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VEGETATION OF A SUBTROPICAL PRE-MONTANE MOIST FOREST IN CENTRAL AMERICA

by

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A dissertation submitted to the Graduate Faculty in Biology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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This manuscript has been read and accepted for the Graduate Faculty in Biology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

VEGETATION OF A SUBTROPICAL PRE-MONTANE MOIST FOREST IN CENTRAL AMERICA

by

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An ecological inventory was conducted in a forest fragment located within the boundaries of El Imposible National Park, El Salvador. The area was selectively logged 21 years ago and an abandoned shade coffee plantation is also found in the park. Three sites were chosen and 28 (20x50 m) permanent quadrats were established (site 1 = 10 quadrats, site 2 = 8 quadrats and site 3 = 10 quadrats). In this report, these sites are called El Ujushtal, La Fincona and La Montañona. A total of 3800 trees were identified, marked, measured for height, diameter at breast height, and x,y coordinates. Voucher specimens were collected for those species not identified in the field. All vouchers have been deposited at La Laguna Botanical Garden, San Salvador. The corners of all plots were marked with cement markers for reference in future studies. Aluminum tags were used to mark all trees included in the inventory. Analyses were completed at the quadrat, site and at the entire area level. The number of species per site varied from 48 in site 1, 66 in site 2 and 37 in site 3, belonging to 39, 38, and 29 families respectfully. Approximately 174 of an estimated 400 tree species were inventoried in the entire park. Monte Carlo tests of

complete spatial randomness (CSR) were done for all quadrats (28). The dominant species in site 1 is Brosimum alicastrum (Moraceae); site 2 is Alstonia longifolia (Apocynaceae) and for site 3 Rheedia edulis (Clusiaceae). Two recent human disturbances are having negative effects on the tree diversity of the study sites: free-ranging horses and fuel wood collection. An ethnobotanical study of plant knowledge about Brosimum alicastrum (Moraceae) was also included in this project. A questionnaire was designed to quantify the transmission of knowledge to adolescents in a rural and urban setting. A significant difference was found between the two groups. Rural informants knew more about ujushte than the urban interviewees did. Both groups indicated that their main source of knowledge about Brosimum was their grandparents.

Dedication

I dedicate this dissertation to those students from "El INFRAMEN" (1976 - 1979) who died for democracy and social justice in El Salvador and to those who strive for environmental Justice in Mesoamerica.

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CHAPTER 1

Background

INTRODUCTION

The basic question about which factors are responsible for the maintenance of the high diversity of tropical tree species is still an unresolved matter in the scientific community (Janzen 1970, Connell 1978, Hubbell 1979, Clark & Clark 1984, Hubbell & Foster 1984, 1990, Denslow 1987, Hladick & Miquel 1990, Augspurger & Kitajima 1992, Condit et al., 1992). In fact, this is also the case for many different communities (Ricklefs 1987, Ricklefs & Lathan 1992, Silvertown 1987), including those of temperate forests (Runkle 1982, McCarthy & Facelli 1990, Pickett 1991). The highest diversity of tree species is found in the tropical rain forests (Gentry 1990, 1992). This tree diversity, however, is greatly affected by local microhabitats (Augspurger 1983, Brokaw 1986, Whitmore 1987, Denslow et al., 1990), seed and seedling dynamics (Vandermeer 1974, Vasquez-Yanes & Orozco-Segovia 1990), endemism (Gentry 1992), fire (Koonce & Gonzalez 1990), large scale disturbances and geographical ranges (Yih et al., 1991, Ricklefs & Latham 1992). Even though much research has been done on tropical tree diversity, the need to understand the dynamics of tree species in tropical forests cannot be overemphasized (Condit et al., 1992). Most of this research has been focused on lowland old-growth rain forests (Gentry, 1992, Denslow 1990, Clark & Clark 1984, 1989, Primack 1992), old-growth cloud forests (Murray 1986), and old-growth deciduous tropical forests (Augspurger 1981, 1983b, Hubbel & Foster 1984, 1990, 1992). Little has been done in other areas of high biological diversity in the Neotropics and much less in secondary tropical forests. In many cases, this has been the result of political instability in the countries where tropical forests are found.

Throughout Central America, small tracts of forests remain as isolates of formerly contiguous forests. In fact, the isthmus has had a tremendous loss of forest over the past 40 years. El Salvador is perhaps the worse case scenario, where small forested areas, are relics of what used to be luxuriant forests. These patches of forest in the largely agricultural landscape present challenges with respect to understanding the dynamics of the plant and animal populations living in them. Nearly all tropical landscapes have become fragmented. The understanding of such fragments is critical to management and conservation practices (Laurance et al. 1998). Attempts to manipulate forest lands for these purposes have produced mixed results (Bierregaard, Jr. 1992), requiring more research to better understand the driving forces keeping the populations from extinction. How tree species maintain their populations within a patchy landscape is an intriguing question.

The national park where this project was done is a prime example of an isolated group of forest patches surrounded by agricultural lands and small towns and villages. This research addresses the question of community composition within different forest patches at El Imposible National Park in the Department of Ahuachapán, El Salvador. The question of what is the state of tree composition in this forest after 21 years (1997) will be addressed in this study. What happens when coffee plantations are abandoned and the surrounding forest encroaches? This study is the first quantitative plant inventory of this National Park and the second quantitative plant inventory in the country.

The following questions motivated me to undertake this research project:

1- Does the forest vary in structure and composition?

2- Are trees spatially distributed in a random fashion?

3- Is the species diversity different among sites?

4- Are the quadrats within sites different from each other?

5- What is the role of singletons in the species diversity of the study sites?

6- Is there any evidence of altitudinal gradient on tree distribution?

7- Can predictions be made on the future structure of the forest based on its current state?

8- Is there any significant difference in basal area (dominance) among quadrats and sites?

9- Are there statistical differences in floristic composition between quadrats and between sites?

CLIMATE OF EL SALVADOR

In order to understand the uniqueness of the area of interest for this project, it is important to examine the climate of El Salvador because climate plays a key role on the maintenance of the unique vegetation of El Imposible National Park and the rest of the country.

El Salvador lies between 13° and 14° North latitude (Hamond 1985), within the Tropical Zone (Holdridge 1975). The climate is the result of three factors: 1) the temperature of the adjacent seas; 2) the direction of the prevailing winds; and 3) the mountains (Holdridge 1956). Exposed to little change of incident solar energy during the year, photoperiodism is almost constant (Rosales et al., 1986). The high humidity and the high temperature are ameliorated by the northeastern mountains along the border with Honduras. Trade winds and these mountains cause higher precipitation in northern El Salvador throughout the year. This is formed when the path of the winds is interrupted by a mountain range, condensation takes place due to the cooling of the ascending air masses and rain develops (Walter 1983).

Temperature varies mostly with altitude, the coolest in the northern mountains and the highest along the coastal lowlands. The average minimum annual temperature for the whole country is 18 °C and the maximum 32 °C (F.A.S. 1971). This represents a fairly moderate climate, except for the extremes already mentioned. Very low temperatures may be reached during the months of December, January and February. In San Salvador, for

instance, temperatures decrease to around 8 °C and to a few degrees below zero in Los Naranjos, Sonsonate (Guzmán 1993).

TERRESTRIAL VEGETATION

There is not yet a complete inventory of the flora of El Salvador. Large contributions have been made by Chousy (1905 -1968), Calderon & Standley (1944), Reyna-Aguilar (1979), Witsberger et al., (1982), Berendsohn & Arina-González (1989) and Pfiffer-Berendsohn (1982). Contrary to the report by Hampshire (1988) that there is nothing left for botanical or ecological work, El Salvador offers great challenges to those with scientific and conservation interests. There still remain patches of forests, which due to inaccessibility and inhospitality have been little disturbed. The Montecristo Cloud forest (Santa Ana), Deininger National Park (La Libertad), and El Imposible National Park (Ahuachapán) are examples of remaining natural areas in the country with potential for research and conservation. Reyna-Aguilar (1979) identified 80 new tree species in the Montecristo National Park (a cloud forest) and according to my conversations with her, more are to be discovered. The area of my study, El Imposible National Park, which lacks easy access to remote areas, has been little disturbed by the local people, some of whom believe the mountains are "embrujadas" (bewitched). This is probably the wildest area in El Salvador and the last stronghold of the puma (Bernhardt & Montalvo 1978). This park is also home of the Crax rubra, great curassow (locally known as "pajuil"), a bird that is threatened by loss of habitat. This national park is of great interest because it contains a type of vegetation unique in El Salvador. It has been estimated that at least 400 species of trees are found in the park. Most of its vegetation is considered a Pre-montane Subtropical Moist Forest (Holdridge 1975), using the Holdridge Classification System. New efforts are being taken by the staff of the Botanical Garden La Laguna, San Salvador (Berendsohn 1991, Pfiffer-Berendsohn & Berendsohn 1989) to inventory the entire flora of El

Imposible. Daugherty (1972) proposed a description of what could have been the original vegetation of El Salvador. According to him, there were five types of vegetation: 1) mangrove forests; 2) evergreen forests of the coast and the riverbeds; 3) deciduous forests (this occupied approximately 90% of the country); 4) an association of Quercus sp. and Pinus sp. extending from 800 to 1800 m; and 5) cloud-forests of the highlands, forming above 1800 m. Flores and Rosales (1978) subdivided the previous vegetation types and defined more ecosystem types. At the present time, in El Salvador approximately 273,351 ha are covered with vegetation (Rosales 1988), of natural and artificial forests. This firmly contradicts Myer's (1980) and Hampshire's (1989) report of zero square kilometers of forested area.

Due to the small area and the high population density, 234 persons/km^2 (Browning 1986), El Salvador has been nearly deforested. Most forests have been converted into agricultural or pasture lands. The use of wood as an energy source speeds deforestation. From remaining forests, cordwood is the leading product, at approximately 4, 864,777 m^3 /yr (Rosales 1982). Fortunately, coffee plantations not only save the country from major erosion and from the loss of the water table, they also provide much firewood (Holdridge 1956). An estimate of the annual average cordwood yield from coffee plantations is 4.19 m^3 / ha and consumption in the country is 5,000,000 m^3 /year Rosales 1982). These "artificial forests" have become vital to soil conservation due to the fact that they occur at elevations beginning at 500 m where they tend to replace the "natural forests." Coffee plants need shading and it is provided by planting nitrogen-fixing leguminous trees for the most part, especially those of the genus Inga (United Nations 1958), which is very important to this particular region. Erosion would be extremely high without Inga. Nowadays, coffee plantations under a diverse shade, are considered of great importance for the conservation of biodiversity. It has been found that in some cases, they house a very diverse community of organisms (Vandermeer & Perfecto 1997, Perfecto & Snelling

1995). This has been the impetus for ecological and agroecological research in coffee farms (Weaver & Birdsey 1986, Perfecto & Snelling 1994)

EL IMPOSIBLE NATIONAL PARK

El Imposible National Park was established in 1979 by the government of El Salvador as part of an agrarian reform implemented that year and by recognition of the fragility and importance of this area for the country and the Central American region. It is the largest national park in El Salvador and it houses the most diverse flora and fauna in the country (Serrano 1993, Ramírez-Sosa & Komar 1996). It is located in the southwest corner of El Salvador in the Department of Ahuachapán, which borders to the west with Guatemala (Figure 1.1). Within its 5000 hectares, there are approximately 400 species of trees (Reyna de Aguilar 1993), 277 species of birds (Wilfredo Rodríguez, personal communication), and 30 mammals (Serrano 1993). The vegetation varies from recently abandoned cattle pasture, abandoned coffee plantations, selectively logged forests, to old growth forests. Most forests, however, have been disturbed by humans throughout the park. Natural disasters such as fires and landslides also have affected this area.

The terrain is broken with steep slopes surpassing 100 degrees, hence its name "The Imposible One." Elevation ranges from 300 m to its highest peak at 1,400 m. Yet, there are valleys and areas with very small slopes such as the ones used for this study. There are numerous rivers that begin their course within the park, making El Imposible one of the most important watersheds in El Salvador. Most of these rivers drain to the Pacific Ocean to the south. The rainfall pattern is of two seasons, dry and wet. The average annual rainfall is approximately 2,000 mm at low elevations but it can be greater than 2,400 mm at the higher elevations (Guzmán 1993). This makes El Imposible one of the wettest places in El Salvador (Salazar Morales 1995). There are no weather stations in El Imposible but two towns nearby give a fairly good representation of the rainfall patterns of

the area of the park (Figure 1.2). Three sites have been chosen for this study at the southwest corner of the park, El Ujushtal, La Fincona and La Montañona (Figure 1.3).

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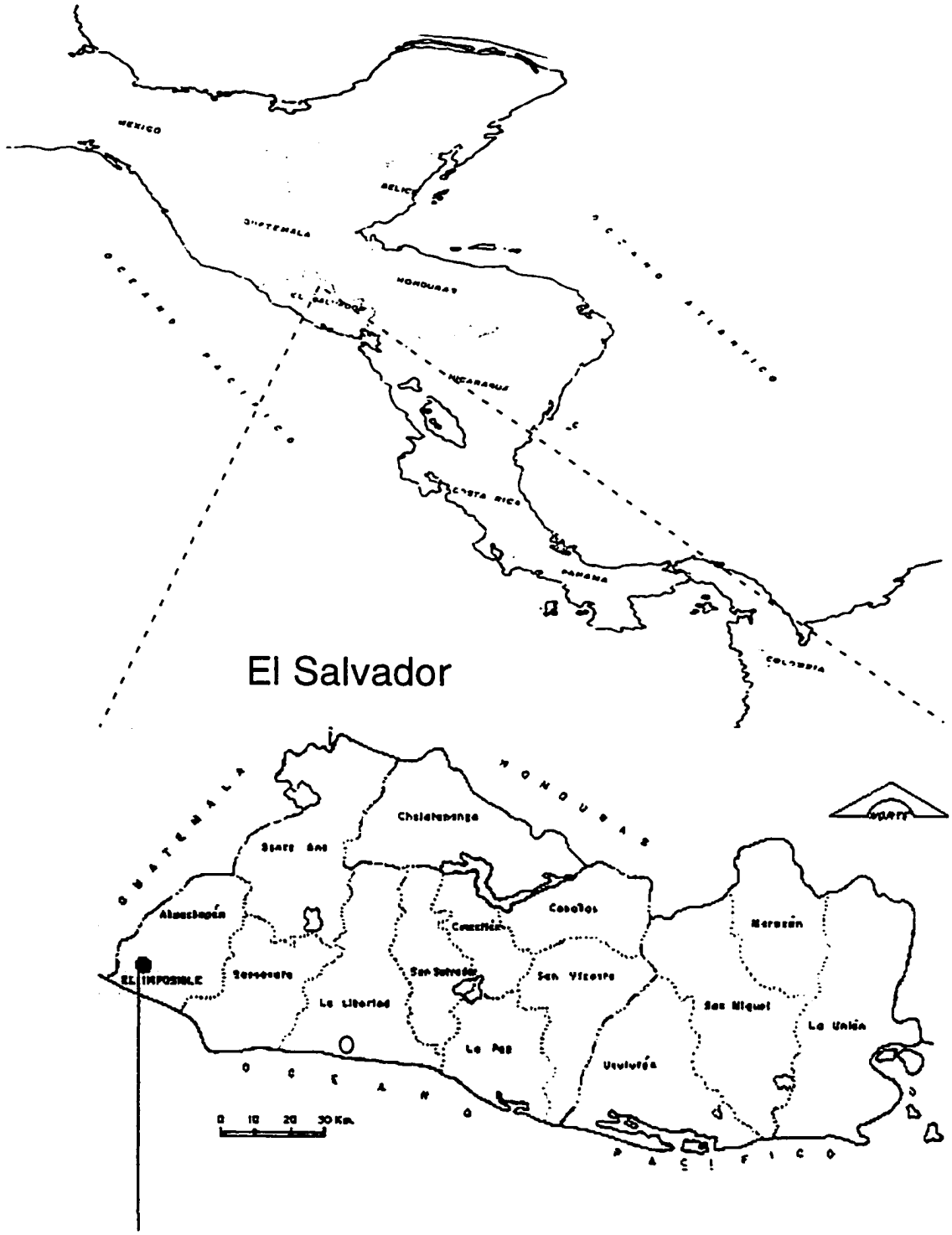
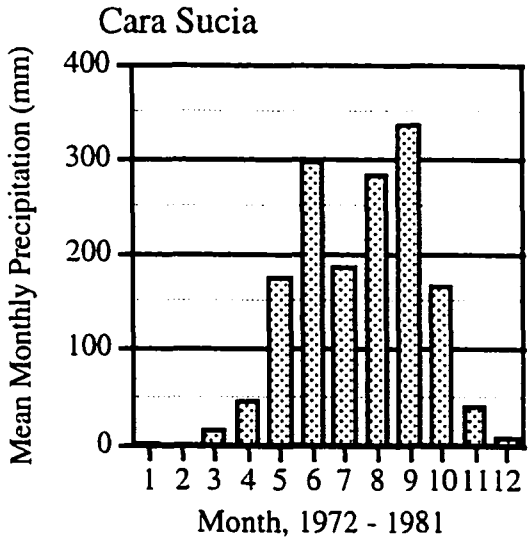
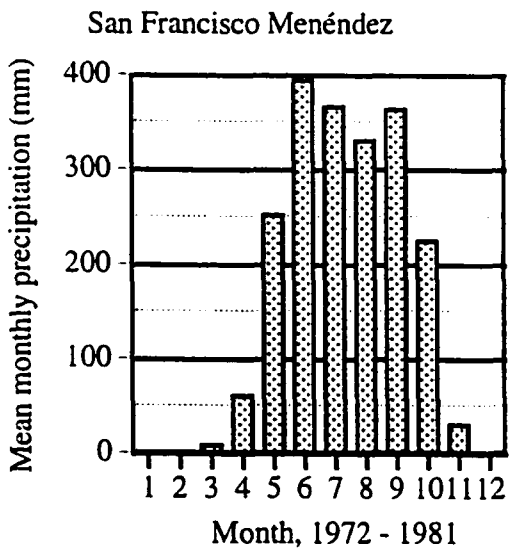


El Imposible National Park
Ahuachapán

Figure 1.1. Location of El Imposible National in El Salvador , Central America.



Mean annual precipitation = 1554.8 mm
Max = 1885 mm, Min = 1105 mm



Mean annual precipitation = 2029.2 mm
Max = 4246 mm, Min = 1326 mm

Figure 1.2. Annual precipitation from two weather stations nearby El Imposible National Park, Ahuachapán, El Salvador.

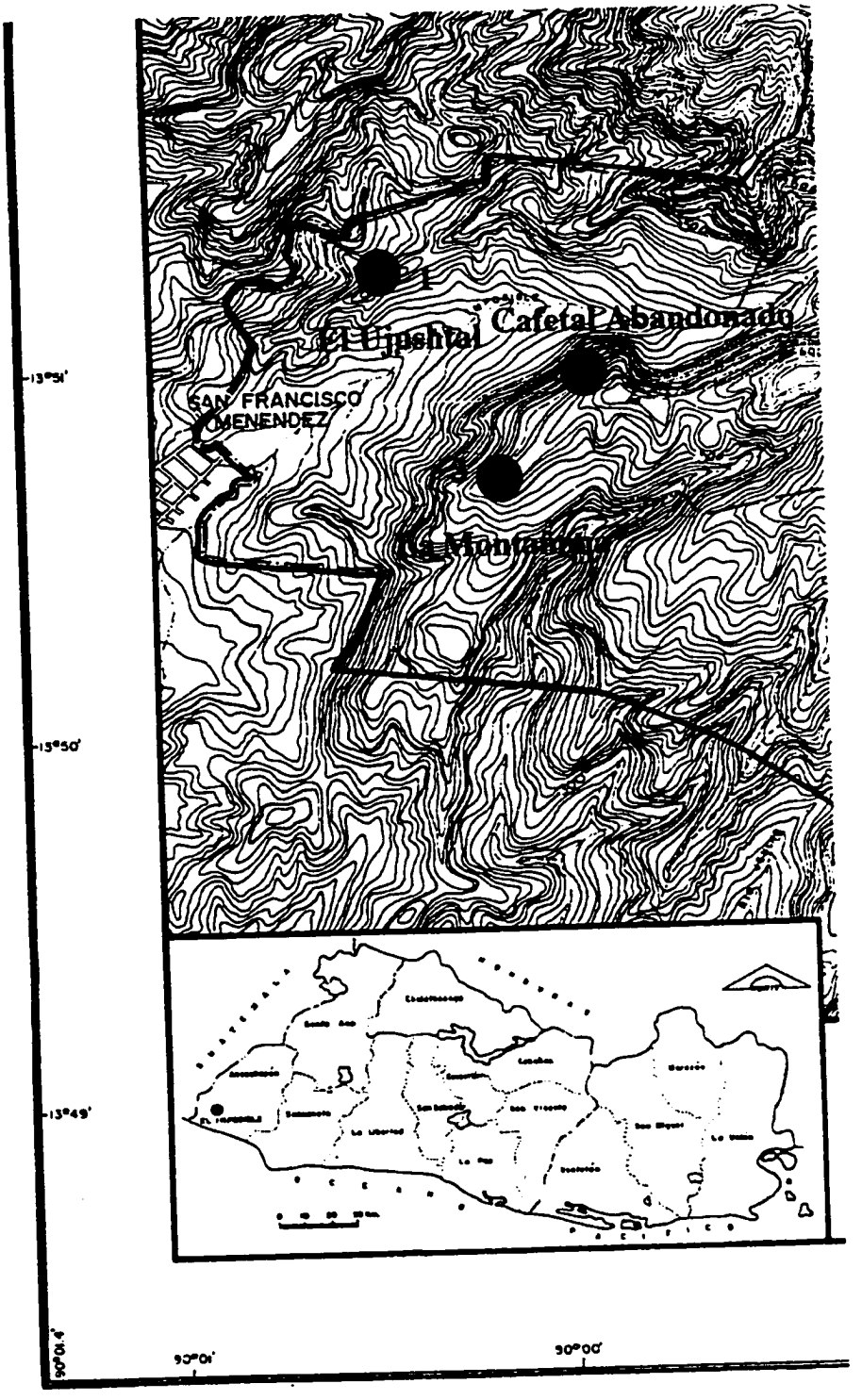


Figure 1.3. Study site at El Imposible National Park

CHAPTER 2

TREE DIVERSITY IN A SELECTIVELY CUT FOREST-STUDY SITE 1

Introduction

Much research has been done to determine the effects of natural disturbance on tropical forests (Yih et al., 1991, Vandermeer et al., 1995) and disturbances caused by human activities (García-Montiel & F. N. Scatena 1994, Webb, E. L. & R. Peralta 1998, Gomez-Pompa et al., 1976). One of the most common human disturbances of tropical forests is clear-cutting for lumber and the conversion of forests to pasture or agricultural land (Myers 1988). Some scientists proposed that management through selective logging would avoid detrimental effects to biological diversity (Guariguata & Dupuy 1997). Johns (1992) argues that even though it is difficult to assess the ultimate effects of selective logging, it is difficult to determine the impact during removal of trees. Such effects may include microclimate changes that in turn adversely affect epiphytes and other small plants. The effect of selective logging on biodiversity has received considerable attention by scientists (Marden 1998, Montagnini et al. 1998, Webb 1998). This is still an unresolved issue that needs to be studied.

When El Imposible National Park in El Salvador was to be established in 1979, the land owners decided to extract the best and most preferred trees for wood. Most of those cut were large trees of various species, including Manilkara chicle (Sapotaceae), Hymenaea courbaril (Leguminosae). Twenty-one years later the forest looks as if it was an undisturbed site. However, the stumps are still on the ground. The extraction was very

selective, seldom are there two stumps nearby. For this reason, this area was chosen as one of my study sites.

The question of what is the state of tree composition after 21 years is being addressed in this study. Since the establishment of the park, there has not been any type of management or extraction of trees, except for fuel wood collected by park inhabitants and from a nearby town, known as San Francisco Menéndez. Most of the fuel wood collected is from dead trees and fallen branches. Very few small trees are cut for this purpose. This makes a favorable situation for the study of the dynamics of a selectively cut tropical forest after years of abandonment.

This area is locally known as "El Ujushtal" due to the presence of Brosimum alicastrum (Moraceae), locally known as "ujushte." Within the area, there are small trails which are rarely transited by people other than park rangers and by those collecting firewood. Very little is known about the floristics of El Salvador (Prance & Campbell 1988). El Imposible is an excellent illustration of an area that contains a relatively diverse flora but it has been ignored mainly due to its high-deforested landscape and its political instability. Lists of plants exist today (Reyna Aguilar 1993, Calderón, 1941) but unfortunately with very little or no adequate information. With the exception of the work by the La Laguna Botanical Garden in Antiguo Cuscatlán, under the direction of Berenson (1997), it is very difficult to find reliable data on floristics. El Imposible, however, contains a rich flora that need to be explored and analyzed. In this study, I determined the species, genus, and family diversity. Trees were identified to species and dominance and other terrestrial ecological parameters were measured and analyzed.

Methodology

Study Site 1

Site 1 is in a relatively large tract of forest within the southwestern section of El Imposible National Park. It is a narrow band between the La Soledad River and steep slopes. It is located about 4 Km northeast of the main entrance to the park in San Francisco Menéndez. Around 21 years ago, the largest and the best trees for lumber were cut and extracted for commercial purposes. This was done just before the government established the park. Many large trees were left standing and the damage to the stand was minimal in my view. In modern history, the site has never been clear-cut. The stand has a relatively closed canopy with the exception of some gaps created by fallen dead trees. Its elevation ranges from 400 to 500 m.a.s.l. Currently, there are no people living in this part of the park.

Quadrat Sampling

Ten quadrats (20 x 50 m) were established in site 1 (Figure 2.1). The first quadrat was established at an arbitrary point within the forest fragment and the others were established toward the east. Beyond quadrat four a steep area was reached and then the remainder of the plots were established to the east of quadrat 1. All plots face north with one of the 20 m coordinates at the base. A distance of at least 20 meters was retained between each quadrat, except when there were topographic difficulties, such as creeks, boulders, or abandoned houses (Figure 2.2). The latter would be clear evidence that

people lived in this area years ago. House refuses left behind by the former inhabitants are evident.

Topographical obstacles were avoided by measuring a larger distance between quadrats. For instance, between plots one and five, five and six, and between seven and eight, there are deep rocky creeks. In the case of one and five, there is an abandoned house plot. All topographical errors varied in size and depth. Consequently, their distances are not the same. For instance, the distance between plot number 7 and 8 is 55 m and between 5 and 6 the distance is 70 m. Where there was another type of topographic error, the orientation was changed, as in the case between plots 7 and 8. The direction was changed approximately 45° north. The distance was also changed where signs of an abandoned house and a large boulder were noticed. In the case of the area between plots 3 and 4, it was obvious that a house had been there some time ago. This was determined by the presence of early successional vegetation and by abandoned households items (old shoes, kitchen wear).

The corners of each plot were marked with wooden sticks and the margins were defined with colorful nylon ropes during the inventory. Eventually all corners of all plots were marked with cement -marks. In each quadrat, all trees DBH $\geq$ 5 cm were included in the inventory. Each tree was identified, tagged using aluminum tags, its diameter at breast height (dbh, cm) was measured and its height (m) estimated. X, Y-coordinates were measured (Figure 2.1). All trees were identified in the field whenever possible with the assistance of a local man who has great knowledge of the flora in the area. The same man has made plant collections for La Laguna Botanical Garden where all the vouchers for this project were processed and deposited. This made plant identification at the herbarium very effective and efficient.

Tree diameter at breast height (dbh, cm) was measured at 1.3 m above the ground. When a tree had buttresses, the dbh was measured at 1.3 m above the buttress as recommended by Dallmeier et al. (1992).

Results

A total of 1,066 trees was identified and tagged, comprising 103 species belonging to 91 genera and 48 families. The dominant species is Brosimum alicastrum (Moraceae), followed by Terminalia oblonga (Combretaceae), Ouratea lucens (Ochnaceae), Hirtella racemosa (Rosaceae) and Castilla elastica (Moraceae), Table 2.1. The dominant family is the Moraceae, followed by the Combretaceae, Leguminosae, Ochnaceae, and the Rosaceae (Table 2.2).

The distribution of dbh is typical of a disturbed site because the vast majority of trees are in the small size class. The majority of trees (89.63%) were smaller or equal to 25 cm dbh. The largest tree diameter was that of Brosimum alicastrum at 126.5 cm, followed by Licania retifolia (Chrysobalanaceae, 109.0 cm), Casaeria sylvestris (Flacourtiaceae, 98.5 cm), and Apananthe monoica (Ulmaceae, 92.7 cm). Tree height ranged from 4 m to 52 m. The tallest tree was Lincania retifolia (52 m), followed by Brosimum alicastrum (42 m), Apananthe monoica (40 m), Inga fagifolia (40 m) and Spondias purpurea (40 m).

Species area curves were created to determine if the site sampled is adequate and representative of the entire area. As expected in most tropical forests, the curve does not level off. Randomization (NS=999) was done to determine the range of species accumulation per quadrat sample (Figure 2.7). The mean curve is graphed within the minimum and maximum envelope.

Species abundance and frequency of taxa were determined to identify tree species represented by only one individual: this taxon is referred to as a singleton. If represented

by two individuals, it is a doubleton. When looking at the entire site inventory, singletons constitute 32% of the species (103) present in site 1 (Figure 2.8) and doubletons represent 16%. Both singletons and doubletons total a cumulative frequency of 47.7%. This trend is also found at the quadrat level (Figure 2.9). Some quadrats have a more dramatic difference in the presence of singletons as in the case of quadrat 6 (68%), number 8 (53.3%) and quadrat 10 (56.4%).

Floristic similarities were determined using the Sorensen coefficient index. From the 2x2 contingency table, $S = 2a / (2a+ b + c)$. Sorensen pairwise comparison (45) between quadrats were tabulated (Table 2.3). The mean coefficient was 0.465 with a mean of 14.64 shared species among quadrats. The minimum value was 0.222 and the maximum 0.679 with 6 and 21 species shared respectfully. The most similar quadrats are 4 and 7 with a Sorensen coefficient of 0.707. The mean coefficient for this site is 0.465.

Spatial autocorrelation analyses were done using Mantel tests of spatial autocorrelation for the 10, 20x50 m quadrats (Table 2). Among the ten quadrats, the most autocorrelated is 10.

Table 2.5 shows a summary of basic descriptive values per quadrat of site 1. Quadrat 9 contains the greatest number of species (38) followed by number 10 (37). In quadrat 6, 24 species were identified. The number of families varied from 18 in quadrats 7 and 6 to 28 in quadrat 10. The largest number of stems was in quadrat 4 (141),with an average of 106.6, and the largest dbh was found in quadrat 10 (B. alicastrum, 126.5 cm). The mean dbh in site 1 is 15 cm and the mean height is 10.26 m. The tallest tree reaches a height of 52 m, found in quadrat 8 (L. retifolia).

A total of six unknown species, with an average of 7.5 cm dbh and 7.6 m of height, has been included in this analysis (Table 2.1). These trees were marked and numbered as all other identifiable trees. After several attempts to collect fertile voucher

specimens during both dry and rainy seasons, I have concluded that they may be too young to reproduce. Sterile specimens were collected during the original inventory but no further progress has been obtained in this endeavor. Until such fertile specimens are collected, their identification is limited and almost impossible. Some however, have been identified to the family level, as it is in the case for most tropical inventories where the flora is not completely known.

Importance values were determined for taxa within the first dbh quartile and those in the fourth dbh quartile (Table 2.3 and 2.4). Few of the species are present in one size class group are present in the large one, for instance, Castilla elastica, Acacia hindsii, Faramea occidentalis, and Albertia edulis, among others. Diameter at breast height was plotted against height (Figure 2.5) to detect the presence of small size trees and the large size trees. As the plot (Figure 2.5) shows, most trees are of small stature in this site. The dominant tree species were also plotted in the same manner and very similar results were obtained (Figure 2.10). With the exception of Brosimum alicastrum, all species maintain a high presence in the small size population. For Castilla elastica however, most individuals are of medium or smaller dbh. Furthermore, elliptic graphs (Figure 2.11) were created to group the class sizes to a 95% prediction interval (equal frequency ellipses).

Computer intensive Monte Carlo tests of complete spatial randomness (CSR) were performed for all quadrats in all sites to begin a spatial analysis of trees (Figures 2.12 - 2.20). This helped me measure the closeness of the trees to one another and detect aggregation within the area. Exhaustive spatial analysis is not warrented because the quadrats are not contiguous.

Conclusions

This study site, particularly the forest, may provide sources of seeds for reforestation projects involving only native species. Most of the species found in this site are common to the northern Neotropics. This site also houses endemic species for the region. For instance, Guapira witsbergeri (Nyctaginaceae) is endemic to this area of El Imposible National Park. It is only found in Site 1, represented by three individuals in the entire site.

There are only two "introduced" species in this area, Persea americana, Lauraceae and Tecoma stans, Bignoniaceae. The latter has been introduced in the country for its fast growing characteristics. Although not commonly found within the park, plantations have been established near the park (Reyna-Aguilar 1993). P. americana is a native species in the isthmus but not necessarily found in this type of forest. These two individuals were clearly planted for food and for ornamental purposes respectfully. This is a common practice in the country. None of these species appeared to be reproducing during the inventory, even though both were at maturity. The P. americana individual is relatively old, judging by its size (dbh = 67.4 cm & height = 11 m) This may indicate that they are not a threat to the current composition of the forest. Also no seedlings nor saplings were found after a careful search under the trees during the inventory.

Although the tree community appears to be dominated by large size trees, the vast majority of individuals belong to the medium and small size classes (Figures 2.3, 2.4). This could very well be the result of the selective logging disturbance, which may have opened the canopy and allowed sunlight to reach the ground. Such an event may have had an impact on seedlings and/or saplings by promoting their growth. The canopy gaps created by the selective logging were probably small and the standing trees adjacent to the

gaps closed them shortly after the disturbance. This is obvious in the field because the remaining trunks are clearly under tree crowns of those that were already canopy trees during the harvesting of large individuals. These trunks are large and it is easy to denote whether they died of natural causes or due to human intervention.

Tropical forest inventories are critical for proper conservation, preservation and management. This forest inventory clearly shows that the survival of some forest fragments located in areas of high agriculture, deforestation, and population density, depends on management decisions. Particularly those of protected areas, such as national parks, natural areas, etc., which need to be managed to maintain the biological diversity they currently house. This may include selective logging and the use of fire. This one-hectare study clearly shows that these fragments may play an important role in the conservation of biological diversity.

Despite the human disturbance, animals are abundant throughout this site, particularly small mammals, birds, and reptiles. Tree species like B. alicastrum are extremely important in the maintenance of animal diversity in the type of selectively logged forests in the area. The seeds of this tree are consumed by aguties (Agouti paca, Augutidae), great curassow (Crax rubra, Crasidae), among others, indicating its important role in the maintenance of animal diversity. Other species such as Hirtella racemosa play a similar role with the exception that this small tree supports the smaller bird species such as the long-tailed manakin (Chiroxiphia linearis, Pipridae) which mainly feeds on the fruits of this tree. Generally this disturbed forest is still a relatively diverse ecosystem that sustains biological diversity at many ecological levels, including plants and animals.

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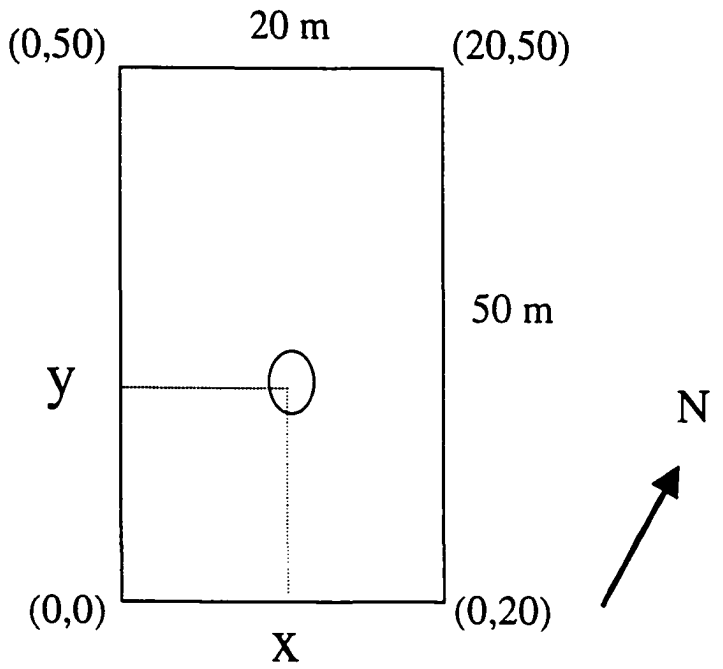


Figure 2.1. Quadrat sampling method used for forest inventory. Coordinates x and y were measured for all trees.

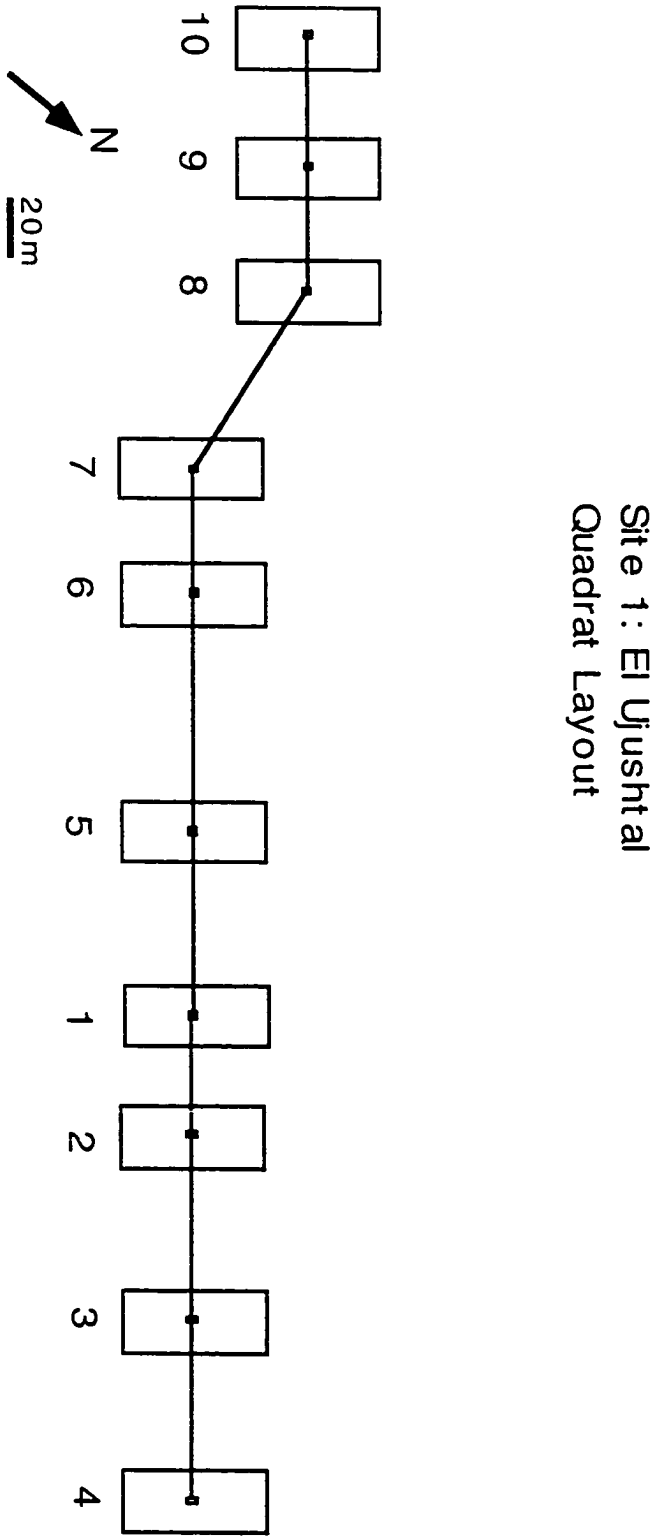


Figure 2.2. Quadrat distribution in Site 1, a selectively logged forest.

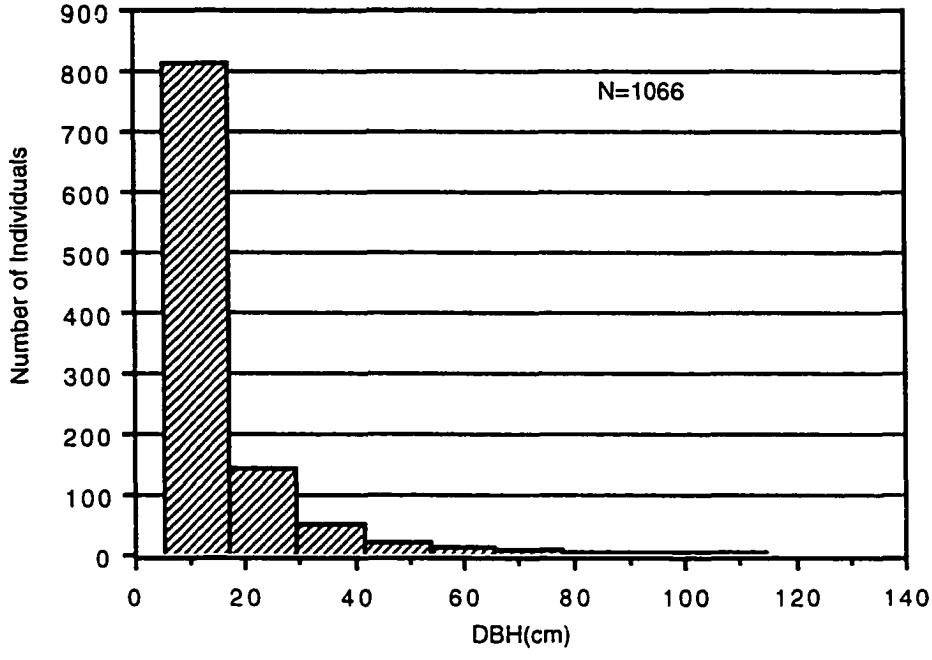


Fig. 2.3. Tree diameter distribution (dbh ≥ 5 cm), site 1 (1 ha).

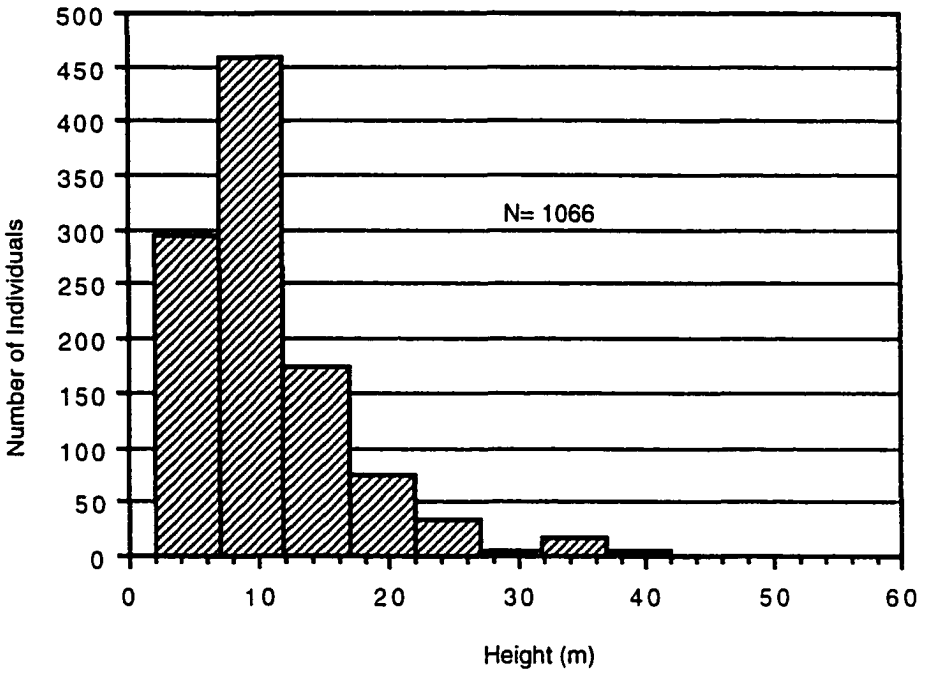


Figure 2.4. Tree height frequency distribution, site 1 (1 ha).

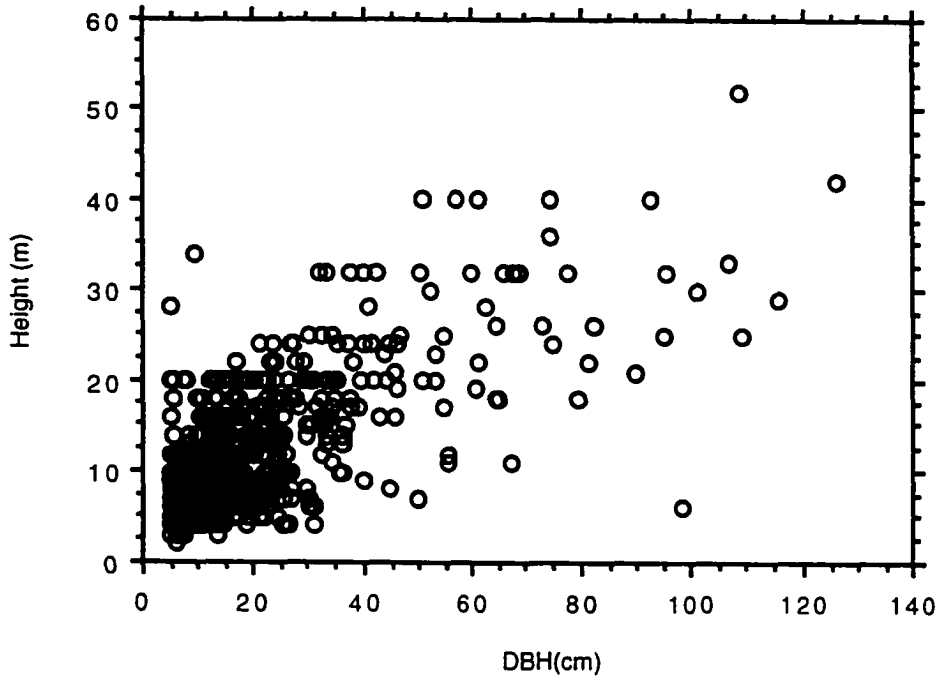
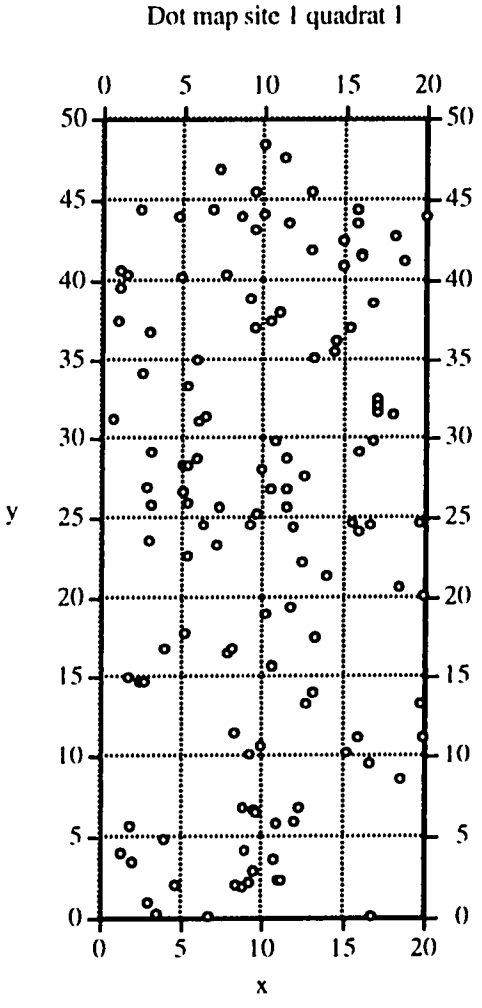


Figure 2.5. Scattergram of Height Vs. DBH for Site 1



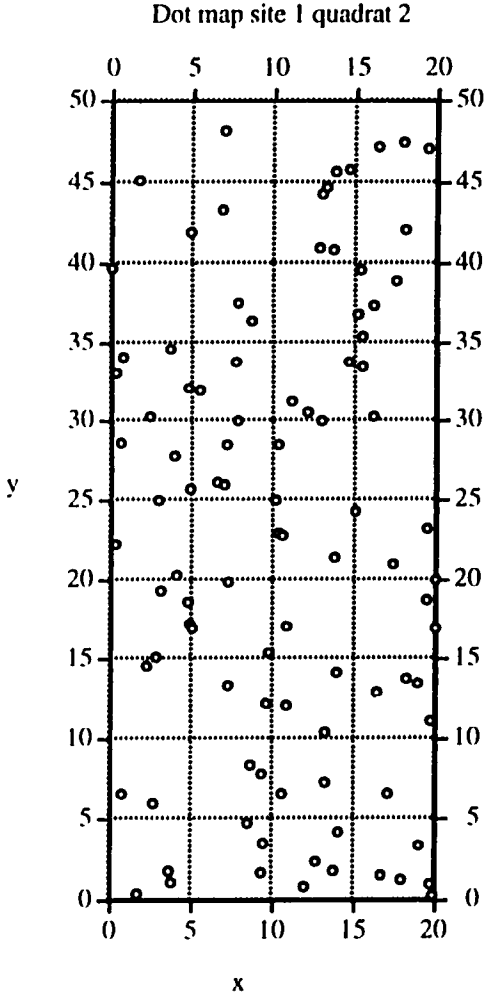
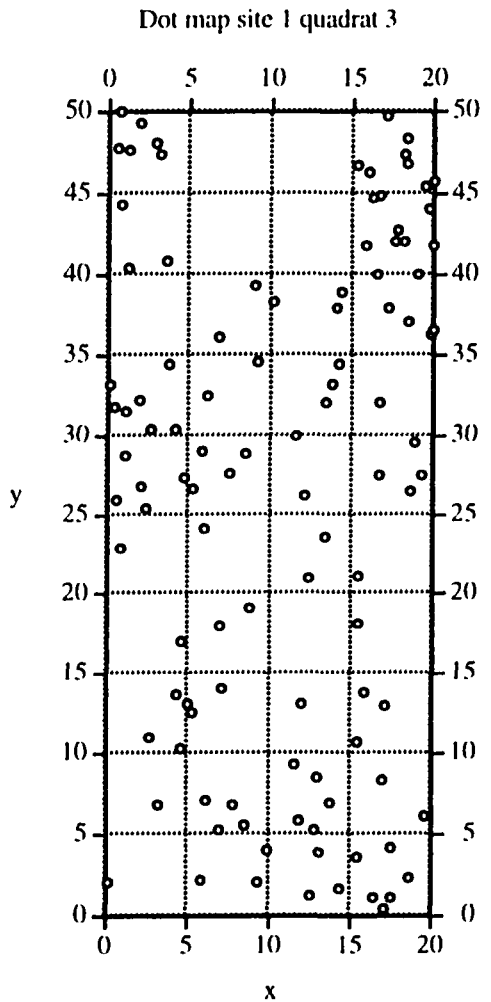


Figure 2.6a. Dot maps of quadrats 1-2 in Site 1.



