	0.511
d' (max)	1	1	1	1
H2'	0.972	0.983	0.975	0.986
% of non-specialists feeding on species in same genus	37.7%		43.1%	
% of non-specialists feeding on species in same family	62.2%		70.4%	

9 Figure S1: Effect of sample size on seed predator incidence

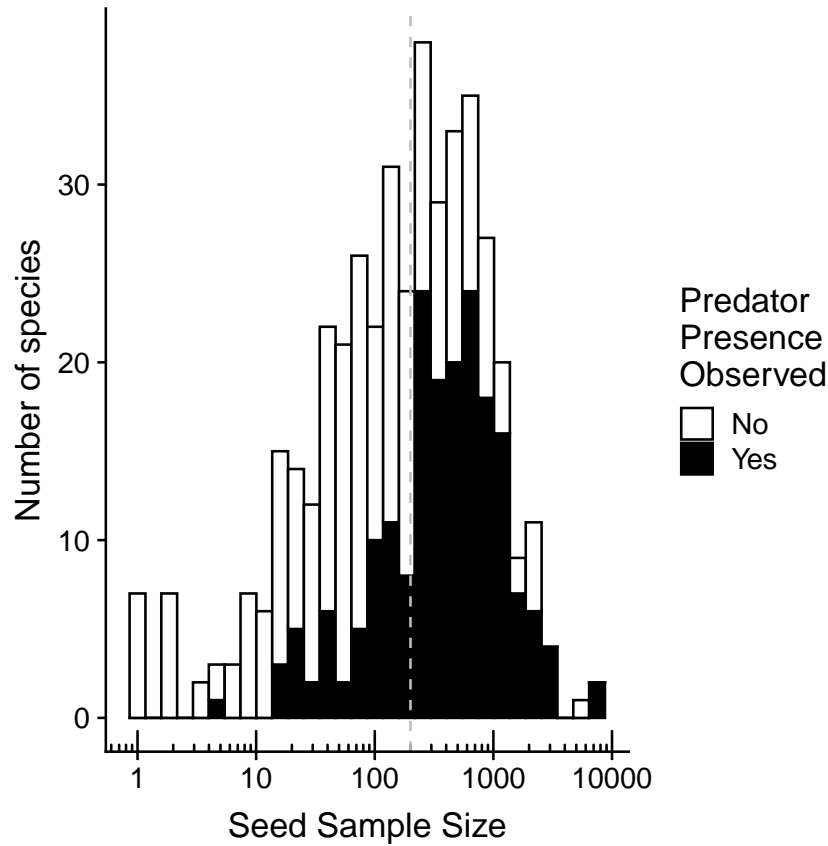


Figure S1 Histogram showing the frequency distribution of sampling effort across the 478 collected plant species. The black portion of the bars represent species from which seed predators were reared. For species with few collected seeds, the likelihood of encountering seed predators was smaller than for species with larger sample sizes (logistic regression: $\beta=0.0001$, $SE=0.0003$, $z=5.396$, $P<0.001$). For species with sample sizes above 200 seeds (dashed line), the relationship between seed sample size and seed predator incidence was no longer statistically significant (logistic regression: $\beta=0.0002$, $SE=0.0002$, $z=1.112$, $P=0.266$).