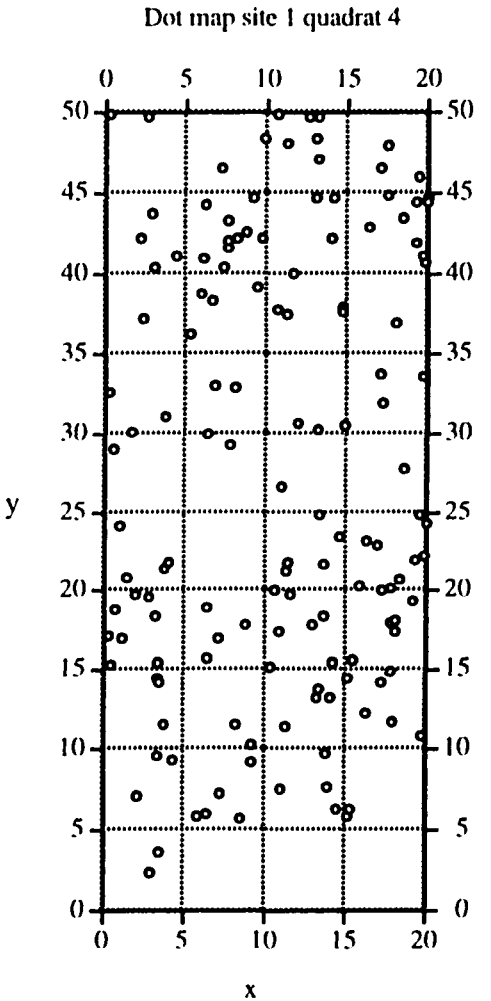
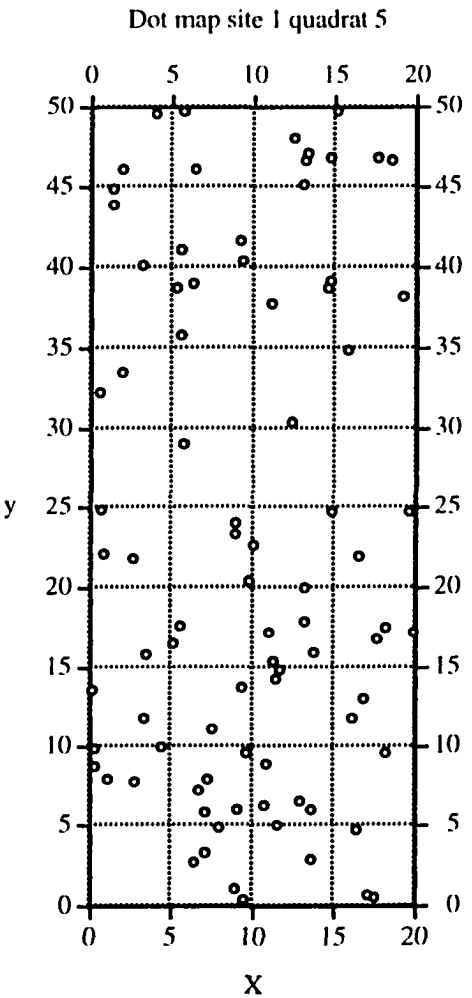


Figure 2.6b. Dot maps of quadrats 3-4 in Site 1.



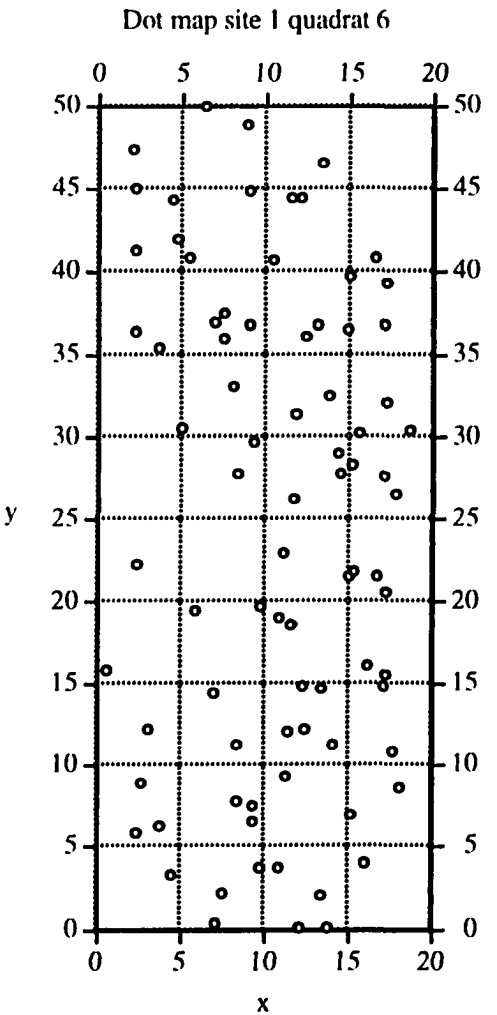


Figure 2.6c. Dot maps of quadrats 5-6 in Site 1.

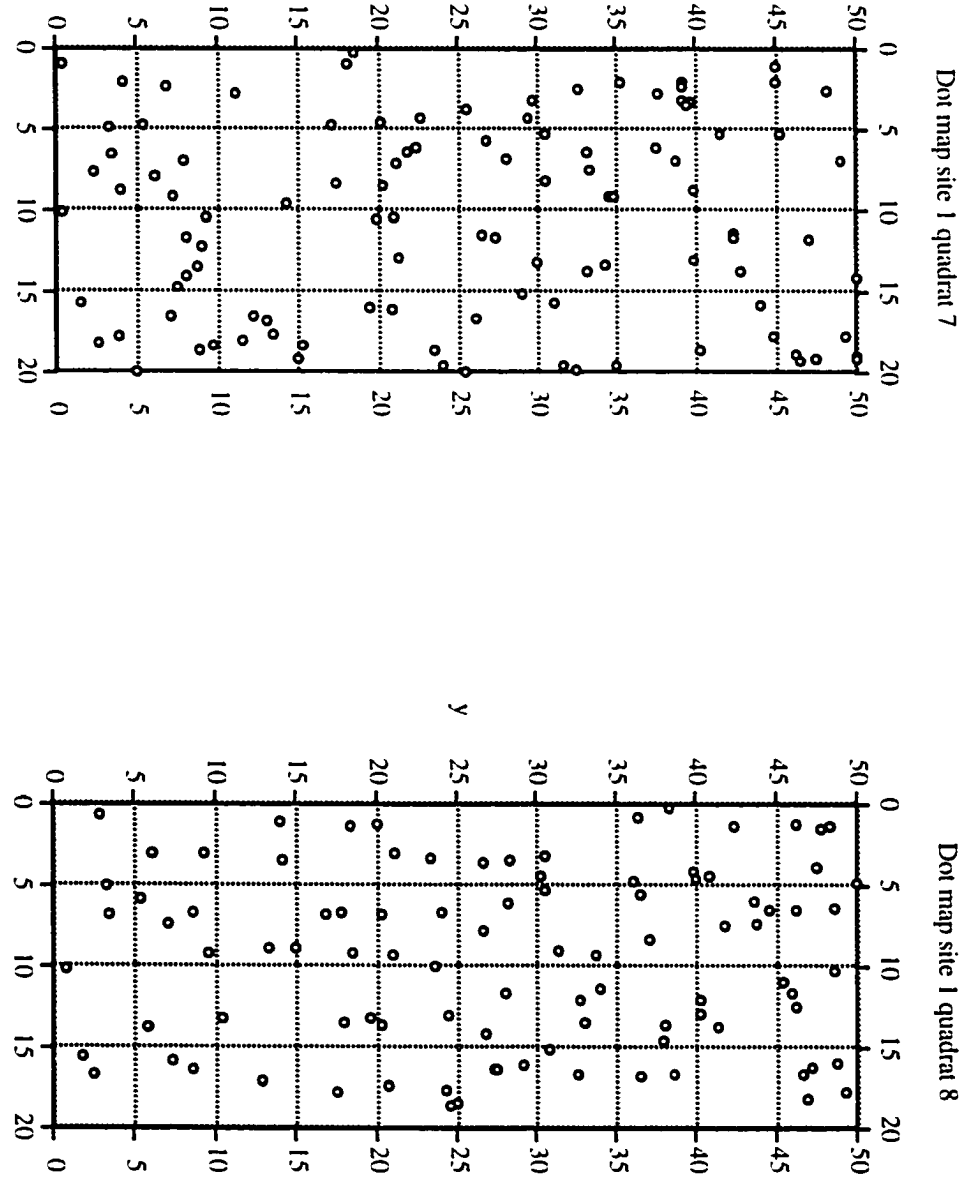


Figure 2.6d. Dot maps of quadrats 7-8 in Site 1.

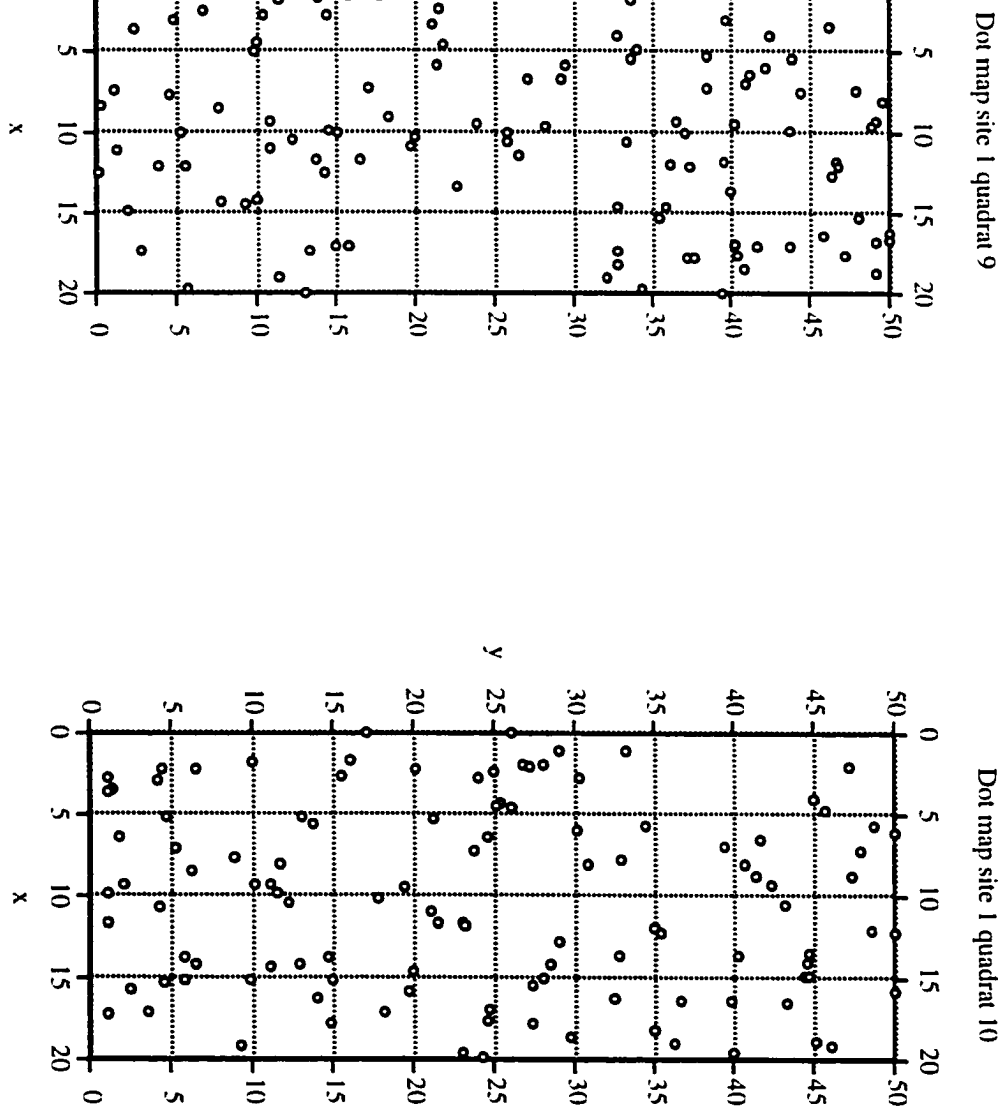


Figure 2.6e. Dot maps of quadrats 9-10 in Site 1.

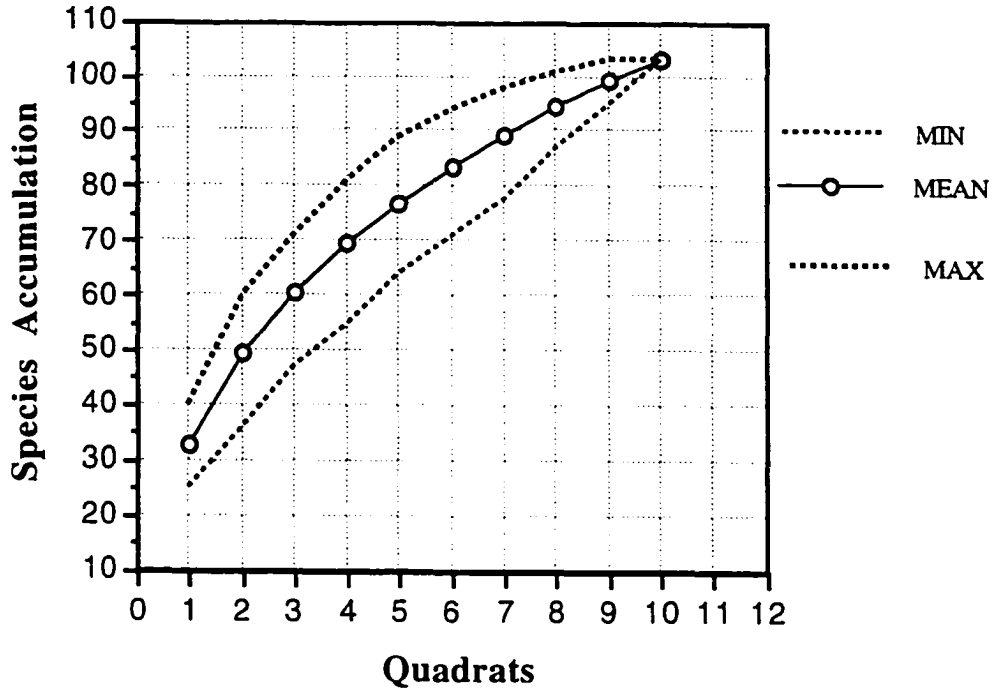


Figure 2.7. Species /Area relation based on mean number of species per quadrat sampled for site 1 (1 ha). NS = 999 randomization per quadrat number.

No. of Trees		Frequency of species	Relative Frequency
1	|**********	(33)	(0.320)
2	|**********	(16)	(0.476)
3	|**********	(11)	(0.583)
4	|*******	(7)	(0.650)
5	|**	(2)	(0.670)
6	|*	(1)	(0.680)
7	|**	(2)	(0.699)
8	|*	(1)	(0.709)
9	|**	(2)	(0.728)
10	|***	(3)	(0.757)
11	|*	(1)	(0.767)
12	|***	(3)	(0.796)
13	|**	(2)	(0.816)
15	|****	(4)	(0.854)
18	|*	(1)	(0.864)
20	|*	(1)	(0.874)
21	|*	(1)	(0.883)
22	|**	(2)	(0.903)
23	|*	(1)	(0.913)
26	|*	(1)	(0.922)
32	|*	(1)	(0.932)
37	|*	(1)	(0.942)
38	|*	(1)	(0.951)
66	|*	(1)	(0.961)
68	|*	(1)	(0.971)
94	|*	(1)	(0.981)
115	|*	(1)	(0.990)
119	|*	(1)	(1.000)

Figure 2.8. SPECIES ABUNDANCE for entire inventory of Site 1. Bar diagram of discrete frequency distribution for the 103 taxa. Frequency and relative cumulative frequency are in parentheses. Abundance categories with zero frequency are not printed. 1 symbol = 1 taxon.

QUADRAT #1

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(11)	(0.344)
2 |*******	(7)	(0.563)
3 |**	(2)	(0.625)
4 |*****	(5)	(0.781)
7 |**	(2)	(0.844)
8 |*	(1)	(0.875)
11 |*	(1)	(0.906)
13 |**	(2)	(0.969)
16 |*	(1)	(1.000)

QUADRAT #2

No. of Trees	Frequency of species	Relative Frequency
1 |******************	(19)	(0.559)
2 |*******	(7)	(0.765)
3 |**	(2)	(0.824)
4 |***	(3)	(0.912)
6 |*	(1)	(0.941)
16 |*	(1)	(0.971)
21 |*	(1)	(1.000)

QUADRAT #3

No. of Trees	Frequency of species	Relative Frequency
1 |**************	(14)	(0.467)
2 |******	(6)	(0.667)
3 |****	(4)	(0.800)
4 |**	(2)	(0.867)
7 |*	(1)	(0.900)
11 |*	(1)	(0.933)
22 |**	(2)	(1.000)

QUADRAT #4

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(13)	(0.419)
2 |********	(8)	(0.677)
3 |**	(2)	(0.742)
4 |**	(2)	(0.806)
5 |**	(2)	(0.871)
8 |*	(1)	(0.903)
25 |*	(1)	(0.935)
27 |*	(1)	(0.968)
28 |*	(1)	(1.000)

QUADRAT #5

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(12)	(0.500)
2 |**	(2)	(0.583)
3 |**	(2)	(0.667)
4 |*	(1)	(0.708)
5 |***	(3)	(0.833)
6 |**	(2)	(0.917)
15 |*	(1)	(0.958)
17 |*	(1)	(1.000)

QUADRAT #6

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(17)	(0.680)
2 |*	(1)	(0.720)
3 |**	(2)	(0.800)
6 |**	(2)	(0.880)
8 |*	(1)	(0.920)
15 |*	(1)	(0.960)
22 |*	(1)	(1.000)

QUADRAT #7

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(13)	(0.394)
2 |********	(8)	(0.636)
3 |****	(4)	(0.758)
4 |*	(1)	(0.788)
5 |**	(2)	(0.848)
6 |*	(1)	(0.879)
7 |*	(1)	(0.909)
10 |*	(1)	(0.939)
13 |*	(1)	(0.970)
15 |*	(1)	(1.000)

QUADRAT #8

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(16)	(0.533)
2 |****	(4)	(0.667)
3 |*	(1)	(0.700)
4 |**	(2)	(0.767)
5 |**	(2)	(0.833)
6 |*	(1)	(0.867)
7 |**	(2)	(0.933)
8 |*	(1)	(0.967)
23 |*	(1)	(1.000)

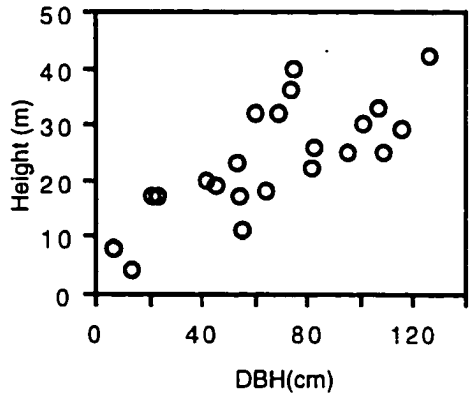
QUADRAT #9

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(20)	(0.526)
2 |******	(6)	(0.684)
3 |****	(4)	(0.789)
4 |*	(1)	(0.816)
5 |*	(1)	(0.842)
8 |***	(3)	(0.921)
12 |**	(2)	(0.974)
13 |*	(1)	(1.000)

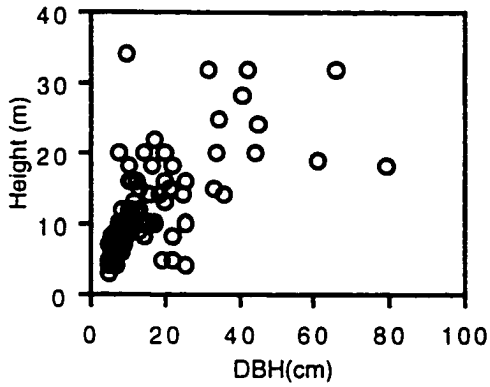
QUADRAT #10

No. of Trees	Frequency of species	Relative Frequency
1 |**********	(22)	(0.564)
2 |****	(4)	(0.667)
3 |****	(4)	(0.769)
4 |*	(1)	(0.795)
5 |**	(2)	(0.846)
6 |*	(1)	(0.872)
8 |*	(1)	(0.897)
9 |*	(1)	(0.923)
10 |**	(2)	(0.974)
15 |*	(1)	(1.000)

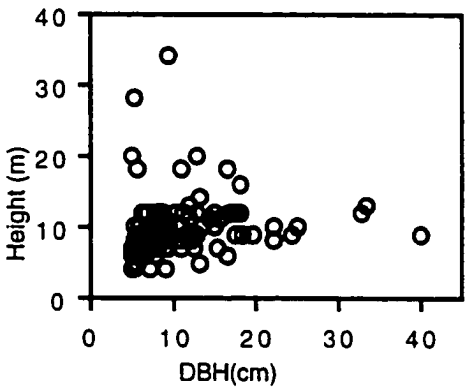
Figure 2.9. Species Abundance per quadrat. (1 - 10). Frequency and relative abundance are in parenthesis. Abundance categories with zero frequency are not printed. 1 symbol = 1 taxon.



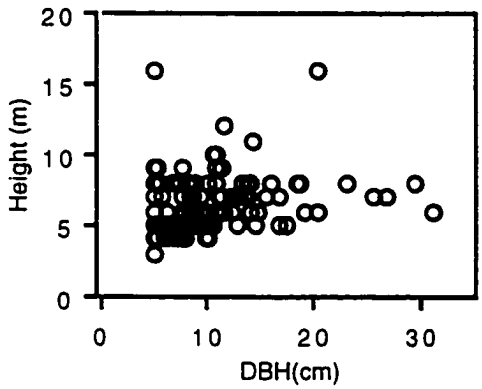
Brosimum alicastrum



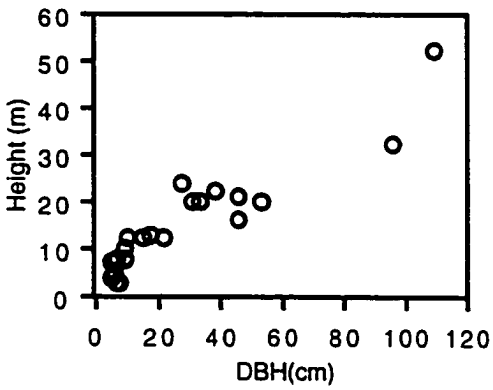
Terminalia oblonga



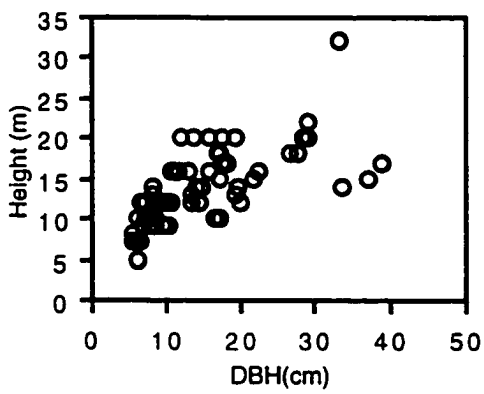
Ouratea lucens



Hirtella racemosa

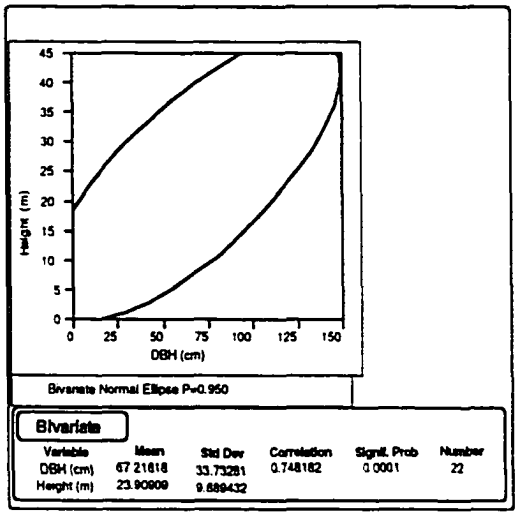


Castilla elastica

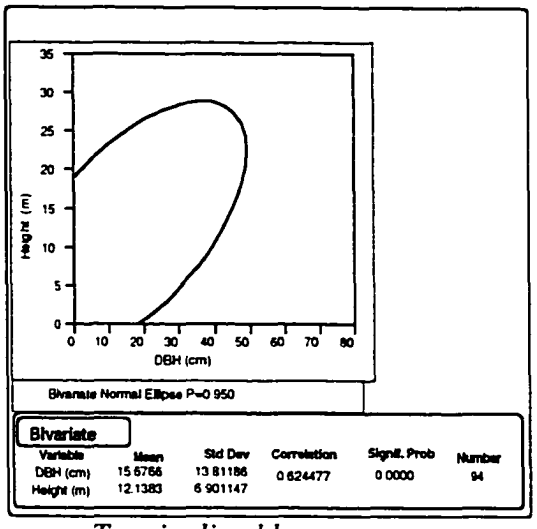


Linchania retifolia

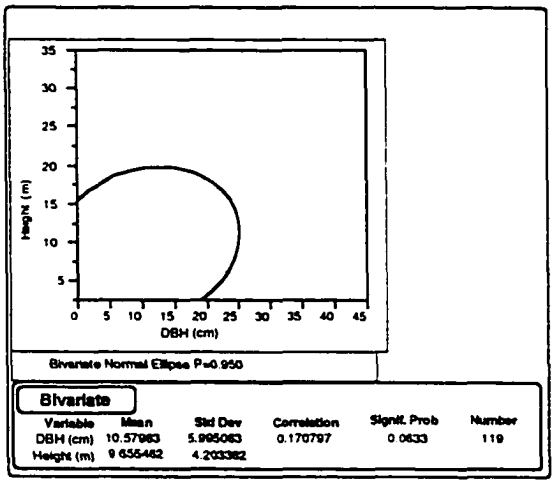
Figure 2.10. Height vs dbh scattergram of top six dominant species in site 1.



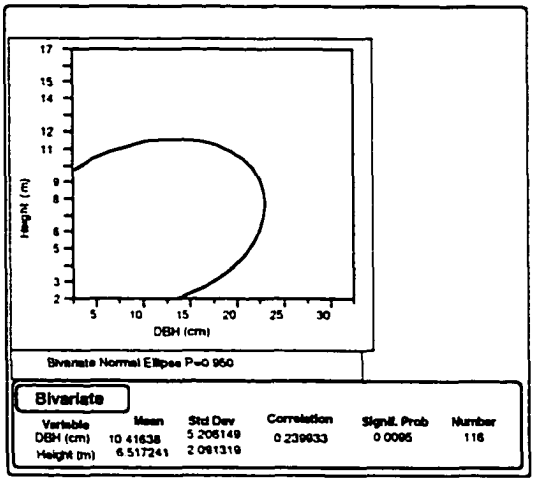
Brosimum alicastrum



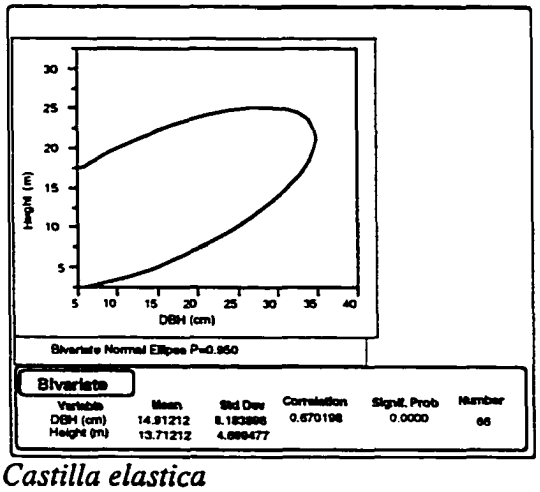
Terminalia oblonga



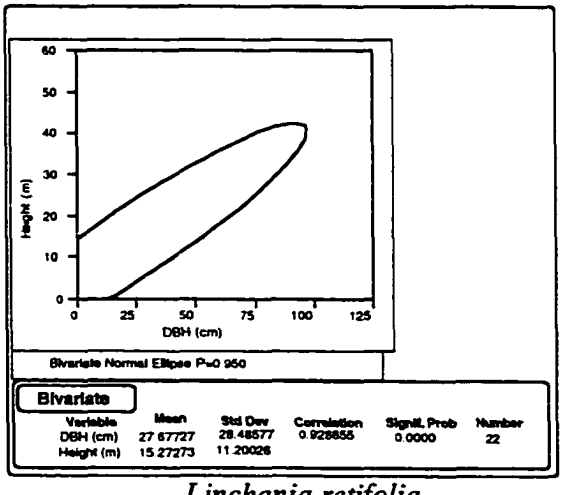
Ouretea lucens



Hirtella racemosa



Castilla elastica



Linchania retifolia

Figure 2.11. Top six dominant species, 95% prediction ellipse of height versus diameter at breast height.

NN order	Obs. mean distance	Simiulation mean	p
1	1.35	1.35	.49867
2	2.11	2.05	.16044
3	2.63	2.58	.27151
4	3.08	3.04	.30420
5	3.52	3.45	.18412
6	3.85	3.82	.35057
7	4.14	4.16	.38292
8	4.41	4.49	.21481
9	4.68	4.80	.13909
10	4.95	5.09	.10607

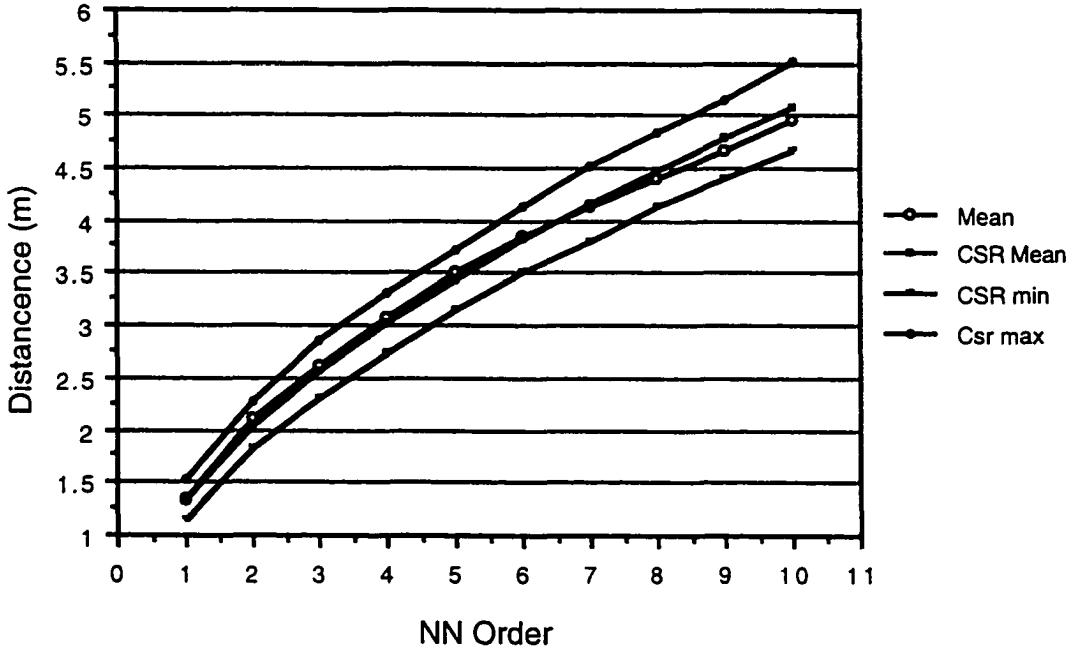


Figure 2.12. Monte Carlo test of complete spatial randomness (CSR) for quadrat 1 site 1 (N = 126 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.78	1.71	.235
2	2.81	2.61	.042
3	3.52	3.30	.047
4	4.01	3.90	.230
5	4.64	4.43	.070
6	5.10	4.92	.124
7	5.52	5.37	.197
8	6.00	5.80	.140
9	6.39	6.21	.179
10	6.84	6.60	.133

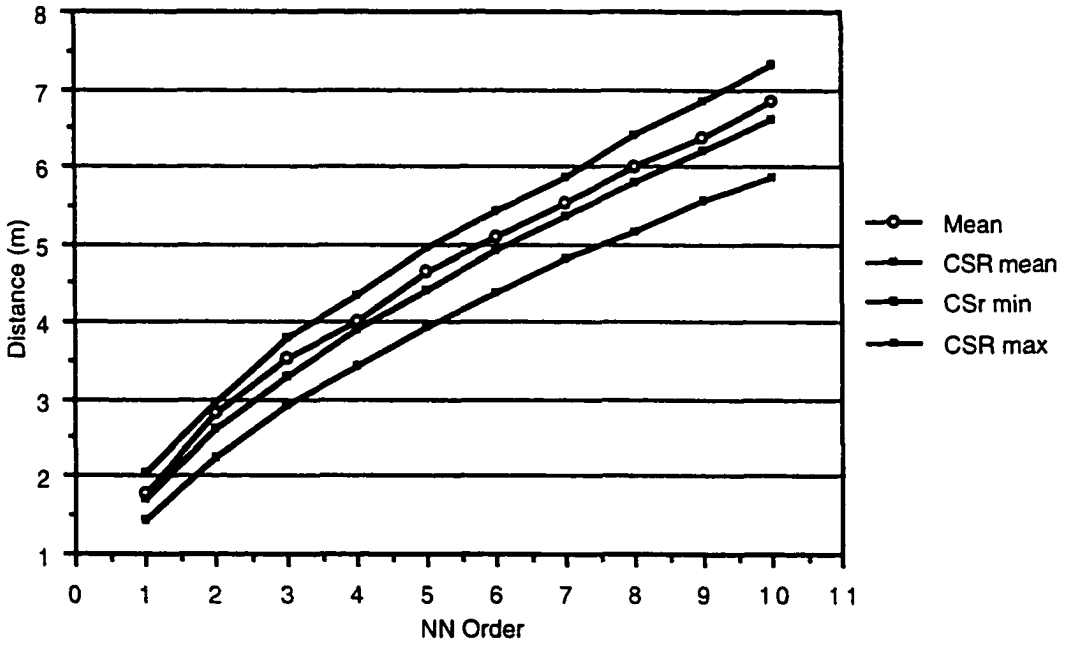


Figure 2.13. Monte Carlo test of complete spatial randomness (CSR) for quadrat 2 site 1 (N = 94). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.70	1.60	.111
2	2.36	2.43	.202
3	2.92	3.07	.076
4	3.44	3.62	.063
5	3.91	4.11	.057
6	4.35	4.56	.056
7	4.90	4.98	.280
8	5.28	5.37	.255
9	5.83	5.75	.327
10	6.15	6.11	.408

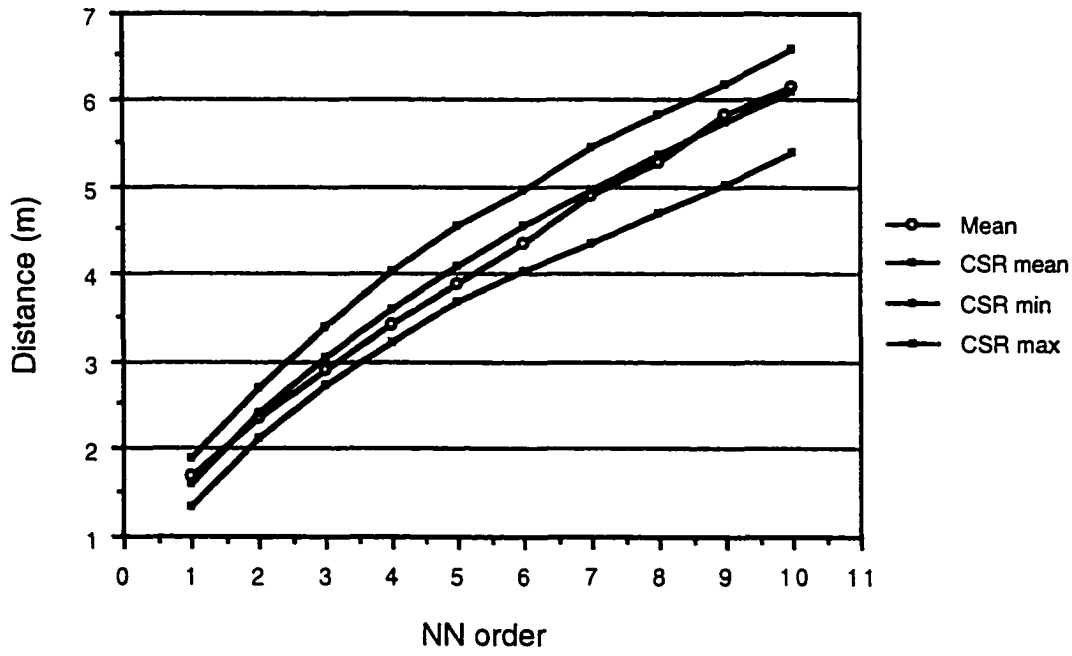


Figure 2.14. Monte Carlo test of complete spatial randomness (CSR) for quadrat 3 site 1 (N = 108 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.31	1.39	.10205
2	2.11	2.11	.44522
3	2.60	2.66	.22661
4	3.05	3.13	.19110
5	3.43	3.55	.09805
6	3.77	3.94	.06003
7	4.08	4.29	.02801
8	4.35	4.63	.00950
9	4.66	4.95	.01151
10	4.94	5.25	.01001

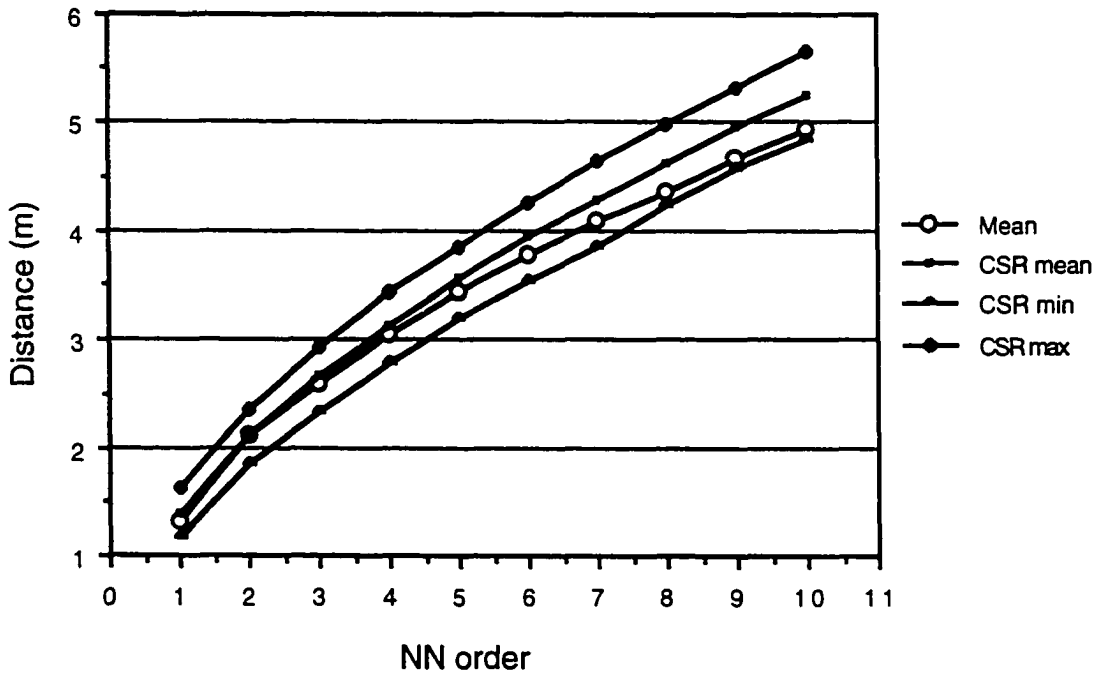


Figure 2.15. Monte Carlo test of complete spatial randomness (CSR) for quadrat 4 site 1 (N = 141 trees). The trees are CSR at all spatial scales except for 7th nearest neighbor and beyond (P > 0.05).

NN order	Obs. mean distance	Simulation mean	p
1	1.75	1.82	.251
2	2.81	2.78	.397
3	3.65	3.52	.192
4	4.28	4.15	.225
5	4.76	4.72	.419
6	5.23	5.25	.449
7	5.71	5.73	.450
8	6.33	6.20	.285
9	6.65	6.63	.498
10	6.98	7.05	.366

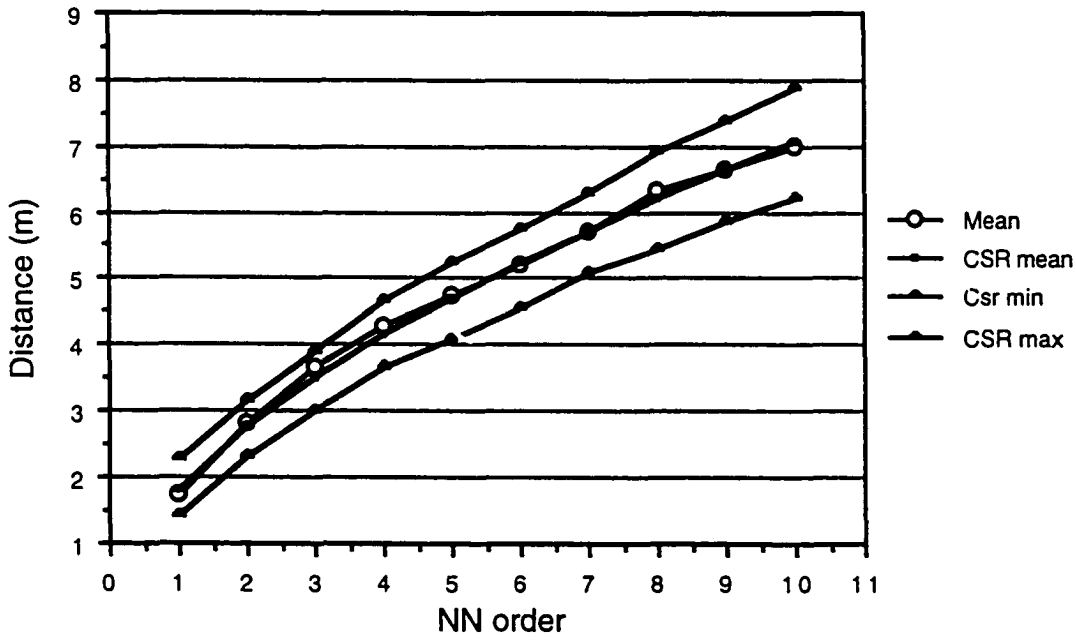


Figure 2.15. Monte Carlo test of complete spatial randomness for quadrat 5 site 1 (N = 84 trees). Trees are basically CSR at all spatial scales.

NN order	Obs. Mean distance	Simulation mean	p
1	1.89	1.83	.292
2	2.74	2.79	.355
3	3.52	3.53	.470
4	4.21	4.17	.419
5	4.67	4.74	.333
6	5.10	5.27	.184
7	5.53	5.77	.123
8	5.90	6.23	.067
9	6.25	6.67	.040
10	6.56	7.10	.017

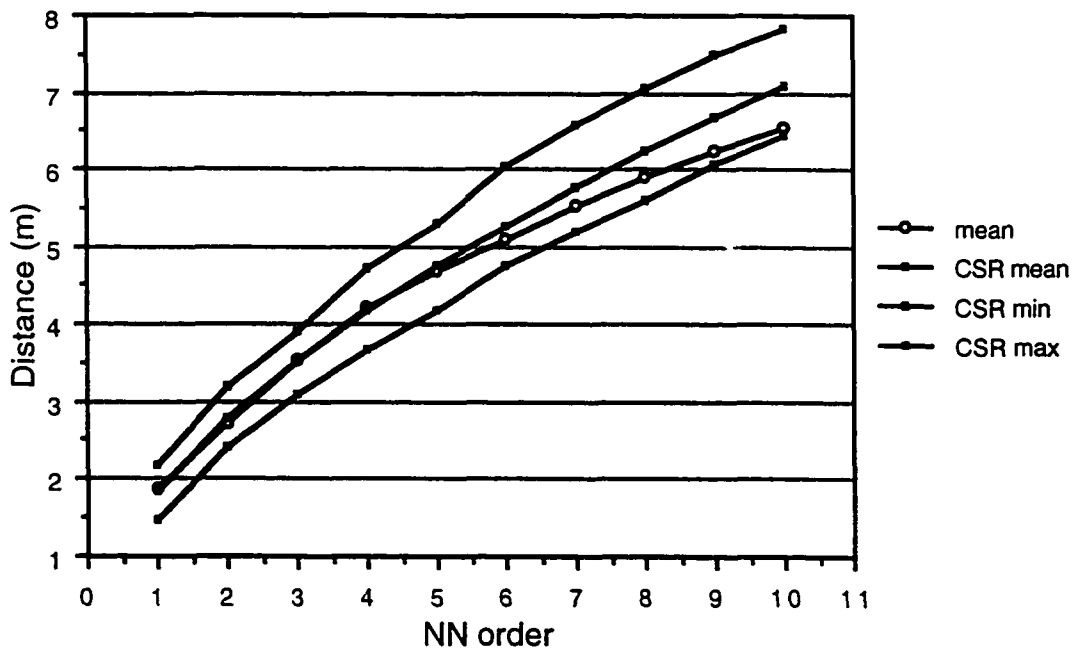


Figure 2.16. Monte Carlos test of complete spatial randomness (CSR) for quadrat 6 site 1 (N = 83 trees). The trees are CSR at all spatial scales. The trees are CSR from the 1st through the 8th nearest neighbor and slightly aggregated at the larger scales ($P < 0.04$).

NN order	Obs. mean distance	Simulation mean	p
1	1.71	1.61	.121
2	2.57	2.45	.120
3	3.17	3.10	.249
4	3.75	3.66	.219
5	4.24	4.15	.244
6	4.75	4.61	.144
7	5.23	5.03	.085
8	5.66	5.43	.071
9	5.96	5.81	.173
10	6.45	6.17	.060

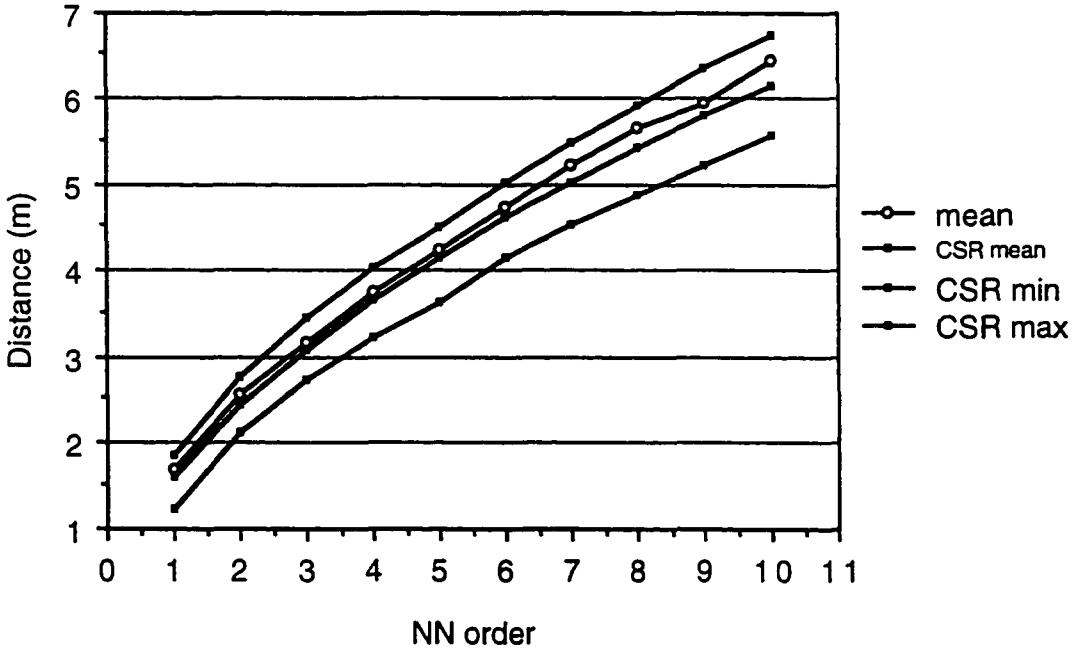


Figure 2.17. Monte Carlo test of complete spatial randomness (CSR).for quadrat 7 site1 (N = 106 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.71	1.61	.121
2	2.57	2.45	.120
3	3.17	3.10	.249
4	3.75	3.66	.219
5	4.24	4.15	.244
6	4.75	4.61	.144
7	5.23	5.03	.085
8	5.66	5.43	.071
9	5.96	5.81	.173
10	6.45	6.17	.060

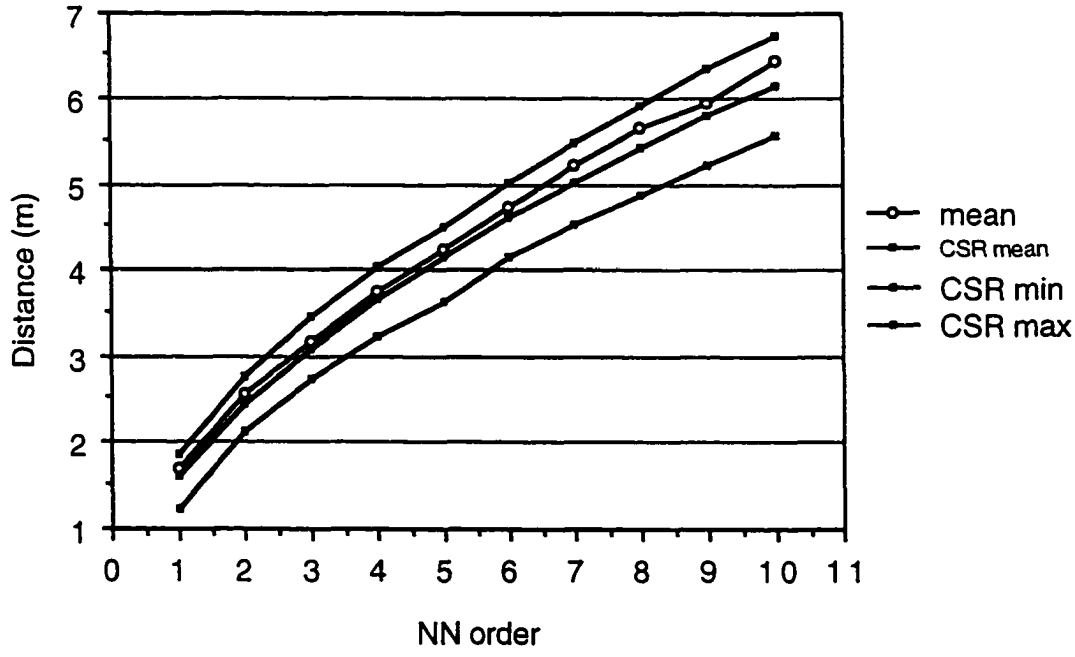


Figure 2.17. Monte Carlo test of complete spatial randomness (CSR).for quadrat 7 site1 (N = 106 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.52	1.55	.331
2	2.29	2.36	.236
3	2.99	2.98	.476
4	3.57	3.51	.295
5	3.97	3.99	.416
6	4.37	4.42	.333
7	4.81	4.83	.442
8	5.21	5.21	.498
9	5.60	5.57	.444
10	5.97	5.92	.381

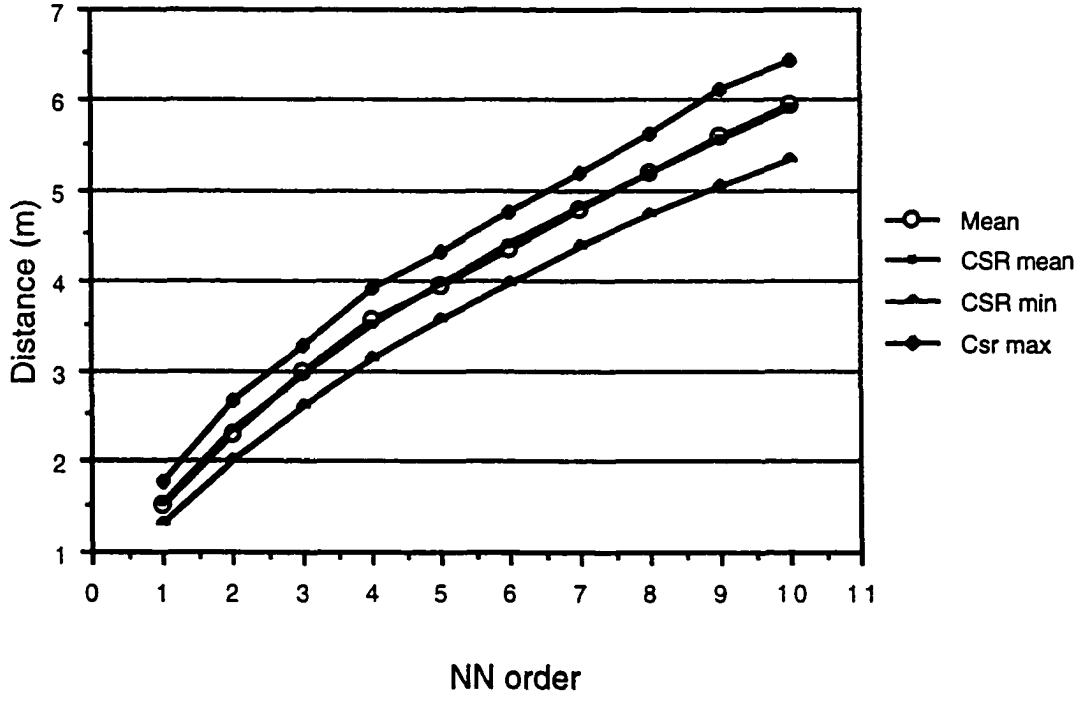


Figure 2.19. Monte Carlo test of complete spatial randomness (CSR) for quadrat 9 site 1 (N = 114 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.47	1.55	.158
2	2.28	2.36	.215
3	2.96	2.98	.420
4	3.51	3.51	.470
5	4.01	3.99	.431
6	4.47	4.42	.365
7	4.87	4.83	.378
8	5.21	5.21	.480
9	5.56	5.57	.455
10	5.88	5.92	.390

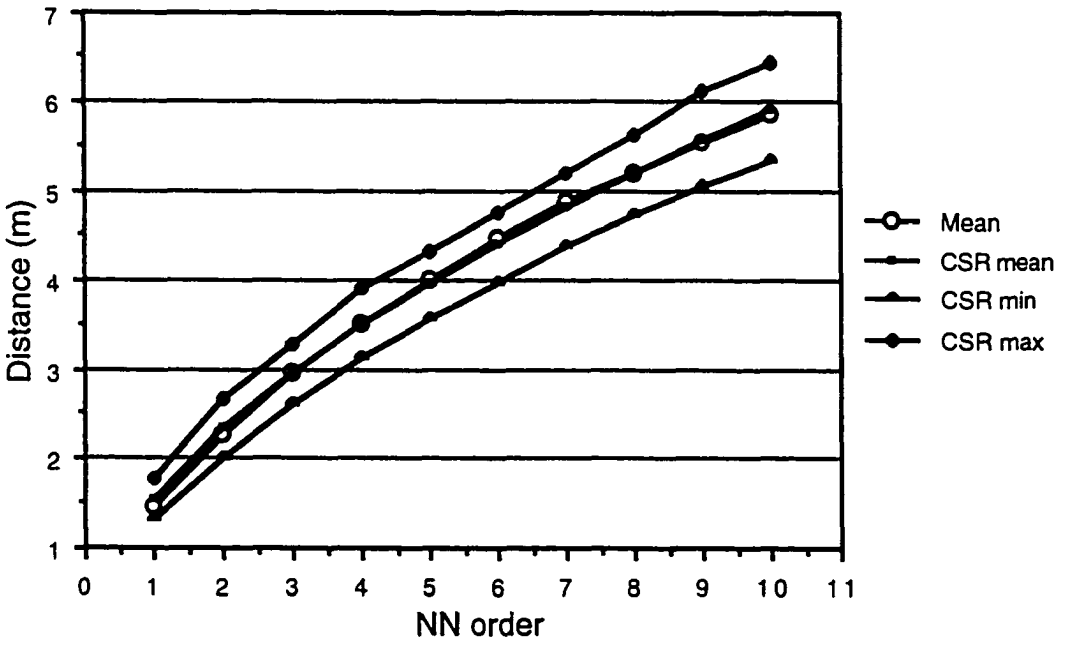


Figure 2.20. Monte Carlo test of complete spatial randomness (CSR) for quadrat 10 site 1 (N = 114).

Table 2. 1. Top 40 dominant species in Site 1. El Ujushtal. Taxa ranked by Importance Value.

Rank	N of trees	Rel.Den.(cum.)	Rel.Freq.(cum.)	Rel.Dom.(cum.)	Imp. Value(cum.)
1.*Brosimum alicastrum*	22	0.02064 (0.021)	0.02215 (0.022)	0.25399 (0.254)	29.6781 (29.678)
2.*Terminalia oblonga*	94	0.08818 (0.109)	0.03165 (0.054)	0.08413 (0.338)	20.3960 (50.074)
3.*Ouratea lucens*	119	0.11163 (0.220)	0.02848 (0.082)	0.03618 (0.374)	17.6289 (67.703)
4.*Hirtella racemosa*	115	0.10788 (0.328)	0.02848 (0.111)	0.03229 (0.407)	16.8649 (84.568)
5.*Castilla elastica*	66	0.06191 (0.390)	0.01899 (0.130)	0.03920 (0.446)	12.0102 (96.578)
6.*Licania retifolia*	22	0.02064 (0.411)	0.02532 (0.155)	0.06982 (0.516)	11.5773 (108.155)
7.*Pogonopus speciosus*	68	0.06379 (0.475)	0.02848 (0.184)	0.01384 (0.529)	10.6109 (118.766)
8.*Inga fagifolia*	21	0.01970 (0.494)	0.02215 (0.206)	0.04246 (0.572)	8.4316 (127.198)
9.*Tabernaemontana amygdalifolia*	37	0.03471 (0.529)	0.02848 (0.234)	0.00940 (0.581)	7.2595 (134.458)
10.*Lonchocarpus salvadorensis*	38	0.03565 (0.565)	0.01899 (0.253)	0.01081 (0.592)	6.5446 (141.002)
11.*Dendropanax arboreus*	10	0.00938 (0.574)	0.01582 (0.269)	0.03692 (0.629)	6.2125 (147.215)
12.*Trichilia martiana*	23	0.02158 (0.596)	0.02848 (0.297)	0.01160 (0.641)	6.1657 (153.380)
13.*Guazuma ulmifolia*	32	0.03002 (0.626)	0.01266 (0.310)	0.01857 (0.659)	6.1244 (159.505)
14.*Lunaria mexicana*	10	0.00938 (0.635)	0.01266 (0.323)	0.03662 (0.696)	5.8661 (165.371)
15.*Cecropia obtusifolia*	15	0.01407 (0.649)	0.01899 (0.342)	0.02006 (0.716)	5.3115 (170.682)
16.*Urera baccifera*	26	0.02439 (0.674)	0.01899 (0.361)	0.00583 (0.722)	4.9204 (175.603)
17.*Zanthoxylum microcarpum*	15	0.01407 (0.688)	0.02532 (0.386)	0.00948 (0.731)	4.8866 (180.489)
18.*Spondias purpurea*	9	0.00844 (0.696)	0.01582 (0.402)	0.02365 (0.755)	4.7916 (185.281)
19.*Astronium graveolens*	13	0.01220 (0.708)	0.02215 (0.424)	0.01340 (0.768)	4.7749 (190.056)
20.*Sloanea terniflora*	15	0.01407 (0.722)	0.02215 (0.446)	0.00976 (0.778)	4.5987 (194.655)
21.*Guarea glabra*	20	0.01876 (0.741)	0.01899 (0.465)	0.00547 (0.783)	4.3218 (198.976)
22.*Aphananthe monoica*	2	0.00188 (0.743)	0.00633 (0.472)	0.03439 (0.818)	4.2593 (203.236)
23.*Ocotea sinuata*	12	0.01126 (0.754)	0.02215 (0.494)	0.00641 (0.824)	3.9816 (207.217)
24.*Casearia commersoniana*	13	0.01220 (0.766)	0.02215 (0.516)	0.00356 (0.828)	3.7902 (211.008)
25.*Achatocarpus nigricans*	10	0.00938 (0.776)	0.02215 (0.538)	0.00622 (0.834)	3.7751 (214.783)

26.Unknown 2	18	0.01689 (0.793)	0.01582 (0.554)	0.00477 (0.839)	3.7478 (218.530)
27.*Calophylum brasiliense*	9	0.00844 (0.801)	0.02215 (0.576)	0.00537 (0.844)	3.5963 (222.127)
28.*Alchornea latifolia*	7	0.00657 (0.808)	0.01582 (0.592)	0.01095 (0.855)	3.3341 (225.461)
29.*Hymenaea courbaril*	15	0.01407 (0.822)	0.01266 (0.604)	0.00640 (0.862)	3.3126 (228.774)
30.*Faramea occidentalis*	12	0.01126 (0.833)	0.01899 (0.623)	0.00158 (0.863)	3.1820 (231.955)
31.*Casearia sylvestris*	3	0.00281 (0.836)	0.00316 (0.627)	0.02058 (0.884)	2.6556 (234.611)
32.*Tabebuia rosea*	7	0.00657 (0.842)	0.01582 (0.642)	0.00262 (0.886)	2.5005 (237.112)
33.*Calycophyllum candidissimum*	12	0.01126 (0.854)	0.00949 (0.652)	0.00325 (0.890)	2.4000 (239.512)
34.*Acacia hindsii*	8	0.00750 (0.861)	0.01582 (0.668)	0.00066 (0.890)	2.3987 (241.910)
35.*Spondias mombin*	2	0.00188 (0.863)	0.00633 (0.674)	0.01393 (0.904)	2.2132 (244.124)
36.*Roupala glaberrina*	11	0.01032 (0.873)	0.00949 (0.684)	0.00148 (0.906)	2.1291 (246.253)
37.*Apeiba tibourbou*	3	0.00281 (0.876)	0.00633 (0.690)	0.01158 (0.917)	2.0727 (248.325)
38.*Swietenia macrophylla*	3	0.00281 (0.879)	0.00949 (0.699)	0.00471 (0.922)	1.7019 (250.027)
39.*Phenas rugosus*	4	0.00375 (0.883)	0.00949 (0.709)	0.00273 (0.925)	1.5978 (251.625)
40.*Entreolobium cyclocarpum*	3	0.00281 (0.886)	0.00949 (0.718)	0.00351 (0.928)	1.5817 (253.207)

Table 2.2. Ecological dominance of taxonomic families. Taxa ranked by Importance Values.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. Moraceae	89	0.08349 (0.083)	0.04274 (0.043)	0.27386 (0.274)	40.0086 (40.009)
2. Combrataceae	94	0.08818 (0.172)	0.04274 (0.085)	0.08413 (0.358)	21.5050 (61.514)
3. Leguminosae	100	0.09381 (0.265)	0.04274 (0.128)	0.07156 (0.430)	20.8106 (82.324)
4. Ochnaceae	119	0.11163 (0.377)	0.03846 (0.167)	0.03618 (0.466)	18.6269 (100.951)
5. Rosaceae	115	0.10788 (0.485)	0.03846 (0.205)	0.03229 (0.498)	17.8629 (118.814)
6. Rubiaceae	101	0.09475 (0.580)	0.04274 (0.248)	0.02081 (0.519)	15.8292 (134.643)
7. Chrysobalanaceae	22	0.02064 (0.600)	0.03419 (0.282)	0.06982 (0.589)	12.4645 (147.108)
8. Anacardiaceae	27	0.02533 (0.626)	0.04274 (0.325)	0.05615 (0.645)	12.4209 (159.529)
9. Flacourtiaceae	27	0.02533 (0.651)	0.02991 (0.355)	0.06090 (0.706)	11.6146 (171.143)
10. Meliaceae	46	0.04315 (0.694)	0.03846 (0.393)	0.02178 (0.727)	10.3394 (181.483)
11. Lauraceae	16	0.01501 (0.709)	0.03419 (0.427)	0.03866 (0.766)	8.7858 (190.268)
12. Sterculiaceae	34	0.03189 (0.741)	0.02137 (0.449)	0.02983 (0.796)	8.3093 (198.578)
13. Apocynaceae	37	0.03471 (0.776)	0.03846 (0.487)	0.00940 (0.805)	8.2576 (206.835)
14. Urticaceae	37	0.03471 (0.811)	0.03419 (0.521)	0.00944 (0.815)	7.8340 (214.669)
15. Araliaceae	10	0.00938 (0.820)	0.02137 (0.543)	0.03692 (0.852)	6.7669 (221.436)
16. Cecropiaceae	15	0.01407 (0.834)	0.02564 (0.568)	0.02006 (0.872)	5.9769 (227.413)
17. Rutaceae	16	0.01501 (0.849)	0.03419 (0.603)	0.00955 (0.881)	5.8750 (233.288)
18. Euphorbiaceae	11	0.01032 (0.859)	0.03419 (0.637)	0.01291 (0.894)	5.7418 (239.030)
19. Elaeocarpaceae	15	0.01407 (0.873)	0.02991 (0.667)	0.00976 (0.904)	5.3750 (244.405)
20. Ulmaceae	3	0.00281 (0.876)	0.01282 (0.679)	0.03680 (0.941)	5.2432 (249.648)
21. Clusiaceae	11	0.01032 (0.886)	0.03419 (0.714)	0.00692 (0.948)	5.1429 (254.791)
22. Bignonaceae	12	0.01126 (0.898)	0.02991 (0.744)	0.00499 (0.953)	4.6160 (259.407)
23. Achatocarpaceae	10	0.00938 (0.907)	0.02991 (0.774)	0.00622 (0.959)	4.5513 (263.958)
24. Unknown 2	18	0.01689 (0.924)	0.02137 (0.795)	0.00477 (0.964)	4.3023 (268.260)

25. Protaceae	11	0.01032 (0.934)	0.01282 (0.808)	0.00148 (0.965)	2.4618 (270.722)
26. Sapindaceae	6	0.00563 (0.940)	0.01709 (0.825)	0.00170 (0.967)	2.4418 (273.164)
27. Piperaceae	6	0.00563 (0.946)	0.01709 (0.842)	0.00094 (0.968)	2.3665 (275.531)
28. Tiliaceae	3	0.00281 (0.948)	0.00855 (0.850)	0.01158 (0.979)	2.2945 (277.825)
29. Polygonaceae	7	0.00657 (0.955)	0.00855 (0.859)	0.00432 (0.984)	1.9436 (279.769)
30. Simaroubaceae	5	0.00469 (0.960)	0.01282 (0.872)	0.00124 (0.985)	1.8754 (281.644)
31. Acanthaceae	4	0.00375 (0.963)	0.01282 (0.885)	0.00115 (0.986)	1.7723 (283.416)
32. Nyctaginaceae	3	0.00281 (0.966)	0.01282 (0.897)	0.00141 (0.988)	1.7047 (285.121)
33. Myrsinaceae	4	0.00375 (0.970)	0.01282 (0.910)	0.00026 (0.988)	1.6835 (286.805)
34. Boraginaceae	4	0.00375 (0.974)	0.01282 (0.923)	0.00024 (0.988)	1.6809 (288.485)
35. Unknown 1	3	0.00281 (0.977)	0.01282 (0.936)	0.00050 (0.989)	1.6140 (290.099)
36. Melastomataceae	4	0.00375 (0.980)	0.00855 (0.944)	0.00044 (0.989)	1.2736 (291.373)
37. Unknown 5	2	0.00188 (0.982)	0.00855 (0.953)	0.00114 (0.990)	1.1561 (292.529)
38. Clethraceae	4	0.00375 (0.986)	0.00427 (0.957)	0.00233 (0.992)	1.0360 (293.565)
39. Unknown 9	2	0.00188 (0.988)	0.00427 (0.962)	0.00328 (0.996)	0.9434 (294.508)
40. Unknown 8	3	0.00281 (0.991)	0.00427 (0.966)	0.00046 (0.996)	0.7550 (295.263)
41. Capparaceae	1	0.00094 (0.992)	0.00427 (0.970)	0.00184 (0.998)	0.7053 (295.969)
42. Unknown 3	2	0.00188 (0.993)	0.00427 (0.974)	0.00046 (0.999)	0.6607 (296.629)
43. Myrtaceae	2	0.00188 (0.995)	0.00427 (0.979)	0.00016 (0.999)	0.6308 (297.260)
44. Sapotaceae	1	0.00094 (0.996)	0.00427 (0.983)	0.00096 (1.000)	0.6173 (297.878)
45. Unknown 7	1	0.00094 (0.997)	0.00427 (0.987)	0.00017 (1.000)	0.5386 (298.416)
46. Unknown 4	1	0.00094 (0.998)	0.00427 (0.991)	0.00009 (1.000)	0.5304 (298.947)
47. Celastraceae	1	0.00094 (0.999)	0.00427 (0.996)	0.00006 (1.000)	0.5267 (299.473)
48. Unknown 6	1	0.00094 (1.000)	0.00427 (1.000)	0.00006 (1.000)	0.5267 (300.000)

Table 2.3. Importance value for small size class trees in site 1. Small size trees are defined as the first quartile of tree dbh at site 1. A total of 115 trees had a mean dbh of 5.15 with a minimum of 5 cm and a maximum of 5.4 cm. Height had an average of 6.243 m, a maximum of 28 m and a minimum of 3 m.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Hirtella racemosa*	17	0.14783 (0.148)	0.11688 (0.117)	0.14885 (0.149)	41.3559 (41.356)
2. *Ouratea lucens*	11	0.09565 (0.243)	0.09091 (0.208)	0.09671 (0.246)	28.3275 (69.683)
3. *Terminalia oblonga*	9	0.07826 (0.322)	0.03896 (0.247)	0.07633 (0.322)	19.3549 (89.038)
4. *Pogonopus speciosus*	8	0.06957 (0.391)	0.05195 (0.299)	0.06946 (0.391)	19.0976 (108.136)
5. *Urera baccifera*	7	0.06087 (0.452)	0.05195 (0.351)	0.06229 (0.454)	17.5104 (125.646)
6. *Lonchocarpus salvadorensis*	7	0.06087 (0.513)	0.02597 (0.377)	0.06132 (0.515)	14.8165 (140.463)
7. *Tabernaemontana amygdalifolia*	5	0.04348 (0.557)	0.03896 (0.416)	0.04427 (0.559)	12.6712 (153.134)
8. *Casearia commersoniana*	5	0.04348 (0.600)	0.03896 (0.455)	0.04191 (0.601)	12.4353 (165.569)
9. *Guarea glabra*	4	0.03478 (0.635)	0.03896 (0.494)	0.03373 (0.635)	10.7477 (176.317)
10. *Alibertia edulis*	2	0.01739 (0.652)	0.02597 (0.519)	0.01839 (0.653)	6.1755 (182.492)
11. *Licania retifolia*	2	0.01739 (0.670)	0.02597 (0.545)	0.01804 (0.671)	6.1405 (188.633)
12. *Calycophyllum candidissimum*	2	0.01739 (0.687)	0.02597 (0.571)	0.01772 (0.689)	6.1088 (194.742)
13. *Acacia hindsii*	2	0.01739 (0.704)	0.02597 (0.597)	0.01736 (0.706)	6.0724 (200.814)
14. *Faramea occidentalis*	2	0.01739 (0.722)	0.02597 (0.623)	0.01703 (0.723)	6.0394 (206.854)
15. *Trichilia martiana*	2	0.01739 (0.739)	0.02597 (0.649)	0.01703 (0.740)	6.0394 (212.893)
16. *Cordia dentata*	2	0.01739 (0.757)	0.01299 (0.662)	0.01805 (0.759)	4.8431 (217.736)
17. *Piper marginatum*	2	0.01739 (0.774)	0.01299 (0.675)	0.01737 (0.776)	4.7750 (222.511)
18. *Godmania aesculifolia*	2	0.01739 (0.791)	0.01299 (0.688)	0.01703 (0.793)	4.7407 (227.252)
19. *Castilla elastica*	1	0.00870 (0.800)	0.01299 (0.701)	0.00954 (0.802)	3.1224 (230.374)
20. *Dalbergia* sp.	1	0.00870 (0.809)	0.01299 (0.714)	0.00954 (0.812)	3.1224 (233.497)
21. *Randia chiapensis*	1	0.00870 (0.817)	0.01299 (0.727)	0.00954 (0.822)	3.1224 (236.619)
22. *Astronium graveolens*	1	0.00870 (0.826)	0.01299 (0.740)	0.00919 (0.831)	3.0874 (239.707)
23. *Piper tuberculatum*	1	0.00870 (0.835)	0.01299 (0.753)	0.00919 (0.840)	3.0874 (242.794)
24. *Senna bacillaris*	1	0.00870 (0.843)	0.01299 (0.766)	0.00919 (0.849)	3.0874 (245.881)
25. *Maytenus chiapensis*	1	0.00870 (0.852)	0.01299 (0.779)	0.00885 (0.858)	3.0531 (248.934)

26. Unknown 6	1	0.00870 (0.861)	0.01299 (0.792)	0.00885 (0.867)	3.0531 (251.988)
27. *Ardisia paschalis*	1	0.00870 (0.870)	0.01299 (0.805)	0.00851 (0.875)	3.0194 (255.007)
28. *Cordia panamensis*	1	0.00870 (0.878)	0.01299 (0.818)	0.00851 (0.884)	3.0194 (258.026)
29. *Hymenaea courbaril*	1	0.00870 (0.887)	0.01299 (0.831)	0.00851 (0.892)	3.0194 (261.046)
30. *Simarouba glauca*	1	0.00870 (0.896)	0.01299 (0.844)	0.00851 (0.901)	3.0194 (264.065)
31. *Sloanea terniflora*	1	0.00870 (0.904)	0.01299 (0.857)	0.00851 (0.909)	3.0194 (267.084)
32. Unknown 9	1	0.00870 (0.913)	0.01299 (0.870)	0.00851 (0.918)	3.0194 (270.104)
33. *Zanthoxylum microcarpum*	1	0.00870 (0.922)	0.01299 (0.883)	0.00851 (0.926)	3.0194 (273.123)
34. *Achatocarpus nigricans*	1	0.00870 (0.930)	0.01299 (0.896)	0.00818 (0.935)	2.9863 (276.109)
35. *Dendropanax arboreus*	1	0.00870 (0.939)	0.01299 (0.909)	0.00818 (0.943)	2.9863 (279.096)
36. *Entreolobium cyclocarpum*	1	0.00870 (0.948)	0.01299 (0.922)	0.00818 (0.951)	2.9863 (282.082)
37. *Guazuma ulmifolia*	1	0.00870 (0.957)	0.01299 (0.935)	0.00818 (0.959)	2.9863 (285.068)
38. *Inga fagifolia*	1	0.00870 (0.965)	0.01299 (0.948)	0.00818 (0.967)	2.9863 (288.055)
39. *Piptadenia obliqua*	1	0.00870 (0.974)	0.01299 (0.961)	0.00818 (0.975)	2.9863 (291.041)
40. *Poeppigia procera*	1	0.00870 (0.983)	0.01299 (0.974)	0.00818 (0.984)	2.9863 (294.027)
41. *Roupala glaberrina*	1	0.00870 (0.991)	0.01299 (0.987)	0.00818 (0.992)	2.9863 (297.014)
42. *Urera* sp. 2	1	0.00870 (1.000)	0.01299 (1.000)	0.00818 (1.000)	2.9863 (300.000)

Table 2.4. Importance value for large size class trees in site 1. Large size trees are defined as the fourth quartile of tree dbh at site 1. Among the 107 large size trees, the mean is 51.66 cm, a minimum of 29.8 cm and a maximum of 126.5 cm. The height ranged from 4 m to 52 m and an average of 22.09 m.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance (cum.)	Importance Value(cum.)
1. *Brosimum alicastrum*	18	0.16822 (0.168)	0.08696 (0.087)	0.35941 (0.359)	61.4592 (61.459)
2. *Terminalia oblonga*	12	0.11215 (0.280)	0.08696 (0.174)	0.08141 (0.441)	28.0516 (89.511)
3. *Licania retifolia*	8	0.07477 (0.355)	0.07246 (0.246)	0.09285 (0.534)	24.0079 (113.519)
4. *Dendropanax arboreus*	8	0.07477 (0.430)	0.05797 (0.304)	0.05240 (0.586)	18.5137 (132.032)
5. *Lonchocarpus salvadorensis*	7	0.06542 (0.495)	0.05797 (0.362)	0.05494 (0.641)	17.8334 (149.866)
6. *Inga fagifolia*	7	0.06542 (0.561)	0.04348 (0.406)	0.04782 (0.689)	5.6718 (165.538)
7. *Spondias purpurea*	5	0.04673 (0.607)	0.07246 (0.478)	0.03021 (0.719)	14.9402 (180.478)
8. *Apanantha monica*	3	0.02804 (0.636)	0.04348 (0.522)	0.05260 (0.772)	12.4118 (192.890)
9. *Castilla elastica*	4	0.03738 (0.673)	0.04348 (0.565)	0.01516 (0.787)	9.6021 (202.492)
10. *Cecropia obtusifolia*	4	0.03738 (0.710)	0.04348 (0.609)	0.01509 (0.802)	9.5948 (212.087)
11. *Ocotea sinuata*	4	0.03738 (0.748)	0.04348 (0.652)	0.01376 (0.816)	9.4622 (221.549)
12. *Astronium graveolens*	3	0.02804 (0.776)	0.02899 (0.681)	0.01736 (0.833)	7.4382 (228.987)
13. *Spondias mombin*	2	0.01869 (0.794)	0.02899 (0.710)	0.01991 (0.853)	6.7586 (235.745)
14. *Casearia sylvestris*	1	0.00935 (0.804)	0.01449 (0.725)	0.02863 (0.882)	5.2468 (240.992)
15. *Sterculia apelata*	2	0.01869 (0.822)	0.01449 (0.739)	0.01610 (0.898)	4.9286 (245.921)
16. *Guazuma ulmifolia*	2	0.01869 (0.841)	0.01449 (0.754)	0.01007 (0.908)	4.3256 (250.246)
17. *Apeiba tibourbou*	1	0.00935 (0.850)	0.01449 (0.768)	0.01565 (0.923)	3.9488 (254.195)
18. *Persea americana*	1	0.00935 (0.860)	0.01449 (0.783)	0.01338 (0.937)	3.7216 (257.917)
19. *Alchornea latifolia*	1	0.00935 (0.869)	0.01449 (0.797)	0.01158 (0.948)	3.5415 (261.458)
20. *Trichilia martiana*	1	0.00935 (0.879)	0.01449 (0.812)	0.00544 (0.954)	2.9283 (264.387)
21. *Swietenia macrophylla*	1	0.00935 (0.888)	0.01449 (0.826)	0.00469 (0.958)	2.8527 (267.239)
22. Unknown 9	1	0.00935 (0.897)	0.01449 (0.841)	0.00462 (0.963)	2.8456 (270.085)
23. *Sloanea terniflora*	1	0.00935 (0.907)	0.01449 (0.855)	0.00419 (0.967)	2.8024 (272.887)
24. *Enterolobium cyclocarpum*	1	0.00935 (0.916)	0.01449 (0.870)	0.00388 (0.971)	2.7719 (275.659)
25. *Piptadenia obliqua*	1	0.00935 (0.925)	0.01449 (0.884)	0.00386 (0.975)	2.7698 (278.429)

26. *Achatocarpus nigricans*	1	0.00935 (0.935)	0.01449 (0.899)	0.00373 (0.979)	2.7571 (281.186)
27. *Maclura tinctoria*	1	0.00935 (0.944)	0.01449 (0.913)	0.00371 (0.982)	2.7550 (283.941)
28. *Spondias* 1	1	0.00935 (0.953)	0.01449 (0.928)	0.00357 (0.986)	2.7405 (286.682)
29. *Hymenaea courbaril*	1	0.00935 (0.963)	0.01449 (0.942)	0.00298 (0.989)	2.6816 (289.363)
30. *Hirtella racemosa*	1	0.00935 (0.972)	0.01449 (0.957)	0.00283 (0.992)	2.6668 (292.030)
31. *Tecoma stans*	1	0.00935 (0.981)	0.01449 (0.971)	0.00283 (0.995)	2.6668 (294.697)
32. *Zanthoxylum microcarpum*	1	0.00935 (0.991)	0.01449 (0.986)	0.00272 (0.997)	2.6560 (297.353)
33. *Capparis discolor*	1	0.00935 (1.000)	0.01449 (1.000)	0.00263 (1.000)	2.6471 (300.000)

Table 2.5. Summary table for all quadrats in Site 1.

Quadrat No.	No. of Species	No. of Families	No. of Trees	Mean DBH (cm)	Largest DBH (cm)	Mean Height (m)	Largest Height (m)
1	34	26	126	15.9	98.6	9.5	32
2	32	27	94	15.9	82.5	11.9	34
3	29	24	108	17.6	116	10.7	45
4	31	20	141	11.6	67.4	6.5	15
5	26	18	84	18.2	109.3	10.3	25
6	24	18	83	16.8	74.9	13	40
7	33	25	106	14.3	66	12.5	40
8	30	22	96	15	109	12.2	52
9	38	29	114	13.5	92.7	10.6	40
10	37	28	114	14.2	126.5	8.6	42
Mean	31.4	23	106.6	15		10.26	

Table 2.6. Mantel tests of spatial autocorrelation for the 10, 20x50 m quadrats of Site 1. Standardized Mantel coefficient listed with p-value attained after 999 permutations, given in parenthesis. In quadrat 10, we find the strongest tendency for close trees to have similar dbh, height and to be of the same species (Mantel r = 0.18, 0.27 and 0.68 respectively and P= 0.001 for each r).

	dbh (cm) P	height (m) P	Species P	No. of trees
quadrat 1	-0.0005 (0.490)	-0.011 (0.170)	0.043 (0.001)	126
quadrat 2	0.083 (0.320)	0.090 (0.001)	0.125 (0.014)	94
quadrat 3	0.063 (0.320)	-0.029 (0.014)	-0.00 (0.400)	108
quadrat 4	0.015 (0.080)	0.048 (0.001)	0.033 (0.001)	141
quadrat 5	0.024 (0.094)	0.038 (0.004)	0.110 (0.001)	84
quadrat 6	-0.05 (0.004)	-0.046 (0.003)	-0.009 (0.30)	83
quadrat 7	0.068 (0.001)	0.049 (0.001)	0.076 (0.001)	106
quadrat 8	0.033 (0.0077)	0.25 (0.050)	0.021 (0.085)	84
quadrat 9	-0.046 (0.001)	-0.068 (0.001)	0.280 (0.0010)	114
quadrat 10	0.18 (0.0010)	0.27 (0.001)	0.680 (0.0010)	114

Table 2.7. Sorensen coefficients (S) of floristic similarity for site 1. All pairwise comparisons among the 10, 20x50 m quadrats. S may vary from 0 (no species in common) to 1.0 (100% floristic identity).

	1	2	3	4	5	6	7	8	9	10
1										
2	.636									
3	.549	.5								
4	.317	.36923	.459							
5	.607	.48276	.444	.255						
6	.386	.40678	.400	.500	.367					
7	.554	.53731	.476	.281	.561	.483				
8	.581	.53125	.500	.230	.704	.436	.63492			
9	.543	.55556	.441	.299	.516	.413	.56338	.588		
10	.479	.41096	.464	.457	.381	.469	.41667	.464	.494	

CHAPTER 3

TREE DIVERSITY IN

AN ABANDONED COFFEE PLANTATION-SITE 2

Introduction

Tropical forest destruction proceeds at a high rate. This has stimulated interest in the inventory of the diversity of organisms and in the understanding the environbents they inhabit. Countries like El Salvador in Central America where very little mature forest remains and where shade coffee plantations replaced most of the forest within 500 and 1200 m.a.s.l in the early 1900s, are largest tracks of forested areas. It is critical to study the dynamics within these artificial ecosystems to understand their contribution, if any, to the maintenance of biological diversity. The likelihood for a coffee plantation to be abandoned is very low because coffee is a very profitable commercial product. This may only happen in the event of a natural disaster as in the case of hurricanes (Yih et al., 1991, Vandermeer et al., 1996) or as in the case of land appropriated by a government to protect the biodiversity by creating a national park like El Imposible National Park in El Salvador (Ramirez-Sosa & Komar 1996). Due to the appropriation of the private land in the area of the park in 1979, coffee plantations were abandoned and management practices were stopped (coffee is one of the main export commodities for El Salvador).

It has been established that shade coffee plantations house a high diversity of organisms, e.g., insects (Perfecto & Snelling 1995, Perfecto et al., 1997). This is the case even though coffee plantations are regularly managed. In El Salvador, shade coffee plantations are heavily managed and they house many species, including migrating birds. What happens when coffee plantations are abandoned and the surrounding forest encroaches? It is important to note here that in most cases, it is common for coffee growers

to plant exotic shade trees. However, the abandoned coffee plantation for this study was shaded with native trees left standing when the national park was established.

The understanding of abandoned plantations like the one for this study can help us to understand and to predict the effect of selective logging in areas of high diversity. Particularly, the conversion of shade coffee farms into sun tolerant varieties of coffee that no longer require shade is a potential threat to the biological diversity housed in these agro-ecosystems. The most common type of disturbance in this area is strong wind and human beings. Natural fires are extremely rare due to high humidity, precipitation and isolation from human settlements.

The main objective of this study is to assess the diversity of a coffee plantation after 21 years of abandonment. This study will help us understand the dynamics of tropical forest recovery after human-induced disturbances, such as clearing the original forest to plant cash crops like coffee. Most importantly, is there any benefit from leaving native tree species as shade for coffee plantations? Can we predict the composition of the forest based upon the current status of forest regeneration?

Methodology

Study Site

Site 2 is a 21 year old abandoned coffee plantation. Since its abandonment in 1979, there has not been any type of management nor disturbance, except perhaps for the collection of fuel wood by the local inhabitants. The terrain is steeper than the other two sites of this study. The steepest slopes were avoided when establishing the plots. Unlike the other sites, very few stumps are found. It is located about 8 km northeast of the main

entrance in San Francisco Menéndez in the area known as La Fincona at approximately 600 m.a.s.l. The coffee plantation itself was called "El Tanque" which is the Spanish for the "Tank of water" because of a small dam on the stream running adjacent to the plantation. For a more general and better known place, this site will be referred to as "La Fincona." There are no signs of fires in the area and the local inhabitants are sure of the absence of fires for at least 20 years.

La Fincona is located at least 4 Km north of El Ujushtal following the only road in the park. The vegetation in the study site is dense and the trees have a closed canopy.

Quadrat Sampling

Eight quadrats (20m x 50m) were established, with the y-axis (50 m) facing north (Figure 3.1). The first quadrat was located at least 10 meters beyond the intersection of a small trail and a stream with the water tank. All other quadrats were 10 m from each other following the contour of the land and of the forest (Figure 3.2). For all the transects, all stems greater or equal to 5 cm were included in the inventory, except lianas. The parameters measured were the same as in site 1. The diameter at breast height (dbh cm), X-Y coordinates, Nearest Neighbor Distance and Nearest Neighbor, were measured and recorded (Figure 3.2) for all trees greater or equal to 5 cm dbh. The dbh of trees with buttresses were measured above the buttress. The height for all trees was estimated.

Analyses were done to determine the structure and diversity of the forests. Comparisons of quadrats were conducted to detect floristic similarities (Sorensen Index of Floristic Similarity). The Mantel test for autocorrelation and the Monte Carlo test of spatial randomness were used for all 8 quadrats. The Importance Values for small and large size classes were calculated to better understand the current state of the forest and its potential future composition.

Results

Site 2 had a total of 1,303 trees belonging to 110 species, 100 genera and 38 families. The dbh ranged from 5 cm to a maximum of 241 cm and the height ranged from 2 m to 60 m. The total basal area is 319,061 cm^2 (Table 3.1).

In this study site, the species with the highest Importance Value is Alstonia longifolia (A.DC.) Pichon (Apocynaceae). Although this is a small tree, its relative density is 27.2 % and its IV is 38.7, there were 359 individuals within the 8 quadrats. This species is followed by Cecropia obtusifolia Bertol. (Cecropiaceae). It has a relatively high dominance (13.6 %) and an IV of 23.9. The third dominant is Dussia cuscatlanica (Standley) Standley & Steyen (Leguminosae), with a very low relative density and low relative frequency (Table 3.1). However, its relative dominance is high (18.8 %), due to its large dbh. There are only two individuals of this species in this site. The average dbh for site 2 is 11.8 cm.

The dominant family is the Apocynaceae with an IV of 45.65, followed by the Leguminosae (IV = 39.39), the Cecropiaceae (IV = 25.00), Clethraceae (IV = 13.84) and Bignoniaceae (IV = 12.98). (Table 3.2).

Quadrat 2 had the greatest mean dbh at 14.8 cm and quadrat 8 had the greatest mean height of 11 m (Table 3.3). The largest dbh in this site was for Dussia cuscatlanica at 241 cm. The species richness per quadrat ranged from 53 in plot number seven to 23 in number eight. The average number of species among all plots is 34.13. The number of families ranged from 41 in plot seven to 18 in quadrat eight, with an average of 24.88 families for the entire site (Table 3.4). The species-area curve for this study does not level off (Figure 3.5) for the eight plots inventoried. The species abundance graphs show a high percentage of singletons (species represented by a single individual) present in the area (Figure 3.7). A total of 37 (33.6%) species in the site is represented by singletons (Figure

3.8). The same trend is seen at the quadrat level. Particularly, quadrats 1, 2, 4, and 7 have a high number of singletons. Quadrat 6 has a similar number of singleton and doubletons, 11 and 9 respectfully (Figure 3.8).

Mantel tests for spatial autocorrelation indicate that quadrats 1, 3, 6, and 7 have positive and significant autocorrelation, meaning that close trees tend to be of the same species, have similar height and similar dbh (Table 3.6). Sorensen coefficients (S) of floristic similarity of all pairwise comparisons among the 8 quadrats (Table 3.7) were calculated. The most similar pair of quadrats are 8 and 6, while the least similar ones are 1 and 7. The average S was 0.469.

Comparisons of small size classes versus large size classes (first and fourth quartile) of trees were done to measure dominance in each class size. The importance value was determined and the top six species for both size classes (Table 3.3 and 3.4) were graphed as scattergrams of height versus dbh. All six species show both size classes present in this study site, with the exception of Dussia cuscatlanica, which is represented by only two individuals of large size (Figure 3.10). Interestingly, Cecropia obtusifolia is represented by a large number of small trees and some trees to up to 45 cm, with a very large individual (Figure 3.10). The same trend is seen for Clethra lanata and Lonchocarpus salvadorensis. Species represented by all size classes are likely to persist in successional time.

Sixteen of the large size trees are also found in the small size group. Species such as Terminalia oblonga, Lichania retifolia, Dendropanax arboreus, and Castilla elastica, among others, are clearly present in the small size class. An interesting species that is not only the dominant one in this site but also in the entire inventory of 2.8 hectares is Alstonia longifolia is the most dominant. This tree is only present in the large size class. Cecropia obtusifolia shows the same trend. Plotting dbh versus height also supports the idea the vast majority of individuals in the tree community are composed of small size classes (Figure 3.9).

Looking at the relationship of size class of the top six dominant species in the whole inventory, Figure 3.10 clearly shows for some species are well represented by small to medium individuals, with the exception of Brosimum alicastrum and Castilla elastica (Figure 3.10). Hirtella racemosa and Oratea lucens are also present in small size classes. These two species, however, rarely make it to the canopy; therefore they are naturally small forest trees. This is also noticeable in Figure 3.11.

A total of 151 (11.59%) undetermined individuals has been included in this analysis. The mean dbh and height is 9.9 cm and 7.48 m respectfully. All unknowns were marked as were all the trees in the study site and special attention was given to keep the same code to the same morpho species throughout the inventory. For instance, Unknown 1 is the same across the quadrats and in all other sites.

Monte Carlo simulations indicate that trees at larger distances in quadrats 2, 6, 7, and 8 tend to appeared aggregated (Figures 3.11, 3.16, 3.17, 3. 19). This is noted when the observed mean is smaller that the expected (Figure 3. 18). On the contrary, if the observed mean is greater that the simulation mean, the trees tend to be regularly distributed within the quadrat area (Figure 3.15).

Conclusions

Unquestionably, this abandoned coffee plantation, La Fincona, plays an important role in the conservation of biological diversity in El Imposible National Park. Of three sites established for this project, this site contains the highest number of species (110) and families (66), including several unknown species (26). The time of establishment of the plantation is not known but its abandonment was 21 years ago. After this period, this forest has recuperated. Although it is difficult to know the original forest structure, by

comparing it to the other sites one can assume that it is reaching its original state. Local inhabitants collect fuelwood and the coffee produced by the remaining shrubs.

The fact that this is the most diverse site within the three studied for this dissertation project, supports the argument that the effect of disturbance on biological diversity depends on the type, intensity and the surface area affected by such disturbance. This would be the case whether it is a natural or human induced disturbance. The latter, however, is viewed as the most destructive, regardless of any of the characteristics previously mentioned. In this case, it might have been an accident that there was a minimum effect by the selective cutting because the landowners had little time to harvest more trees out of their land soon to be expropriated by the government. Most of the dominant species are represented in the small size classes, indicating that these species may continue being the dominant until a larger disturbance drastically changes the composition and species dominance of the forest, for instance, hurricanes. Interestingly enough this trend is also observed with height distribution.

With the growing interest in the protection of the so-called "shade-coffee" plantations, this study strongly supports the need not to convert these artificial forests to "sun-coffee" plantations. The latter is a new coffee variety that does not require shade for production and obviously is light tolerant. The conversion of shade-coffee to sun-coffee requires the cutting down of any shade, consequently cutting down all the vegetation in the area of interest. The result is the loss of biological diversity. The farmers however argue they gain revenues because the light tolerant coffee can be harvested twice per year. It is clear from this study that if this conversion had happened when the plantation was established many local species would have disappeared. Along with woody species, many other herbaceous plants, epiphytes, insects, and even birds would not be living at La Fincona.

This is one of a very few studies conducted in an abandoned coffee plantation with an exact date of abandonment and without any type of management. This strongly

suggests that new coffee plantations must contain a representation of the original flora to maintain some level of biological diversity in tropical areas where coffee is the main export crop as is the case in El Salvador. The fact that this site is the most diverse and the one where most of the rare species are found tells me that this area has had very little, if any human disturbance, since the beginning of its protection. The diversity in La Fincona may be the result of several factors, including bird seed dispersal, fertile soils, constant humidity, even during the dry season, and a closed canopy that maintains shade intolerant species.

It is clear to me that the disturbance that occurred in this site 21 years ago was not as detrimental to biological diversity as I expected at the beginning of this project. In conclusion I believe as Michael Huston (1994) argues that intermediate disturbance (e.g., small gaps) plays a key role in the maintenance of tropical biological diversity. The events that took place in this area may be that they mimic the natural gap dynamics that are found in major forested areas throughout the Neotropics and the Paleotropics.

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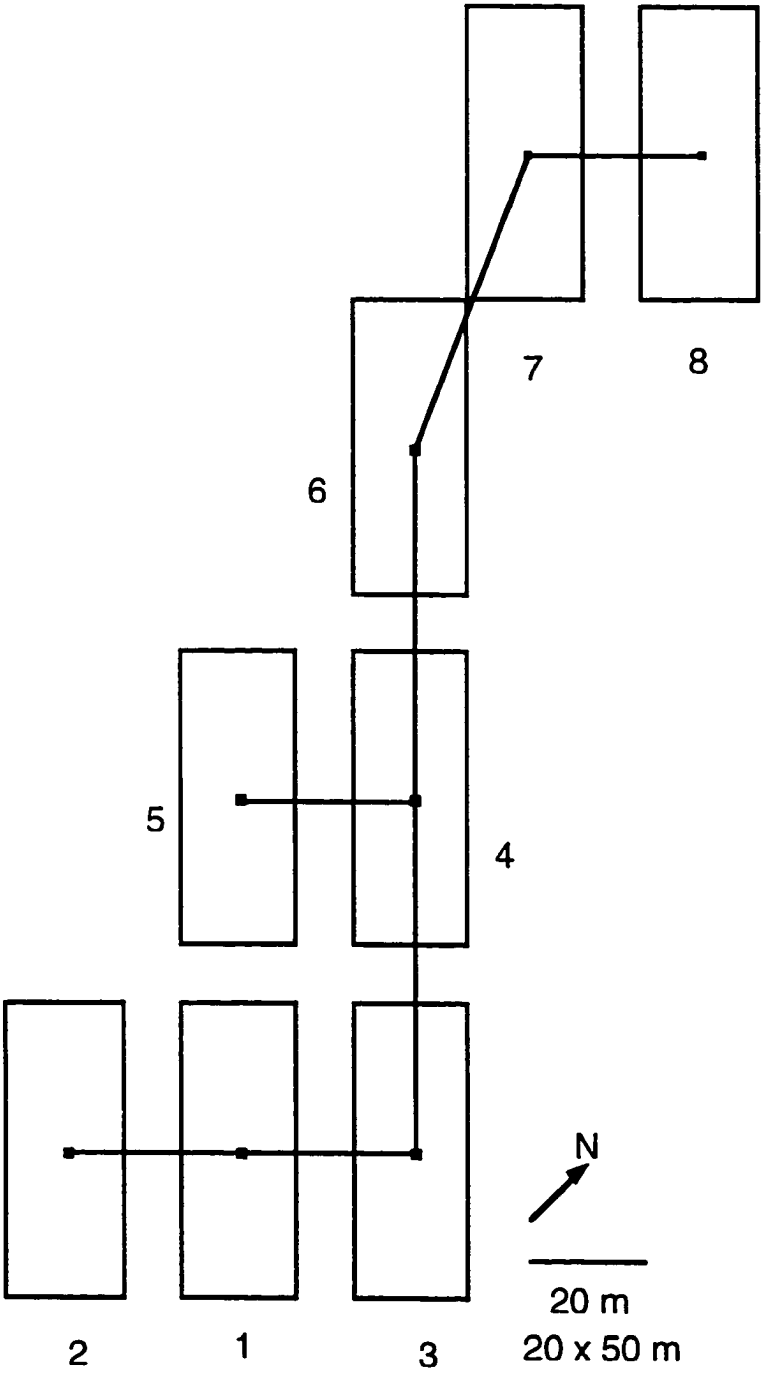


Figure 3.1. Quadrat distribution in Site 2, an abandoned coffee plantation.

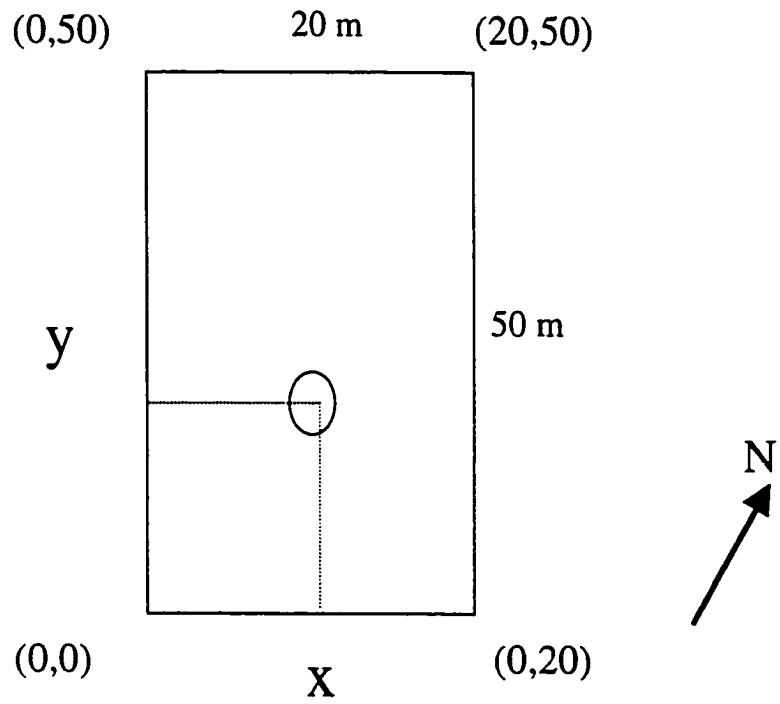


Figure 3.2. Quadrat sampling used in site 2, La Fincona.

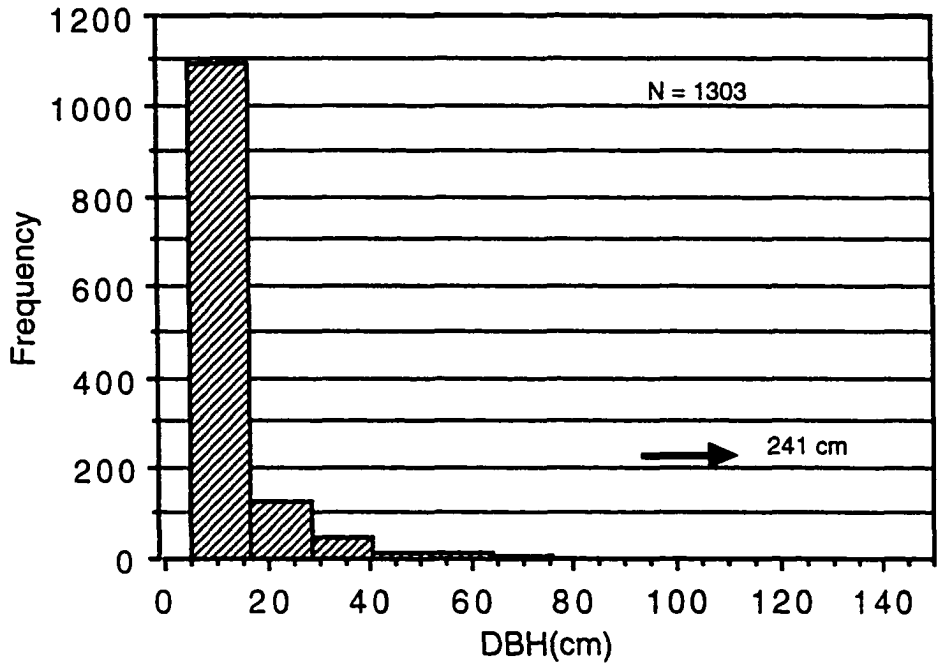


Figure 3.3. Frequency distribution of tree dbh (≥ 5 cm) in site 2.

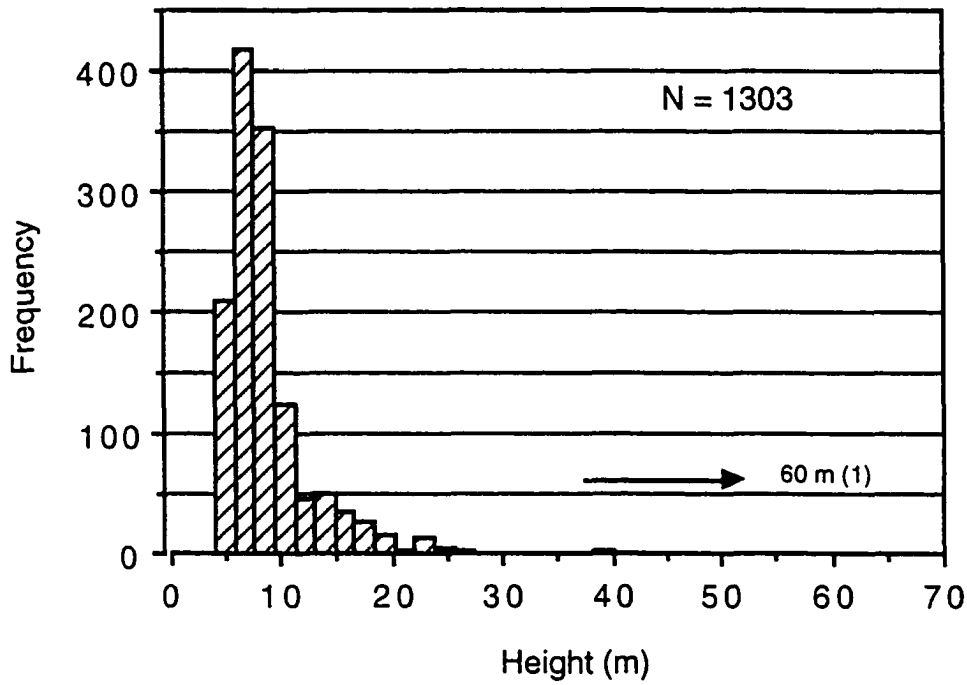


Figure 3.4. Frequency distribution of tree height (m) in site 2.