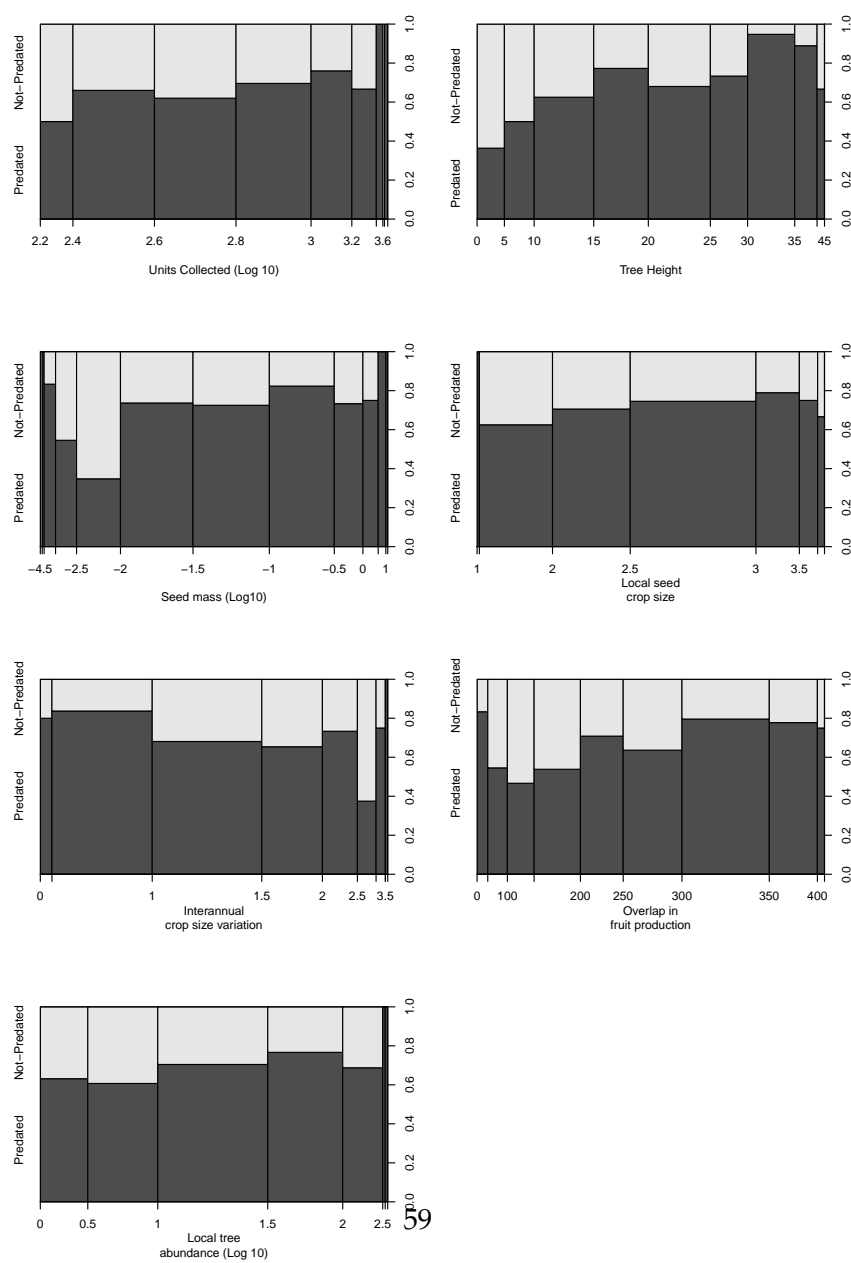
10 Figure S2: Plant phylogeny including all plant species



Figure S2. Presence or absence of seed predators (all orders combined) plotted against a plant phylogeny that includes all plant species sampled in this study for which phylogenetic information was available. The presence/absence of seed predators on well-sampled plant species (minimum sample size of 200 seeds/fruits) is shown as black and white circles, respectively. For species with smaller sample sizes (<200 seeds/fruits) presence/absence of seed predators is shown as dark versus light grey circles. Of the 478 plant species for which seed samples were collected for insect rearing, 58 (12.1%) could not be included in this figure because of lack of phylogenetic information.

11 **Figure S3: Spine plots depicting relationships between seed predator incidence and plant traits**

Figure S3. Spine plots depicting the relationships between seed predator incidence and the studied plant traits. The dark portion of the bars show the proportion of species within each trait category found to be attacked by one or more species of internally feeding insect seed predators. The width of each bar is proportionate to the number of plant species in the trait category.