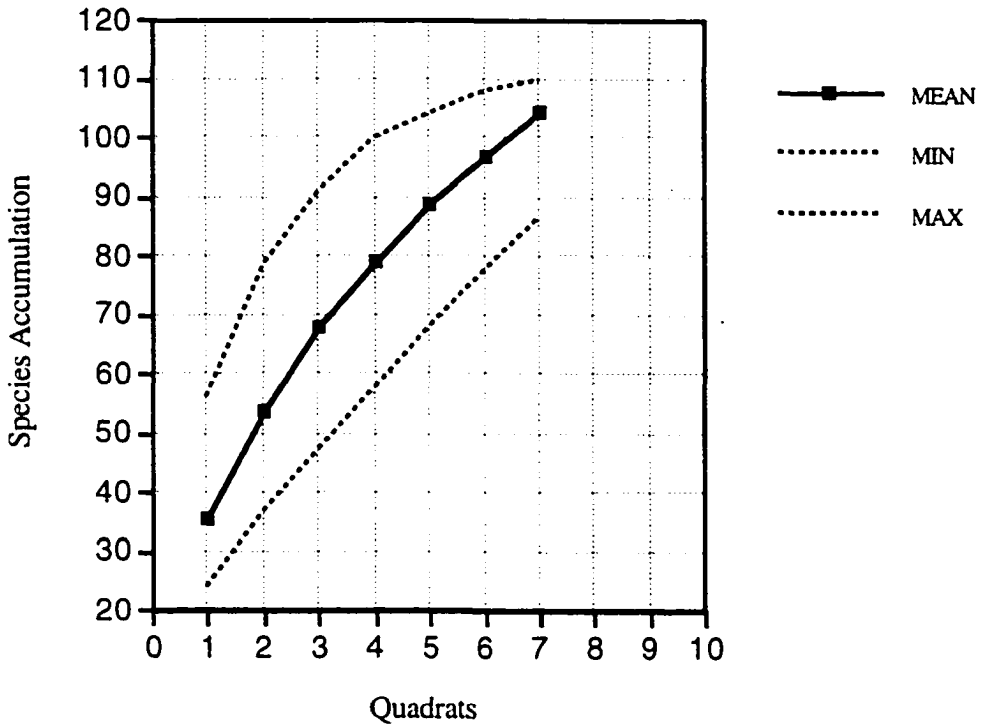


Figure 3.5. Species-Area relation based on mean number of species per quadrat sampled. 99 randomizations.

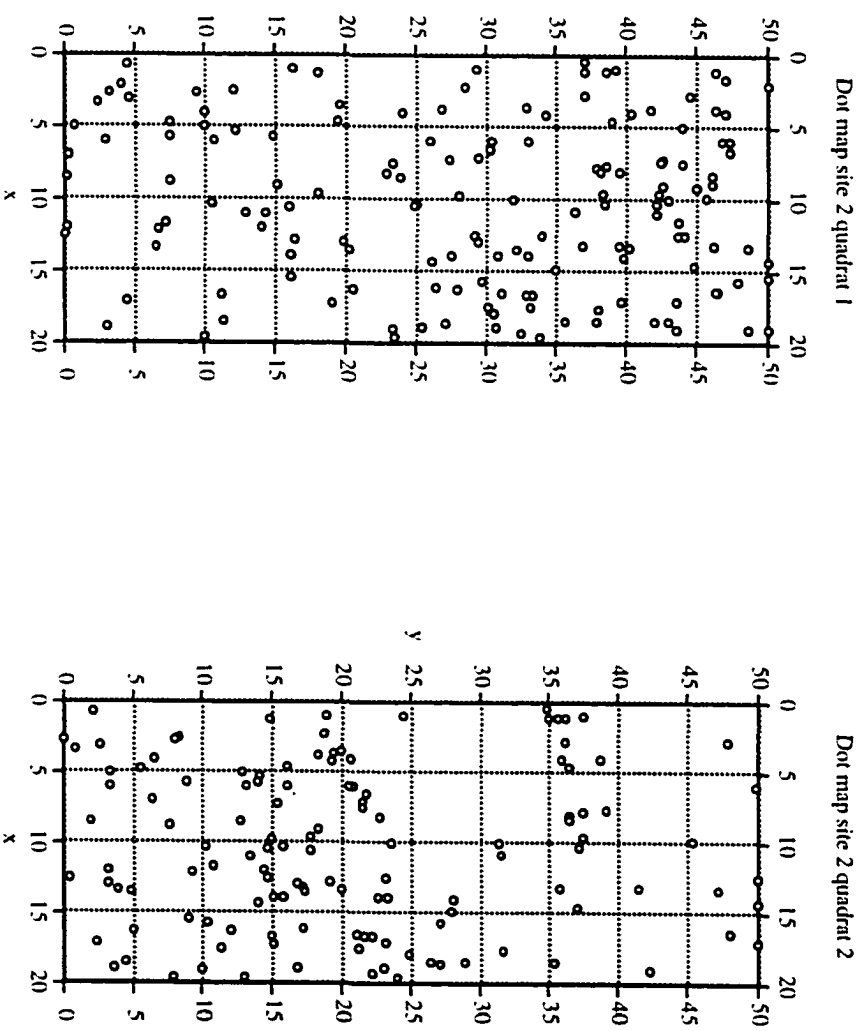


Figure 3.6a. Dot maps for quadrat 1 and 2, site 2.

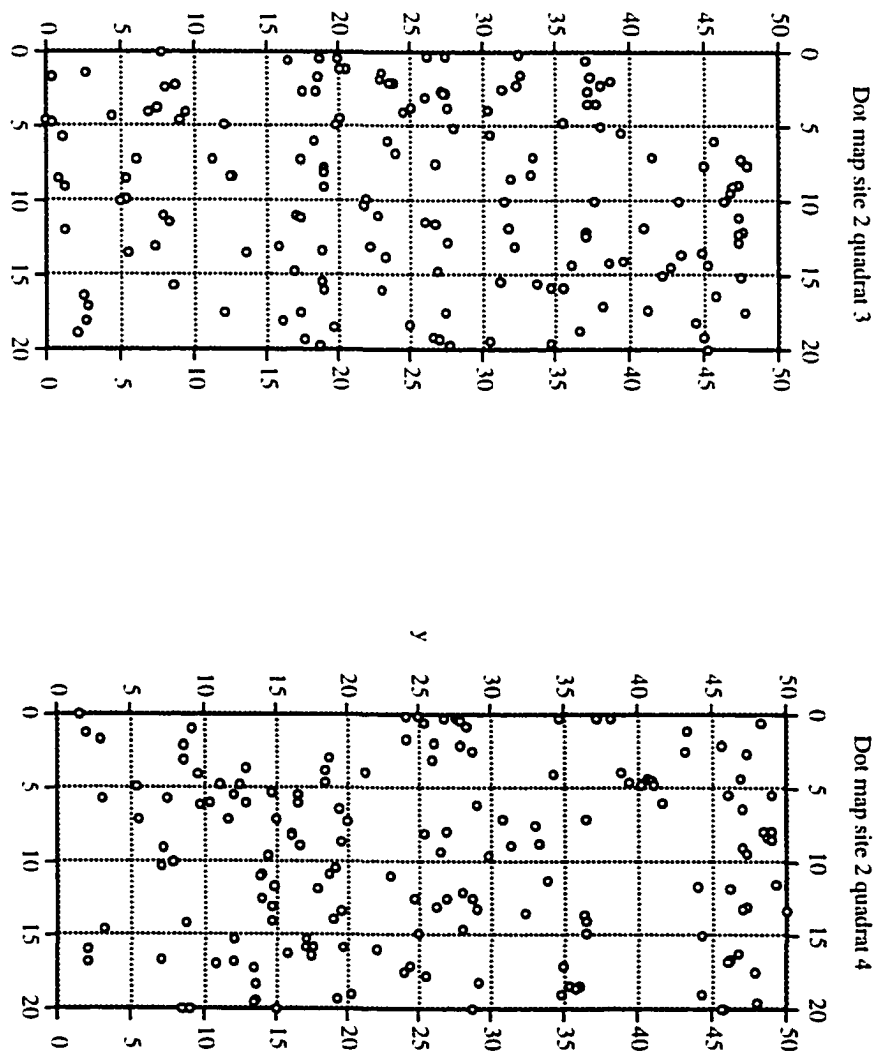


Figure 3.6b. Dot maps for quadrat 3 and 4, site 2.

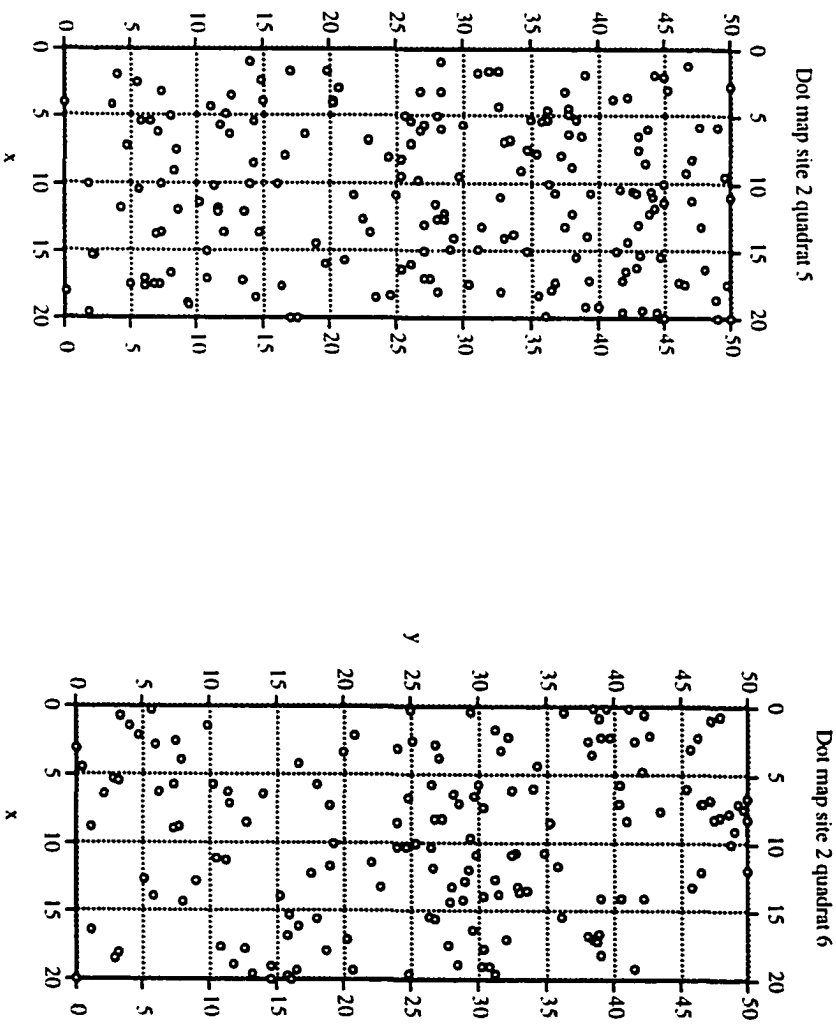


Figure 3.6c. Dot maps for quadrat 5 and 2, site 6.

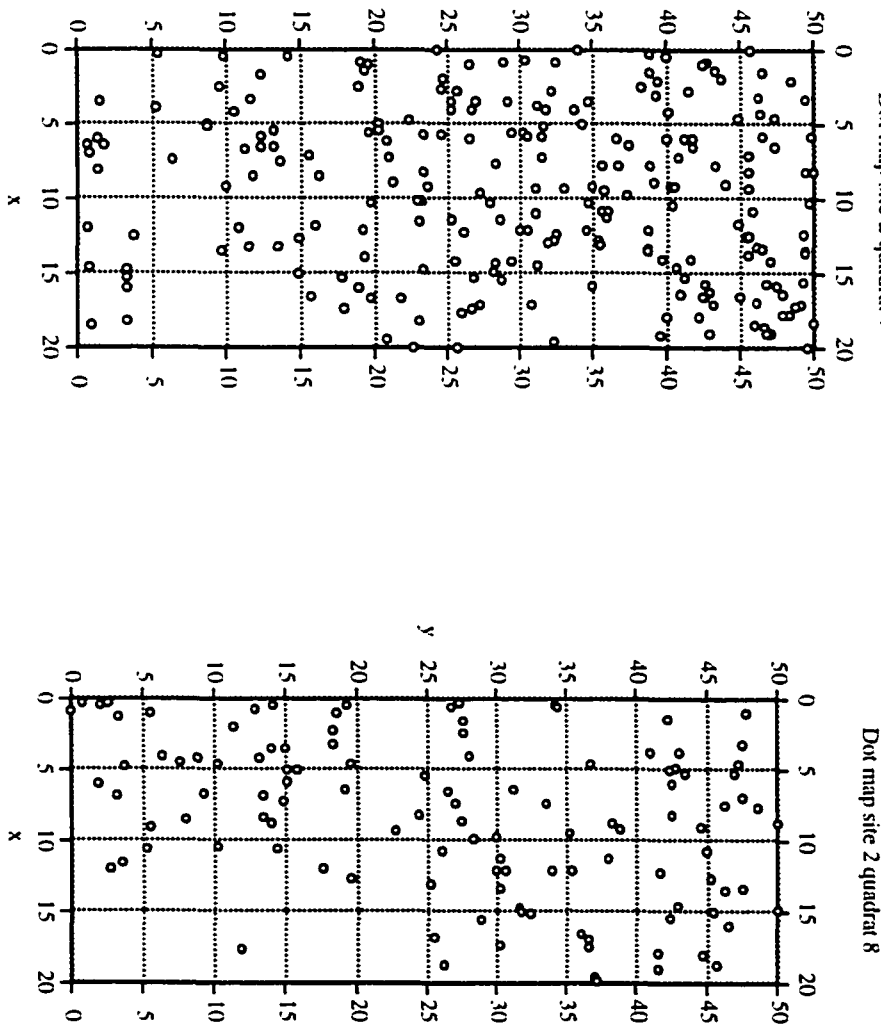


Figure 3.6d. Dot maps for quadrat 7 and 8, site 2.

No. Of Trees	Frequency of Species	Frequency	Relative Frequency
1	**********	(37)	(0.336)
2	**********	(13)	(0.455)
3	**********	(12)	(0.564)
4	*******	(7)	(0.627)
5	****	(4)	(0.664)
6	***	(3)	(0.691)
7	***	(3)	(0.718)
8	****	(4)	(0.755)
9	*****	(5)	(0.800)
10	*	(1)	(0.809)
11	**	(2)	(0.827)
12	*	(1)	(0.836)
13	**	(2)	(0.855)
15	*	(1)	(0.864)
21	***	(3)	(0.891)
22	*	(1)	(0.900)
24	*	(1)	(0.909)
28	*	(1)	(0.918)
40	*	(1)	(0.927)
42	*	(1)	(0.936)
49	*	(1)	(0.945)
55	*	(1)	(0.955)
60	*	(1)	(0.964)
65	*	(1)	(0.973)
67	*	(1)	(0.982)
98	*	(1)	(0.991)
359	*	(1)	(1.000)

Figure 3.7. Species abundance for entire inventory bar diagram of discrete frequency distribution for the 110 taxa. Frequency and relative cumulative frequency are in parentheses. Abundance categories with zero frequency are not printed. 1 symbol = 1 taxon.

QUADRAT #1

No. of Trees		Frequency	Relative Frequency
1	|**********	(15)	(0.556)
2	|*	(1)	(0.593)
3	|*	(1)	(0.630)
4	|*	(1)	(0.667)
5	|*	(1)	(0.704)
6	|***	(3)	(0.815)
8	|*	(1)	(0.852)
11	|*	(1)	(0.889)
14	|**	(2)	(0.963)
58	|*	(1)	(1.000)

QUADRAT #2

No. of Trees		Frequency	Relative Frequency
1	|**********	(17)	(0.472)
2	|***	(3)	(0.556)
3	|**	(2)	(0.611)
4	|****	(4)	(0.722)
5	|**	(2)	(0.778)
6	|**	(2)	(0.833)
9	|**	(2)	(0.889)
11	|*	(1)	(0.917)
12	|*	(1)	(0.944)
14	|*	(1)	(0.972)
21	|*	(1)	(1.000)

QUADRAT #3

No. of Trees		Frequency	Relative Frequency
1	|**********	(12)	(0.462)
2	|***	(3)	(0.577)
3	|****	(4)	(0.731)
5	|*	(1)	(0.769)
6	|**	(2)	(0.846)
9	|*	(1)	(0.885)
15	|*	(1)	(0.923)
20	|*	(1)	(0.962)
67	|*	(1)	(1.000)

QUADRAT #4

No. of Trees		Frequency	Relative Frequency
1	|**********	(24)	(0.585)
2	|******	(6)	(0.732)
3	|****	(4)	(0.829)
4	|*	(1)	(0.854)
7	|*	(1)	(0.878)
9	|*	(1)	(0.902)
10	|*	(1)	(0.927)
14	|*	(1)	(0.951)
15	|*	(1)	(0.976)
53	|*	(1)	(1.000)

QUADRAT #5

No. of Trees		Frequency	Relative Frequency
1	|**********	(15)	(0.405)
2	|********	(8)	(0.622)
3	|***	(3)	(0.703)
4	|**	(2)	(0.757)
5	|*	(1)	(0.784)
6	|**	(2)	(0.838)
7	|**	(2)	(0.892)
8	|*	(1)	(0.919)
10	|*	(1)	(0.946)
16	|*	(1)	(0.973)
83	|*	(1)	(1.000)

QUADRAT #6

No. of Trees		Frequency	Relative Frequency
1	|**********	(11)	(0.344)
2	|*********	(9)	(0.625)
3	|****	(4)	(0.750)
4	|*	(1)	(0.781)
5	|*	(1)	(0.813)
10	|***	(3)	(0.906)
16	|*	(1)	(0.938)
30	|*	(1)	(0.969)
37	|*	(1)	(1.000)

QUADRAT #7

No. of Trees		Frequency	Relative Frequency
1	|**************************	(27)	(0.491)
2	|********	(8)	(0.636)
3	|******	(6)	(0.745)
4	|*	(1)	(0.764)
5	|*	(1)	(0.782)
6	|*	(1)	(0.800)
7	|*	(1)	(0.818)
8	|**	(2)	(0.855)
9	|*	(1)	(0.873)
10	|*	(1)	(0.891)
11	|*	(1)	(0.909)
12	|*	(1)	(0.927)
19	|*	(1)	(0.945)
21	|**	(2)	(0.982)
28	|*	(1)	(1.000)

QUADRAT #8

No. of Trees		Frequency	Relative Frequency
1	|**********	(13)	(0.565)
2	|*	(1)	(0.609)
3	|*	(1)	(0.652)
4	|**	(2)	(0.739)
7	|**	(2)	(0.826)
10	|*	(1)	(0.870)
15	|*	(1)	(0.913)
24	|*	(1)	(0.957)
29	|*	(1)	(1.000)

Figure 3.8. Species abundance per quadrat, site 2

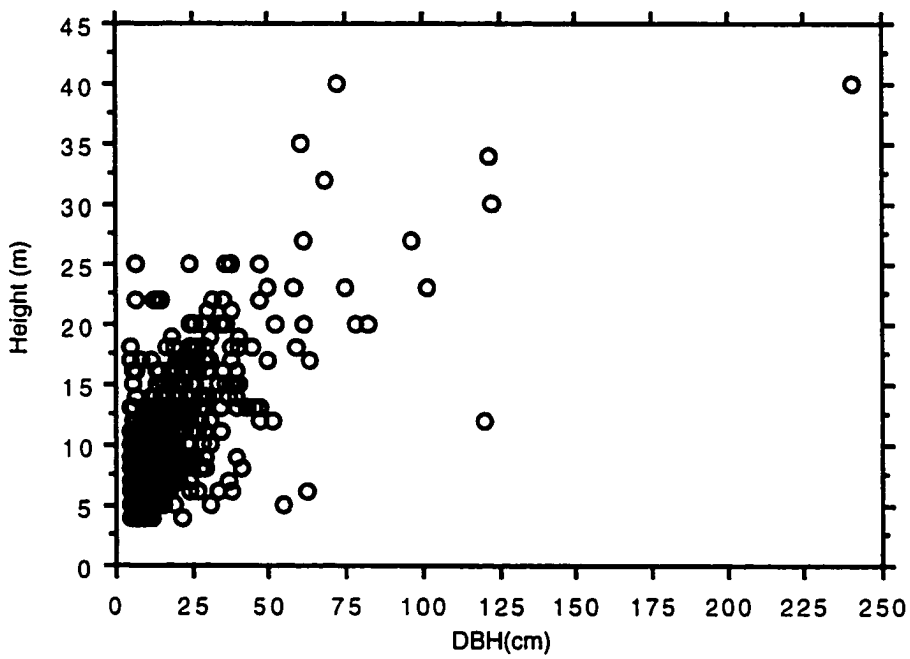
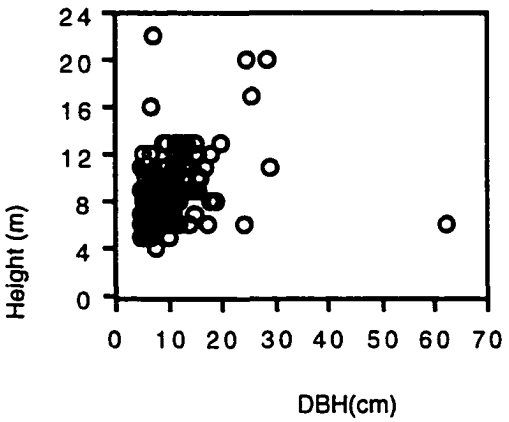
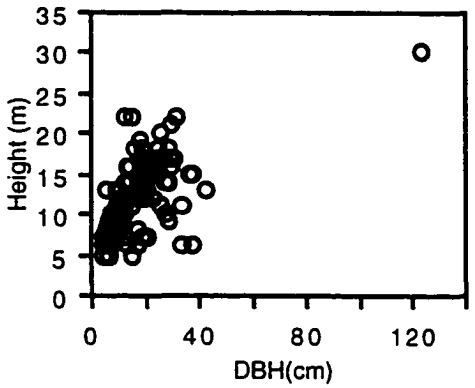


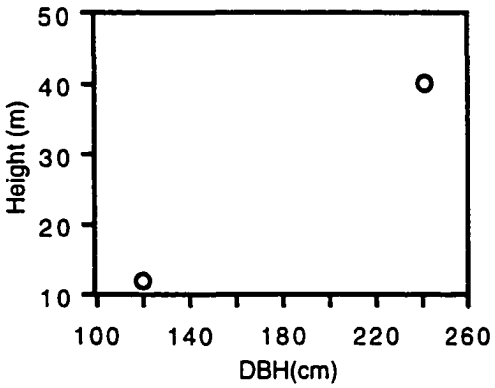
Figure 3.9. Diameter at breast height versus height for Site 2.



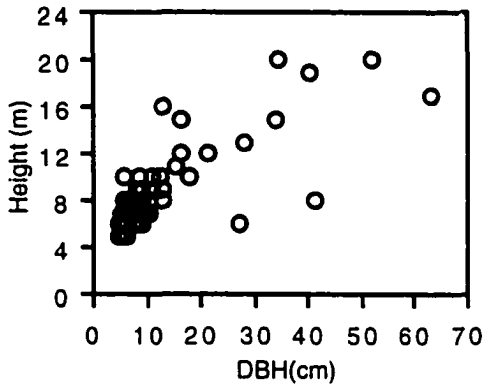
Alstonia longifolia



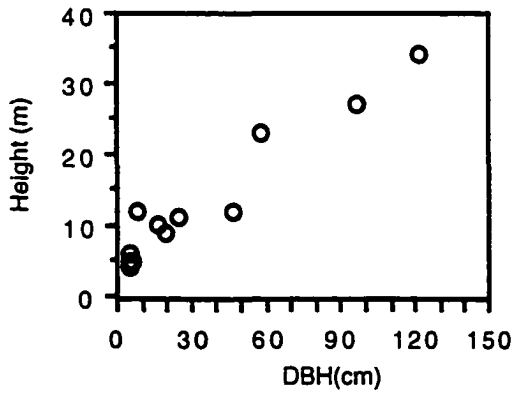
Cecropia obtusifolia



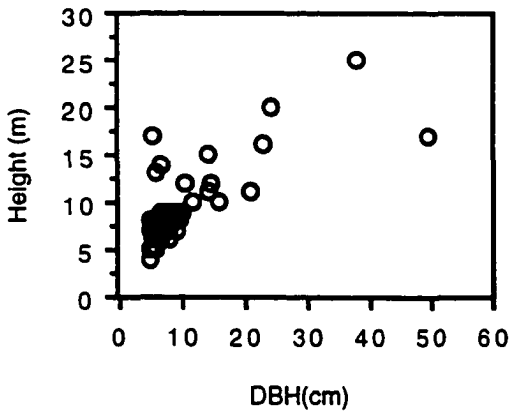
Dussia cuscatlanica



Clethra lanata

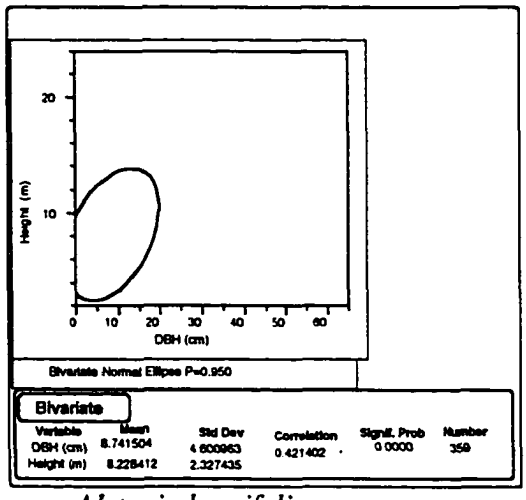


Brosimum alicastrum

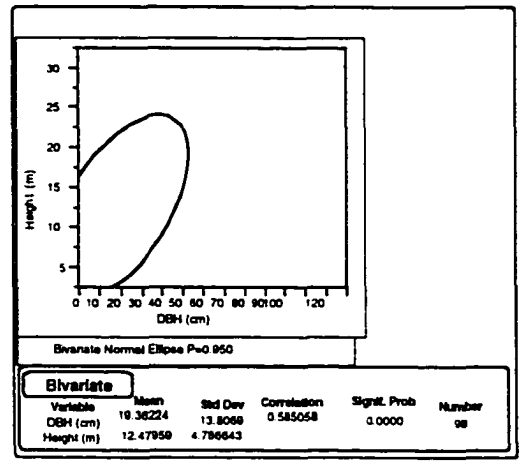


Lonchocarpus salvadorensis

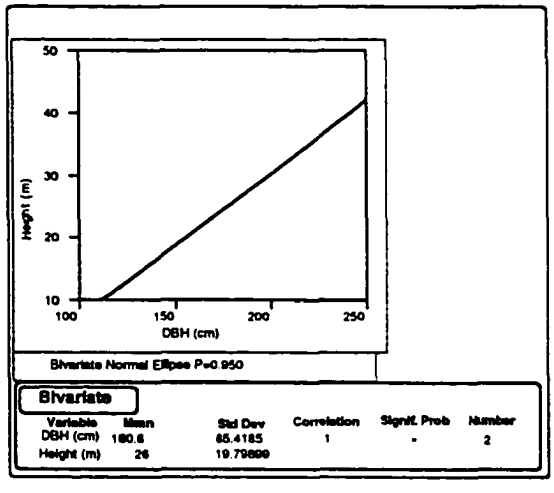
Figure 3.10. Height versus diameter at breast height scattergram of top six dominant species in Site 2.



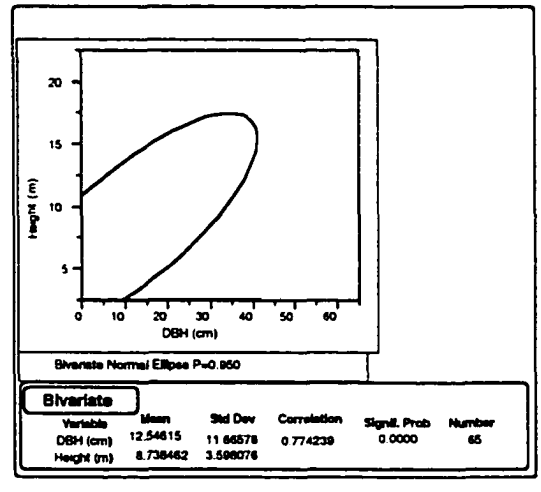
Alstonia longifolia



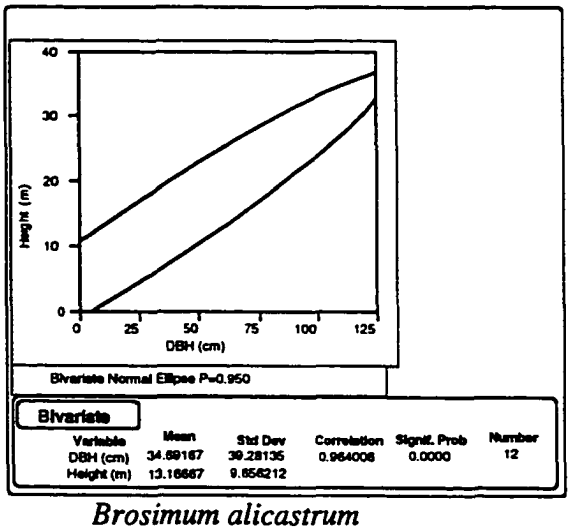
Cecropia obtusifolia



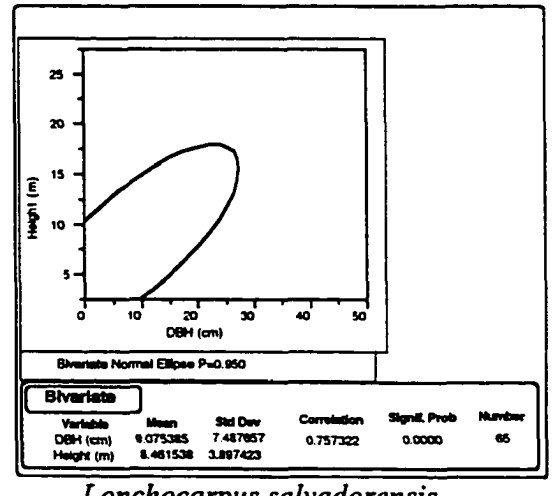
Dussia cuscatlanica



Clethra lanata



Brosimum alicastrum



Lonchocarpus salvadorensis

Figure 3.11. Height -dbh relashionship for the top six dominant species in site 2. 95 % prediction ellipse.

NN order	Obs. mean distance	Simulation mean	p
1	1.25	1.33	.080
2	2.02	2.03	.457
3	2.68	2.56	.057
4	3.16	3.01	.031
5	3.50	3.42	.154
6	3.83	3.78	.313
7	4.15	4.12	.411
8	4.46	4.44	.456
9	4.75	4.75	.495
10	5.04	5.04	.492

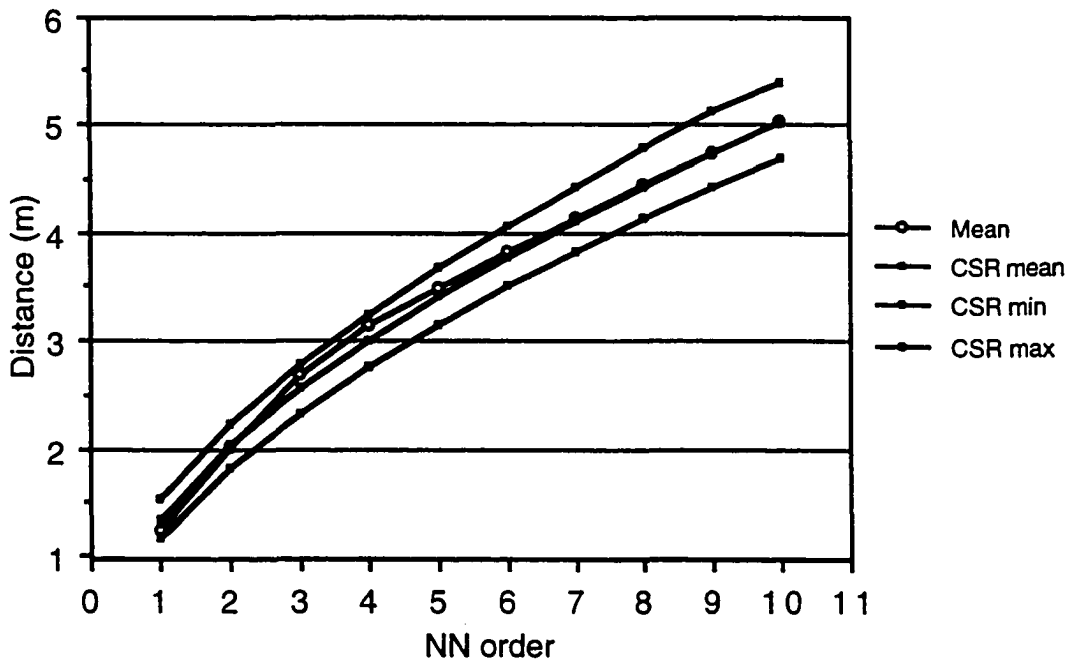


Figure 3. 12. Monte Carlo test of complete spatial randomness (CSR) for quadrat 1 Site 2 (N = 152 trees). The trees are not significantly different from CSR.

NN order	Obs. mean distance	Simulation mean	p
1	1.35	1.45	.084
2	2.08	2.21	.054
3	2.57	2.79	.008
4	3.02	3.29	.002
5	3.43	3.73	.004
6	3.84	4.14	.009
7	4.23	4.51	.015
8	4.57	4.87	.016
9	5.03	5.21	.104
10	5.32	5.53	.086

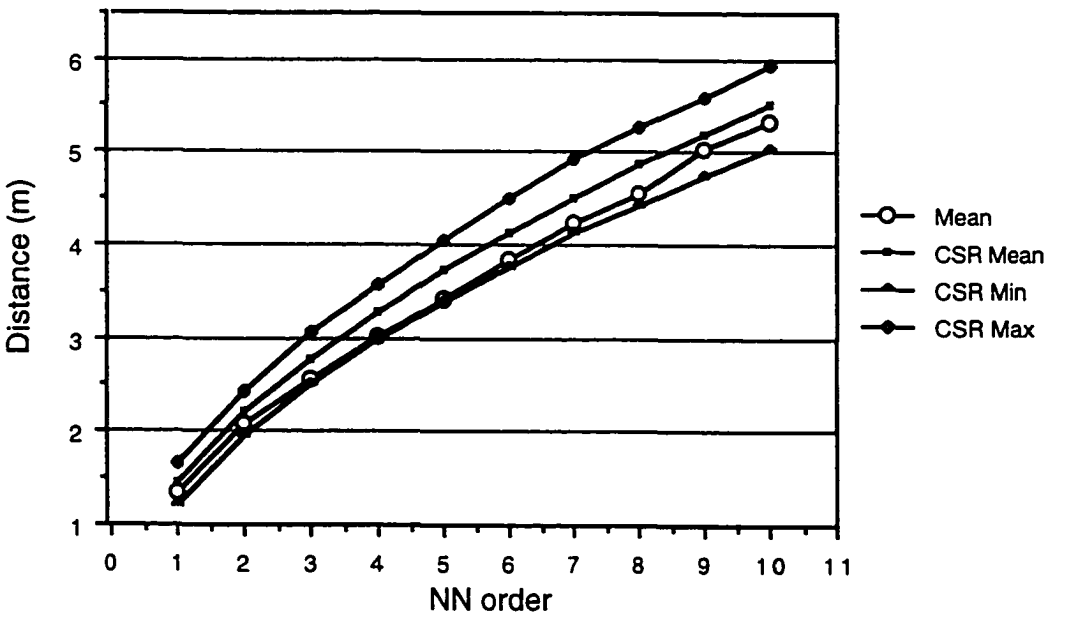


Figure 3.13. Monte Carlo test of complete spatial randomness (CSR) for quadrat 2 Site 2 (N = 129 trees). At spatial scales greater than the second nearest neighbor, the trees are significantly aggregated.

NN order	Obs. mean distance	Simulation mean	p
1	1.18	1.31	.012
2	1.86	1.99	.029
3	2.39	2.51	.054
4	2.91	2.96	.256
5	3.27	3.35	.169
6	3.62	3.71	.131
7	3.95	4.05	.132
8	4.29	4.36	.220
9	4.59	4.66	.233
10	4.87	4.95	.217

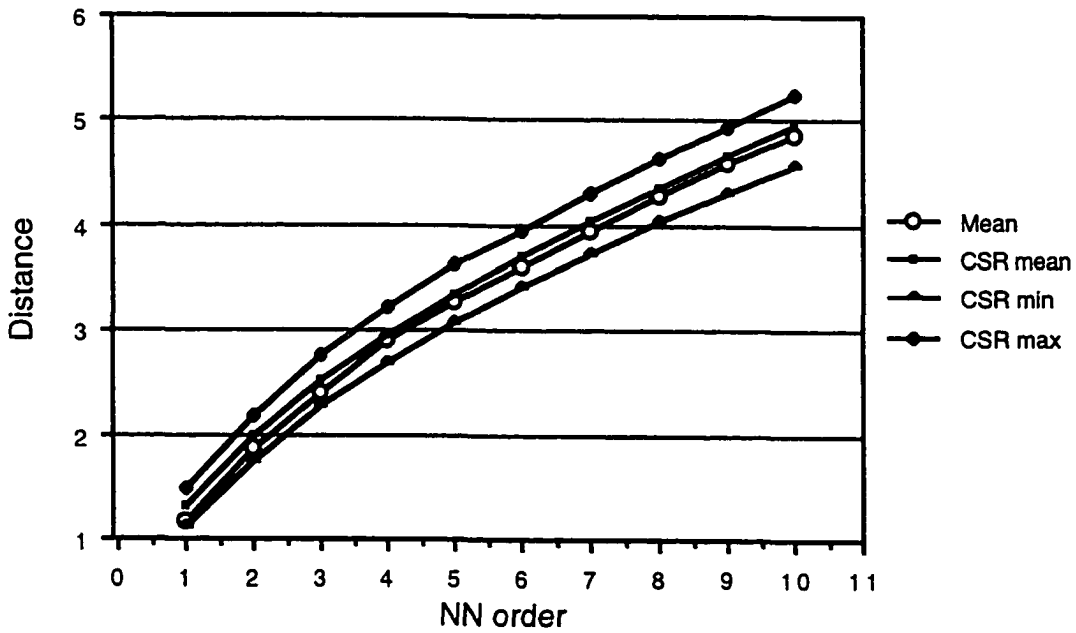


Figure 3.14. Monte Carlo test of complete spatial randomness for quadrat 3 site 2 (N = 157 trees). At small spatial scales trees are aggregated ($P \leq 0.029$).

NN order	Obs. mean distance	Simulation mean	p
1	1.42	1.30	.012
2	2.02	1.97	.210
3	2.62	2.49	.026
4	3.08	2.93	.027
5	3.49	3.32	.024
6	3.84	3.68	.032
7	4.16	4.01	.052
8	4.50	4.32	.032
9	4.79	4.62	.039
10	5.06	4.90	.064

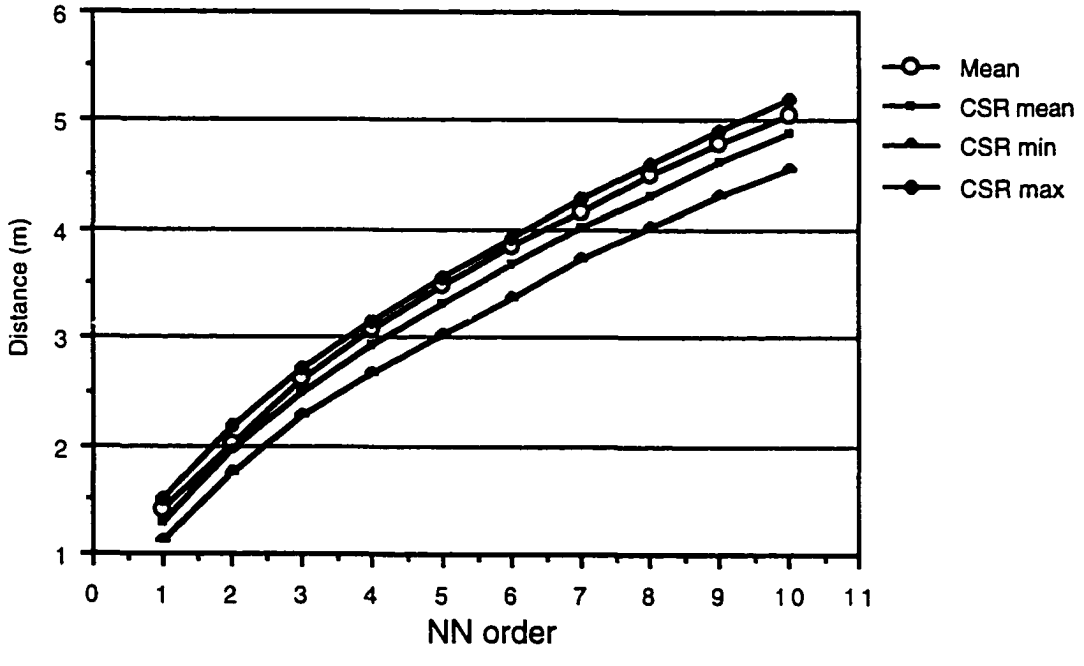


Figure 3.15. Monte Carlo test of complete spatial randomness (CSR) for quadrat 4 site 2 (N = 160 trees). The trees are more dispersed than CSR, except for the second nearest neighbor distance.

NN order	Obs. mean distance	Simulation mean	p
1	2.67	2.53	.256
2	4.22	3.89	.095
3	5.01	4.95	.439
4	5.78	5.88	.368
5	6.59	6.72	.358
6	7.73	7.49	.295
7	8.60	8.22	.200
8	9.46	8.91	.125
9	10.44	9.58	.045
10	11.07	10.22	.057

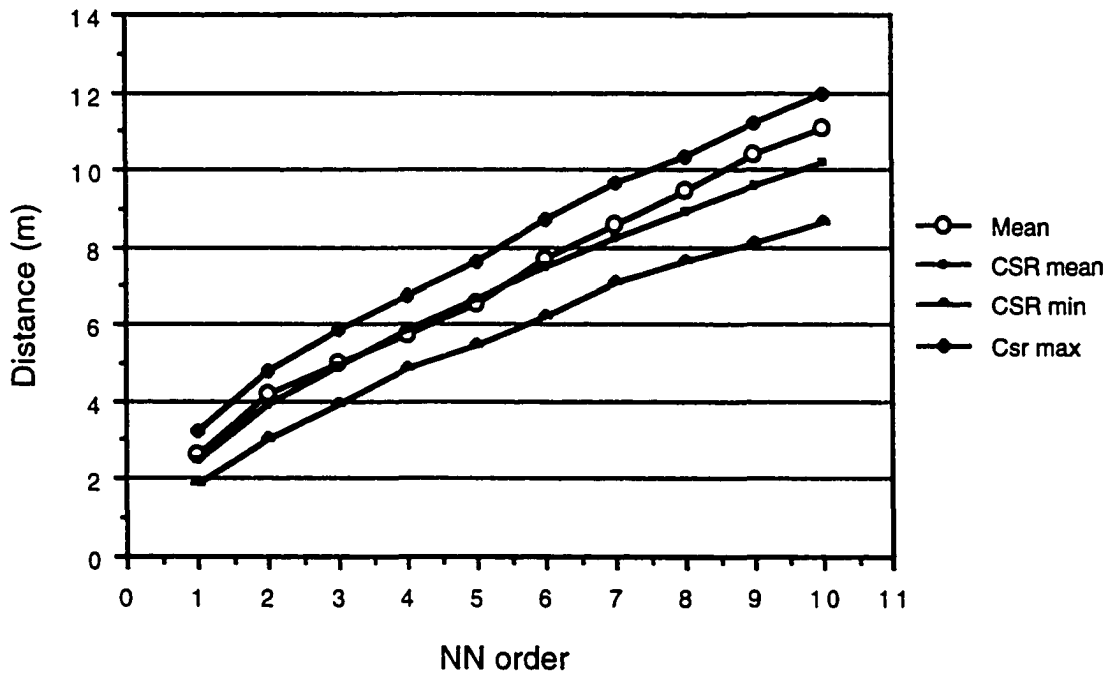


Figure 3.16. Monte Carlo test of complete spatial randomness (CSR) for quadrat 5 site 2 (N = 195). The trees are basically CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	1.23	1.29	.143
2	1.87	1.95	.100
3	2.38	2.46	.121
4	2.81	2.90	.127
5	3.22	3.28	.206
6	3.54	3.64	.125
7	3.82	3.97.	.064
8	4.13	4.28	.073
9	4.41	4.57	.061
10	4.67	4.85	.061

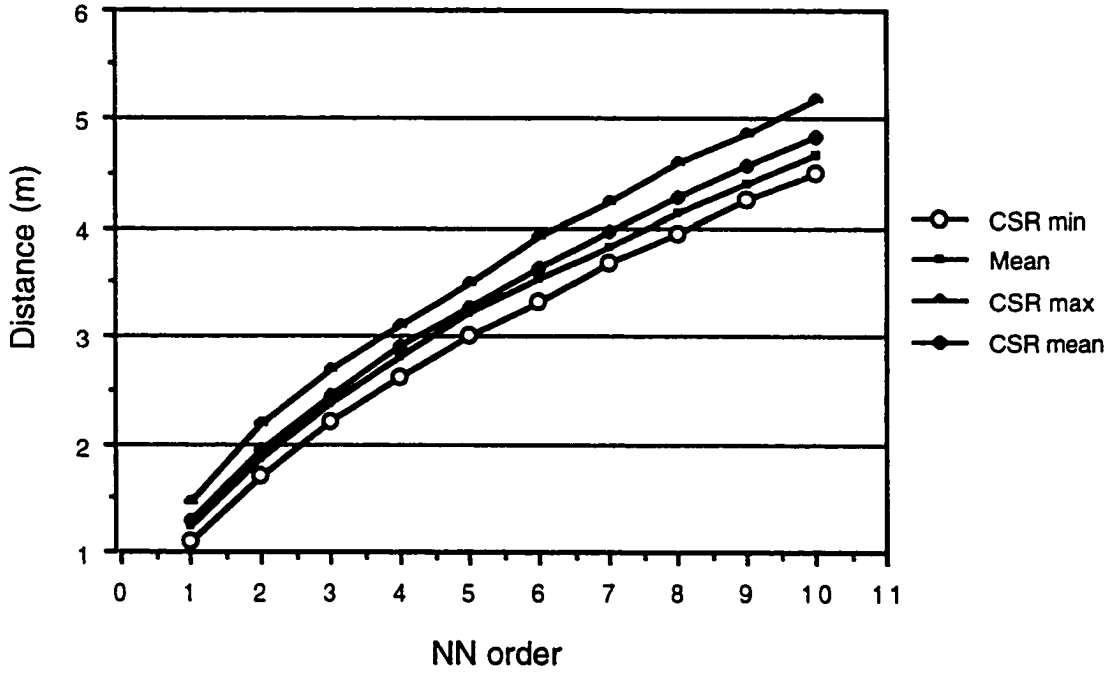


Figure 3.17. Monte Carlo test of complete spatial randomness for quadrat 6 site 3 (N = 163 trees). The trees are CSR at all spatial scales.

NN order	Obs. mean distance	Simulation mean	p
1	2.30	2.39	.304
2	3.47	3.68	.197
3	4.62	4.68	.396
4	5.33	5.55	.233
5	5.98	6.32	.141
6	6.66	7.05	.133
7	7.33	7.72	.155
8	8.06	8.37	.239
9	8.55	8.99	.163
10	9.05	9.58	.142

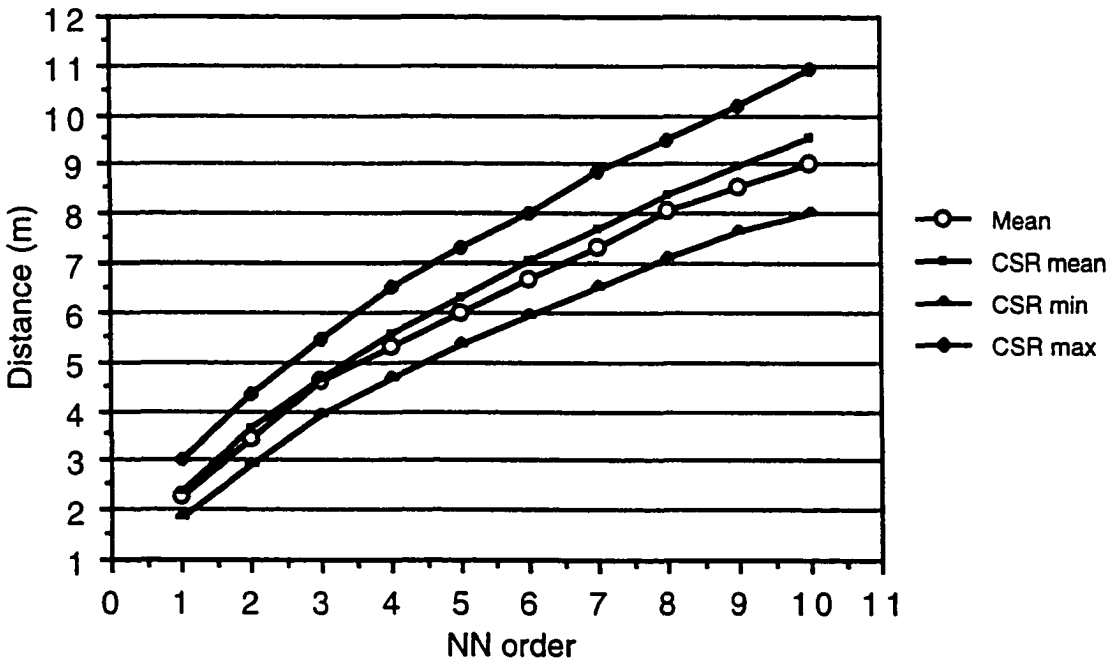


Figure 3.18. Monte Carlo test of complete spatial randomization (CSR) for quadrat 7 site 2 (N = 230 trees). The distribution of these trees is not significantly different from CSR.

NN order	Obs. mean distance	Simulation mean	p
1	1.42	1.52	.088
2	2.21	2.31	.137
3	2.81	2.93	.119
4	3.29	3.45	.071
5	3.80	3.91	.145
6	4.15	4.34	.067
7	4.47	4.74	.025
8	4.82	5.11	.029
9	5.11	5.46	.012
10	5.41	5.80	.009

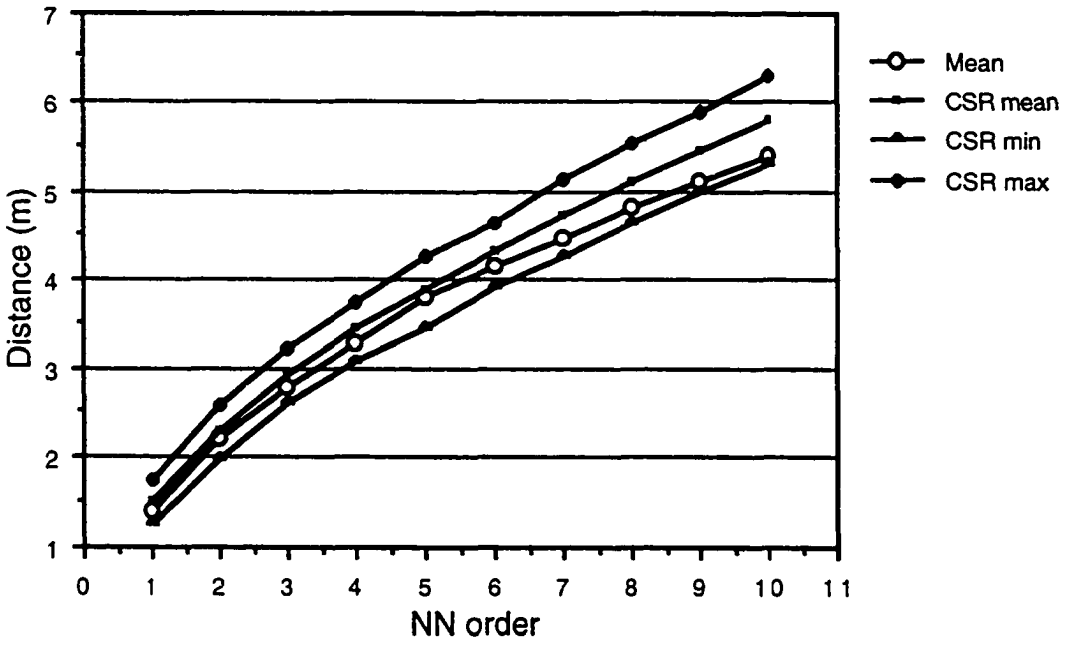


Figure 3.19. Monte Carlo test of complete spatial randomness (CSR) for quadrat 8 site 2 (N = 118 trees). At smaller spatial scales the trees are CSR but at bigger spatial scales they are aggregated (more open space in quadrat than expected under CSR).

Table 3.1. Top 40 dominant species in Site 2. Taxa ranked by Importance Value.

Rank	N of trees	Rel. Den.(cum.)	Rel. Freq.(cum.)	Rel. Dom.(cum.)	Imp. Value (cum.)
1. *Alstonia longofolia*	359	0.27197 (0.272)	0.02888 (0.029)	0.08618 (0.086)	38.7034 (38.703)
2. *Cecropica obtusifolia*	98	0.07424 (0.346)	0.02888 (0.058)	0.13596 (0.222)	23.9080 (62.611)
3. *Dussia cuscatlanica*	2	0.00152 (0.348)	0.00722 (0.065)	0.17854 (0.401)	18.7272 (81.339)
4. *Clethra lanata*	67	0.05076 (0.398	0.02888 (0.094)	0.04788 (0.449)	12.7519 (94.090)
5. *Brosimum alicastrum*	12	0.00909 (0.408)	0.02166 (0.116)	0.07733 (0.526)	10.8084 (104.899)
6. *Lonchocarpus salvadorensis*	65	0.04924 (0.457)	0.02888 (0.144)	0.02201 (0.548)	10.0134 (114.912)
7. *Licania retifolia*	6	0.00455 (0.461)	0.01444 (0.159)	0.07111 (0.619)	9.0093 (123.922)
8. *Cordia alliodora*	49	0.03712 (0.498)	0.02527 (0.184)	0.01791 (0.637)	8.0299 (131.951)
9. *Tabernaemontana amygdalifolia*	60	0.04545 (0.544)	0.02166 (0.206)	0.01310 (0.650)	8.0213 (139.973)
10.*Casearia sylvestris*	55	0.04167 (0.586)	0.02888 (0.235)	0.00668 (0.657)	7.7231 (147.696)
11.*Tabebuia rosea*	13	0.00985 (0.595)	0.02527 (0.260)	0.03885 (0.696)	7.3970 (155.093)
12.*Inga* sp.	40	0.03030 (0.626)	0.02888 (0.289)	0.01344 (0.709)	7.2619 (162.355)
13.Unknown sp6.	42	0.03182 (0.658)	0.02888 (0.318)	0.00955 (0.719)	7.0253 (169.380)
14.*Trichospermum galeottii*	21	0.01591 (0.673)	0.01805 (0.336)	0.02718 (0.746)	6.1140 (175.494)
15.Unknown 1	24	0.01818 (0.692)	0.02527 (0.361)	0.01141 (0.757)	5.4863 (180.980)
16.*Alchornea latifolia*	8	0.00606 (0.698)	0.01805 (0.379)	0.01331 (0.770)	3.7424 (184.723)
17.*Apananthe monoica*	2	0.00152 (0.699)	0.00722 (0.386)	0.02569 (0.796)	3.4423 (188.165)
18.*Dendropanax arboreus*	9	0.00682 (0.706)	0.01805 (0.404)	0.00781 (0.804)	3.2677 (191.433)
19.*Cupania guatemalensis*	13	0.00985 (0.716)	0.01805 (0.422)	0.00470 (0.809)	3.2602 (194.693)
20.*Rheedia edulis*	21	0.01591 (0.732)	0.00722 (0.430)	0.00919 (0.818)	3.2316 (197.925)
21.*Inga fagifolia*	4	0.00303 (0.735)	0.01444 (0.444)	0.01453 (0.832)	3.2001 (201.125)
22.*Inga calderonii*	22	0.01667 (0.752)	0.00722 (0.451)	0.00803 (0.840)	3.1915 (204.316)
23.*Casearia commersoriana*	15	0.01136 (0.763)	0.01083 (0.462)	0.00903 (0.849)	3.1229 (207.439)
24.*Apeiba tibourbou*	8	0.00606 (0.769)	0.01805 (0.480)	0.00642 (0.856)	3.0527 (210.492)
25.Unknown spp1	11	0.00833 (0.777)	0.01805 (0.498)	0.00344 (0.859)	2.9827 (213.474)

26.*Hirtella racemosa*	28	0.02121 (0.798)	0.00361 (0.502)	0.00499 (0.864)	2.9809 (216.455)
27.*Zanthoxylum microcarpum*	7	0.00530 (0.804)	0.01805 (0.520)	0.00452 (0.869)	2.7876 (219.243)
28.*Ocotea sinuata*	9	0.00682 (0.811)	0.01805 (0.538)	0.00182 (0.871)	2.6684 (221.911)
29.*Manilkara chicle*	11	0.00833 (0.819)	0.00722 (0.545)	0.01083 (0.881)	2.6379 (224.549)
30.*Colophylum brasiliense*	7	0.00530 (0.824)	0.00722 (0.552)	0.01184 (0.893)	2.4363 (226.986)
31.Unknown 9	10	0.00758 (0.832)	0.01444 (0.567)	0.00232 (0.896)	2.4337 (229.419)
32.Unknown 5	6	0.00455 (0.836)	0.01805 (0.585)	0.00069 (0.896)	2.3282 (231.748)
33.*Maytenus chiapensis*	21	0.01591 (0.852)	0.00361 (0.588)	0.00288 (0.899)	2.2399 (233.988)
34.*Casearia aculeata*	9	0.00682 (0.859)	0.01083 (0.599)	0.00352 (0.903)	2.1173 (236.105)
35.*Heliocarpus mexicanus*	7	0.00530 (0.864)	0.01083 (0.610)	0.00457 (0.907)	2.0703 (238.175)
36.Unknown 2	5	0.00379 (0.868)	0.01083 (0.621)	0.00515 (0.912)	1.9772 (240.152)
37.*Lunaria mexicana*	4	0.00303 (0.871)	0.01083 (0.632)	0.00501 (0.917)	1.8871 (242.039)
38.*Luehea candida*	3	0.00227 (0.873)	0.01083 (0.643)	0.00559 (0.923)	1.8691 (243.908)
39.*Cedrela odorata*	2	0.00152 (0.875)	0.00722 (0.650)	0.00968 (0.933)	1.8417 (245.750)
40.*Conostegia xalapensis*	8	0.00606 (0.881)	0.01083 (0.661)	0.00110 (0.934)	1.7993 (247.549)

Table 3.2. Ecological dominance of taxonomic families, ranked by Importance Values.

Rank	N of trees	Rel.Den.(cum.)	Rel.Freq.(cum.)	Rel.Dom.(cum.)	Importance Value(cum.)
1. Apocynaceae	419	0.31742 (0.317)	0.03980 (0.040)	0.09928 (0.099)	45.6506 (45.651)
2. Leguminosae	147	0.11136 (0.429)	0.03980 (0.080)	0.24273 (0.342)	39.3897 (85.040)
3. Cecropiaceae	98	0.07424 (0.503)	0.03980 (0.119)	0.13596 (0.478)	25.0000 (110.040)
4. Clethraceae	67	0.05076 (0.554)	0.03980 (0.159)	0.04788 (0.526)	13.8439 (123.884)
5. Bignoniaceae	55	0.04167 (0.595)	0.03980 (0.199)	0.04835 (0.574)	12.9818 (136.866)
6. Flacourtiaceae	83	0.06288 (0.658)	0.03980 (0.239)	0.02425 (0.598)	12.6933 (149.559)
7. Moraceae	15	0.01136 (0.670)	0.02985 (0.269)	0.07859 (0.677)	11.9804 (161.540)
8. Tiliaceae	39	0.02955 (0.699)	0.03980 (0.308)	0.04375 (0.721)	11.3101 (172.850)
9. Boraginaceae	58	0.04394 (0.743)	0.03483 (0.343)	0.02112 (0.742)	9.9886 (182.838)
10.Chrysobalanaceae	6	0.00455 (0.748)	0.01990 (0.363)	0.07111 (0.813)	9.5554 (192.394)
11.Clusiaceae	31	0.02348 (0.771)	0.01990 (0.383)	0.02159 (0.835)	6.4979 (198.891)
12.Unknown 1	24	0.01818 (0.789)	0.03483 (0.418)	0.01141 (0.846)	6.4418 (205.333)
13.Euphorbiaceae	11	0.00833 (0.798)	0.03483 (0.453)	0.01599 (0.862)	5.9147 (211.248)
14.Lauraceae	14	0.01061 (0.808)	0.02488 (0.478)	0.00692 (0.869)	4.2399 (215.488)
15.Rubiaceae	14	0.01061 (0.819)	0.02985 (0.507)	0.00158 (0.871)	4.2034 (219.691)
16.Araliaceae	9	0.00682 (0.826)	0.02488 (0.532)	0.00781 (0.878)	3.9502 (223.641)
17.Sapindaceae	13	0.00985 (0.836)	0.02488 (0.557)	0.00470 (0.883)	3.9427 (227.584)
18.Rosaceae	30	0.02273 (0.858)	0.00995 (0.567)	0.00531 (0.888)	3.7988 (231.383)
19.Ulmaceae	2	0.00152 (0.860)	0.00995 (0.577)	0.02569 (0.914)	3.7153 (235.098)
20.Unknown spp1	11	0.00833 (0.868)	0.02488 (0.602)	0.00344 (0.917)	3.6652 (238.763)
21.Araliaceae	8	0.00614 (0.882)	0.02010 (0.633)	0.00645 (0.908)	3.2693 (242.272)
22.Ulmaceae	1	0.00077 (0.883)	0.00503 (0.638)	0.02586 (0.934)	3.1652 (245.437)
23.Unknown 5	6	0.00460 (0.887)	0.02513 (0.663)	0.00069 (0.934)	3.0424 (248.480)
24.Melastomataceae	10	0.00767 (0.895)	0.02010 (0.683)	0.00240 (0.937)	3.0173 (251.497)
25.Unknown 9	10	0.00767 (0.903)	0.02010 (0.704)	0.00234 (0.939)	3.0118 (254.509)

26.Unknown 2	5	0.00384 (0.906)	0.01508 (0.719)	0.00520 (0.944)	2.4116 (256.920)
27.Celastraceae	21	0.01612 (0.922)	0.00503 (0.724)	0.00291 (0.947)	2.4050 (259.325)
28.Myrtaceae	12	0.00921 (0.932)	0.01005 (0.734)	0.00284 (0.950)	2.2104 (261.536)
29.Meliaceae	2	0.00153 (0.933)	0.01005 (0.744)	0.00978 (0.960)	2.1361 (263.672)
30.Unknown 7	5	0.00384 (0.937)	0.01005 (0.754)	0.00504 (0.965)	1.8931 (265.565)
31.Ochnaceae	4	0.00307 (0.940)	0.01508 (0.769)	0.00066 (0.965)	1.8801 (267.445)
32.Piperaceae	3	0.00230 (0.942)	0.01508 (0.784)	0.00070 (0.966)	1.8079 (269.253)
33.Unknown 4	3	0.00230 (0.945)	0.01508 (0.799)	0.00027 (0.966)	1.7649 (271.018)
34.Unknown 6	9	0.00691 (0.952)	0.00503 (0.804)	0.00353 (0.970)	1.5459 (272.564)
35.Unknown 8	2	0.00153 (0.953)	0.00503 (0.809)	0.00879 (0.979)	1.5349 (274.099)
36.Unknown sp5	5	0.00384 (0.957)	0.01005 (0.819)	0.00138 (0.980)	1.5263 (275.625)
37.Compositae	5	0.00384 (0.961)	0.01005 (0.829)	0.00053 (0.981)	1.4414 (277.066)
38.Sterculiaceae	2	0.00153 (0.962)	0.01005 (0.839)	0.00271 (0.983)	1.4300 (278.496)
39.Burseraceae	4	0.00307 (0.965)	0.01005 (0.849)	0.00060 (0.984)	1.3724 (279.869)
40.Anacardiaceae	2	0.00153 (0.967)	0.01005 (0.859)	0.00161 (0.986)	1.3192 (281.188)
41.Unknown sp4	9	0.00691 (0.974)	0.00503 (0.864)	0.00088 (0.986)	1.2811 (282.469)
42.Unknown spp6	2	0.00153 (0.975)	0.01005 (0.874)	0.00042 (0.987)	1.2006 (283.670)
43.Unknown sp9	2	0.00153 (0.977)	0.01005 (0.884)	0.00012 (0.987)	1.1709 (284.841)
44.Unknown spp3	1	0.00077 (0.978)	0.00503 (0.889)	0.00394 (0.991)	0.9730 (285.814)
45.Actinidiaceae	2	0.00153 (0.979)	0.00503 (0.894)	0.00254 (0.993)	0.9102 (286.724)
46.Solanaceae	4	0.00307 (0.982)	0.00503 (0.899)	0.00050 (0.994)	0.8593 (287.583)
47.Dilleniaceae	3	0.00230 (0.985)	0.00503 (0.905)	0.00078 (0.995)	0.8105 (288.393)
48.Unknown spp8	1	0.00077 (0.985)	0.00503 (0.910)	0.00193 (0.997)	0.7727 (289.166)
49.Myrsinaceae	2	0.00153 (0.987)	0.00503 (0.915)	0.00026 (0.997)	0.6820 (289.848)
50.Unknown sp1	1	0.00077 (0.988)	0.00503 (0.920)	0.00058 (0.998)	0.6374 (290.486)
51.Unknown sp2	1	0.00077 (0.988)	0.00503 (0.925)	0.00036 (0.998)	0.6156 (291.101)
52.Unknown sp3	1	0.00077 (0.989)	0.00503 (0.930)	0.00030 (0.998)	0.6088 (291.710)
53.Unknown spp5	1	0.00077 (0.990)	0.00503 (0.935)	0.00023 (0.998)	0.6026 (292.313)
54.Bombacaceae	1	0.00077 (0.991)	0.00503 (0.940)	0.00021 (0.999)	0.6003 (292.913)
55.Unknown ssp1	1	0.00077 (0.992)	0.00503 (0.945)	0.00019 (0.999)	0.5981 (293.511)
56.Urticaceae	1	0.00077 (0.992)	0.00503 (0.950)	0.00016 (0.999)	0.5952 (294.106)
57.Unknown sp8	1	0.00077 (0.993)	0.00503 (0.955)	0.00015 (0.999)	0.5940 (294.700)
58.Unknown sp6	1	0.00077 (0.994)	0.00503 (0.960)	0.00013 (0.999)	0.5925 (295.293)

59.Plygonaceae	1	0.00077 (0.995)	0.00503 (0.965)	0.00013 (0.999)	0.5918 (295.885)
60.Unknown sp7	1	0.00077 (0.995)	0.00503 (0.970)	0.00013 (1.000)	0.5918 (296.476)
61.Unknown 3	1	0.00077 (0.996)	0.00503 (0.975)	0.00009 (1.000)	0.5882 (297.065)
62.Unknown spp4	1	0.00077 (0.997)	0.00503 (0.980)	0.00009 (1.000)	0.5882 (297.653)
63.Unknown spp7	1	0.00077 (0.998)	0.00503 (0.985)	0.00009 (1.000)	0.5882 (298.241)
64.Protaceae	1	0.00077 (0.998)	0.00503 (0.990)	0.00008 (1.000)	0.5871 (298.828)
65.Unknown spp2	1	0.00077 (0.999)	0.00503 (0.995)	0.00007 (1.000)	0.5865 (299.415)
66.Unknown spp9	1	0.00077 (1.000)	0.00503 (1.000)	0.00006 (1.000)	0.5855 (300.000)

Table 3.3. Ecological dominant species of small size trees in site 2. Taxa ranked by importance values.

Rank	N of trees	Rel.Density(cum.)	Rel.Freq (cum.)	Rel.Dom. (cum.)	Imp. Value(cum.)
1. *Hirtella racemosa*	17	0.14783 (0.148)	0.11688 (0.117)	0.14885 (0.149)	41.3559 (41.356)
2. *Ouratea lucens*	11	0.09565 (0.243)	0.09091 (0.208)	0.09671 (0.246)	28.3275 (69.683)
3. *Terminalia oblonga*	9	0.07826 (0.322)	0.03896 (0.247)	0.07633 (0.322)	19.3549 (89.038)
4. *Pogonopus speciosus*	8	0.06957 (0.391)	0.05195 (0.299)	0.06946 (0.391)	19.0976 (108.136)
5. *Urera baccifera*	7	0.06087 (0.452)	0.05195 (0.351)	0.06229 (0.454)	17.5104 (125.646)
6. *Lonchocarpus salvadorensis*	7	0.06087 (0.513)	0.02597 (0.377)	0.06132 (0.515)	14.8165 (140.463)
7. *Tabernaemontana amygdalifolia*	5	0.04348 (0.557	0.03896 (0.416)	0.04427 (0.559)	12.6712 (153 134)
8. *Casearia commersoniana*	5	0.04348 (0.600)	0.03896 (0.455)	0.04191 (0.601)	12.4353 (165.569)
9. *Guarea glabra*	4	0.03478 (0.635)	0.03896 (0.494)	0.03373 (0.635)	10.7477 (176.317)
10. *Alibertia edulis*	2	0.01739 (0.652)	0.02597 (0.519)	0.01839 (0.653)	6.1755 (182.492)
11. *Licania retifolia*	2	0.01739 (0.670)	0.02597 (0.545)	0.01804 (0.671)	6.1405 (188.633)
12. *Calycophyllum candidissimum*	2	0.01739 (0.687)	0.02597 (0.571)	0.01772 (0.689)	6.1088 (194.742)
13. *Acacia hindsii*	2	0.01739 (0.704)	0.02597 (0.597)	0.01736 (0.706)	6.0724 (200.814)
14. *Faramea occidentalis*	2	0.01739 (0.722)	0.02597 (0.623)	0.01703 (0.723)	6.0394 (206.854)
15. *Trichilia martiana*	2	0.01739 (0.739)	0.02597 (0.649)	0.01703 (0.740)	6.0394 (212.893)
16. *Cordia dentata*	2	0.01739 (0.757)	0.01299 (0.662)	0.01805 (0.759)	4.8431 (217.736)
17. *Piper marginatum*	2	0.01739 (0.774)	0.01299 (0.675)	0.01737 (0.776)	4.7750 (222.511)
18. *Godmania aesculifolia*	2	0.01739 (0.791)	0.01299 (0.688)	0.01703 (0.793)	4.7407 (227.252)
19. *Castilla elastica*	1	0.00870 (0.800)	0.01299 (0.701)	0.00954 (0.802)	3.1224 (230.374)
20. *Dalbergia* sp.	1	0.00870 (0.809)	0.01299 (0.714)	0.00954 (0.812)	3.1224 (233.497)
21. *Randia chiapensis*	1	0.00870 (0.817)	0.01299 (0.727)	0.00954 (0.822)	3.1224 (236.619)
22. *Astronium graveolens*	1	0.00870 (0.826)	0.01299 (0.740)	0.00919 (0.831)	3.0874 (239.707)
23. *Piper tuberculatum*	1	0.00870 (0.835)	0.01299 (0.753)	0.00919 (0.840)	3.0874 (242.794)
24. *Senna bacillaris*	1	0.00870 (0.843)	0.01299 (0.766)	0.00919 (0.849)	3.0531 (248.934)
25. Unknown spp1	11	0.00833 (0.777)	0.01805 (0.498)	0.00344 (0.859)	2.9827 (213.474)

26. Unknown 6	1	0.00870 (0.861)	0.01299 (0.792)	0.00885 (0.867)	3.0531 (251.988)
27. *Ardisia paschalis*	1	0.00870 (0.870)	0.01299 (0.805)	0.00851 (0.875)	3.0194 (255.007)
28. *Cordia panamensis*	1	0.00870 (0.878)	0.01299 (0.818)	0.00851 (0.884)	3.0194 (258.026)
29. *Hymenaea courbaril*	1	0.00870 (0.887)	0.01299 (0.831)	0.00851 (0.892)	3.0194 (261.046)
30. *Simarouba glauca*	1	0.00870 (0.896)	0.01299 (0.844)	0.00851 (0.901)	3.0194 (264.065)
31. *Sloanea terniflora*	1	0.00870 (0.904)	0.01299 (0.857)	0.00851 (0.909)	3.0194 (267.084)
32 Unknown 9	1	0.00870 (0.913)	0.01299 (0.870)	0.00851 (0.918)	3.0194 (270.104)
33. *Zanthoxylum microcarpum*	1	0.00870 (0.922)	0.01299 (0.883)	0.00851 (0.926)	3.0194 (273.123)
34. *Achatocarpus nigricans*	1	0.00870 (0.930)	0.01299 (0.896)	0.00818 (0.935)	2.9863 (276.109)
35. *Dendropanax arboreus*	1	0.00870 (0.939)	0.01299 (0.909)	0.00818 (0.943)	2.9863 (279.096)
36. *Entreolobium cyclocarpum*	1	0.00870 (0.948)	0.01299 (0.922)	0.00818 (0.951)	2.9863 (282.082)
37. *Guazuma ulmifolia*	1	0.00870 (0.957)	0.01299 (0.935)	0.00818 (0.959)	2.9863 (285.068)
38. *Inga fagifolia*	1	0.00870 (0.965)	0.01299 (0.948)	0.00818 (0.967)	2.9863 (288.055)
39. *Piptadenia obliqua*	1	0.00870 (0.974)	0.01299 (0.961)	0.00818 (0.975)	2.9863 (291.041)
40. *Poeppigia procera*	1	0.00870 (0.983)	0.01299 (0.974)	0.00818 (0.984)	2.9863 (294.027)
41. *Roupala glaberrina*	1	0.00870 (0.991)	0.01299 (0.987)	0.00818 (0.992)	2.9863 (297.014)
42. *Urera* sp. 2	1	0.00870 (1.000)	0.01299 (1.000)	0.00818 (1.000)	2.9863 (300.000)

Table 3.4. Ecological dominance of large size class trees in site 2. Taxa ranked by importance value.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Cecropica obtusifolia*	32	0.24427 (0.244)	0.07059 (0.071)	0.14209 (0.142)	45.6952 (45.695)
2. *Dussia cuscatlanica*	2	0.01527 (0.260)	0.02353 (0.094)	0.24643 (0.389)	28.5229 (74.218)
3. *Licania retifolia*	6	0.04580 (0.305)	0.04706 (0.141)	0.09815 (0.487)	19.1009 (93.319)
4. *Clethra lanata*	9	0.06870 (0.374)	0.07059 (0.212)	0.04872 (0.535)	18.8008 (112.120)
5. *Brosimum alicastrum*	5	0.03817 (0.412)	0.03529 (0.247)	0.10376 (0.639)	17.7226 (129.842)
6. *Alstonia longofolia*	6	0.04580 (0.458)	0.05882 (0.306)	0.02513 (0.664)	12.9757 (142.818)
7. *Trichospermum galeottii*	6	0.04580 (0.504)	0.04706 (0.353)	0.02834 (0.693)	12.1205 (154.939)
8. *Tabebuia rosea*	5	0.03817 (0.542)	0.04706 (0.400)	0.02508 (0.718)	11.0308 (165.970)
9. *Tabebuia donnell-smithii*	4	0.03053 (0.573)	0.03529 (0.435)	0.02550 (0.743)	9.1328 (175.102)
10. *Lonchocarpus salvadorensis*	4	0.03053 (0.603)	0.03529 (0.471)	0.01693 (0.760)	8.2755 (183.378)
11. *Cordia alliodora*	4	0.03053 (0.634)	0.03529 (0.506)	0.00843 (0.769)	7.4255 (190.803)
12. *Alchornea latifolia*	3	0.02290 (0.656)	0.03529 (0.541)	0.01504 (0.784)	7.3238 (198.127)
13. *Apananthe monoica*	1	0.00763 (0.664)	0.01176 (0.553)	0.03535 (0.819)	5.4748 (203.602)
14. *Cedrela odorata*	2	0.01527 (0.679)	0.02353 (0.576)	0.01336 (0.832)	5.2160 (208.818)
15. *Colophylum brasiliense*	3	0.02290 (0.702)	0.01176 (0.588)	0.01404 (0.846)	4.8705 (213.689)
16. Unknown 1	2	0.01527 (0.718)	0.02353 (0.612)	0.00898 (0.855)	4.7775 (218.466)
17. *Lunaria mexicana*	2	0.01527 (0.733)	0.02353 (0.635)	0.00666 (0.862)	4.5456 (223.012)
18. Unknown sp6	2	0.01527 (0.748)	0.02353 (0.659)	0.00627 (0.868)	4.5063 (227.518)
19. *Zanthoxylum microcarpum*	2	0.01527 (0.763)	0.02353 (0.682)	0.00451 (0.873)	4.3309 (231.849)
20. *Rheedia edulis*	2	0.01527 (0.779)	0.02353 (0.706)	0.00358 (0.876)	4.2373 (236.086)
21. *Casearia commersoriana*	3	0.02290 (0.802)	0.01176 (0.718)	0.00641 (0.883)	4.1079 (240.194)
22. *Inga fagifolia*	1	0.00763 (0.809)	0.01176 (0.729)	0.01927 (0.902)	3.8664 (244.060)
23. *Dendropanax arboreus*	2	0.01527 (0.824)	0.01176 (0.741)	0.00797 (0.910)	3.5000 (247.560)
24. *Ocotea veraguensis*	2	0.01527 (0.840)	0.01176 (0.753)	0.00528 (0.915)	3.2312 (250.792)
25. Unknown 8	1	0.00763 (0.847)	0.01176 (0.765)	0.01171 (0.927)	3.1106 (253.902)

26. *Manilkara chicle*	1	0.00763 (0.855)	0.01176 (0.776)	0.01028 (0.937)	2.9676 (256.870)
27. *Luehea candida*	1	0.00763 (0.863)	0.01176 (0.788)	0.00707 (0.944)	2.6463 (259.516)
28. Unknown spp3	1	0.00763 (0.870)	0.01176 (0.800)	0.00538 (0.950)	2.4780 (261.994)
29. Unknown 2	1	0.00763 (0.878)	0.01176 (0.812)	0.00536 (0.955)	2.4753 (264.469)
30. *Apeiba tibourbou*	1	0.00763 (0.885)	0.01176 (0.824)	0.00522 (0.960)	2.4619 (266.931)
31. Unknown 7	1	0.00763 (0.893)	0.01176 (0.835)	0.00478 (0.965)	2.4176 (269.349)
32. Unknown spp1	1	0.00763 (0.901)	0.01176 (0.847)	0.00337 (0.968)	2.2770 (271.626)
33. *Guazuma ulmifolia*	1	0.00763 (0.908)	0.01176 (0.859)	0.00331 (0.972)	2.2706 (273.897)
34. *Inga calderonii*	1	0.00763 (0.916)	0.01176 (0.871)	0.00331 (0.975)	2.2706 (276.167)
35. *Saurarauia Kegeliana*	1	0.00763 (0.924)	0.01176 (0.882)	0.00298 (0.978)	2.2375 (278.405)
36. *Euphorbia heterophylla*	1	0.00763 (0.931)	0.01176 (0.894)	0.00266 (0.981)	2.2062 (280.611)
37. *Heliocarpus mexicanus*	1	0.00763 (0.939)	0.01176 (0.906)	0.00266 (0.983)	2.2062 (282.817)
38. Unknown spp8	1	0.00763 (0.947)	0.01176 (0.918)	0.00264 (0.986)	2.2043 (285.021)
39. *Albisia adinocephala*	1	0.00763 (0.954)	0.01176 (0.929)	0.00251 (0.989)	2.1912 (287.213)
40. *Cordia garascanthus*	1	0.00763 (0.962)	0.01176 (0.941)	0.00239 (0.991)	2.1784 (289.391)
41. *Astronium graveolens*	1	0.00763 (0.969)	0.01176 (0.953)	0.00204 (0.993)	2.1438 (291.535)
42. Cupania guatemalensis.	1	0.00763 (0.977)	0.01176 (0.965)	0.00196 (0.995)	2.1355 (293.670)
43. *Inga* sp.	1	0.00763 (0.985)	0.01176 (0.976)	0.00180 (0.997)	2.1196 (295.790)
44. *Tabernaemontana amygdalifolia*	1	0.00763 (0.992)	0.01176 (0.988)	0.00169 (0.998)	2.1088 (297.899)
45. *Casearia aculeata*	1	0.00763 (1.000)	0.01176 (1.000)	0.00161 (1.000)	2.1013 (300.000)

Table 3.6. Mantel tests of spatial autocorrelation for the 10, 20 x 50 m quadrats of Site 2. Standardized Mantel coefficient listed with p-value attained after 999 permutations, given in parenthesis.

	dbh (cm)	height (m)	species	No. of trees
quadrat 1	-0.21 (0.012)	-0.28 (0.001)	0.14 (0.001)	152
quadrat 2	0.043 (0.001)	0.11 (0.001)	0.073 (0.001)	129
quadrat 3	0.038 (0.001)	0.0628 (0.001)	0.31 (0.001)	157
quadrat 4	0.0080 (0.16)	-0.46 (0.001)	-0.0015 (0.055)	160
quadrat 5	0.011 (0.064)	0.068 (0.001)	0.084 (0.001)	195
quadrat 6	0.065 (0.001)	0.061 (0.001)	0.038 (0.001)	163
quadrat 7	0.087 (0.001)	0.14 (0.001)	0.072 (0.001)	230
quadrat 8	-0.0027 (0.45)	0.033 (0.003	0.035 (0.002)	118

Table 3.7. Sorensen coefficients (S) of floristic similarity for site 2. All pairwise comparisons among the 8, 20x50 m quadrats. S may vary from 0 (no species in common to 1.0 (100% floristic identity).

	1	2	3	4	5	6	7	8
1								
2	.542							
3	.566	.448						
4	.529	.466	.537					
5	.469	.522	.540	.564				
6	.542	.531	.483	.466	.522			
7	.268	.391	.247	.375	.370	.397		
8	.560	.545	.490	.500	.467	.582	.3589	

CHAPTER 4

TREE DIVERSITY IN A HUMAN DISTURBED FOREST FRAGMENT-SITE 3

Introduction

Human disturbance of tropical forests has been documented from many parts of the world (Harcourt & Sayer 1996, Collins 1990). Most of this disturbance has resulted from the extraction of lumber, the conversion of forestland to agricultural land or cattle ranching. Central America has been deforested drastically in the past two decades (Faber 1993). El Salvador has very little forest left (Daugerty 1972). Only about 10 percent of the national territory is currently covered by forest and only two percent is protected by the government (Ramirez & Komar 1996). Two national parks are the bulk of the protected forests, Montecristo National Forest, Santa Ana and El Imposible National Park, Ahuachapán. The first one is a cloud forest and the second is a mosaic of forest fragments at different elevations, from 250 m.a.s.l. to 1,400 m.a.s.l. The latter contains patches of old-growth tropical deciduous forests (Ramirez & Komar 1996), abandoned coffee plantations, abandoned cattle ranches and early successional seres (Ramirez & Komar 1996). Although most of the old-growth forest patches may now seem undisturbed, some were selectively cut about 21 years ago by the previous owners before the park was established.

La Montaõna is the most isolated of all three sites for this study and its access is also much more strenuous and difficult. This is another reason for choosing this particular area. The expectation was that due to its isolation, this forest fragment would be more protected and less disturbed by humans. This site has only one trail running from east to

west and there are few signs of people using it. The elevation at La Montañona ranges from 650 m to 700 m.

Selective harvesting in this site was to some extent less intense than site one. At first sight, there are fewer stumps on the ground. Lianas are also few, unlike the other two sites. The main objective for studying this area is to determine the diversity of tree species.

Methodology

Study Site

A forest inventory was done in Site 3, La Montañona. This site is about 4 kilometers west of the main entrance of the Park. Its elevation ranges from 650 to 700 m.a.s.l. This is the most isolated and leveled of the three sites for this study. Before the establishment of the park by the government, the former owner selectively harvested the most important economically tree for lumber. Among the species harvested are Manilkara chicle (Sapotaceae) and Colophylum brasiliense (Clusiaceae). This has been determined from the remaining tree stumps within the area. No human intervention has taken place since this took place, except perhaps for the collection of fuelwood. Women and adolescents normally do this. Most of the collected wood comes from fallen branches or dead trees. On occasion, small trees are cut.

La Montañona is a relatively large forest patch next to a former horse grazing area. Such activity is prohibited by the government. The current managers (SalvaNATURA) decided a few years ago to eliminate the barbwire fence that kept the horses within the grazing area as the law requires it. These horses, however, run free today in the forest and without any restriction due to the lack of law enforcement. When this project was designed and the inventory done there were no signs of horse grazing in this study area. For this

reason it was chosen without hesitation. Three years later, during one of two subsequent visits, horses were present in this site and today they continue to graze freely. There are neither streams nor creeks crossing this site as opposed to the other sites. The structure of the forest resembles that of Site 1, with the only difference being the presence of many more small trees in site 3.

In 1996 when this project was initiated, there were no free-ranging horses at La Montañona. However, according to the local inhabitants they were present before my arrival. It is very likely that they were in this area for at least 5 years prior to my filed work. Three years later, I visited the area to verify their presence and it was a positive identification of horse disturbance.

Quadrat Sampling

Ten plots (20 x 50 m) were established at La Montañona. The place of the first quadrat was chosen at random and the following plots were separated by a distance of 20 meters from each other. The layout of the plots followed a northwestern direction (Figure 4.1). All quadrats were delineated using nylon rope and the corners marked with sticks. In each plot, I measured the DBH (cm), height (m) and x-y coordinates of all trees (Figure 4.2). All trees were identified and tagged using aluminum tags on which a code was written to identify the site number, quadrat number and the tree number. This information can later be used to delineated the entire site and repeat the inventory. Plant specimens were collected and deposited at the National Herbarium of El Salvador, the School of Biology of the National University and at the herbarium of La Laguna Botanical Garden in San Salvador as for those collected in the other two sites.

Results

A total of 1470 trees was inventoried in site 3, La Montañona. They belong to 67 species, 63 genera, and 29 families. The dominant species in this site is Rhedia edulis (Clusiaceae, IV=37.78), followed by Hirtella racemosa (Rosaceae, IV =26.60), Faramea occidentalis (Rubiaceae, IV = 21.67), Brosimum alicastrum (Moraceae, IV = 20.67), and Colophylum brasiliense (Clusiaceae, IV = 18.19), among the top five. The top five dominant families include the Clusiaceae (IV = 53.29), Moraceae (IV = 28.37), Rosaceae (IV = 27.66), Rubiaceae (IV = 23.45), and the Sapotaceae (IV = 16.45).

The largest DBH was 241 cm for Dussia cuscatlanica (Leguminosae). Other large trees included Dendropanax arboreous (148 cm), Brosimum alicastrum (126.5 cm), Cecropia obtusifolia (123 cm), and Lichania retifolia (117 cm). The tallest trees in this site are Swetia panamensis (60 m), Colophylum brasiliense (60 m), Lichania retifolia (52 m), Manilkara chicle (50 m), and Brosimum alicastrum (42 m).

The average number of species among the ten quadrats is 26.8 and the average number of individuals is 147. The mean DBH is 14.5 cm and the mean height is 9.3 m. The vast majority of trees were between 5 cm and 15 cm DBH (Figure 4.3). Most trees are between 2 m and 10 m height (Figure 4.4). Figure 4.10 shows the relationship of height versus DBH, for the top six dominant species. The presence of small size class individuals and large size in the same site is evident for all the species graphed. Manilkara chicle and Brosimum alicastrum, however, have much fewer small trees than the other species. Most individuals of Hirtella racemosa are of small size relative to the other trees (Figure 4.111). There is only one large tree at 35 cm DBH and one greater than 12 m tall.

The species-area curve for the entire inventory shows a slight sign of leveling off (Figure 4.5). Species abundance for the site clearly shows the presence of a high number of singletons (37, Figure 4.7), doubletons (13), and tripletons (12), particularly in quadrats 4 (24) and 7 (27). Diameter at breast height versus height was plotted to

determine the relationship between small size and large size trees. As seen in Figure 4.9, there is a larger number of small size than large size trees. To better understand this relationship, the top six dominant species were also plotted as a scattergram. Four of them (R. edulis, H. racemosa, F. occidentalis, and C. brasiliense) show high presence of small trees of all four species (Figure 4.11). However, B. alicastrum and M. chicle are represented by large trees, with very few small to mid size individuals. Table 4.3 shows the first and fourth quartiles of dbh. It allows one to clearly determine the presence of young trees in the same site with larger ones. For example, H. racemosa, F. occidentalis, M. chicle, and C. obtusifilia, among others are present in both size classes.

Floristic similarity was determined by calculating the Sorensen coefficient of floristic similarity (S). As it can be seen in Table 4.6, the two most similar quadrats are number 6 and 8 (S= 0.58182). The least similar quadrats are 1 and 7 (S= 0.24691). Overall, the mean S for site 3 is 0.624.

This site contains the largest number of individual trees compared to the other two sites. The average number of trees per quadrat is 147. The highest number of individuals is found in quadrat number 2 and the lowest in number 6 (Table 4.5). The average number of species among the ten quadrats is 26.8. The quadrat with the largest number of species is number 1 and the one with the least is 9.

Small size class trees were compared to large size ones. Their importance values were calculated to determine if trees represented in one size class are also present in the other. In this site, Faramea occidentalis, Rheedia edulis, Licania retifolia, Manilkara chicle, and Apeiba tibourbu are well represented in both size classes (Table 4.3, 4.4). Scattergrams were created to visualize the size distribution of the top six dominant species at La Montañona (Figure 4.11). All but Brosimum alicastrum and Manilkara chicle have many more small size trees. These species have more medium and large trees in their population. Monte Carlo tests of complete spatial randomness show that in quadrats 1 and 6 the trees are more regularly distributed (Figures 4.12 and19).

Conclusions

La Montañona at 67 species in the 1 ha, contains the poorest tree diversity among the three sites for this project. I expected this site to be the most diverse due to its elevation and isolation from human settlements. Due to the fact that it is located half way to the highest point in the park, I expected to find species from the lowlands and highlands. This is not the case. Interestingly, this site contains the largest number of trees (1470) but with the smallest mean dbh (11.8 cm) and height (8.56 m). This indicates that the forest may have been disturbed more during tree harvesting and the impact may have been greater on the saplings and seedlings of the mature trees. For this reason, recovery may be taking longer than the other two sites. The average dbh (14.5 cm) and height (9.3 m) for the entire inventory are relatively smaller than the other sites.

This site is a good example of what happens when a protected area is neglected by their managers, governmental or non-governmental institutions. It also supports my strong opinion that to effectively manage a natural area, regardless of how large or small it might be, the inhabitants of the area must be integrated to all stages of development of the management plans. Without this, there is the risk of selectively enforcing the laws in parks like El Imposible National Park. The ignorance of the local people with respect to ecological consequences of large grazers is a serious problem that needs to be attended to by the managers.

The three sites are clearly different and the effects of human disturbance are similar between site 1 and site 3. The main difference, however, is the presence of horses in number 3 because horses have had a tremendous negative effect on the biological diversity of the area. The main effects stem from the lack of understory, unlike sites 1 and 2. The most obvious evidence is the almost total absence of B. alicastrum seedlings and saplings. This in turn may indicate that such species may well be an indicator for large herbivore

disturbance at the early stages of development of tropical forests, particularly in those natural protected areas where humans live. For this reason, the careful monitoring of domesticated animals must be maintained in places like El Imposible National Park.

The effects of selective harvesting of trees as it occurred at the study sites, in my opinion, mimic the so-called "intermediate disturbance" as proposed by some ecologists (Huston 1994). The fact that disturbance occurred and the species diversity of trees continues in these forest fragments is a sign that its maintenance has depended on the almost null tree harvesting post selective logging. The gaps created by the extraction of trees were small and not large enough to drastically change the microclimate of the open area. But also, because the other large trees left standing were capable of filling the open canopy area, the understory individuals were not able to reach fast enough the open canopy left by the logging event. This can be further studied by analyzing the stumps still found on the ground, for which I measured x and y coordinates. The next phase of this project will be to collect wood samples to identify them. This will give me a better understanding of the dynamics of the selective tree harvesting.

It is possible that the tree flora of La Montañona was already poor in species before any human intervention in 1979. Nevertheless, the active grazing by horses on the seedlings and saplings is important to monitor. It will be important to follow the forests' recovery in the event that horses are eliminated. Another important factor is to determine if the horses have a preference for any particular species. Brosimum alicastrun is well known in the region to be the preferred type of plant consumed by cattle, horses and other domesticated animals.

The future composition of the site is uncertain because only 2% of the large size species are shared with the small size classes. On the other hand, this may indicate that when the older individuals die they may be replaced by a totally different species, indicating a possibly more diverse canopy in the future. The information obtained by determining the Sorensen coefficient provides an insight of the future floristic composition of the forest

community in La Montañona. The average Sorensen coefficient for the ten quadrats is 0.624, indicating a floristic similarity of at least 62.4% of shared species among themselves. Comparing the number of species in common between the large size class and the small, only 6 (2%) species are represented in the entire site 3 inventory. It is clear that the future composition and dominance of this forest patch is uncertain at this point in time. On the bright side, however, it appears as if it will maintain its tree diversity because of the presence of many species in both size classes.

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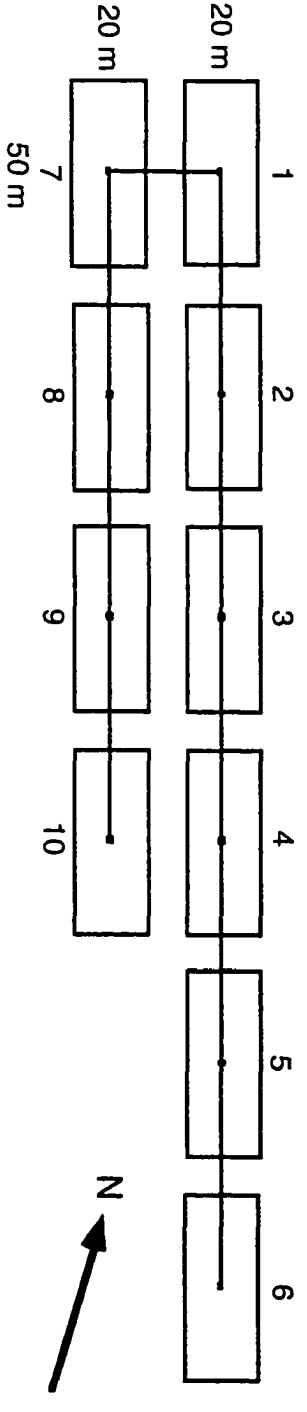


Figure 4.1. Quadrat distribution in Site 3. Disturbed forest at La Montañona.

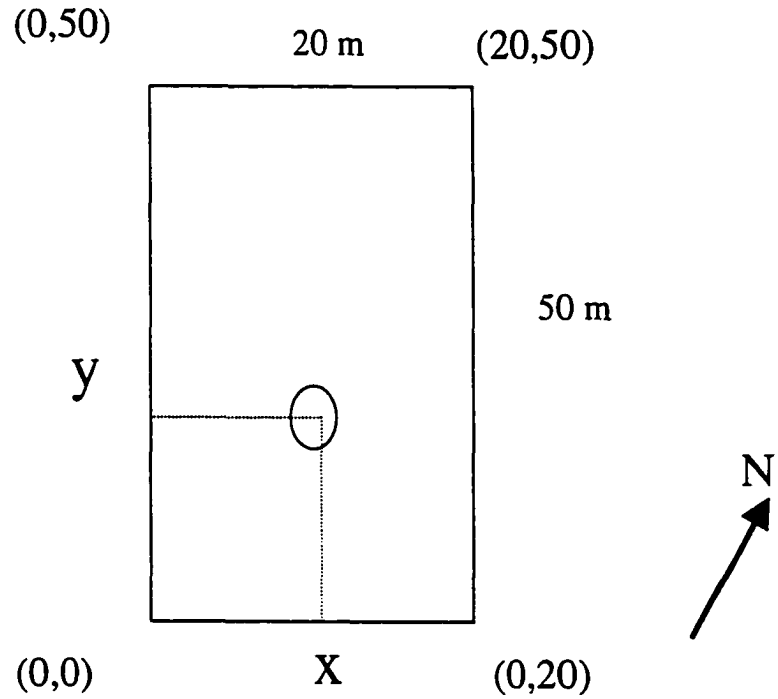


Figure 4.2. Quadrat sampling method, Site 3.

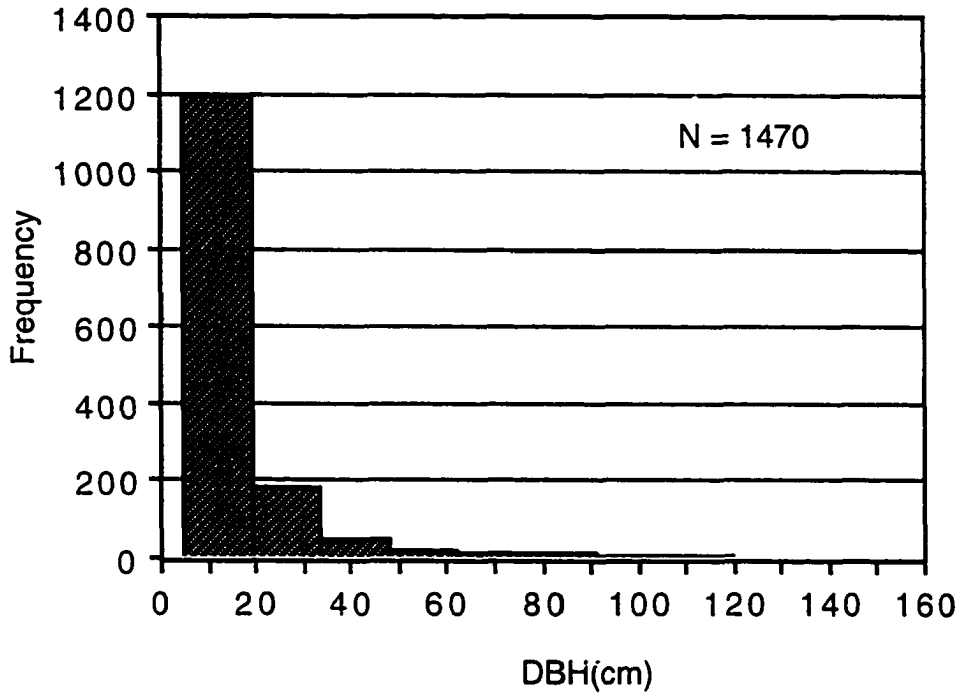


Figure 4.3. Diameter at breast height (cm) frequency distribution for Site 3.

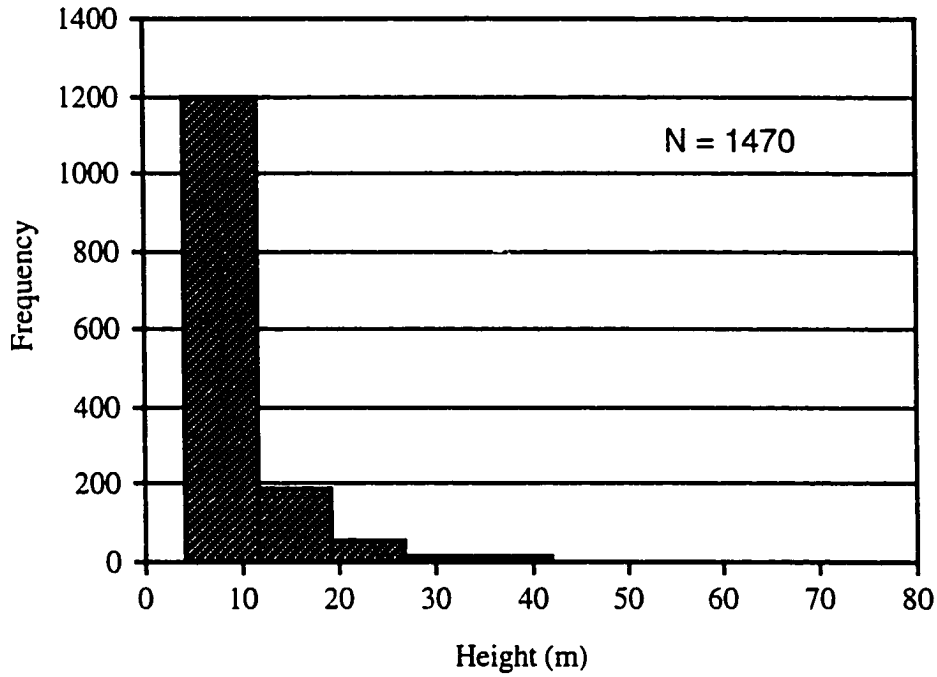


Table 4.4. Tree height (m) frequency distribution in Site 3.

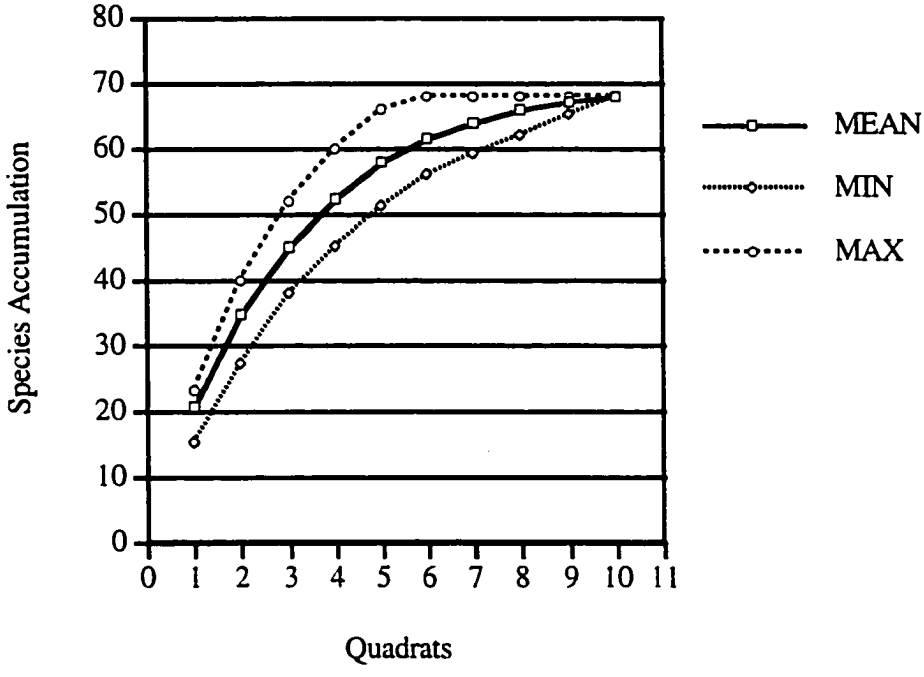
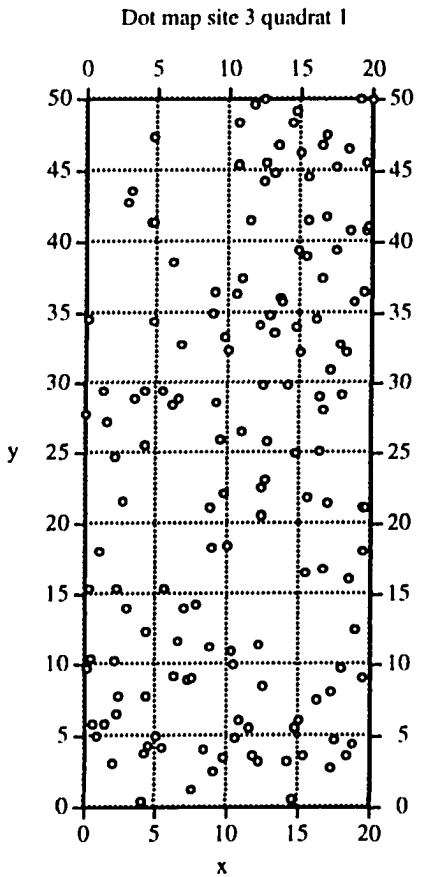


Figure 4.5. Species -Area relation based on mean number of species per quadrat sampled and 999 randomization.