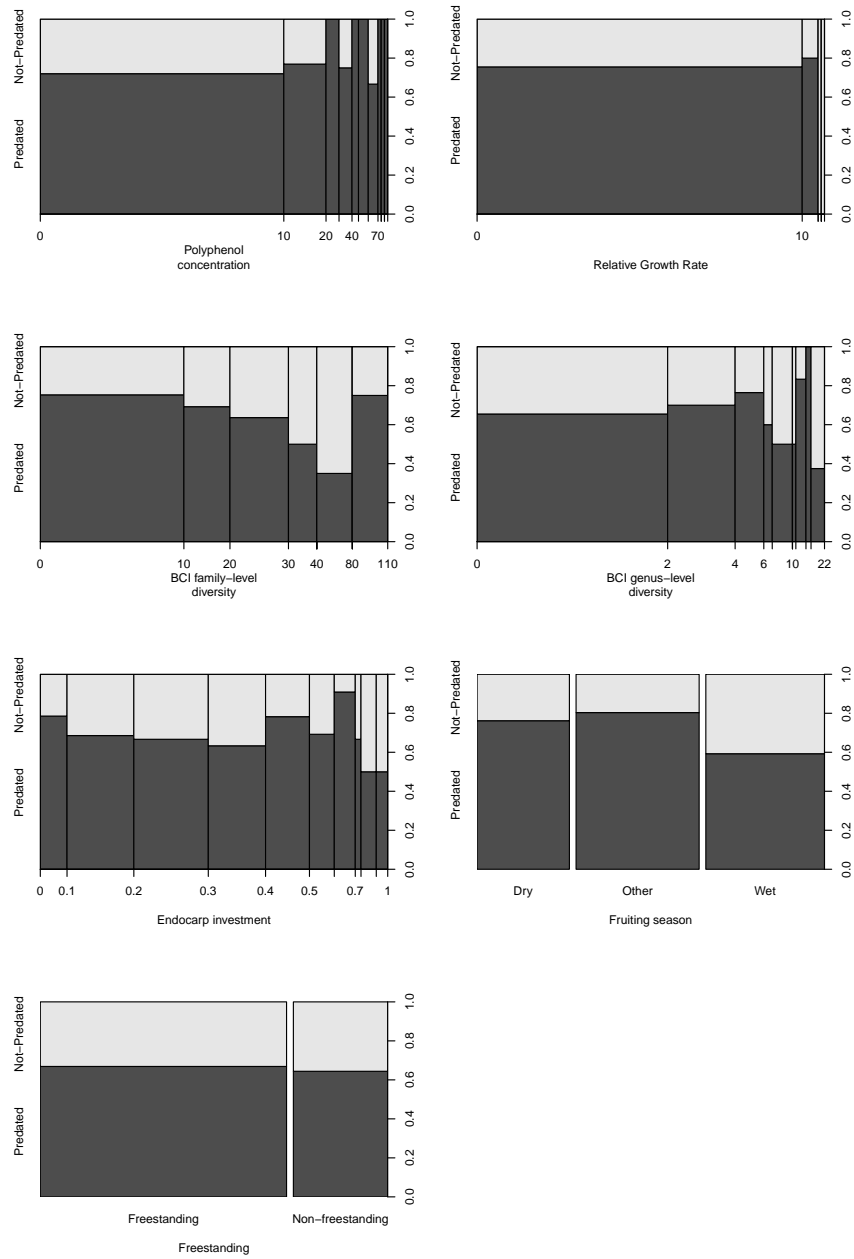
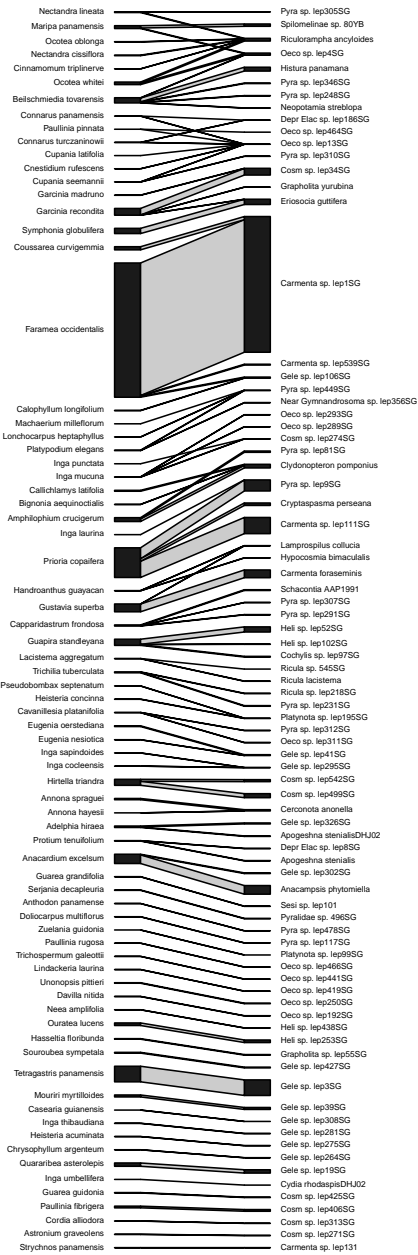


Figure S4. Quantitative food webs showing interactions between plants and their a) coleopteran and b) (overleaf) lepidopteran seed predators. For interpretation of the information in the food webs, see legend of Figure 4 in the main text.





observations

Figure S5. Quantitative food web showing the interactions between seeds and their internally feeding seed predators. For interpretation, see legend of Figure 4 in the main text. In this version of the food web, singleton interactions (i.e. plant-seed predator interactions observed only once) have been excluded.



14 Figure S6: Relationship between potential for apparent competition and phylogenetic distance

Figure S6. Potential for indirect interactions (as assessed using the PAC index; see main text) plotted against the phylogenetic distance between pairs of plant species. Shown are only cases where $PAC_i > 0$. The red line is a trend line obtained from a linear model, and used for the purposes of plotting only (to visualise patterns in the relationship between PAC and pairwise phylogenetic distances).