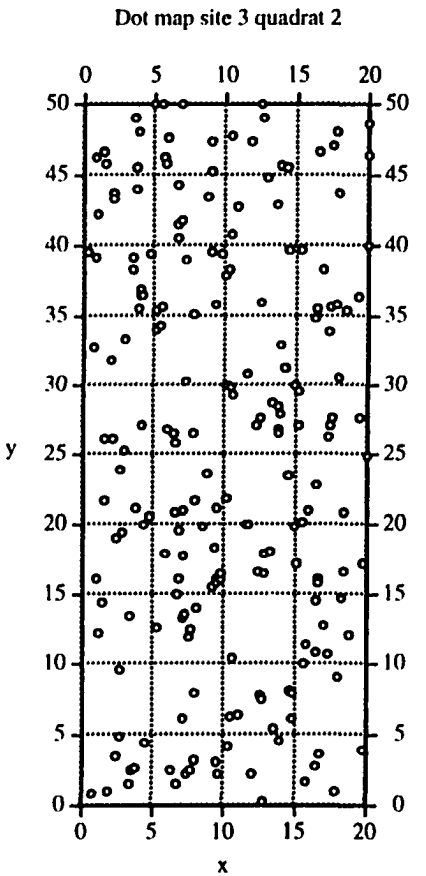


Figure 4.6a. Dot maps for quadrats 1 and 2, Site 3.

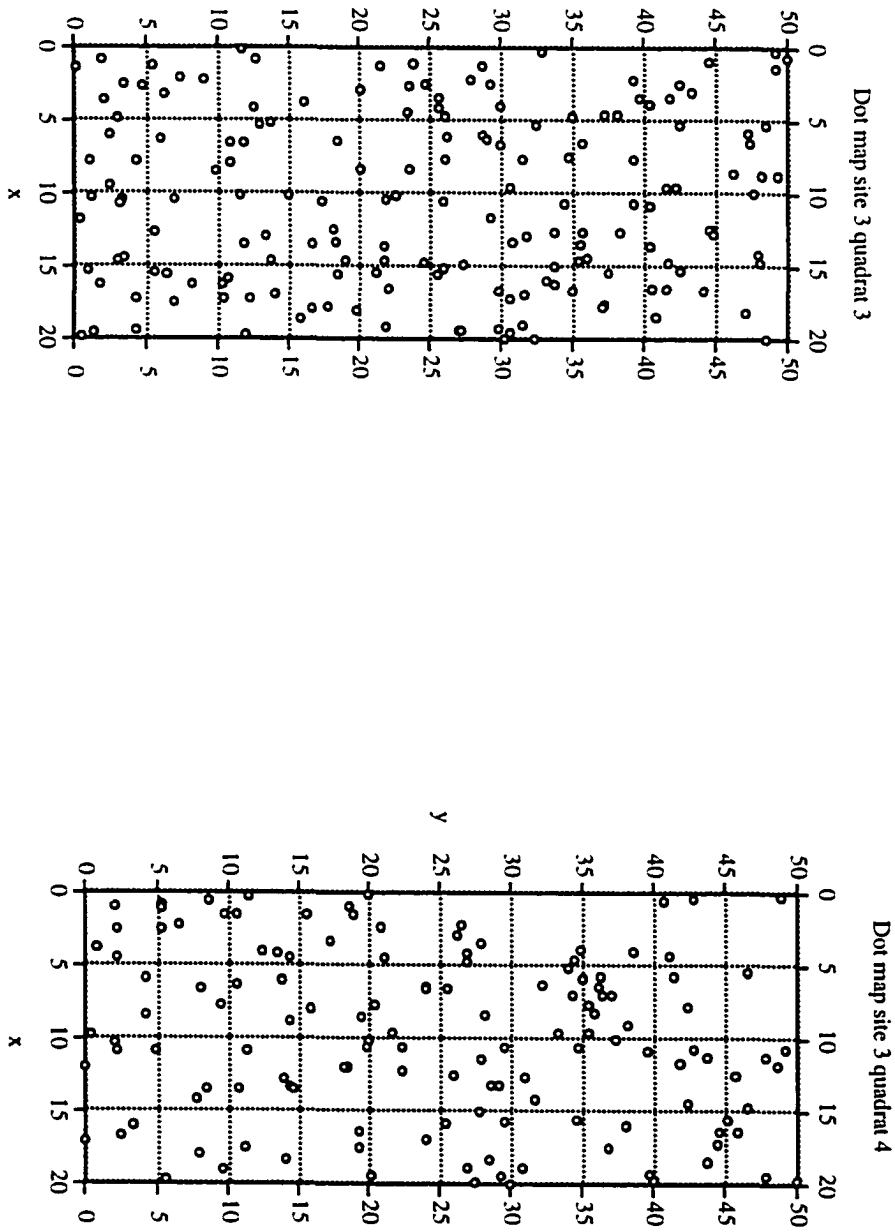


Figure 4.6b. Dot maps for quadrats 3 and 4, Site 3.

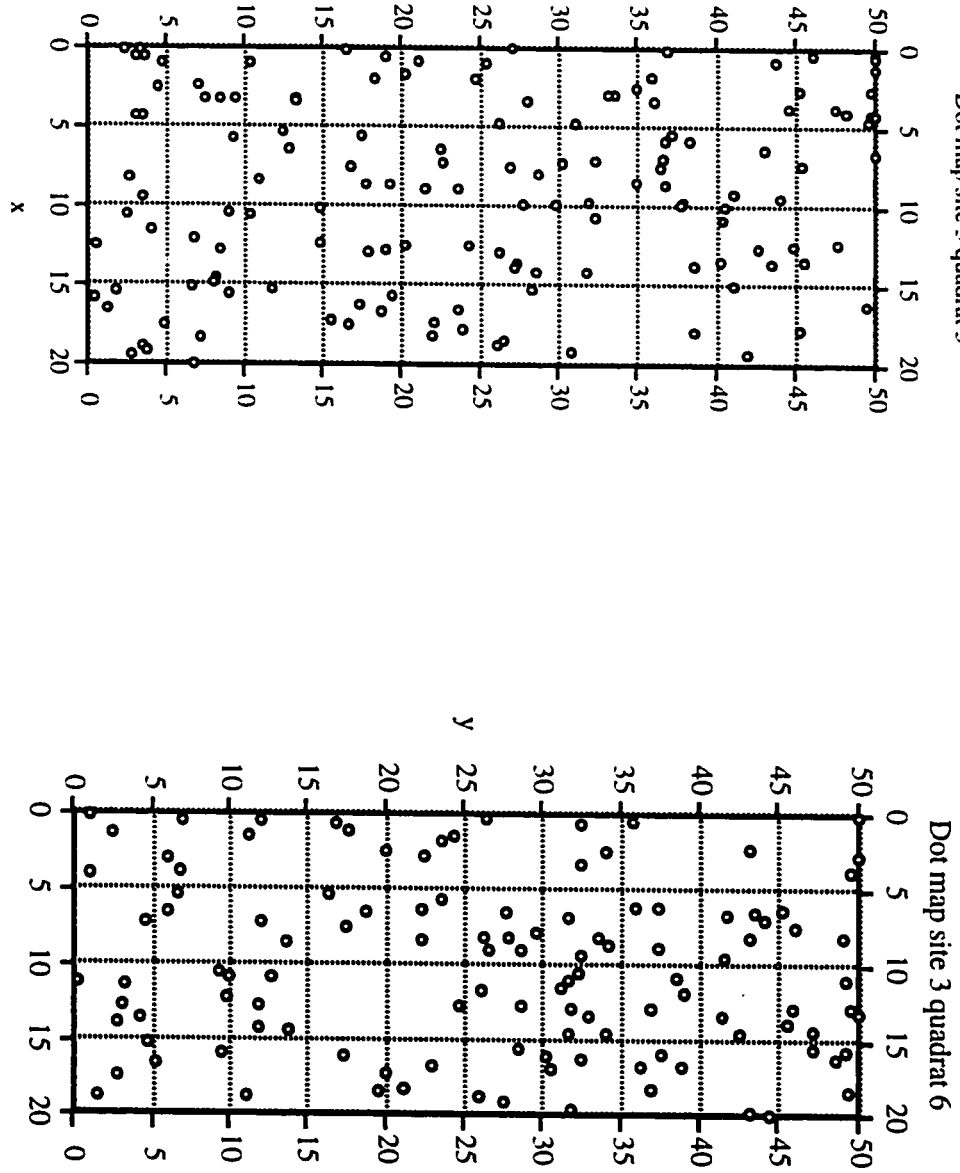


Figure 4.6c. Dot maps for quadrats 5 and 6, Site 3.

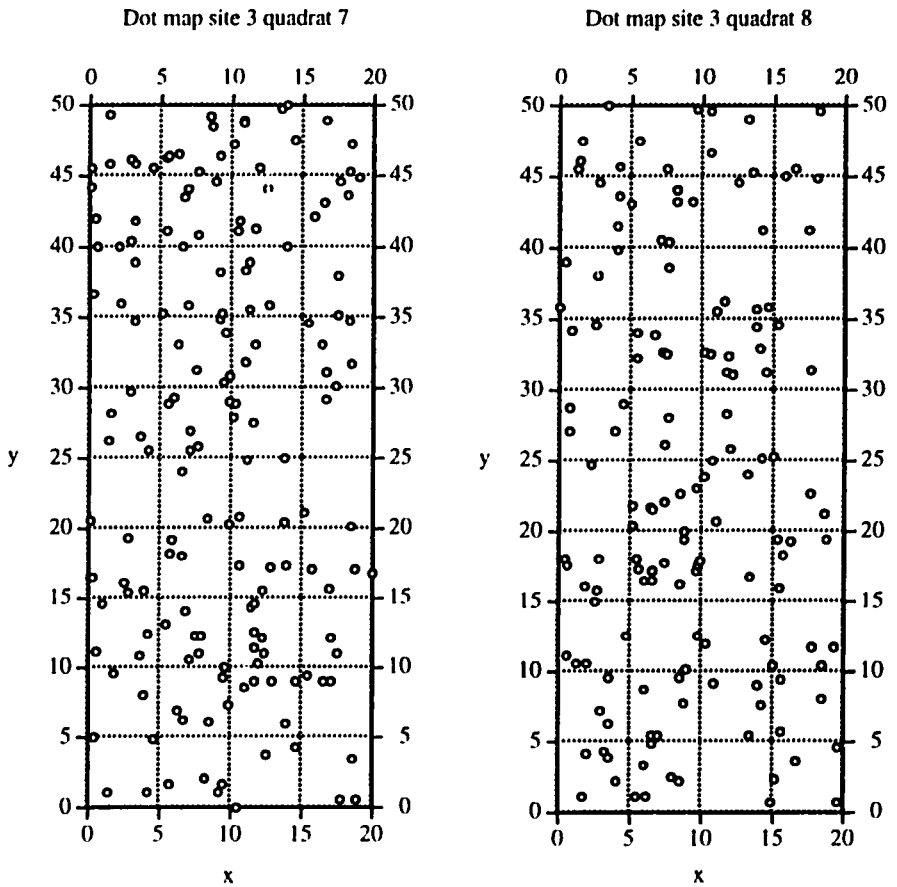


Figure 4.6.d. Dot maps for quadrats 7 and 8, Site 3.

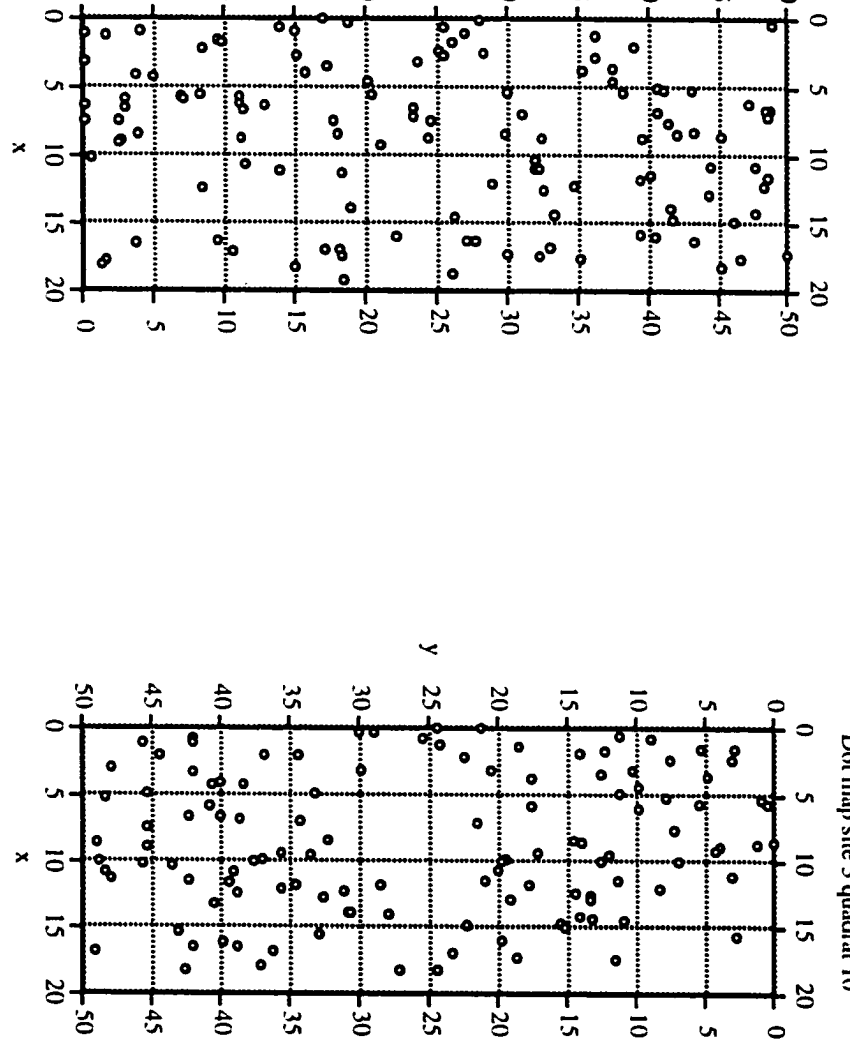


Figure 4.6e. Dot maps for quadrats 9 and 10, Site 3.

No. of Trees		Frequency	Relative Frequency
1	|**********	(16)	(0.239)
2	|**********	(12)	(0.418)
3	|**	(2)	(0.448)
4	|***	(3)	(0.493)
5	|***	(3)	(0.537)
7	|***	(3)	(0.582)
8	|*	(1)	(0.597)
11	|**	(2)	(0.627)
12	|**	(2)	(0.657)
13	|*	(1)	(0.672)
14	|***	(3)	(0.716)
15	|*	(1)	(0.731)
16	|*	(1)	(0.746)
17	|*	(1)	(0.761)
21	|*	(1)	(0.776)
22	|*	(1)	(0.791)
24	|*	(1)	(0.806)
28	|*	(1)	(0.821)
29	|*	(1)	(0.836)
31	|*	(1)	(0.851)
33	|*	(1)	(0.866)
35	|*	(1)	(0.881)
38	|*	(1)	(0.896)
39	|*	(1)	(0.910)

Figure 4.7. Bar diagram of discrete frequency distribution for the 67 taxa.
Frequency and relative cumulative frequency are in parentheses.
Abundance categories with zero frequency are not printed.
1 symbol = 1 taxon.

QUADRAT #1

No. of Trees	Frequency	Relative Frequency
1 |**********	(15)	(0.375)
2 |*******	(7)	(0.550)
3 |***	(3)	(0.625)
4 |**	(2)	(0.675)
5 |*	(1)	(0.700)
6 |*****	(5)	(0.825)
7 |***	(3)	(0.900)
9 |*	(1)	(0.925)
10 |*	(1)	(0.950)
12 |*	(1)	(0.975)
16 |*	(1)	(1.000)

QUADRAT #2

No. of Trees	Frequency	Relative Frequency
1 |********	(8)	(0.276)
2 |*****	(5)	(0.448)
3 |***	(3)	(0.552)
4 |**	(2)	(0.621)
5 |**	(2)	(0.690)
6 |*	(1)	(0.724)
8 |**	(2)	(0.793)
9 |*	(1)	(0.828)
10 |*	(1)	(0.862)
12 |*	(1)	(0.897)
15 |*	(1)	(0.931)
41 |*	(1)	(0.966)
49 |*	(1)	(1.000)

QUADRAT #3

No. of Trees	Frequency	Relative Frequency
1 |********	(8)	(0.320)
2 |******	(6)	(0.560)
3 |***	(3)	(0.680)
5 |**	(2)	(0.760)
6 |*	(1)	(0.800)
8 |*	(1)	(0.840)
11 |*	(1)	(0.880)
34 |**	(2)	(0.960)
38 |*	(1)	(1.000)

QUADRAT #4

No. of Trees		Frequency	Relative Frequency
1	|**********	(11)	(0.478)
2	|*	(1)	(0.522)
3	|***	(3)	(0.652)
4	|*	(1)	(0.696)
5	|*	(1)	(0.739)
6	|*	(1)	(0.783)
8	|*	(1)	(0.826)
13	|*	(1)	(0.870)
21	|*	(1)	(0.913)
23	|*	(1)	(0.957)
34	|*	(1)	(1.000)

QUADRAT #5

No. of Trees		Frequency	Relative Frequency
1	|**********	(10)	(0.400)
2	|*****	(5)	(0.600)
3	|*	(1)	(0.640)
4	|**	(2)	(0.720)
7	|*	(1)	(0.760)
8	|*	(1)	(0.800)
10	|*	(1)	(0.840)
12	|**	(2)	(0.920)
29	|*	(1)	(0.960)
31	|*	(1)	(1.000)

QUADRAT #6

No. of Trees		Frequency	Relative Frequency
1	|***************	(15)	(0.577)
2	|***	(3)	(0.692)
3	|*	(1)	(0.731)
5	|*	(1)	(0.769)
6	|*	(1)	(0.808)
7	|*	(1)	(0.846)
8	|*	(1)	(0.885)
19	|**	(2)	(0.962)
28	|*	(1)	(1.000)

QUADRAT #7

No. of Trees	Frequency	Relative Frequency
1 |**********	(11)	(0.324)
2 |*****	(5)	(0.471)
3 |****	(4)	(0.588)
4 |****	(4)	(0.706)
5 |**	(2)	(0.765)
7 |*	(1)	(0.794)
8 |*	(1)	(0.824)
9 |*	(1)	(0.853)
10 |*	(1)	(0.882)
13 |*	(1)	(0.912)
16 |*	(1)	(0.941)
17 |*	(1)	(0.971)
26 |*	(1)	(1.000)

QUADRAT #8

No. of Trees	Frequency	Relative Frequency
1 |**********	(12)	(0.444)
2 |***	(3)	(0.556)
3 |**	(2)	(0.630)
4 |***	(3)	(0.741)
5 |*	(1)	(0.778)
6 |**	(2)	(0.852)
10 |*	(1)	(0.889)
11 |*	(1)	(0.926)
31 |*	(1)	(0.963)
40 |*	(1)	(1.000)

QUADRAT #9

No. of Trees	Frequency	Relative Frequency
1 |*********	(9)	(0.500)
2 |**	(2)	(0.611)
3 |**	(2)	(0.722)
5 |*	(1)	(0.778)
6 |*	(1)	(0.833)
14 |*	(1)	(0.889)
32 |*	(1)	(0.944)
47 |*	(1)	(1.000)

QUADRAT #10

No. of Trees	Frequency	Relative Frequency
1 |**********	(10)	(0.476)
2 |**	(2)	(0.571)
3 |**	(2)	(0.667)
4 |*	(1)	(0.714)
6 |*	(1)	(0.762)
9 |**	(2)	(0.857)
19 |*	(1)	(0.905)
21 |*	(1)	(0.952)
35 |*	(1)	(1.000)

Figure 4.8. Species Abundance per quadrat for Site 3.

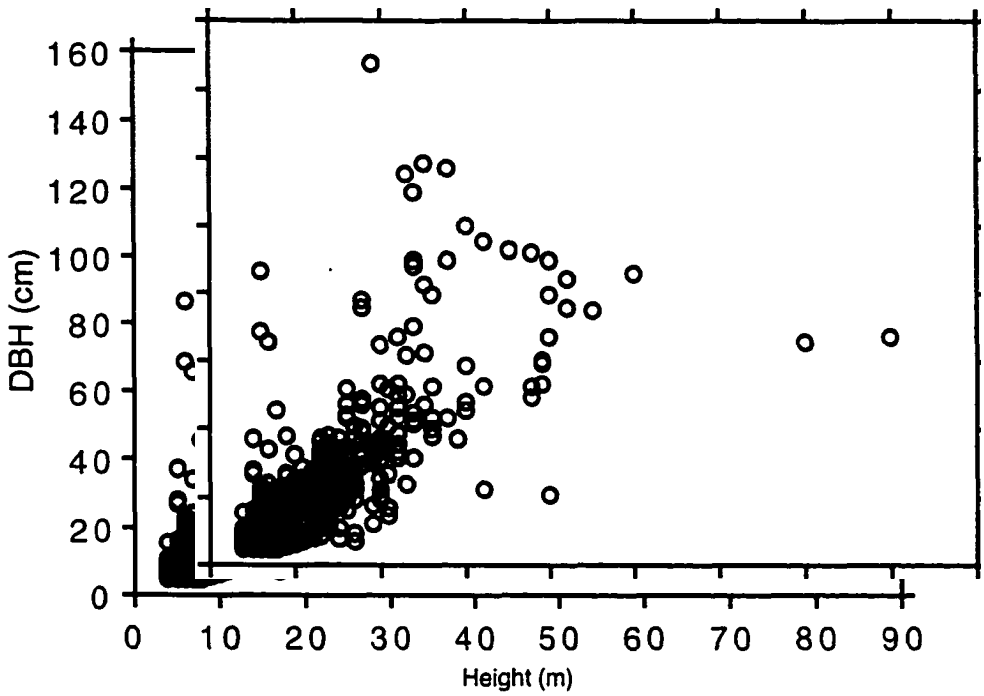


Figure 4.9. Scattergram of the dbh versus height relationship for Site 3.

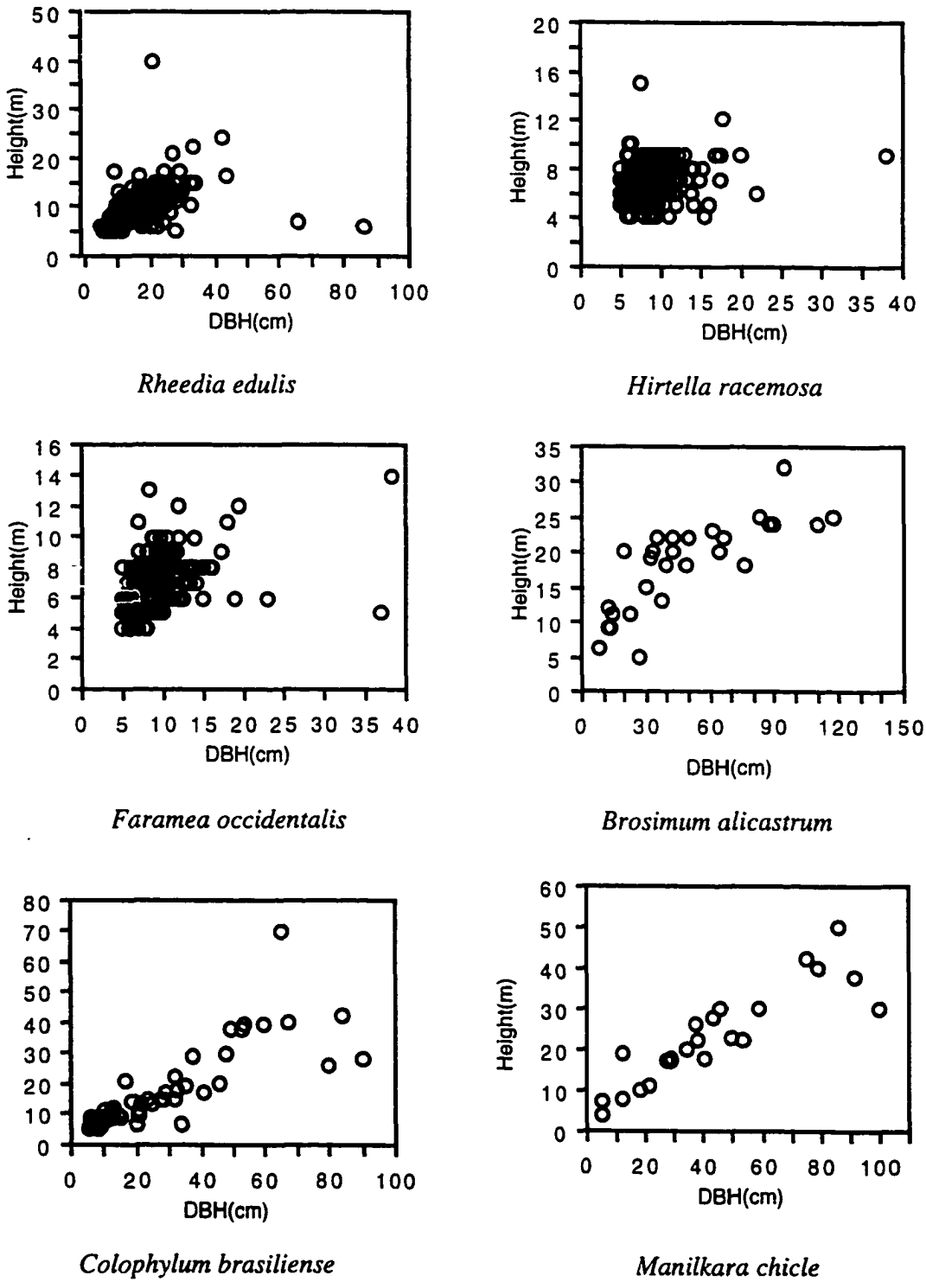
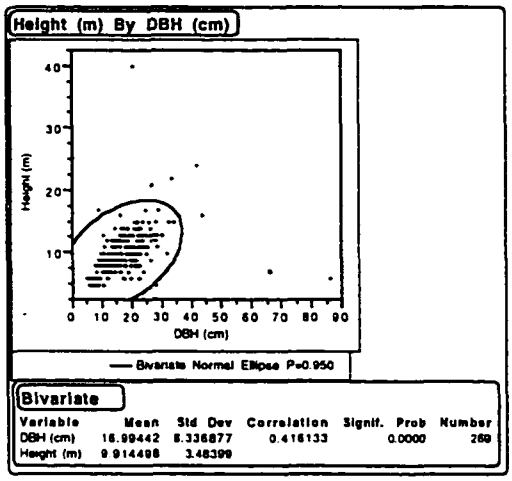
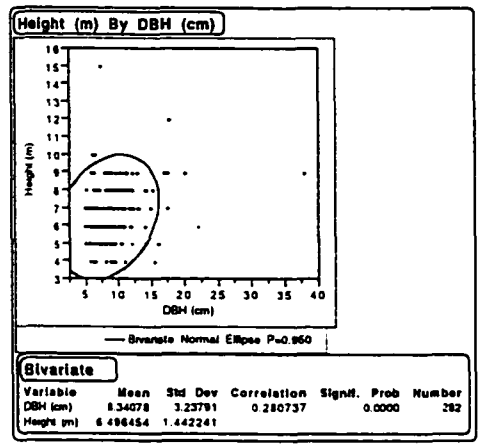


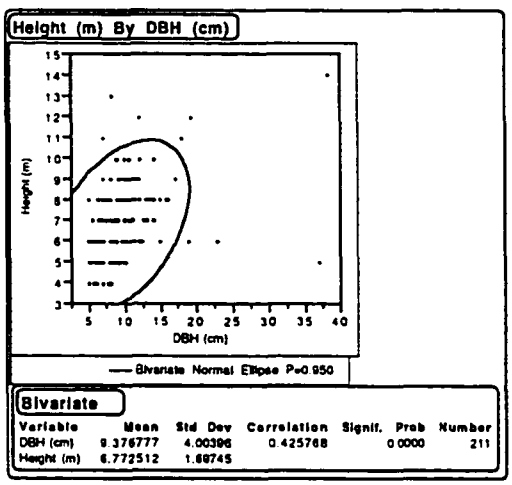
Figure 4.10. Height vs DBH scatergram for the top six dominant species in Site 3.



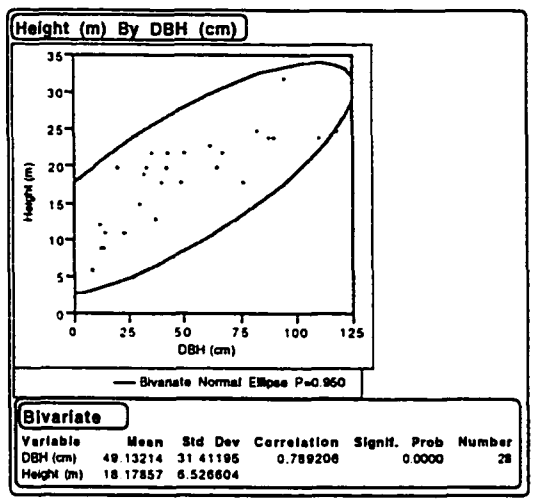
Rhedia edulis



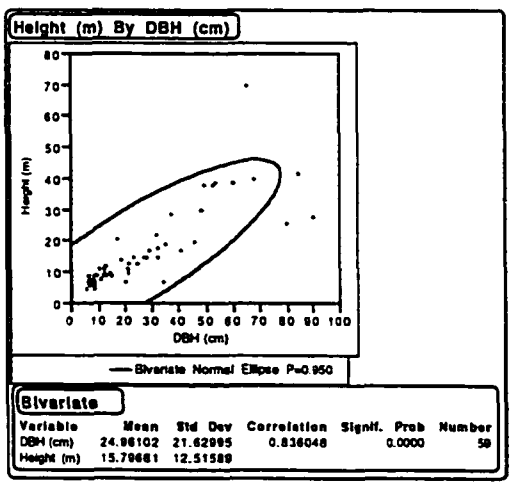
Hirtella racemosa



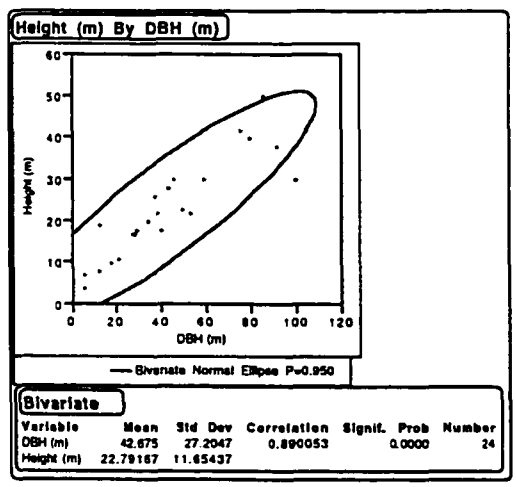
Faramea occidentali s



Brosimum alicastrum



Colophylum brasiliense



Manilkara chicle

Figure 4. 11. Height-dbh relationship for the top six dominant species in site 3. 95% prediction ellipses.

NN order	Obs. mean distance	Simulation mean	p
1	1.35	1.35	.49867
2	2.11	2.05	.16044
3	2.63	2.58	.27151
4	3.08	3.04	.30420
5	3.52	3.45	.18412
6	3.85	3.82	.35057
7	4.14	4.16	.38292
8	4.41	4.49	.21481
9	4.68	4.80	.13909
10	4.95	5.09	.10607

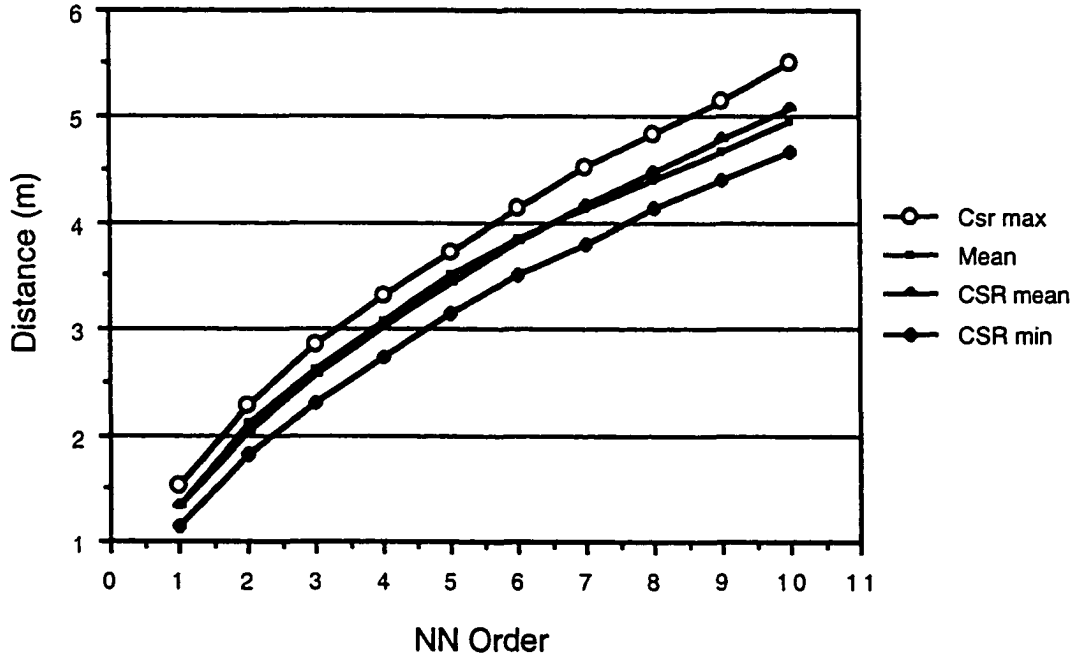


Figure 4. 12. Monte Carlo test for complete spatial randomness for quadrat 1 Site 3 (N = 152). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	P
1	1.10	1.15	.148
2	1.72	1.74	.305
3	2.14	2.20	.170
4	2.50	2.58	.088
5	2.84	2.92	.095
6	3.16	3.24	.125
7	3.47	3.53	.225
8	3.76	3.80	.329
9	4.00	4.05	.250
10	4.25	4.30	.262

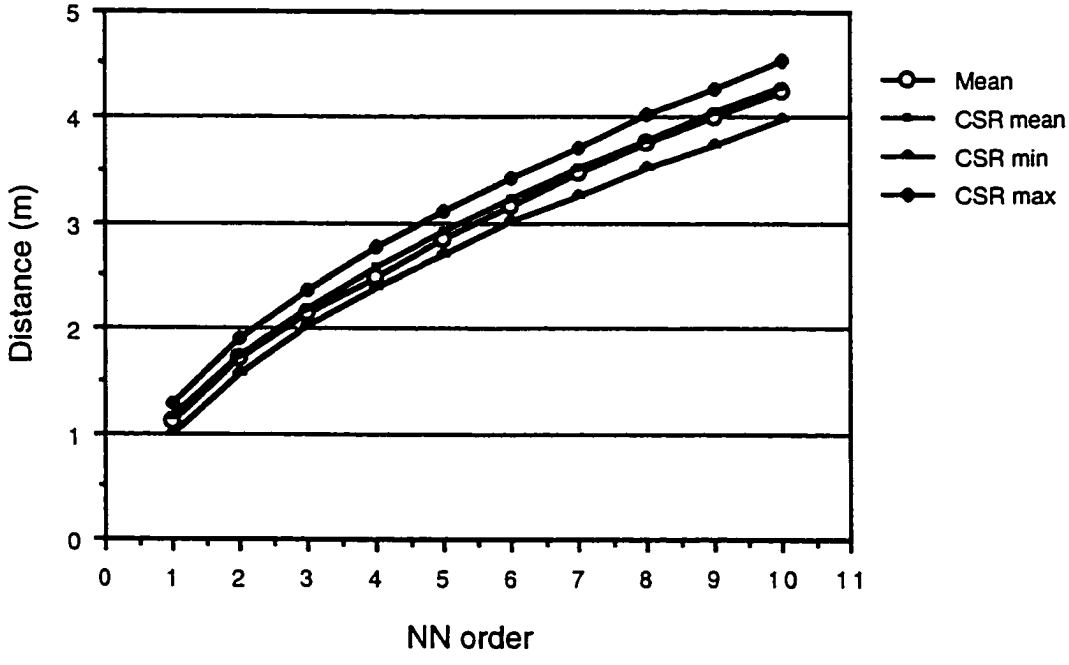


Figure 4.13. Monte Carlo test of complete spatial randomness for quadrat 2, Site 3 (N = 81 trees). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	p
1	1.33	1.26	.113
2	1.99	1.91	.094
3	2.56	2.41	.007
4	2.98	2.83	.021
5	3.32	3.21	.074
6	3.63	3.55	.180
7	3.97	3.88	.131
8	4.28	4.17	.131
9	4.52	4.46	.272
10	4.78	4.73	.312

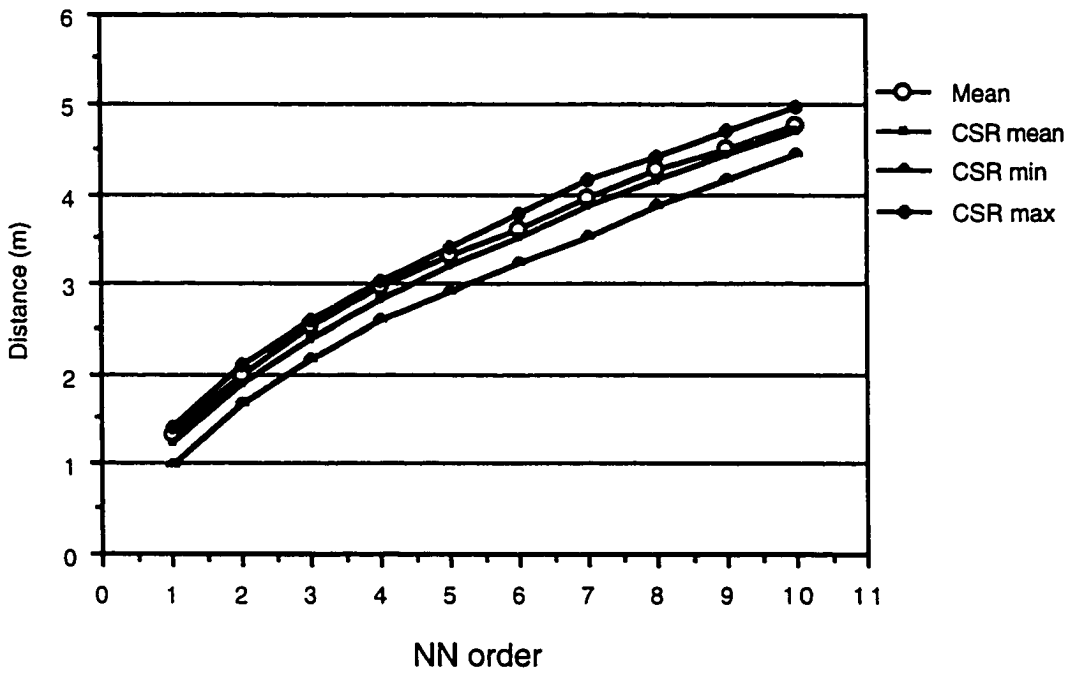


Figure 4.14. Monte Carlo test for complete spatial randomness (CSR) for quadrat 3 Site 3 (N = 170 trees). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	P
1	1.44	1.41	.370
2	2.17	2.15	.400
3	2.81	2.71	.137
4	3.30	3.19	.111
5	3.75	3.62	.097
6	4.12	4.02	.145
7	4.44	4.38	.300
8	4.80	4.73	.260
9	5.12	5.05	.295
10	5.42	5.37	.345

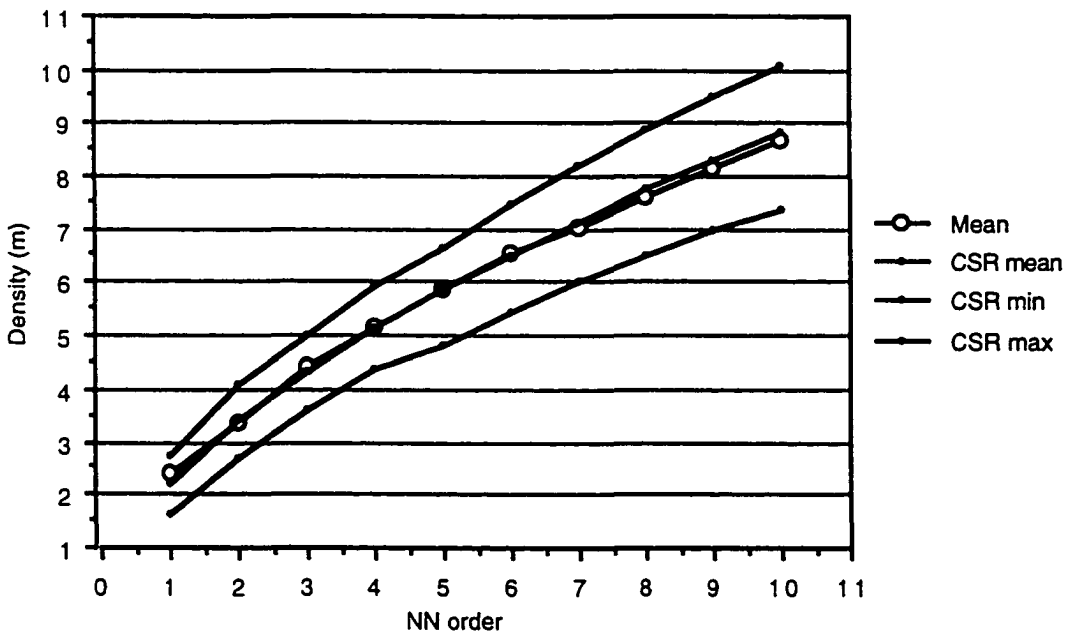


Figure 4.15. Monte Carlo test of complete spatial randomness for quadrat 4, Site 3 (N = 136). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	P
1	1.39	1.39	.488
2	2.03	2.11	.153
3	2.63	2.67	.322
4	3.17	3.15	.400
5	3.59	3.57	.412
6	4.04	3.95	.187
7	4.36	4.31	.326
8	4.67	4.65	.437
9	4.97	4.97	.500
10	5.30	5.28	.436

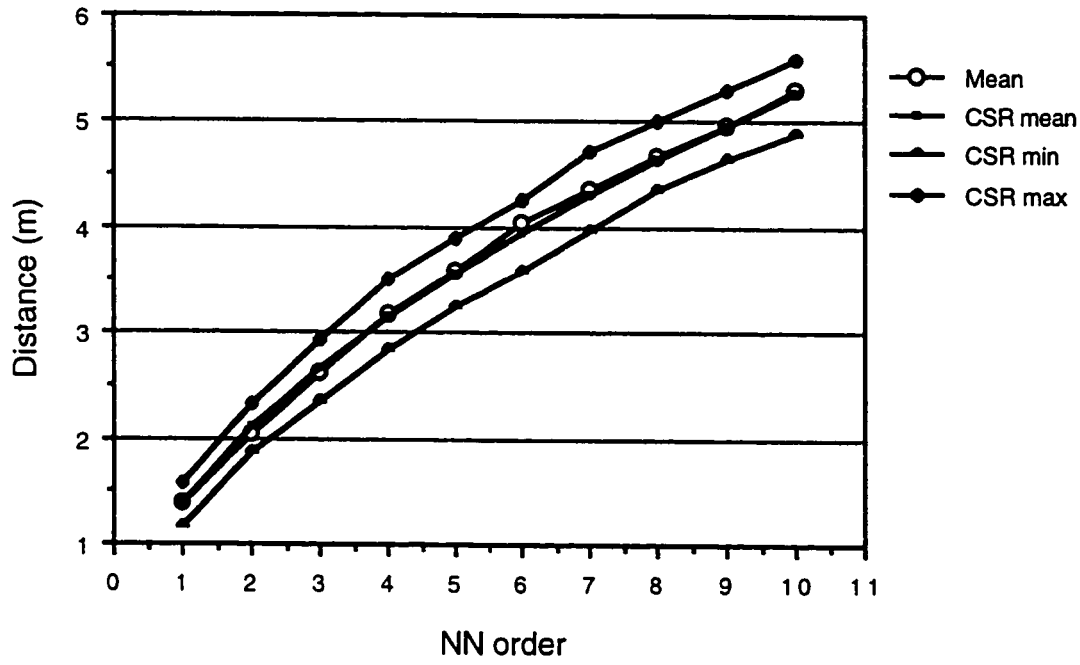


Figure 4.16. Monte Carlo test of complete spatial randomization (CSR) for quadrat 5 Site 3 (N = 140 trees). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	p
1	1.59	1.54	.215
2	2.47	2.33	.055
3	3.13	2.95	.028
4	3.65	3.48	.052
5	4.16	3.95	.026
6	4.60	4.38	.034
7	4.98	4.78	.065
8	5.36	5.16	.076
9	5.73	5.52	.063
10	6.06	5.86	.090

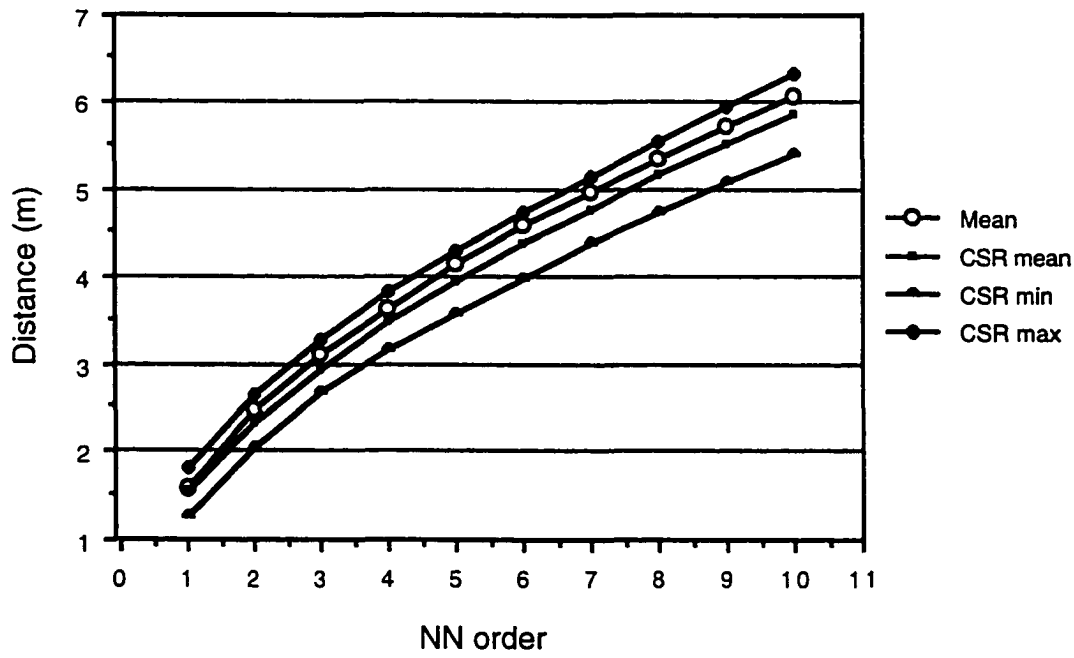


Figure 4.17. Monte Carlo test of complete spatial randomization (CSR) for quadrat 6 site 3 (N = 116 trees). The nearest neighbor distances are what we would expect under CSR but at larger spatial scales the trees deviate from CSR in the direction of over-dispersion.

NN order	Obs. mean distance	Simulation mean	p
1	1.28	1.28	.499
2	1.96	1.94	.376
3	2.49	2.45	.262
4	2.93	2.88	.238
5	3.35	3.26	.128
6	3.72	3.61	.104
7	4.01	3.94	.213
8	4.29	4.25	.309
9	4.56	4.54	.422
10	4.81	4.82	.457

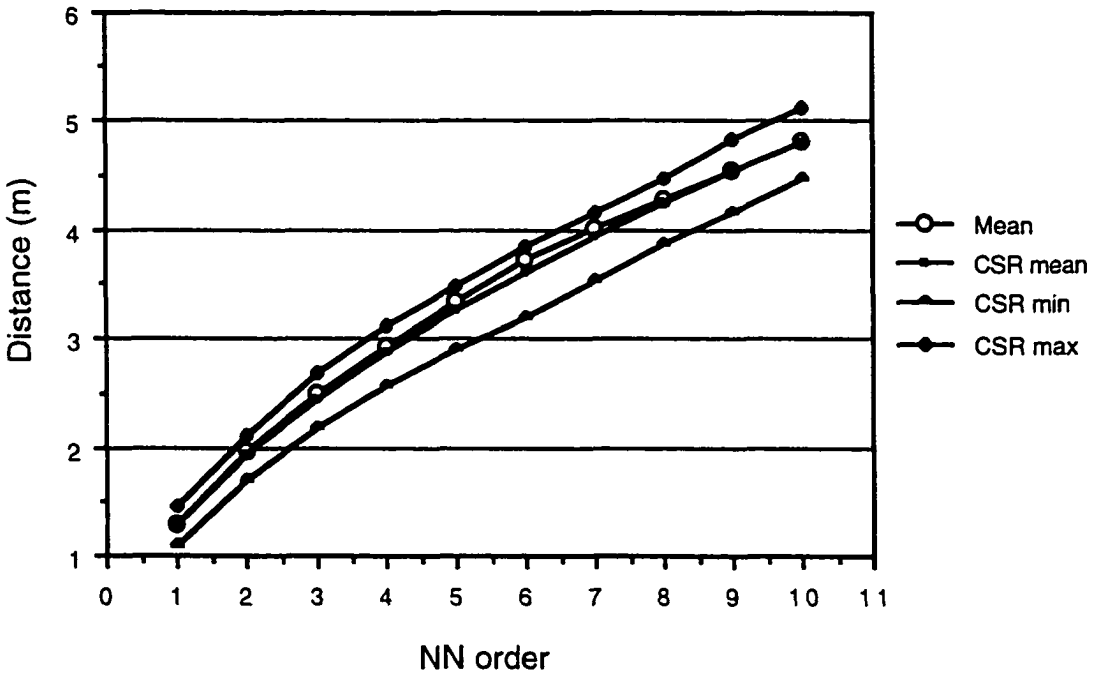


Figure 4.18. Monte Carlo test of complete spatial randomness (CSR) for quadrat 7 Site 3 (N = 165). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	P
2	2.04	2.07	.397
3	2.62	2.62	.332
4	3.05	3.09	.489
5	3.47	3.50	.353
6	3.85	3.88	.394
7	4.18	4.23	.399
8	4.50	4.56	.337
9	4.82	4.87	.291
10	5.09	5.18	.245

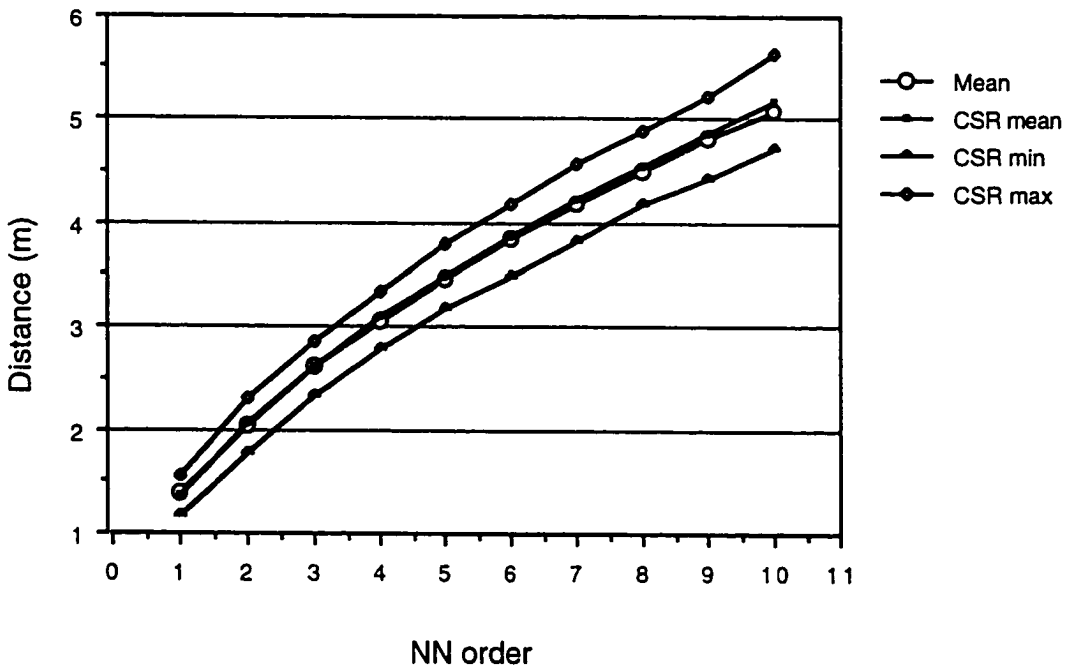


Figure 4.19. Monte Carlo test of complete spatial randomness (CSR) for quadrat 8 site 3 (N = 145 trees). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation distance	p
1	1.38	1.49	.067
2	2.13	2.26	.063
3	2.81	2.86	.279
4	3.34	3.37	.385
5	3.79	3.83	.358
6	4.21	4.24	.416
7	4.61	4.63	.444
8	5.01	4.99	.451
9	5.39	5.34	.360
10	5.72	5.67	.348

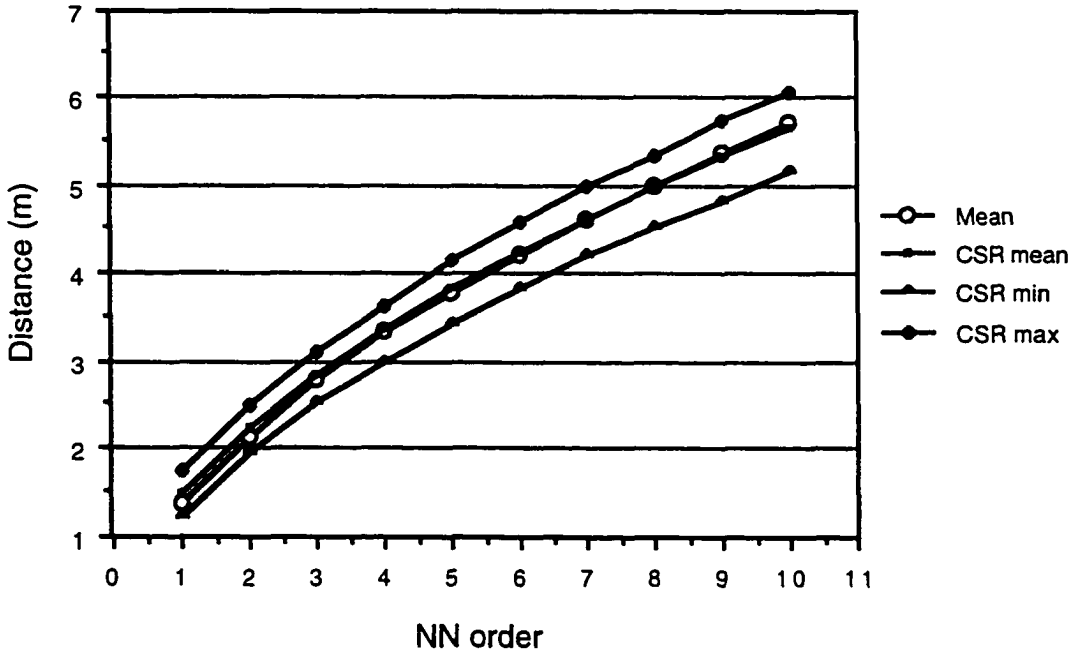


Figure 4.20. Monte Carlo test of complete spatial randomness (CSR) for quadrat 9 Site 3 (N = 123 trees). Trees are essentially at CSR.

NN order	Obs. mean distance	Simulation mean	P
1	1.51	1.49	.424
2	2.24	2.26	.390
3	2.72	2.86	.092
4	3.19	3.37	.053
5	3.61	3.83	.033
6	3.92	4.25	.004
7	4.32	4.63	.008
8	4.73	5.00	.027
9	5.06	5.34	.024
10	5.35	5.67	.013

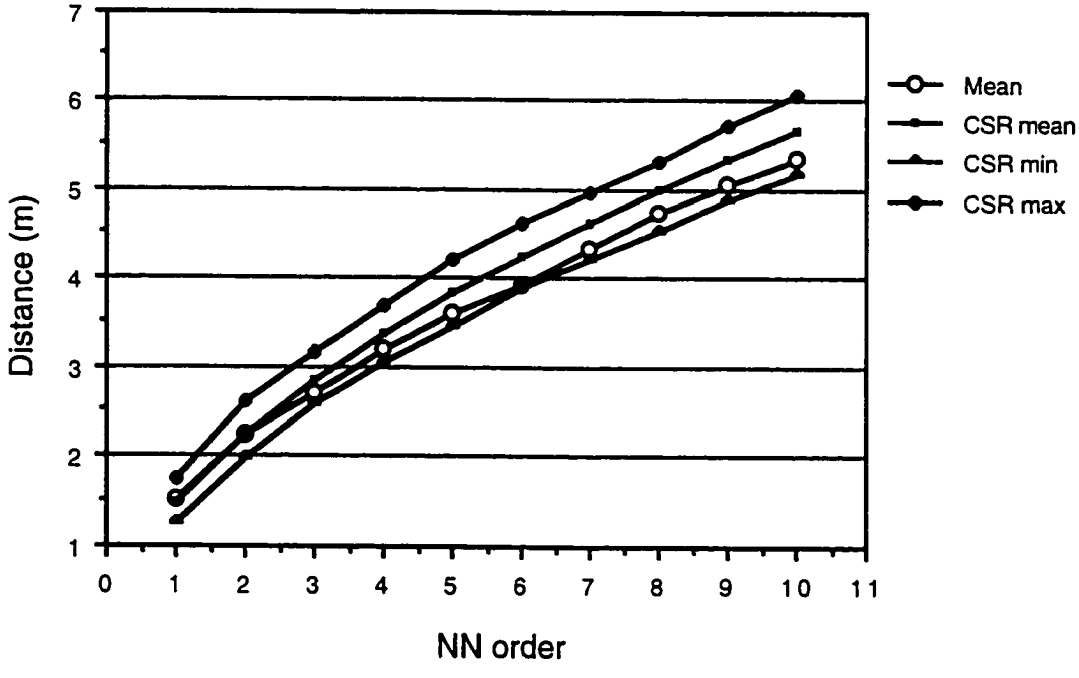


Figure 4. 21. Monte Carlo test of complete spatial randomization (CSR) for quadrat 10 Site 3 (N = 123 trees). At small spatial scale the trees are CSR but they are aggregated at larger scales.

Table 4.1. Ecological dominance of top 40species in Site 3. Taxa ranked by Importance Value.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Rheedia edulis*	269	0.18299 (0.183)	0.03731 (0.037)	0.15749 (0.157)	37.7797 (37.780)
2. *Hirtella racemosa*	282	0.19184 (0.375)	0.03731 (0.075)	0.03690 (0.194)	26.6046 (64.384)
3. *Faramea occidentalis*	211	0.14354 (0.518)	0.03731 (0.112)	0.03584 (0.230)	21.6691 (86.053)
4. *Brosimum alicastrum*	28	0.01905 (0.537)	0.03358 (0.146)	0.15408 (0.384)	20.6712 (106.725)
5. *Colophylum brasiliense*	59	0.04014 (0.578)	0.03731 (0.183)	0.10448 (0.489)	18.1927 (124.917)
6. *Manilkara chicle*	24	0.01633 (0.594)	0.03731 (0.220)	0.09930 (0.588)	15.2941 (140.211)
7. *Licania retifolia*	57	0.03878 (0.633)	0.03731 (0.257)	0.05469 (0.643)	13.0784 (153.290)
8. *Lunaria mexicana*	33	0.02245 (0.655)	0.02612 (0.284)	0.03987 (0.683)	8.8435 (162.133)
9. *Maytenus chiapensis*	38	0.02585 (0.681)	0.03731 (0.321)	0.00853 (0.691)	7.1697 (169.303)
10. *Dendropanax arboreus*	4	0.00272 (0.684)	0.01493 (0.336)	0.05364 (0.745)	7.1291 (176.432)
11. *Cecropica obtusifolia*	39	0.02653 (0.710)	0.02239 (0.358)	0.02173 (0.767)	7.0648 (183.497)
12. *Ouratea lucens*	41	0.02789 (0.738)	0.03358 (0.392)	0.00578 (0.772)	6.7252 (190.222)
13. *Inga fagifolia*	16	0.01088 (0.749)	0.03358 (0.425)	0.02050 (0.793)	6.4970 (196.719)
14. *Casearia commersoriana*	35	0.02381 (0.773)	0.03358 (0.459)	0.00389 (0.797)	6.1282 (202.847)
15. *Godmania aesculifolia*	31	0.02109 (0.794)	0.03731 (0.496)	0.00284 (0.800)	6.1244 (208.972)
16. *Alchornea latifolia*	14	0.00952 (0.803)	0.02612 (0.522)	0.01424 (0.814)	4.9884 (213.960)
17. *Zanthoxylum microcarpum*	15	0.01020 (0.814)	0.02612 (0.549)	0.00943 (0.823)	4.5753 (218.535)
18. *Sloanea terniflora*	14	0.00952 (0.823)	0.02612 (0.575)	0.00829 (0.832)	4.3932 (222.929)
19. *Swietenia macrophylla*	14	0.00952 (0.833)	0.02239 (0.597)	0.01198 (0.844)	4.3891 (227.318)
20. *Ficus* sp.	2	0.00136 (0.834)	0.00746 (0.604)	0.03498 (0.878)	4.3805 (231.698)
21. *Luehea candida*	11	0.00748 (0.841)	0.01493 (0.619)	0.02121 (0.900)	4.3620 (236.060)
22. *Astronium graveolens*	17	0.01156 (0.853)	0.02612 (0.646)	0.00530 (0.905)	4.2979 (240.358)
23. *Michonia argentea*	29	0.01973 (0.873)	0.01493 (0.660)	0.00736 (0.912)	4.2009 (244.559)
24. *Castilla elastica*	22	0.01497 (0.888)	0.01493 (0.675)	0.01140 (0.924)	4.1290 (248.688)
25. *Apeiba tibourbou*	12	0.00816 (0.896)	0.01493 (0.690)	0.01114 (0.935)	3.4225 (252.111)

26. Unknown 3	12	0.00816 (0.904)	0.02239 (0.713)	0.00116 (0.936)	3.1708 (255.281)
27. *Inga* sp.	11	0.00748 (0.912)	0.01866 (0.731)	0.00197 (0.938)	2.8111 (258.092)
28. *Pilocharpus racemosus*	21	0.01429 (0.926)	0.00746 (0.739)	0.00405 (0.942)	2.5799 (260.672)
29. *Clethra lanata*	7	0.00476 (0.931)	0.01866 (0.757)	0.00203 (0.944)	2.5450 (263.217)
30. *Conostegia xalapensis*	13	0.00884 (0.939)	0.01119 (0.769)	0.00434 (0.948)	2.4378 (265.655)
31. Unknown 7	5	0.00340 (0.943)	0.01493 (0.784)	0.00092 (0.949)	1.9246 (267.580)
32. *Hymenaea courbaril*	1	0.00068 (0.944)	0.00373 (0.787)	0.01414 (0.964)	1.8554 (269.435)
33. *Ixrora floribunda*	4	0.00272 (0.946)	0.01493 (0.802)	0.00075 (0.964)	1.8392 (271.274)
34. *Inga* sp 1	7	0.00476 (0.951)	0.01119 (0.813)	0.00203 (0.966)	1.7983 (273.073)
35. *Cupania guatemalensis*	8	0.00544 (0.956)	0.01119 (0.825)	0.00129 (0.968)	1.7926 (274.865)
36. *Ocotea sinuata*	7	0.00476 (0.961)	0.01119 (0.836)	0.00129 (0.969)	1.7245 (276.590)
37. Unknown 8	5	0.00340 (0.965)	0.01119 (0.847)	0.00140 (0.970)	1.5997 (278.190)
38. *Alibertia edulis.*	4	0.00272 (0.967)	0.01119 (0.858)	0.00030 (0.971)	1.4212 (279.611)
39. Unknown	2	0.00136 (0.969)	0.00746 (0.866)	0.00469 (0.975)	1.3508 (280.962)
40. *Tabernaemontana amygdalifolia*	5	0.00340 (0.972)	0.00746 (0.873)	0.00146 (0.977)	1.2321 (282.194)

Table 4.2. Ecological dominance of families in Site 3. Taxa ranked by Importance Value

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. Clusiaceae	328	0.22313 (0.223)	0.04785 (0.048)	0.26197 (0.262)	53.2944 (53.294)
2. Moraceae	52	0.03537 (0.259)	0.04785 (0.096)	0.20046 (0.462)	28.3683 (81.663)
3. Rosaceae	282	0.19184 (0.450)	0.04785 (0.144)	0.03690 (0.499)	27.6579 (109.321)
4. Rubiaceae	220	0.14966 (0.600)	0.04785 (0.191)	0.03699 (0.536)	23.4493 (132.770)
5. Sapotaceae	25	0.01701 (0.617)	0.04785 (0.239)	0.09936 (0.636)	16.4218 (149.192)
6. Chrysobalanaceae	57	0.03878 (0.656)	0.04785 (0.287)	0.05469 (0.690)	14.1317 (163.324)
7. Flacourtiaceae	70	0.04762 (0.703)	0.04306 (0.330)	0.04571 (0.736)	13.6389 (176.962)
8. Leguminosae	39	0.02653 (0.730)	0.04306 (0.373)	0.04777 (0.784)	11.7361 (188.699)
9. Tiliaceae	24	0.01633 (0.746)	0.03349 (0.407)	0.03265 (0.816)	8.2465 (196.945)
10.Celastraceae	38	0.02585 (0.772)	0.04785 (0.455)	0.00853 (0.825)	8.2230 (205.168)
11.Cecropiaceae	39	0.02653 (0.799)	0.02871 (0.483)	0.02173 (0.847)	7.6969 (212.865)
12.Ochnaceae	41	0.02789 (0.827)	0.04306 (0.526)	0.00578 (0.853)	7.6733 (220.538)
13.Araliaceae	4	0.00272 (0.829)	0.01914 (0.545)	0.05364 (0.906)	7.5505 (228.089)
14.Melastomataceae	42	0.02857 (0.858)	0.03349 (0.579)	0.01170 (0.918)	7.3761 (235.465)
15.Bignoniaceae	33	0.02245 (0.880)	0.04785 (0.627)	0.00301 (0.921)	7.3301 (242.795)
16.Rutaceae	36	0.02449 (0.905)	0.03349 (0.660)	0.01348 (0.934)	7.1463 (249.941)
17.Euphorbiaceae	15	0.01020 (0.915)	0.03349 (0.694)	0.01436 (0.949)	5.8056 (255.747)
18.Meliaceae	18	0.01224 (0.927)	0.02871 (0.722)	0.01330 (0.962)	5.4254 (261.172)
19.Anacardiaceae	19	0.01293 (0.940)	0.03349 (0.756)	0.00573 (0.968)	5.2146 (266.387)
20.Elaeocarpacea	14	0.00952 (0.950)	0.03349 (0.789)	0.00829 (0.976)	5.1305 (271.517)
21.Unknown 8	13	0.00884 (0.959)	0.03349 (0.823)	0.00123 (0.977)	4.3563 (275.873)
22.Clethraceae	7	0.00476 (0.963)	0.02392 (0.847)	0.00203 (0.979)	3.0717 (278.945)
23.Sapindaceae	0	0.00680 (0.970)	0.01914 (0.866)	0.00141 (0.981)	2.7347 (281.680)
24.Unknown 7	4	0.00272 (0.973)	0.01435 (0.880)	0.00498 (0.986)	2.2053 (283.885)
25.Lauraceae	7	0.00476 (0.978)	0.01435 (0.895)	0.00129 (0.987)	2.0405 (285.926)

26.Unknown 1	3	0.00204 (0.980)	0.01435 (0.909)	0.00316 (0.990)	1.9559 (287.882)
27.Unknown 5	5	0.00340 (0.983)	0.01435 (0.923)	0.00140 (0.992)	1.9157 (289.797)
28.Unknown 6	4	0.00272 (0.986)	0.01435 (0.938)	0.00085 (0.992)	1.7926 (291.590)
29.Apocynaceae	5	0.00340 (0.989)	0.00957 (0.947)	0.00146 (0.994)	1.4427 (293.033)
30.Unknown 2	3	0.00204 (0.991)	0.00957 (0.957)	0.00231 (0.996)	1.3920 (294.425)
31.Ulmaceae		0.00136 (0.993)	0.00957 (0.967)	0.00042 (0.997)	1.1347 (295.559)
32.Unknown 3	2	0.00136 (0.994)	0.00957 (0.976)	0.00009 (0.997)	1.1022 (296.661)
33.Polygonaceae	2	0.00136 (0.995)	0.00478 (0.981)	0.00279 (0.999)	0.8937 (297.555)
34.Boraginaceae	3	0.00204 (0.997)	0.00478 (0.986)	0.00026 (1.000)	0.7086 (298.264)
35.Simaroubaceae	2	0.00136 (0.999)	0.00478 (0.990)	0.00020 (1.000)	0.6343 (298.898)
36.Unknown 4	1	0.00068 (0.999)	0.00478 (0.995)	0.00005 (1.000)	0.5513 (299.449)
37.Burseraceae	1	0.00068 (1.000)	0.00478 (1.000)	0.00004 (1.000)	0.5506 (300.000)

Table 4.3. Ecological dominance of small size trees in Site 3. Taxa ranked by Importance Value.

Rank	N of trees	Rel.Density (cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Hirtella racemosa*	46	0.30263 (0.303)	0.09589 (0.096)	0.30215 (0.302)	70.0675 (70.068)
2. *Faramea occidentalis*	25	0.16447 (0.467)	0.09589 (0.192)	0.16382 (0.466)	42.4180 (112.485)
3. *Godmania aesculifolia*	12	0.07895 (0.546)	0.05479 (0.247)	0.07865 (0.545)	21.2390 (133.724)
4. *Maytenus chiapensis*	6	0.03947 (0.586)	0.05479 (0.301)	0.03936 (0.584)	13.3628 (147.087)
5. *Casearia commersoriana*	6	0.03947 (0.625)	0.05479 (0.356)	0.03860 (0.623)	13.2872 (160.374)
6. *Rheedia edulis*	5	0.03289 (0.658)	0.05479 (0.411)	0.03466 (0.657)	12.2353 (172.610)
7. *Ouratea lucens*	4	0.02632 (0.684)	0.04110 (0.452)	0.02736 (0.685)	9.4774 (182.087)
8. *Licania retifolia*	4	0.02632 (0.711)	0.04110 (0.493)	0.02632 (0.711)	9.3734 (191.461)
9. *Pilocharpus racemosus*	5	0.03289 (0.743)	0.01370 (0.507)	0.03493 (0.746)	8.1518 (199.613)
10. *Michonia argentea*	3	0.01974 (0.763)	0.02740 (0.534)	0.01993 (0.766)	6.7059 (206.318)
11. *Manilkara chicle*	2	0.01316 (0.776)	0.02740 (0.562)	0.01425 (0.780)	5.4803 (211.799)
12. *Apeiba tibourbou*	2	0.01316 (0.789)	0.02740 (0.589)	0.01355 (0.794)	5.4101 (217.209)
13. *Astronium graveolens*	2	0.01316 (0.803)	0.02740 (0.616)	0.01306 (0.807)	5.3611 (222.570)
14. *Cecropica obtusifolia*	2	0.01316 (0.816)	0.02740 (0.644)	0.01301 (0.820)	5.3565 (227.927)
15. Unknown 2	2	0.01316 (0.829)	0.02740 (0.671)	0.01276 (0.832)	5.3313 (233.258)
16. *Alibertia edulis*	2	0.01316 (0.842)	0.02740 (0.699)	0.01252 (0.845)	5.3075 (238.565)
17. Clethra lanata	2	0.01316 (0.855)	0.02740 (0.726)	0.01252 (0.857)	5.3075 (243.873)
18. *Luehea candida*	3	0.01974 (0.875)	0.01370 (0.740)	0.01943 (0.877)	5.2870 (249.160)
19. Sloanea terniflora	2	0.01316 (0.888)	0.02740 (0.767)	0.01230 (0.889)	5.2855 (254.445)
20. Swietenia macrophylla	2	0.01316 (0.901)	0.02740 (0.795)	0.01229 (0.901)	5.2841 (259.729)
21. Cupania guatemalensis	1	0.00658 (0.908)	0.01370 (0.808)	0.00791 (0.909)	2.8183 (262.548)
22. *Allophylus occidentalis*	1	0.00658 (0.914)	0.01370 (0.822)	0.00687 (0.916)	2.7147 (265.262)
23. *Aphananthe monoica*	1	0.00658 (0.921)	0.01370 (0.836)	0.00687 (0.923)	2.7147 (267.977)
24. *Colophylum brasiliense*	1	0.00658 (0.928)	0.01370 (0.849)	0.00687 (0.930)	2.7147 (270.692)
25. *Inga* sp.	1	0.00658 (0.934)	0.01370 (0.863)	0.00687 (0.937)	2.7147 (273.407)
26. *Ocotea sinuata*	1	0.00658 (0.941)	0.01370 (0.877)	0.00687 (0.944)	2.7147 (276.121)
27. *Trichilia americana*	1	0.00658 (0.947)	0.01370 (0.890)	0.00687 (0.951)	2.7147 (278.836)
28. *Inga fagifolia*	1	0.00658 (0.954)	0.01370 (0.904)	0.00662 (0.957)	2.6900 (281.526)
29. *Lunaria mexicana*	1	0.00658 (0.961)	0.01370 (0.918)	0.00662 (0.964)	2.6900 (284.216)

30. Unknown 5	1	0.00658 (0.967)	0.01370 (0.932)	0.00662 (0.970)	2.6900 (286.906)
31. Unknown 4	1	0.00658 (0.974)	0.01370 (0.945)	0.00638 (0.977)	2.6657 (289.572)
32. *Alchornea latifolia*	1	0.00658 (0.980)	0.01370 (0.959)	0.00614 (0.983)	2.6418 (292.214)
33. *Bursera simaruba*	1	0.00658 (0.987)	0.01370 (0.973)	0.00568 (0.989)	2.5955 (294.809)
34. *Tabernaemontana amygdalifolia*	1	0.00658 (0.993)	0.01370 (0.986)	0.00568 (0.994)	2.5955 (297.405)
35. Unknown 1	1	0.00658 (1.000)	0.01370 (1.000)	0.00568 (1.000)	2.5955 (300.000)

Table 4.4. Ecological dominance of large size trees in Site 3. Taxa ranked by importance value.

Rank	N of Trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Brosimum alicastrum*	21	0.14000 (0.140)	0.09091 (0.091)	0.21718 (0.217)	44.8087 (44.809)
2. *Colophylum brasiliense*	21	0.14000 (0.280)	0.10227 (0.193)	0.13503 (0.352)	37.7302 (82.539)
3. *Manilkara chicle*	18	0.12000 (0.400)	0.09091 (0.284)	0.13985 (0.492)	35.0757 (117.615)
4. *Rheedia edulis*	22	0.14667 (0.547)	0.11364 (0.398)	0.07243 (0.564)	33.2738 (150.888)
5. *Lunaria mexicana*	13	0.08667 (0.633)	0.06818 (0.466)	0.05077 (0.615)	20.5614 (171.450)
6. *Licania retifolia*	6	0.04000 (0.673)	0.05682 (0.523)	0.06193 (0.677)	15.8753 (187.325)
7. *Dendropanax arboreus*	3	0.02000 (0.693)	0.03409 (0.557)	0.07689 (0.754)	13.0981 (200.423)
8. *Luehea candida*	6	0.04000 (0.733)	0.04545 (0.602)	0.03003 (0.784)	11.5488 (211.972)
9. *Ficus* sp.	2	0.01333 (0.747)	0.02273 (0.625)	0.05021 (0.834)	8.6270 (220.599)
10. *Alchornea latifolia*	4	0.02667 (0.773)	0.03409 (0.659)	0.01484 (0.849)	7.5594 (228.158)
11. *Swietenia macrophylla*	3	0.02000 (0.793)	0.03409 (0.693)	0.01541 (0.865)	6.9499 (235.108)
12. *Castilla elastica*	3	0.02000 (0.813)	0.03409 (0.727)	0.00708 (0.872)	6.1172 (241.225)
13. *Cecropica obtusifolia*	4	0.02667 (0.840)	0.02273 (0.750)	0.01123 (0.883)	6.0619 (247.287)
14. *Apeiba tibourbou*	4	0.02667 (0.867)	0.02273 (0.773)	0.01107 (0.894)	6.0462 (253.333)
15. *Inga fagifolia*	2	0.01333 (0.880)	0.02273 (0.795)	0.02227 (0.916)	5.8328 (259.166)
16. *Zanthoxylum microcarpum*	2	0.01333 (0.893)	0.02273 (0.818)	0.00851 (0.925)	4.4569 (263.623)
17. *Sloanea terniflora*	2	0.01333 (0.907)	0.02273 (0.841)	0.00720 (0.932)	4.3259 (267.949)
18. *Faramea occidentalis*	2	0.01333 (0.920)	0.02273 (0.864)	0.00664 (0.939)	4.2698 (272.219)
19. *Hymenaea courbaril*	1	0.00667 (0.927)	0.01136 (0.875)	0.02030 (0.959)	3.8328 (276.052)
20. *Sweetia panamensis*	1	0.00667 (0.933)	0.01136 (0.886)	0.01054 (0.969)	2.8565 (278.908)
21. Unknown	1	0.00667 (0.940)	0.01136 (0.898)	0.00659 (0.976)	2.4623 (281.370)
22. *Coccoloba barbadensis*	1	0.00667 (0.947)	0.01136 (0.909)	0.00385 (0.980)	2.1880 (283.558)
23. *Hirtella racemosa*	1	0.00667 (0.953)	0.01136 (0.920)	0.00339 (0.983)	2.1419 (285.700)
24. *Astronium graveolens*	1	0.00667 (0.960)	0.01136 (0.932)	0.00321 (0.986)	2.1243 (287.825)
25. Unknown 9	1	0.00667 (0.967)	0.01136 (0.943)	0.00321 (0.990)	2.1243 (289.949)

26. *Casearia corymbosa*	1	0.00667 (0.973)	0.01136 (0.955)	0.00240 (0.992)	2.0433 (291.992)
27. *Machaerium biovolatum*	1	0.00667 (0.980)	0.01136 (0.966)	0.00226 (0.994)	2.0286 (294.021)
28. Unknown 6	1	0.00667 (0.987)	0.01136 (0.977)	0.00211 (0.996)	2.0142 (296.035)
29. *Clethra lanata*	1	0.00667 (0.993)	0.01136 (0.989)	0.00184 (0.998)	1.9870 (298.022)
30. *Conostegia xalapensis*	1	0.00667 (1.000)	0.01136 (1.000)	0.00175 (1.000)	1.9779 (300.000)

Table 4.4. Ecological dominance of large size trees in Site 3. Taxa ranked by importance value.

Rank	N of Trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. *Brosimum alicastrum*	21	0.14000 (0.140)	0.09091 (0.091)	0.21718 (0.217)	44.8087 (44.809)
2. *Colophylum brasiliense*	21	0.14000 (0.280)	0.10227 (0.193)	0.13503 (0.352)	37.7302 (82.539)
3. *Manilkara chicle*	18	0.12000 (0.400)	0.09091 (0.284)	0.13985 (0.492)	35.0757 (117.615)
4. *Rheedia edulis*	22	0.14667 (0.547)	0.11364 (0.398)	0.07243 (0.564)	33.2738 (150.888)
5. *Lunaria mexicana*	13	0.08667 (0.633)	0.06818 (0.466)	0.05077 (0.615)	20.5614 (171.450)
6. *Licania retifolia*	6	0.04000 (0.673)	0.05682 (0.523)	0.06193 (0.677)	15.8753 (187.325)
7. *Dendropanax arboreus*	3	0.02000 (0.693)	0.03409 (0.557)	0.07689 (0.754)	13.0981 (200.423)
8. *Luehea candida*	6	0.04000 (0.733)	0.04545 (0.602)	0.03003 (0.784)	11.5488 (211.972)
9. *Ficus* sp.	2	0.01333 (0.747)	0.02273 (0.625)	0.05021 (0.834)	8.6270 (220.599)
10. *Alchornea latifolia*	4	0.02667 (0.773)	0.03409 (0.659)	0.01484 (0.849)	7.5594 (228.158)
11. *Swietenia macrophylla*	3	0.02000 (0.793)	0.03409 (0.693)	0.01541 (0.865)	6.9499 (235.108)
12. *Castilla elastica*	3	0.02000 (0.813)	0.03409 (0.727)	0.00708 (0.872)	6.1172 (241.225)
13. *Cecropica obtusifolia*	4	0.02667 (0.840)	0.02273 (0.750)	0.01123 (0.883)	6.0619 (247.287)
14. *Apeiba tibourbou*	4	0.02667 (0.867)	0.02273 (0.773)	0.01107 (0.894)	6.0462 (253.333)
15. *Inga fagifolia*	2	0.01333 (0.880)	0.02273 (0.795)	0.02227 (0.916)	5.8328 (259.166)
16. *Zanthoxylum microcarpum*	2	0.01333 (0.893)	0.02273 (0.818)	0.00851 (0.925)	4.4569 (263.623)
17. *Sloanea terniflora*	2	0.01333 (0.907)	0.02273 (0.841)	0.00720 (0.932)	4.3259 (267.949)
18. *Faramea occidentalis*	2	0.01333 (0.920)	0.02273 (0.864)	0.00664 (0.939)	4.2698 (272.219)
19. *Hymenaea courbaril*	1	0.00667 (0.927)	0.01136 (0.875)	0.02030 (0.959)	3.8328 (276.052)
20. *Sweetia panamensis*	1	0.00667 (0.933)	0.01136 (0.886)	0.01054 (0.969)	2.8565 (278.908)
21. Unknown	1	0.00667 (0.940)	0.01136 (0.898)	0.00659 (0.976)	2.4623 (281.370)
22. *Coccoloba barbadensis*	1	0.00667 (0.947)	0.01136 (0.909)	0.00385 (0.980)	2.1880 (283.558)
23. *Hirtella racemosa*	1	0.00667 (0.953)	0.01136 (0.920)	0.00339 (0.983)	2.1419 (285.700)
24. *Astronium graveolens*	1	0.00667 (0.960)	0.01136 (0.932)	0.00321 (0.986)	2.1243 (287.825)
25. Unknown 9	1	0.00667 (0.967)	0.01136 (0.943)	0.00321 (0.990)	2.1243 (289.949)

26. *Casearia corymbosa*	1	0.00667 (0.973)	0.01136 (0.955)	0.00240 (0.992)	2.0433 (291.992)
27. *Machaerium biovolatum*	1	0.00667 (0.980)	0.01136 (0.966)	0.00226 (0.994)	2.0286 (294.021)
28. Unknown 6	1	0.00667 (0.987)	0.01136 (0.977)	0.00211 (0.996)	2.0142 (296.035)
29. *Clethra lanata*	1	0.00667 (0.993)	0.01136 (0.989)	0.00184 (0.998)	1.9870 (298.022)
30. *Conostegia xalapensis*	1	0.00667 (1.000)	0.01136 (1.000)	0.00175 (1.000)	1.9779 (300.000)

Table 4.6. Sorensen coefficients (S) of floristic similarity for Site 3. All pairwise comparisons among the 8, 20x50 m quadrats. S may vary from 0 (no species in common) to 1.0 (100% floristic identity).

	1	2	3	4	5	6	7	8	9	10
1										
2	.63768									
3	.58462	.66667								
4	.57143	.70377	.625							
5	.55385	.66667	.6	.75						
6	.60606	.65455	.6275	.61224	..70588					
7	.67568	.69841	.57627	.70175	.610117	.63333				
8	.59701	.67857	.61538	.6	.5	.56604	.65574			
9	.44828	.59574	.55814	.63415	.51163	.45455	.53846	.62222		
10	.5906	..72	.65217	.68182	.6087	.51064	.61818	.625	.71795	

Table 4.7. Mantel tests of spatial autocorrelationfor the 10, 20 x 50m quadrats of Site 3. Standardized Mantel coefficient listed with p-value attained after 999 permutations, given in parenthesis.

	dbh (cm) P	height (m) P	Species P	No. of trees
quadrat 1	-0.38 (0.001)	-0.048 (0.001)	0.012 (0.11)	149
quadrat 2	0.36 (0.001)	0.68 (0.001)	-0.0053 (0.23)	203
quadrat 3	-0.42 (0.001)	-0.03 (0.001)	0.013 (0.059)	170
quadrat 4	0.039 (0.001)	-0.0044 (0.32)	-0.0026 (0.39)	136
quadrat 5	-0.015 (0.072)	0.019 (0.021)	0.062 (0.001)	140
quadrat 6	-0.050 (0.32)	0.0059 (0.001)	0.062 (0.001)	116
quadrat 7	-0.024 (0.002)	0.023 (0.003)	0.086 (0.001)	165
quadrat 8	-0.028 (0.005)	0.050 (0.001)	0.049 (0.001)	145
quadrat 9	-0.043 (0.001)	0.040 (0.003)	0.0012 (0.43)	123
quadrat 8	-0.036 (0.002)	0.0054 (0.3)	0.056 (0.001)	123

CHAPTER 5

Vegetation Analysis of a Pre-Montane Subtropical Forest

Introduction

The understanding of tropical forests has received much attention during the last two decades, primarily the Neotropics (McDade et al., 1994, Leihg, Jr., et al., 1996, Gentry 1990). Most of the research, however, has been done in rain forest ecosystems (Whitmore 1984, 1989). Little work has been done in areas with high populations of humans living in or adjacent to the forests. This stems from the belief that such areas are too small and contain high biological diversity. In fragmented landscapes like those of Central America, forest patches remain as a major component of the landscape. Most of them are ignored by scientists and little is known about their composition, structure and biological diversity.

This study focuses on a small forest within El Imposible National Park, Ahuchapán, El Salvador. The park contains several types of vegetation at different ecological successional levels. These are recently abandoned grazing areas, abandoned agricultural plots, secondary forests, gallery forests along the rivers and abandoned coffee plantations (Ramírez and Komar 1996). Qualitative floristic inventories have been done throughout the park (Berendshon 1996). This study is the first quantitative ecological inventory done in the area and the second in the country.

The interest for tropical forest management is increasing as deforestation continues and the loss of biodiversity continues in many parts of the tropics. Several management practices have been proposed recently. The one that has attracted the most attention is selective harvesting of trees. These trees are precious woods with high commercial value. The entire area included in this study was selectively harvested in 1979. This event allows us to determine the possible effects of selective harvesting on tree communities in tropical

forests. Although the main objective of this project is to evaluate the ecological state of this forest, its relevance to selective harvesting as management of tropical forest in Central America is considered.

The effects of tropical forest destruction have been relatively well documented in the Neotropics of Central America (Yih et al., 1991) and South America (Brown and Brown 1992). The rates of deforestation are also well documented (Harcourt & Sayer 1996). These effects include the decline of species diversity, changes in species dominance and increases of soil erosion. Leading causes of deforestation are timber extraction, the conversion of forest to agriculture and pasture lands, and establishment of banana plantations (i.e., Costa Rica), and mining (i.e., Brazil). Alternatives to deforestation have been proposed by scientists. Among one of the possible alternatives is selective harvesting of timber trees and the promotion of non-timber products to contribute to the local economies where forests are located. Ethnobotanists, for instance, recommend the establishment of "ethnobotanical forest reserves" (Balick et al., 1996) to promote the conservation of biological diversity and to allow the extraction of medicinal plants and other non-timber products.

The management of tropical forests, whether in governmental conservation tracts or in private hands is critical for the conservation and preservation of biological diversity. To accomplish such difficult tasks, the need for knowing the species composition of tropical forests cannot be underestimated. Although much research has been done to inventory and to catalogue species diversity in the tropics, many areas still remain without basic ecological studies. Such areas are normally found isolated and far from human activities as in the Amazon region. There are however small remnants of forests in areas with relatively high density of humans that need to be studied and inventoried. The patches of forests found within the boundaries of El Imposible National Park in El Salvador are good examples. Although they have been disturbed by humans, they are fairly good representations of what might have been the original forests of the pacific coast of Central America. Most of the

forest area along the Pacific coast has been deforested to give way to cotton plantations, cattle ranches and human settlements. With the exception of southern Mexico, this type of forest has almost completely disappeared. For this reason, the study of the forests within El Imposible National Park is necessary to promote its conservation, preservation and management. Without the proper information, management can be detrimental to the communities of plants as well as of animals.

Methodology

A pre-montane subtropical forest within El Imposible National Park was chosen to study the tree community after human disturbance followed by 20 years of protection. There has not been any type of forest management in the park since it was established, except for trail maintenance and minor pruning. Fuel wood is commonly collected from the lower part of the park adjacent to the town of San Francisco Menéndez. This is one of two main entrances to the park used by tourists and local people.

I selected three study areas near the southeast corner of El Imposible National Park; Site 1, El Ujushtal; Site 2, La Fincona; Site 3, La Montañona. Their altitude ranges from 350, 600 and 700 meters above sea level (m.a.s.l.) respectively. The three sites were selectively cut before the park was established. Sites 1 and 3 were relatively old-growth forests and site 2 was an abandoned coffee plantation when tree cutting took place in 1979. Each site has been analyzed separately in the previous chapters. Here I present the analyses of all sites merged and treated as one entire inventory for comparison purposes. For detailed field sampling methods see quadrat sampling in Chapter 1 (Figure 1.2).

Study Site

A pre-montane subtropical forest within El Imposible National Park was chosen to study the tree community after human disturbance and 21 years of protection. There has not been any type of forest management in the park since established, except for trail maintenance and minor pruning. Fuel wood is commonly collected from the lower part of the park adjacent to the town of San Francisco Menéndez. This is one of two main entrances to the park used by tourists and local people. Especially, this area of the park is the most accessible due to the available all year-round roads.

Here I present the analyses of all sites (El Ujushtal, La Fincona, and La Montañona) merged and treated as one entire inventory for comparison purposes. For detailed field sampling methods see quadrat sampling in Chapter 1 (Figure 1.2).

Quadrat Sampling

A total of 28 quadrats 20 x 50 m (2.8 ha) were inventoried for this study, 10 at El Ujushtal, 10 at La Montañona and 8 at La Fincona. All stems 5 cm or greater were included in this inventory. Diameter at breast height was measured at 1.3 m from the ground and at least a meter above any buttress present. All trees included in this inventory were identified, tagged with aluminum tags and voucher specimens were collected for further identification.

All quadrats were established following the contour of the terrain, keeping them on the north side direction when ever possible. Always, the first quadrat was selectively chosen at an arbitrary point in the area of interest and all others were set at least 20m from the previous one. In the case of site 2, due to the topography, there is no particular pattern to the layout of the eight quadrats done there. In Site 1, all the plots follow an east to west direction on an almost straight line, except for the last three plots.

As expected in any forest ecology study, topography plays a major role on the final layout of the original design. In this case, deep creeks, large boulders and abandoned houses plots influenced this study. With the exception of Site 3, there were few topographic variations within the area to change the course of the inventory. With the exception of quadrat 6, which reached the beginning of a steep slope, the rest were established parallel to the others.

In order to standardize, all quadrats were established following the contour of the terrain, keeping them on a north to south direction when ever possible. Always, the first quadrat was selectively chosen at an arbitrary point in the area of interest and all others will be set at least 20m from the previous one. In the case of Site 2, due to the topography, there is no particularly pattern to the layout of the eight quadrats done there. In Site 1, all the plots follow an east to west direction on an almost straight line, except for the last three plots.

Results

A total of 3,839 trees, representing 174 species, for the entire inventory at El Imposible National Park were identified after merging the three sites inventoried for this study, El Ujushtal (Site 1), La Fincona (Site 2), and La Montañona (Site 3). Among all sites, Site 3 has the largest number of trees (1470), followed by Site 2 (1303) and Site 1 (1066). Site 2 has the most diverse flora with 110 species as compared to Site 1 with 103 and Site 3 with 67 tree species. This trend is also found at the genera and family level (Table 5.1). The largest dbh was found in Site 2, Dusia cuscatlanica at 241 cm and the tallest trees of several species reached 60 m. The basal area of site 3 is 480,328 (cm^2), for site 2, 381,261 (cm^2) and for site 1, 319,061 (cm^2).

The overall Shannon diversity index for the entire inventory is 3.869 and the Simpson 0.04. Each site has species not found at the other two sites (El Ujushtal with 36 species, La Fincona with 53, and La Montañona with 8 species). The dominant species overall is Brosimum alicastrum (IV =20.91), followed by Hirtella racemosa (IV = 16.25) Rheedia edulis (IV = 16.09), Alstonia longifolia (IV = 12.30), and Cecropia obtusifolia (IV = 11.53), among the top five dominants (Table 5.22). The top five dominant families are the Moraceae (IV = 28.13), Clusiaceae (IV = 24.58), Leguminosae (IV = 22.50), Apocynaceae (IV = 18.19), and the Rosaceae (IV = 17.13).

Small size class trees are the majority in this study. Most trees are between 5 and 20 cm (Figure 5.1). Height size follows a similar trend. Height frequencies are also dominated by a small size class individuals of up to 10 m tall (Figure 5.2). The number of species represented by a single individual (singleton) is 50 (28.6%), and those represented by two individuals (doubleton) is 21 (12.1%) (Figure 5.3). At the quadrat level, singletons are present, in some, in high percentages. For example sites 1 and 6 contain 15% singletons, number 8 and 4 contain 12% and 11% respectively (Figure 5.8). Plots 3 and 9 contain the lowest number of singletons, eight and nine respectfully. The rest had either ten or eleven.

Summary table (Table 5.3) clearly shows the differences and similarities in vegetation structure. However, great differences are found with respect to species composition, particularly the low species number for site 3 (67, Table 5.43. More interesting, site 2 (110) contains the largest number of species and site 1 an intermediate number (103).

Separate ANOVA were done for each site to see if there is evidence for heterogeneity among quadrats for the dbh and for the height within sites.

Analysis of variance shows that dbh is statistically different among all 28 quadrats (Figure 5.7a). Site 3 had the most significant difference ($P < .0001$). Height shows similar differences, in fact all three sites and the merged data are significantly different.

The contingency tables of the Sorensen similarity coefficient (Figure 5.8) were created to analyze species shared by sites. For site1 and 2, the S = 0.220, which is lower that the other two combinations (site 1 Vs site 3 [0.360] and site 2 Vs site 3 [0.324]).

Conclusions

This study is a contribution to the better understanding of the fate of tropical forests where high human population density has great impacts on the forest fragments still remaining today. The case of the forest patches found at El Imposible National Park is no exception. These forest fragments were greatly disturbed just before the park was established (selective harvesting of timber trees), but not as much as a clear-cutting would do. Of the three sites for this study, site 3 (La Montañona) suffered the greatest negative impact. It has the most impoverished flora and the largest number of stems (1470), most of which are of small to medium size. There can be many reasons for this striking difference.

On a recent visit to La Montañona to try to understand this area more than just from the inventory data analysis results, I was able to obtain some information regarding this issue. To my surprise, there has been a long history of horses in this area. During my fieldwork they were kept away. These animals feed primarily on seedlings and saplings. Today this is more evident than four years ago but it clearly shows up in the results of this inventory. This phenomenon itself may eventually be developed into a new research project.

Another surprising result from this project is the fact that site 2, La Fincona, has the highest number of species (110), genera (100), and families (66) among all three sites. I

think this is partly due to the decision of the original owners of the land to leave forest trees as shade for the newly planted coffee, a light intolerant species. This practice however is changing with genetically modified varieties that are light tolerant and do not require shade. Native shade trees may play an important role as propagules but also as attraction to seed predators and dispersers. The latter may be bringing seed of other species. Generally, the soils found in shade coffee plantations are well protected from erosion and the accumulation of organic matter is similar to that of a closed forest. This allows for seedlings to establish themselves and if there is no management they eventually grow to adults.

The conversion of shade coffee to "sun coffee" would be ecologically devastating to countries like El Salvador where shade coffee plantations have replaced the original forest for at least the last 100 years. Shade coffee as "artificial" forest, not only is a habitat for plants, including large numbers of epiphytes, but also for many species of birds, both resident and migrant from North America and South America (Alvaro Moises, personal communication). Some of these migrant birds use El Imposible on their route to South America (Serrano 1993). Mammals are also present in large numbers of species and populations, particularly bats and rodents. Reptiles are much reduced in numbers within the study areas.

El Imposible National Park plays an important role in the conservation of regional biodiversity, particularly that unique to the Pacific Coast of the isthmus. Although its size is smaller than the average protected areas in the region, this study clearly demonstrates that the status of the tree community is relatively healthy. I found 174 tree species out of an estimated 400 species. It is also clear from these results that the management of areas like El Imposible must be done in a very calculated manner. The forest has demonstrated resilience during the last 21 years. The type of disturbance that took place in the park was not as detrimental to the plant community as the author expected at the beginning of the study. However, bad management can have damaging effects on recovering forest, as in

the case of La Montañona, where a clear lack of serious control over horses has had a negative effect on the tree composition. Also this study demonstrates that if tropical forests are given the opportunity they will recover, possibly to a nearly original state. La Fincona is an important case due to the current interest in planting light tolerant coffee in place of the shade coffee. El Ujushtal is an even more important case because of all the management proposals for most tropical forest using selective logging. This site clearly shows that a moderate tree harvesting can have short term negative effects but if the forest is allowed to, it will recover. There is no evidence, nor any indication that tree species have completely disappeared from the park. With the exception of those species that may have been rare at the time of the tree cutting in 1979 (Dusia cuscatlanica), most species are well represented in this inventory. There is need, nevertheless, for more studies like this one to fully understand the effects of selective logging on tree biological diversity in Central American forests.

The presence of endemic species (i.e., Aristolochia arborea, Aristolochiaceae) in this part of the park, may indicate the level of diversity of the sites studied for this doctoral work. In conclusion, I believe that the events that occurred in this national park over 21 years ago represent medium-size disturbances that contribute to the maintenance of Tropical Biodiversity.

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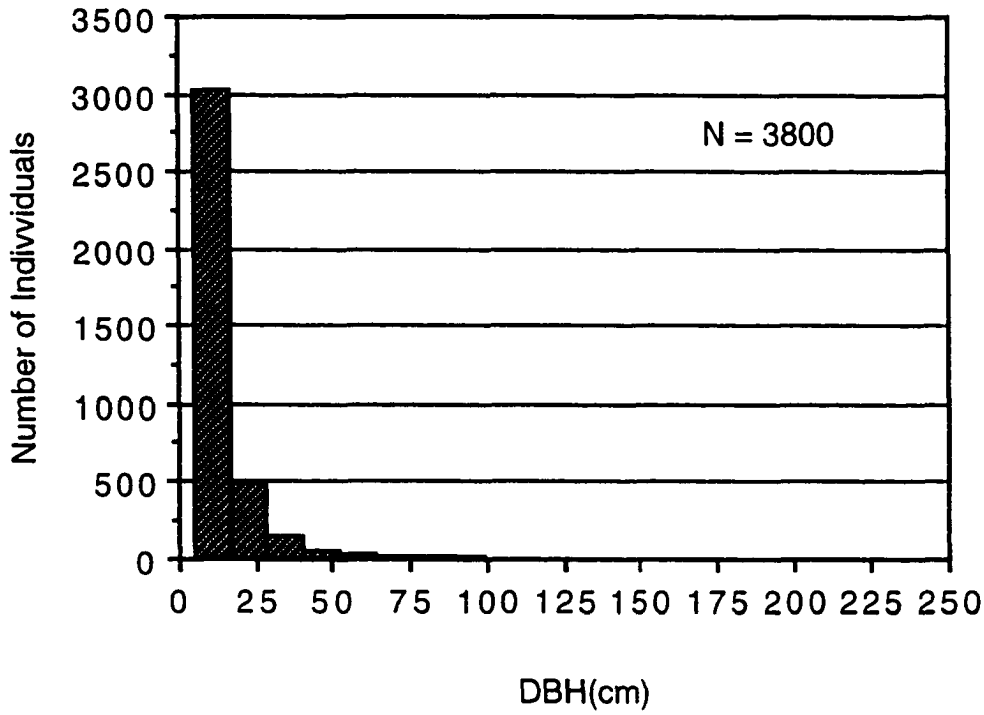

Figure 5.1. Diameter at breast height (cm) frequency distribution for entire inventory (2.8 ha).

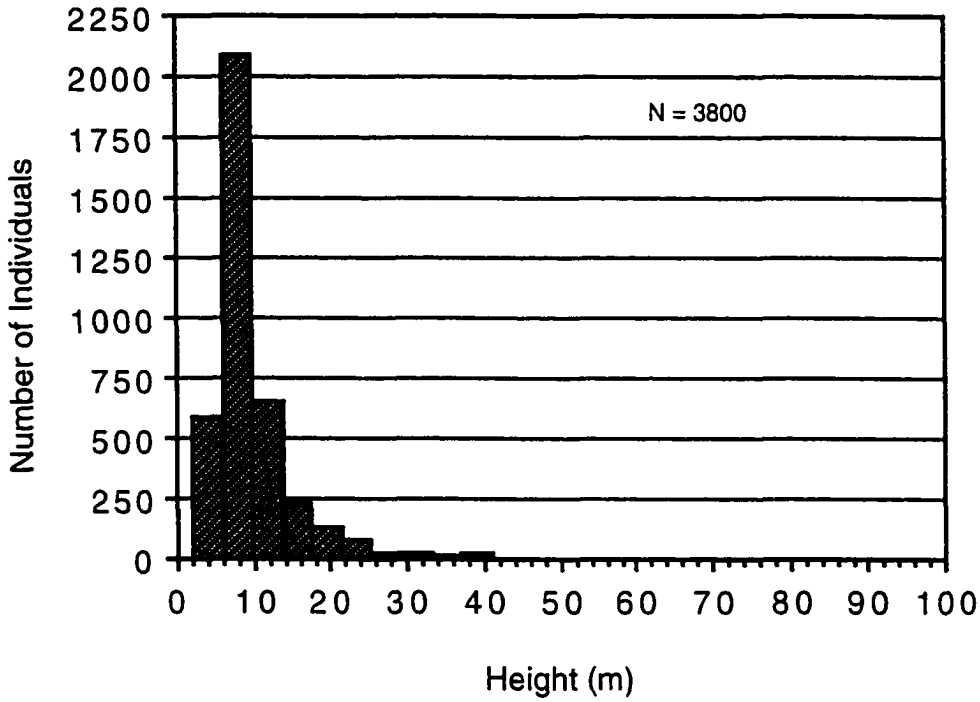

Figure 5.2. Height (m) frequency distribution for entire inventory (2.8 ha).

No. of Trees		Frequency of species	Rel. Freq.
1	**********	(50)	(0.287)
2	**********	(21)	(0.408)
3	**********	(13)	(0.483)
4	*********	(9)	(0.534)
5	*******	(7)	(0.575)
6	****	(4)	(0.598)
7	******	(6)	(0.632)
8	*	(1)	(0.638)
9	*****	(5)	(0.667)
10	**	(2)	(0.678)
11	**	(2)	(0.690)
12	**	(2)	(0.701)
13	****	(4)	(0.724)
14	*	(1)	(0.730)
15	*	(1)	(0.736)
16	*	(1)	(0.741)
17	*	(1)	(0.747)
19	*	(1)	(0.753)
20	*	(1)	(0.759)
22	*******	(7)	(0.799)
24	*	(1)	(0.805)
26	*	(1)	(0.810)
27	*	(1)	(0.816)
28	*	(1)	(0.822)
29	**	(2)	(0.833)
31	*	(1)	(0.839)
33	*	(1)	(0.845)
34	*	(1)	(0.851)
36	***	(3)	(0.868)
38	*	(1)	(0.874)
41	*	(1)	(0.879)

Figure 5.3. Species abundance for entire inventory bar diagram of discrete frequency distribution for the 174 taxa. Frequency and relative cumulative frequency are in parentheses. Abundance categories with zero frequency are not printed.
1 symbol = 1 taxon. There is 28.7% of singletons in the entire inventory (3839 trees 2.8 ha).

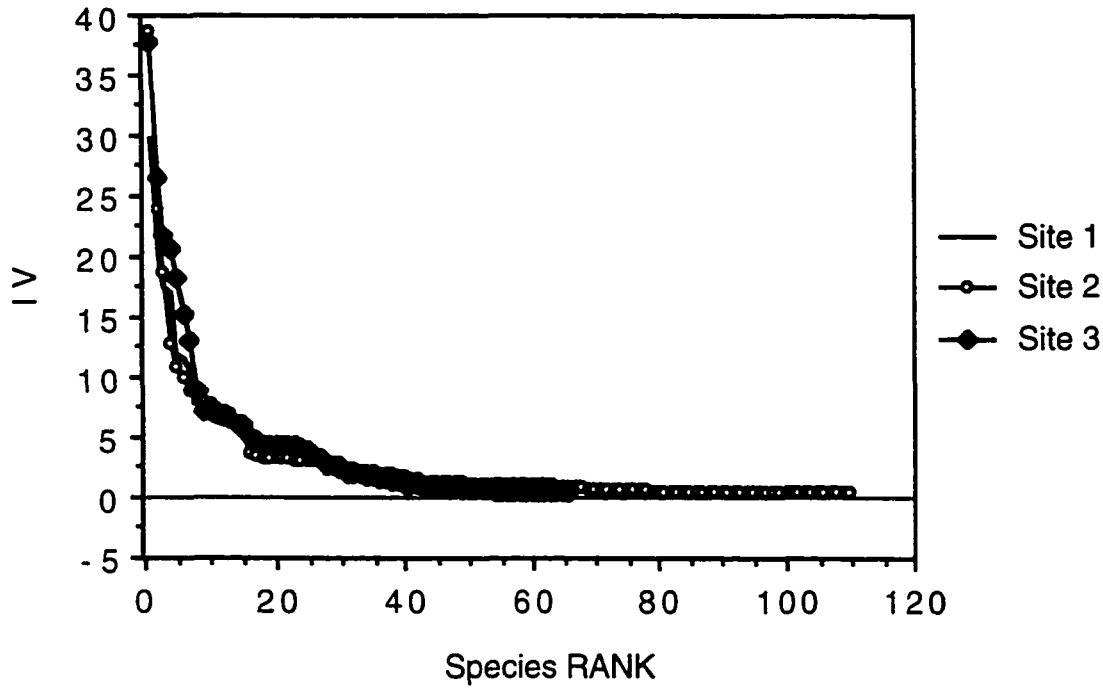

Figure 5.4. Dominance hierarchy curves for three sites.

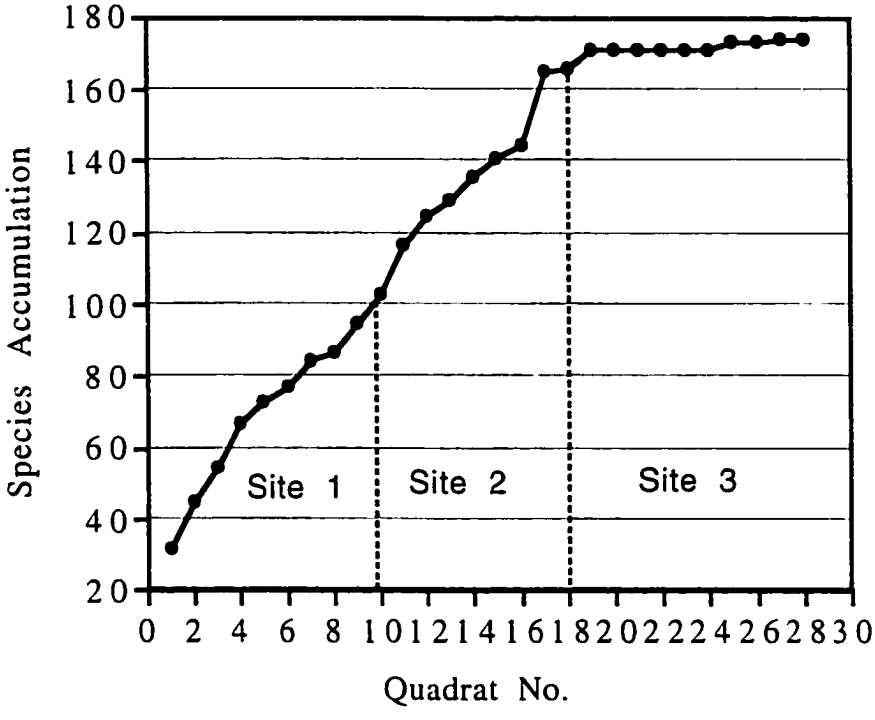

Figure 5.5. Species / Area relationship for entire inventory (N = 3839, 2.8 ha), by graphing the observed change in density achieved as each of the 28 quadrats was inventoried.

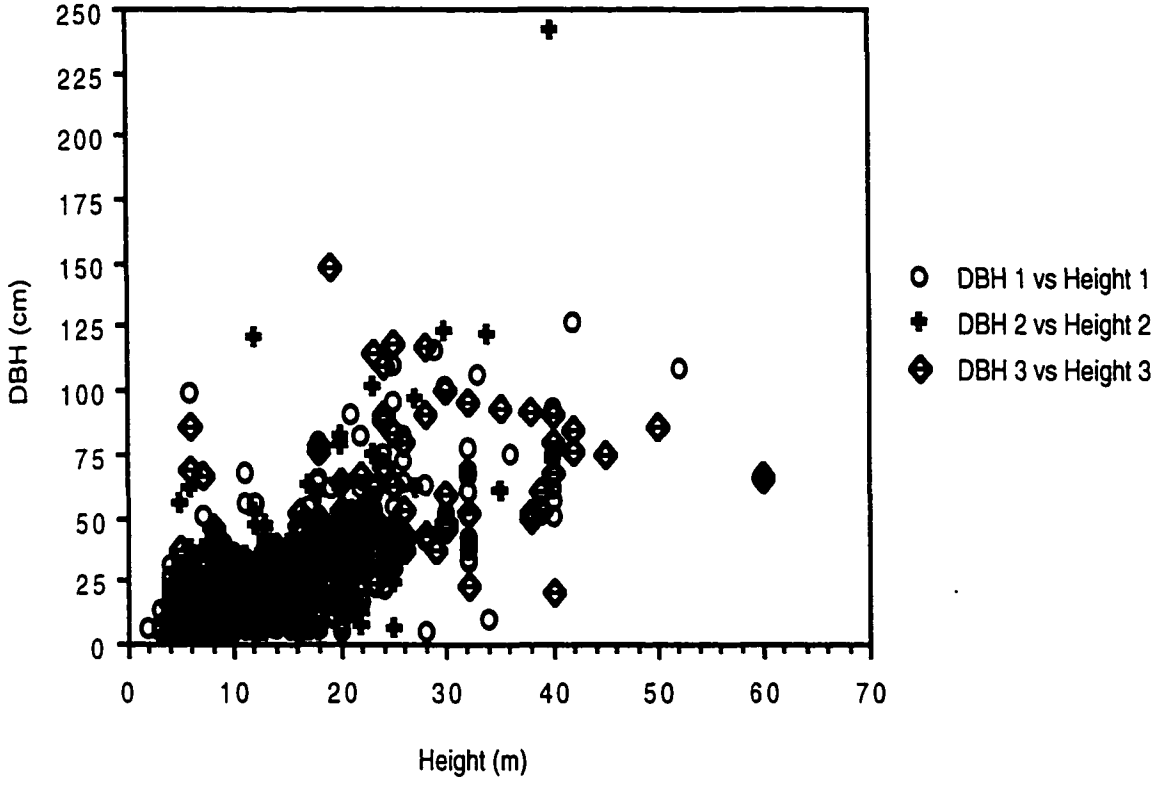

Figure 5.6 . Diameter at Breast Height (cm) versus height relationship for all sites.

Site 1 DBH

ANOVA Table for DBH(cm)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	9	3957.609	439.734	1.925	.0451
Residual	1056	241234.895	228.442		

Site 2 DBH

ANOVA Table for DBH(cm)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	7	2618.097	374.014	2.233	.0294
Residual	1295	216886.489	167.480		

Site 3 DBH

ANOVA Table for DBH(cm)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	9	9895.361	1099.485	5.501	<.0001
Residual	1460	291797.146	199.861		

All Sites DBH

ANOVA Table for DBH(cm)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Plot	27	23750.284	879.640	4.439	<.0001
Residual	3772	747428.663	198.152		

Figure 5.7a. ANOVA tables for DBH per quadrat for all sites and for the entire inventory.

Site 1 Height

ANOVA Table for Height (m)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	9	3973.733	441.526	12.064	<.0001
Residual	1056	38649.289	36.600		

Site 2 Height

ANOVA Table for Height (m)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	7	1878.318	268.331	17.311	<.0001
Residual	1295	20073.286	15.501		

Site 3 Height

ANOVA Table for Height(m)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Quadrat	9	1352.312	150.257	4.327	<.0001
Residual	1460	50694.005	34.722		

All Sites

ANOVA Table for Height (m)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Plot	27	8989.907	332.960	11.069	<.0001
Residual	3772	113467.691	30.082		

Figure 5.7b. ANOVA tables for height per quadrat for all sites and for the entire. inventory.

ANOVA Table for DBH(cm)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Site(1,2,3)	2	7127.187	3563.594	17.709	<.0001
Residual	3797	764051.760	201.225		

ANOVA Table for Height (m)

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Site(1,2,3)	2	1951.959	975.980	30.752	<.0001
Residual	3797	120505.638	31.737		

Figure 5.7c. ANOVA tables for dbh and height for three site merged.

Table 5.1. Ecological dominance for the 45 most dominant species of entire inventory at El Imposible National Park. Taxa ranked by Importance Value.

Rank	N of trees	Rel.Dens.(cum.)	Rel.Freq.(cum.)	Rel.Dom.(cum.)	Imp.Value (cum.)
1. *Brosimum alicastrum*	62	0.01632 (0.016)	0.02588 (0.026)	0.16697 (0.167)	20.9166 (20.917)
2. *Hirtella racemosa*	426	0.11211 (0.128)	0.02353 (0.049)	0.02702 (0.194)	16.2659 (37.183)
3. *Rheedia edulis*	292	0.07684 (0.205)	0.01647 (0.066)	0.06761 (0.262)	16.0921 (53.275)
4. *Alstonia longofolia*	346	0.09105 (0.296)	0.00941 (0.075)	0.02250 (0.284)	12.2960 (65.571)
5. *Cecropia obtusifolia*	150	0.03947 (0.336)	0.02353 (0.099)	0.05226 (0.336)	11.5265 (77.097)
6. *Licania retifolia*	85	0.02237 (0.358)	0.02588 (0.125)	0.06454 (0.401)	11.2792 (88.376)
7. *Faramea occidentalis*	225	0.05921 (0.417)	0.02118 (0.146)	0.01526 (0.416)	9.5647 (97.941)
8. *Ouratea lucens*	164	0.04316 (0.461)	0.02471 (0.171)	0.01433 (0.430)	8.2190 (106.160)
9. *Colophylum brasiliense*	66	0.01737 (0.478)	0.01412 (0.185)	0.04608 (0.477)	7.7567 (113.917)
10.*Manilkara chicle*	36	0.00947 (0.487)	0.01529 (0.200)	0.04399 (0.521)	6.8762 (120.793)
11.*Terminalia oblonga*	94	0.02474 (0.512)	0.01176 (0.212)	0.02739 (0.548)	6.3895 (127.182)
12.*Inga fagifolia*	41	0.01079 (0.523)	0.02353 (0.235)	0.02620 (0.574)	6.0514 (133.234)
13.*Lunaria mexicana*	46	0.01211 (0.535)	0.01529 (0.251)	0.02961 (0.604)	5.7006 (138.934)
14.*Dendropanax arboreus*	22	0.00579 (0.541)	0.01529 (0.266)	0.03577 (0.640)	5.6850 (144.619)
15.*Tabernaemontana amygdalifolia*	99	0.0260 (0.567)	0.02000 (0.286)	0.00713 (0.647)	5.3187 (149.938)
16.*Castilla elastica*	88	0.0231 (0.590)	0.01176 (0.298)	0.01744 (0.664)	5.2361 (155.174)
17.*Dussia cuscatlanica*	2	0.00053 (0.591)	0.00235 (0.300)	0.04865 (0.713)	5.1525 (160.327)
18.*Lonchocarpus salvadorensis*	98	0.02579 (0.616)	0.01647 (0.316)	0.00917 (0.722)	5.1432 (165.470)
19.*Clethra lanata*	74	0.01947 (0.636)	0.01647 (0.355)	0.00522 (0.741)	4.4147 (174.854)
21.*Alchornea latifolia*	29	0.00763 (0.660)	0.02000 (0.375)	0.01303 (0.754)	4.0666 (178.920)
22.*Zanthoxylum microcarpum*	36	0.00947 (0.669)	0.02235 (0.398)	0.00786 (0.762)	3.9682 (182.889)
23.*Pogonopus speciosus*	71	0.01868 (0.688)	0.01176 (0.409)	0.00464 (0.766)	3.5087 (186.397)
24.*Maytenus chiapensis*	60	0.01579 (0.704)	0.01412 (0.424)	0.00430 (0.771)	3.4210 (189.818)
25.*Casearia sylvestris*	58	0.01526 (0.719)	0.00941 (0.433)	0.00860 (0.779)	3.3273 (193.145)

26.*Astronium graveolens*	31	0.00816 (0.727)	0.01765 (0.451)	0.00694 (0.786)	3.2743 (196.420)	
27.*Inga* sp.	49	0.01289 (0.740)	0.01529 (0.466)	0.00375 (0.790)	3.1934 (199.613)	
28.*Sloanea terniflora*	29	0.00763 (0.748)	0.01647 (0.482)	0.00658 (0.797)	3.0681 (202.681)	
29.*Apeiba tibourbou*	22	0.00579 (0.754)	0.01294 (0.495)	0.00988 (0.806)	2.8615 (205.543)	
30.*Ocotea sinuata*	28	0.00737 (0.761)	0.01765 (0.513)	0.00311 (0.810)	2.8125 (208.355)	
31.*Aphananthe monoica*	6	0.00158 (0.763)	0.00706 (0.520)	0.01913 (0.829)	2.7768 (211.132)	
32.*Godmania aesculifolia*	36	0.00947 (0.772)	0.01412 (0.534)	0.00131 (0.830)	2.4906 (213.623)	
33.Unknown 1	27	0.00711 (0.779)	0.01412 (0.548)	0.00332 (0.833)	2.4539 (216.077)	
34.*Cordia alliodora*	42	0.01105 (0.790)	0.00706 (0.555)	0.00420 (0.838)	2.2316 (218.308)	
35.*Trichilia martiana*	24	0.00632 (0.797)	0.01176 (0.567)	0.00380 (0.841)	2.1882 (220.496)	
36.Unknown sp6	38	0.01000 (0.807)	0.00941 (0.576)	0.00245 (0.844)	2.1860 (222.682)	
37.*Trichospermum galeottii*	22	0.00579 (0.812)	0.00824 (0.585)	0.00753 (0.851)	2.1553 (224.838)	
38.*Swietenia macrophylla*	17	0.00447 (0.817)	0.01059 (0.595)	0.00645 (0.858)	2.1509 (226.988)	
39.*Tabebuia rosea*	14	0.00368 (0.821)	0.01176 (0.607)	0.00582 (0.864)	2.1270 (229.116)	
40.*Guazuma ulmifolia*	33	0.00868 (0.829)	0.00588 (0.613)	0.00670 (0.870)	2.1265 (231.242)	

Table 5.2. Ecological dominance of families for entire inventory. Taxa ranked by Importance Value.

Rank	N of trees	Rel.Density(cum.)	Rel.Frequency(cum.)	Rel.Dominance(cum.)	Importance Value(cum.)
1. Moraceae	159	0.04142 (0.041)	0.04069 (0.041)	0.19921 (0.199)	28.1311 (28.131)
2. Clusiaceae	370	0.09638 (0.138)	0.03443 (0.075)	0.11498 (0.314)	24.5792 (52.710)
3. Leguminosae	283	0.07372 (0.212)	0.04382 (0.119)	0.10751 (0.422)	22.5046 (75.215)
4. Apocynaceae	461	0.12008 (0.332)	0.03130 (0.150)	0.03055 (0.452)	18.1931 (93.408)
5. Rosaceae	428	0.11149 (0.443)	0.03286 (0.183)	0.02697 (0.479)	17.1322 (110.540)
6. Rubiaceae	334	0.08700 (0.530)	0.04069 (0.224)	0.02223 (0.501)	14.9921 (125.532)
7. Flacourtiaceae	180	0.04689 (0.577)	0.03756 (0.261)	0.04495 (0.546)	12.9394 (138.472)
8. Cecropiaceae	152	0.03959 (0.617)	0.03130 (0.293)	0.05221 (0.599)	12.3103 (150.782)
9. Chrysobalanaceae	85	0.02214 (0.639)	0.03443 (0.327)	0.06420 (0.663)	12.0772 (162.859)
10. Ochnaceae	164	0.04272 (0.681)	0.03443 (0.362)	0.01425 (0.677)	9.1399 (171.999)
11. Bignonaceae	98	0.02553 (0.707)	0.03912 (0.401)	0.01582 (0.693)	8.0473 (180.046)
12. Sapotaceae	39	0.01016 (0.717)	0.02034 (0.421)	0.04396 (0.737)	7.4466 (187.493)
13. Tiliaceae	65	0.01693 (0.734)	0.02504 (0.446)	0.02873 (0.766)	7.0699 (194.563)
14. Combrataceae	94	0.02449 (0.759)	0.01565 (0.462)	0.02725 (0.793)	6.7384 (201.301)
15. Anacardiaceae	48	0.01250 (0.771)	0.02973 (0.491)	0.02095 (0.814)	6.3190 (207.620)
16. Araliaceae	22	0.00573 (0.777)	0.02034 (0.512)	0.03558 (0.849)	6.1653 (213.786)
17. Meliaceae	66	0.01719 (0.794)	0.02817 (0.540)	0.01511 (0.864)	6.0466 (219.832)
18. Euphorbiaceae	37	0.00964 (0.804)	0.03286 (0.573)	0.01437 (0.879)	5.6875 (225.520)
19. Clethraceae	76	0.01980 (0.823)	0.02191 (0.595)	0.01422 (0.893)	5.5928 (231.112)
20. Rutaceae	60	0.01563 (0.839)	0.02817 (0.623)	0.01003 (0.903)	5.3832 (236.496)
21. Lauraceae	34	0.00886 (0.848)	0.02504 (0.648)	0.00751 (0.911)	4.1402 (240.636)
22. Melastomataceae	56	0.01459 (0.862)	0.02034 (0.668)	0.00556 (0.916)	4.0489 (244.685)
23. Celastraceae	60	0.01563 (0.878)	0.01878 (0.687)	0.00428 (0.920)	3.8689 (248.554)
24. Boraginaceae	59	0.01537 (0.893)	0.01565 (0.703)	0.00535 (0.926)	3.6367 (252.190)
25. Elaeocarpaceae	29	0.00755 (0.901)	0.02034 (0.723)	0.00654 (0.932)	3.4443 (255.635)

26. Unknown 1	30	0.00781 (0.909)	0.02191 (0.745)	0.00455 (0.937)	3.4271 (259.062)	
27. Sterculiaceae	36	0.00938 (0.918)	0.01095 (0.756)	0.01039 (0.947)	3.0722 (262.134)	
28. Ulmaceae	6	0.00156 (0.920)	0.00939 (0.765)	0.01903 (0.966)	2.9982 (265.132)	
29. Sapindaceae	29	0.00755 (0.927)	0.01878 (0.784)	0.00240 (0.969)	2.8731 (268.005)	
30. Urticaceae	38	0.00990 (0.937)	0.01408 (0.798)	0.00310 (0.972)	2.7084 (270.714)	
31. Unknown 2	21	0.00547 (0.943)	0.01408 (0.812)	0.00352 (0.975)	2.3079 (273.021)	
32. Unknown 8	18	0.00469 (0.947)	0.01408 (0.826)	0.00301 (0.978)	2.1782 (275.200)	
33. Unknown 5	12	0.00313 (0.951)	0.01565 (0.842)	0.00078 (0.979)	1.9555 (277.155)	
34. Unknown 7	10	0.00260 (0.953)	0.01095 (0.853)	0.00344 (0.983)	1.7001 (278.855)	
35. Piperaceae	9	0.00234 (0.955)	0.01095 (0.864)	0.00049 (0.983)	1.3792 (280.234)	
36. Achatocarpaceae	9	0.00234 (0.958)	0.00939 (0.873)	0.00161 (0.985)	1.3347 (281.569)	
37. Unknown 6	14	0.00365 (0.961)	0.00782 (0.881)	0.00131 (0.986)	1.2783 (282.848)	
38. Unknown 9	12	0.00313 (0.965)	0.00782 (0.889)	0.00169 (0.988)	1.2643 (284.112)	
39. Polygonaceae	10	0.00260 (0.967)	0.00626 (0.895)	0.00257 (0.990)	1.1437 (285.256)	
40. Proteaceae	12	0.00313 (0.970)	0.00626 (0.901)	0.00050 (0.991)	0.9885 (286.244)	
41. Unknown spp1	10	0.00260 (0.973)	0.00626 (0.908)	0.00092 (0.992)	0.9780 (287.222)	
42. Unknown 4	5	0.00130 (0.974)	0.00782 (0.915)	0.00012 (0.992)	0.9249 (288.147)	
43. Myrtaceae	14	0.00365 (0.978)	0.00469 (0.920)	0.00081 (0.993)	0.9156 (289.063)	
44. Simaroubaceae	7	0.00182 (0.980)	0.00626 (0.926)	0.00048 (0.993)	0.8567 (289.919)	
45. Myrsinaceae	6	0.00156 (0.981)	0.00626 (0.933)	0.00015 (0.993)	0.7977 (290.717)	
46. Unknown 3	5	0.00130 (0.983)	0.00626 (0.939)	0.00021 (0.993)	0.7772 (291.494)	
47. Burseraceae	5	0.00130 (0.984)	0.00469 (0.944)	0.00018 (0.994)	0.6176 (292.112)	
48. Acanthaceae	4	0.00104 (0.985)	0.00469 (0.948)	0.00037 (0.994)	0.6109 (292.723)	
49. Nyctaginaceae	3	0.00078 (0.986)	0.00469 (0.953)	0.00046 (0.994)	0.5934 (293.316)	
50. Unknown spp1	3	0.00078 (0.986)	0.00469 (0.958)	0.00013 (0.995)	0.5607 (293.877)	
51. Unknown sp9	3	0.00078 (0.987)	0.00469 (0.962)	0.00007 (0.995)	0.5549 (294.432)	
52. Unknown sp5	6	0.00156 (0.989)	0.00313 (0.966)	0.00040 (0.995)	0.5097 (294.942)	
53. Compositae	5	0.00130 (0.990)	0.00313 (0.969)	0.00014 (0.995)	0.4574 (295.399)	
54. Unknown sp4	9	0.00234 (0.992)	0.00156 (0.970)	0.00024 (0.995)	0.4145 (295.813)	
55. Unknown1	5	0.00130 (0.994)	0.00156 (0.972)	0.00036 (0.996)	0.3227 (296.136)	
56. Unknown spp3	1	0.00026 (0.994)	0.00156 (0.973)	0.00106 (0.997)	0.2882 (296.424)	

57. Actinidiaceae	2	0.00052 (0.995)	0.00156 (0.975)	0.00068 (0.998)	0.2768 (296.701)
58. Solacaceae	4	0.00104 (0.996)	0.00156 (0.977)	0.00013 (0.998)	0.2741 (296.975)
59. Dilleniaceae	3	0.00078 (0.996)	0.00156 (0.978)	0.00021 (0.998)	0.2555 (297.231)
60. Capparaceae	1	0.00026 (0.997)	0.00156 (0.980)	0.00060 (0.998)	0.2422 (297.473)
61. Unknown spp8	1	0.00026 (0.997)	0.00156 (0.981)	0.00052 (0.999)	0.2345 (297.707)
62. Unknown2	1	0.00026 (0.997)	0.00156 (0.983)	0.00040 (0.999)	0.2226 (297.930)
63. Unknown sp1	1	0.00026 (0.997)	0.00156 (0.984)	0.00016 (1.000)	0.1982 (298.128)
64. Unknown sp2	1	0.00026 (0.998)	0.00156 (0.986)	0.00010 (1.000)	0.1923 (298.320)
65. Unknown sp3	1	0.00026 (0.998)	0.00156 (0.987)	0.00008 (1.000)	0.1905 (298.511)
66. Unknown spp5	1	0.00026 (0.998)	0.00156 (0.989)	0.00006 (1.000)	0.1888 (298.700)
67. Bombacaceae	1	0.00026 (0.998)	0.00156 (0.991)	0.00006 (1.000)	0.1882 (298.888)
68. Unknown ssp1	1	0.00026 (0.999)	0.00156 (0.992)	0.00005 (1.000)	0.1876 (299.076)
69. Unknown sp7	1	0.00026 (0.999)	0.00156 (0.994)	0.00003 (1.000)	0.1859 (299.261)
70. Unknown spp4	1	0.00026 (0.999)	0.00156 (0.995)	0.00002 (1.000)	0.1849 (299.446)
71. Unknown spp7	1	0.00026 (0.999)	0.00156 (0.997)	0.00002 (1.000)	0.1849 (299.631)
72. Unknown spp2	1	0.00026 (1.000)	0.00156 (0.998)	0.00002 (1.000)	0.1845 (299.816)
73. Unknown spp9	1	0.00026 (1.000)	0.00156 (1.000)	0.00002 (1.000)	0.1842 (300.000)

Table 5.3 Table Summary table for all sites at El Imposible National Park (three sites, 2.8 ha).

	Site 1	Site 2	Site 3
Site Name	El Ujushtal	La Fincona	La Montañona
Description	Selectively cut	Abandoned Coffee Plantation	Selectively cut
Elevation (m)	350 - 400	500 - 600	650 - 700
No. of quadrats	10 (1 ha)	8 (0.8 ha)	10 (1 h)
No. of stems	1,066	1,303	1,470
No. of species	103	110	67
No. of genera	91	100	63
No. of families	48	66	37
1st. dominant sp.	*Brosimum alicastrum*	*Alstonia longifolia*	*Rheedia edulis*
2nd.dominant sp.	*Terminalia oblonga*	*Cecropia obtusifolia*	*Hirtella racemosa*
3rd. dominant sp.	*Ouratea lucens*	*Dussia cuscatlanica*	*Faramea occidentalis*
4th. dominant sp.	*Hirtella racemosa*	*Clethra lanata*	*Brosimum alicastrum*
5th. dominant sp.	*Castilla elastica*	*Brosimum alicastrum*	*Colophyllum brasiliense*
DBH (cm), (mean)	5.0 - 125.5 (15.0)	5.0 - 241.0 (11.8)	5.0 - 148.0 (14.5)
Height (m), (mean)	4.0 - 60.0 (10.26)	4.0 - 40.0 (8.56)	4.0 - 60.0 (9.3)
Basal Area (cm^2), (total)	381,261	319,061	480,328
Shannon Index	3.621	3.321	2.949
Sorensen S.C., all pairwise mean	0.469	0.478	0.624
No. of unknown Spp.	6	29	10
No. of introduced Spp.	2	1	0

Note: The table above includes unknowns except that for only tabulation of families, unknowns were deleted to avoid inflation of the family count. If unknowns are deleted, the species count for sites 1, 2, and 3 decreases to 92, 82, 57 respectively and genus count to 81, 72, 63 (no change) respectively.

Table 5.4. List of all species for entire inventory indicating their presence ia each quadrat.					
No.	**Species**	**Family**	**Site 1**	**Site 2**	**Site 3**
1	Acacia hindsii Benth.	Leguminisae	+	+	+
2	Achatocarpus nigricans Triana	Leguminisae	+		
3	Albizia adinocephala (J.D. Smith) Britton & Rose ex Record	Leguminisae	+	+	
4	Alchornea latifolia Sw.	Euphorbiaceae	+	+	+
5	Alibertia edulis Rich.	Rubiaceae	+		+
6	Allophylus occidentalis (Sw.) Radlk.	Sapindaceae	+		+
7	Alstonia longofolia (A.DC.) Pichon	Apocynaceae		+	
8	Amyris elemifera L.	Rutaceae	+		
9	Anacardium occidentalis L.	Anacardiaceae	+		
10	Apeiba tibourbou Aublet	Tiliaceae		+	+
11	Aphanantha monica (Hemsley) Leroy	Ulmaceae	+	+	+
12	Aphelandra scabra (Vahl) Small	Acanthaceae	+		
13	Ardisia compresa Kunth	Myrsynaceae		+	
14	Ardisia paschalis J.D. Smith	Myrsynaceae	+	+	
15	Astronium graveolens Jacq.	Anacardiaceae	+	+	+
16	Bauhinia ungulata L.	Leguminisae	+		
17	Brosimum alicastrum Sw.	Moraceae	+	+	+
18	Bursera simaruba (L.) Sarg.	Burseraceae		+	+
19	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	+		
20	Capparis discolor J.D.Smith	Capparaceae	+		
21	Casearia aculeata Jacq.	Flacourtiaceae		+	
22	Casearia commersoniana Cambess	Flacourtiaceae	+	+	+
23	Casearia corymbosa Kunth	Flacourtiaceae	+		+
24	Casearia sylvestris SW.	Flacourtiaceae	+	+	
25	Castilla elastica Sesse ex Cervantes	Moraceae	+		+
26	Cecropia obtusifolia Bertol.	Cecropiaceae	+	+	+
27	Cedrela odorata L.	Meliaceae		+	+
28	Ceiba pentandra (L.) Gaertn.	Bombacaceae		+	
29	Cestrum sp.	Solanaceae		+	

30	Chiococca pachyphylla Werham	Rubiaceae		+	
31	Chrysophyllum mexicanus Brandegee ex Standley	Sapotaceae		+	+
32	Clethra lanata Martius & Galeotti	Clethraceae	+	+	+
33	Clusia guatemalensis Hemsel.	Clusiaceae		+	
34	Cocccoloba montana Standley	Polygonaceae	+	+	
35	Coccoloba barbadensis Jacq.	Polygonaceae			+
36	Coffea arabica L.	Rubiaceae		+	
37	Colophylum brasiliense	Clusiaceae	+	+	+
38	Conostegia xalapensis (Bompl.) D. Don	Melastomataceae	+	+	+
39	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae		+	
40	Cordia Collococca L.	Boraginaceae		+	
41	Cordia dentata Poiret	Boraginaceae	+		
42	Cordia garascanthus L.	Boraginaceae		+	
43	Cordia panamensis Riley	Boraginaceae	+		+
44	Coutarea hexandra (Jacq.) Schum.	Rubiaceae		+	
45	Critonia morifolia (Miller) Kig & H. Robinson	Asteraceae		+	
46	Croton reflexifolius Kunth	Euphorbiaceae		+	
47	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	+	+	+
48	Curatella americana L.	Dilleniaceae		+	
49	Dalbergia sp.	Leguminosae	+		
50	Dendropanax arboreus (L.) Decne &Planch	Araliaceae	+	+	+
51	Dhiphysa robinoides Benth.	Leguminosae		+	
52	Dussia cuscatlanica (Standley) Standley & Steyern	Leguminisae		+	
53	Enterolobium cyclocarpum (Jacq.) Griseb.	Leguminisae	+		
54	Erythrina berteroana Urban	Leguminisae	+		
55	Eugenia lindiana Berg	Myrtaceae		4	
56	Euphorbia heterophylla L.	Euphorbiaceae		4	
57	Exostema mexicanum A. Gray	Rubiaceae		+	
58	Exothe paniculata (Juss.) Radlk.	Sapindaceae	+		
59	Faramea occidentalis (L.) Rich	Rubiaceae	+	+	+
60	Ficus obtusifolia Kunth	Moraceae	+	+	
61	Ficus pertusa L.f.	Moraceae		+	

62	Ficus sp.	Moraceae			+
63	Godmania aesculifolia (H.B.K.) Standley	Bignoniaceae	+	+	+
64	Guapira sp.	Nyctaginaceae	+		
65	Guarea glabra Vahl	Meliaceae	+		
66	Guazuma ulmifolia Lam.	Sterculiaceae	+	+	
67	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae		+	
68	Hirtella racemosa Lam.	Rosaceae	+	+	+
69	Hymenaea courbaril L.	Leguminosae	+		+
70	Inga calderonii Standley	Leguminosae		+	
71	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	+	+	+
72	Inga Sapindoides Wild.	Leguminosae	+		
73	Inga sp.	Leguminosae		+	+
74	Inga sp. 1	Leguminosae			+
75	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	+	+	+
76	Justica soliana Standley	Acanthaceae	+		
77	Justicia specigera Schldl.	Acanthaceae	+		
78	Licania retifolia Blake	Chrysobalanaceae	+	+	+
79	Lonchocarpus astropurpureus Benth.	Leguminosaea	+		
80	Lonchocarpus salvadorensis Pittier	Leguminosae		+	
81	Luehea candida (DC.) Mart.	Tiliaceae		+	+
82	Lunaria mexicana Brandegee	Flacourtiaceae	+	+	+
83	Lysiloma auritum (Schlecht.) Benth.	Leguminosae			+
84	Machaerium biovolatum Micheli	Leguminosae			+
85	Maclura tinctora (L.) Steudel.	Moraceae	+		
86	Manilkara chicle (Pittier) Gilly	Sapotaceae	+	+	+
87	Mastichodendron capiri (A. DC.) Cronquist	Sapotaceae		+	
88	Maytenus chiapensis Lundell	Celastraceae	+	+	+
89	Michonia argentea (SW.) DC.	Melastomataceae	+	+	+
90	Montanoa guatemalensis B. L. & Greenm.	Asteraceae		+	
91	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae		+	
92	Myriocarpa longipes Liebm.	Urticaceae	+		
93	Ocotea sinuata (Mez) Rohwer	Lauraceae	+	+	+

94	Ocotea veraguensis (Missner) Mez	Lauraceae		+	
95	Omphalea oleifra Hemsl.	Euphorbiaceae		+	
96	Ouratea lucens (Kunth) Engler	Ochnaceae	+	+	+
97	Parathesis congesta Lundell	Myrsinaceae	+		
98	Persea americana Mill.	Lauraceae	+		
99	Phenas rugosus (Poir.) Wedd.	Urticaceae	+		
100	Pilocharpus racemosus Vahl	Rutaceae		+	+
101	Piper marginatum Jacq.	Piperaceae	+	+	
102	Piper tuberculatum Jacq.	Piperaceae	+		
103	Piptadenia obliqua (Pers.) MacBride	Leguminosae	+	+	
104	Poeppigia procera C. Presl.	Leguminosae	+		
105	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	+	+	
106	Psidium guajava L.	Myrtaceae	+	+	
107	Randia chiapensis Standley	Rubiaceae	+		+
108	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	+	+	+
109	Roupala glaberrina Pittier	Protaceae	+	+	
110	Sapium aucuparium Jacq.	Euphorbiaceae	+		+
111	Saurarauia Kegeliana Schldl.	Actinidiaceae		+	
112	Senna bacillaris (L.F.) Irwing & Barnery	Leguminosae	+		
113	Senna cobanensis (Britton & Rose) Irwin & Barneby	Leguminosae		+	
114	Simarouba glauca DG.	Simaroubaceae	+		+
115	Sloanea terniflora (Mociño & Sesse) Standley	Eleaocarpaceae	+		+
116	Sophora cf. conzanttii	Leguminosae		+	
117	Spondias 1	Anacardiaceae	+		
118	Spondias 2	Anacardiaceae	+		
119	Spondias mombin L.	Anacardiaceae	+		+
120	Spondias purpurea L.	Anacardiaceae	+		
121	Spondias sp.	Anacardiaceae		+	
122	Sterculia apelata (Jacq.) Karst.	Sterculiaceae	+		
123	Swartzia simplex (Sw.) Sprengel	Leguminosae	+		
124	Sweetia panamensis Benth.	Meliaceae			+
125	Swietenia macrophylla King	Meliaceae	+		+

126	Tabebuia chrysantha (Jacq.) Urban	Binoniaceae			+
127	Tabebuia donnell-smithii Rose	Binoniaceae		+	
128	Tabebuia rosea (Bertol.) DC.	Binoniaceae	+	+	+
129	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	+	+	+
130	Tecoma stans (L.) Juss. ex H.B.K.	Bignoniaceae	+		
131	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	+		
132	Thouinia sp.	Sapindaceae	+		
133	Trichilia americana (Sesse & Moc.) Pennington	Meliaceae			+
134	Trichilia martiana C. DC.	Meliaceae	+		+
135	Trichospermum galeottii (Turez.) Kosterm.	Tiliaceae		+	+
136	Triplaris malaenodendron (B.) St.&St.	Polygonaceae	+		
137	Unknown	Unknown			+
138	Unknown 1	Unknown	+	+	+
139	Unknown 2	Unknown	+	+	+
140	Unknown 3	Unknown	+	+	+
141	Unknown 4	Unknown	+	+	+
142	Unknown 5	Unknown		+	+
143	Unknown 6	Unknown	+	+	+
144	Unknown 7	Unknown	+	+	+
145	Unknown 8	Unknown	+	+	+
146	Unknown 9	Unknown	+	+	+
147	Unknown sp1	Unknown		+	
148	Unknown sp2	Unknown		+	
149	Unknown sp3	Unknown		+	
150	Unknown sp4	Unknown		+	
151	Unknown sp5	Unknown		+	
152	Unknown sp6	Bignoniaceae		+	
153	Unknown sp7	Rosaceae		+	
154	Unknown sp8	Unknown		+	
155	Unknown sp9	Unknown		+	
156	Unknown spp1	Unknown		+	
157	Unknown spp2	Unknown		+	

158	Unknown spp3	Unknown		+	
159	Unknown spp4	Unknown		+	
160	Unknown spp5	Unknown		+	
161	Unknown spp6	Unknown		+	
162	Unknown spp7	Unknown		+	
163	Unknown spp8	Unknown		+	
164	Unknown spp9	Unknown		+	
165	Unknown ssp1	Unknown		+	
166	Unknown1	Unknown	+		
167	Unknown2	Unknown		+	
168	Unknown3	Unknown	+		
169	Unknown4	Unknown	+		
170	Urera baccifera (L.) Gaudich.	Unknown	+		
171	Urera sp.	Urticaceae		+	
172	Urera sp. 1	Urticaceae	+		
173	Urera sp. 2	Urticaceae	+		
174	Zanthoxylum microcarpum Griseb.	Rutaceae	+	+	+

CHAPTER 6

ETHNOBOTANY OF *BROSIMUM ALICASTRUM* Sw. (MORACEAE) IN EL SALVADOR

Introduction

The interest for ethnobotanical studies has increased dramatically in the last two decades. Primarily, the study of indigenous groups in danger of disappearing due to the destruction of tropical forests is of much interest to many ethnobotanists and cultural anthropologists. The search for new medicinal plants has also been an impetuous for this ethnobotanical research renaissance. Another interest has been the race to catalogue disappearing cultures as forests are cut down and people are pushed out of their lands, eventually losing their own culture, i.e. language, names and uses of plants. This trend has been seen in all parts of the world. In Latin America, for instance, South America has received much attention, particularly the Amazon region. In other places the current political instability and the risk of whole populations being displaced and/or killed has prompted scientists to conduct ethnobotanical research.

The conservation of biological diversity is in most biologists' top list of concerns. Ethnobotanists have advanced during the last decades in the race to document the knowledge of native groups in many parts of the world (Boom 1996, Prance & Kallunki 1984) that will disappear with the destruction of tropical forests. Cataloging plant names and their respective uses by native people is currently done in areas of South America, Africa and other parts of the world. However, development and modernization is driving down cultural diversity (Nazarea 1998). There is very little knowledge about ethnobotanical knowledge in urban and rural areas. With the exception of a few studies in

markets in Mexico (Bye, Jr. 1986, Bye, Jr. & Linares 1983) and in the Southwest of the United States (Kay 1977), the economic botany literature lacks studies probing the differences between rural and urban areas.

Although there is a wealth of information from the social and anthropological sciences, there is not yet a set of norms on how to design questionnaires to extract botanical knowledge from people in urban and rural areas. This is more challenging when trying to assess how much young people know about plant uses. Alexiades (1996) presents a set of recommendations on how to collect ethnobotanical data. This however is more relevant to one on one interview or small groups. We are interested in getting a good-sized sample from a town in a short period of time. After a first pilot study in a small town far away from our focal populations, we redesigned our original questionnaire and tried it in our towns of interest and failed. This was due to the complexity and length of the questionnaire. We then reviewed and edited the second questionnaire and finalized it. This last one was shorter and the questions were also shorter. This last version was used successfully to quantify the ethnobotanical knowledge of middle school children in two distanced and different towns in El Salvador. We propose that this type of study is critical to understand ethnobotanical knowledge not only in isolated areas of the world but also in areas where most people live, rural and urban. As ethnobotany changes and becomes "more focused on studies of the relationship between plants and people in the broadest sense, and more employing multidisciplinary perspectives" (Balick 1996), this study is an example of such changes.

To test the questionnaire, I chose the tree (Brosimum alicastrum, Moraceae) commonly known as "ujushte" or "ojushte" (Ramón in Mexico and Guatemala) to determine if people, particularly young people had knowledge about it and if there were differences between those who grow up in urban versus rural areas. The uses of ujushte are long known throughout Latin America (Murray 1837) and some have proposed that its

uses date back to the Mayas (Gomez-Pompa, Flores and Sosa (1987, Puleston 1983). It has recently received some attention for is nutritional values (Peters & Pardo-Tejada 1982, Ortiz et al., 1995). Although most adults know about it and have eaten it, especially when corn was scarce during the last World War, we wanted to assess how much and which group of youngsters know more or less about it. This can give us an idea of the transmission of botanical knowledge in rural and urban areas. Most of all, this may give support of the need for green areas with natural vegetation in urban areas which in turn will contribute to the transfer of botanical knowledge from generation to generation, therefore, the transferring of culture.

This idea was tested by conducting interviews of school adolescents in the town of San Francisco Menéndez, adjacent to El Imposible National Park. The following are the results of surveys taken to 7th, 8th, and 9th graders. Social psychologist Dr. Suzanne Yates of the Department of Psychology at Lehman College, CUNY, assisted me in this work. Dr. Yates is an expert on the theory and practice of the construction and application of questionnaires and is former Analyst at the United States Department of Justice in Washington, D.C.

ETHNOBOTANICAL KNOWLEDGE OF *BROSIMUM ALICASTRUM* AMONG URBAN AND RURAL EL SALVADORAN ADOLESCENTS

In the last decades ethnobotanists have advanced in the race to document the knowledge of native groups — knowledge that may disappear with the destruction of tropical forests (Boom 1996; Prance & Kallunki 1984). Cataloging plant names and their respective uses by native people is being done in South and Central America (Arvigo & Balick 1993; Boom 1996; Milliken and Albert 1997; Ventocilla, Herrera, & Nu-es 1995) and Africa (Johns, Mhoro, & Sanaya 1996). Participants interviewed for most of these studies are healers or others identified for their specialized knowledge. With the exception of a few studies in markets in Mexico (Bye, Jr. 1986; Bye, Jr. & Linares 1983; Nicholson,

& Arzeni 1993) and in the Southwest of the United States (Kay 1977), not much work has been done to establish the extent to which average people know about and currently use plants that have been economically important in the past or which have been traditionally used medicinally.

An example of a tree which has an important economic history is *Brosimum alicastrum* (Moraceae). This tree is found throughout Central America and Mexico (Pennington 1981) where it is commonly known as ujushte in El Salvador and ramón in Guatemala and Mexico (Witsberger et al. 1978). It produces seeds that can be cooked in a variety of ways or that can be ground into flour to make tortillas (Ramírez & Lentz, under review). According to Puleston (1982), there is evidence suggesting the tree was cultivated and used as a major food source by the Classic Maya civilization (300 A.D. - 900 A.D.). In a similar vein, Sheets (1982) proposes that the El Salvadoran diet has been defined by its early capitalization of a wide variety of seed crops, roots, and tree crops (including ujushte).

In a survey study we conducted in the marketplace of Tacuba, El Salvador we found that most adults knew about and had eaten ujushte (Ramírez & Yates 1996). We found some preliminary evidence, however, to suggest that even in this rural area where the tree is common, there might be some age-related loss of knowledge. In that pilot study, all five of the individuals who did not know about ujushte were middle-aged or younger.

The purpose of this work was to assess the extent to which young people are being introduced to ujushte. We also wanted to determine who served as the primary agents of socialization. We predicted that urban youths would be less likely to know about ujushte than would rural youths. Brosimum is a very common species throughout the country but due to deforestation and development, it is disappearing from many areas. The fact that there is less public land in the city should further limit access. In addition, we also expected that knowledge of ujushte would be predicted by socioeconomic status. The fruit

is not harvested commercially. Because it was used by many during World War II when corn was scarce, we thought it was possible that ujushte has acquired a reputation as a "poor person's food." As a result, we predicted that children raised in middle or upper-class families would be less likely to know about ujushte.

Finally, through this paper, we sought to demonstrate the usefulness of surveys in the effort to acquire ethnobotanical information. Ethnobotanists have most often employed an in-depth individual interview strategy when collecting data. This strategy is superbly suited to situations in which information is solicited from informants with specialized knowledge, such as healers. These in-depth interviews provide rich descriptive data sets detailing possible uses of native plants. Data generated by these means also represent a rich source of ideas for hypothesis generation. Because it is labor intensive and time consuming, such techniques are not practical when seeking to answer questions about how extensively information concerning the uses of different plants is known and utilized by the general population. In addition, ideographic methods are, by definition, non-standardized. It is not fair, therefore, to compare the results of one protocol directly with another. In order to make relational statements about the extent of knowledge in one part of the country versus another, for example, a more systematic method is required.

METHODS

Participants. — A questionnaire was designed to quantify and compare the ethnobotanical knowledge of school age children living in an urban city and a rural town in El Salvador. The rural town, San Francisco Menéndez in the Department of Ahuachapán, is adjacent to El Imposible National Park. Apopa, which was the urban site chosen, is part of the capital San Salvador. A total of 177 (98 girls, 78 boys, and one participant who declined to

identify her or his gender) school children completed the survey. They were recruited from 7th (N = 70), 8th (N = 67), and 9th (N = 40) grade classrooms. Students ranged in age from 11 to 18. Their median age was 14 years old. In San Francisco Menéndez, there is only one class of each grade. As a result, all children attending those grades in that town were invited to participate. This produced a sample of 74 rural students who completed the survey on July 4, 1997. One public school in Apopa was chosen and all students enrolled in the relevant grades which were in session were asked to participate. This produced a sample of 103 adolescents living in the urban setting who completed the survey on July 7, 1997. In all cases, permission of the students' teachers was obtained first. The nature and purpose of the study were explained to the students. It was made clear that students' participation in the study would in no way affect their grades. Names were not recorded and students were assured that their answers would be anonymous.

The Questionnaire. — Students were each given a Spanish language version of the questionnaire. The questions and possible answers were read out aloud to the students as a group and they were given time to answer each before going on. This procedure was used to help ensure that all students, regardless of their reading proficiency, could participate. It also helped ensure that the intent and meaning of each question were clear.

The questionnaire consists of a series of close-ended questions (Appendix 1). In a close-ended format the range of responses appears after the question and the participant simply has to circle the most appropriate answer. Most of the questions (e.g., Have you ever heard of a tree called ujushte?, Have you ever eaten ujushte?) were simple "yes/no" queries. Several included scaled responses. For example, students were asked to rate, on a scale of "0" (don't like it) to "3" (like it very much), how much they enjoyed eating each preparation of ujushte they had ever tried.

The questionnaire was organized around four main themes (Appendix 1). First, students were asked about their knowledge of the tree and their ability to identify the tree and its fruit. The second section dealt with their consumption of ujushte. It began with a global question about whether they had ever eaten it at all, and if so, when was the last time it had been consumed. Students then completed a series of items to determine the method of preparation used (boiled, roasted, raw, and as a tortilla either plain or mixed with corn or green banana) and their degree of liking for each of the preparation methods tried. In the third section, those who had eaten ujushte identified the individual(s) who had taught them how to identify and prepare ujushte. Those who had never eaten ujushte were asked if they had known it was edible, if they knew anyone who did eat it, and why they had never eaten it. The final section consisted of demographic questions concerning gender, grade, age, place of birth, where they had lived for most of their lives, current residence, and perceived economic status.

RESULTS

Knowledge of Ujushte. — Only 68 of the 177 students polled (38.4%) indicated they had heard of a tree called ujushte. Of these, 58 (32.8%) said they could recognize the tree in the wild/forest and 54 (32.2%) said they had actually eaten ujushte. Reactions to ujushte were generally positive, with 22 of the 54 who had eaten it (40.7%) saying they liked it very much, three (13%) liked it a moderate amount, 23 (42.6%) liked it only a little, and two (3.7%) individuals said they did not like it at all. Most (61.1%, N = 33) reported eating ujushte within the last year. Of these, 14.8% (N = 8) reported eating it within the previous week. Nearly all those (90.7%, N = 49) who had eaten ujushte had tried it boiled, while 32.7% (N = 18) had eaten tortillas made from ujushte, 29.6% (N = 16) reported having eaten it roasted, and 22.2% (N = 12) had tried it raw. Of the 18 students

who had eaten tortillas made from ujushte, eight reported that the tortilla had been made from ujushte alone, four reported that the ujushte had been mixed with corn, one had eaten tortillas made both ways, and five did not know the preparation method used.

Knowledge of the tree appears tantamount to knowing the fruit is edible. There were 14 students who knew of the tree but had never eaten it. Of these, 12 reported that they knew it was edible and that they knew people who ate ujushte.

Statistical analyses found there were no differences in knowledge as a function of gender or grade level. As a result, all of the following analyses have been collapsed across these two demographic variables.

The Effect of Rural versus Urban Living on Knowledge. — A chi-square analysis comparing the extent to which adolescents from rural versus urban settings knew of the tree reveals vastly different exposure patterns, χ^2 (1, N = 177) = 66.67, $p < .001$. The majority of adolescents in the rural settings (N = 54, 73%) had heard of ujushte. In contrast only 13 (12.6%) of those living in urban settings had heard of the tree. (Figure 6.1.) The impact of living in a rural versus an urban setting could also be seen in children's ability to identify the tree. While 90.9% (N = 50) of the rural students who had heard of ujushte said they would be able to recognize the tree, only 61.5% (N = 8) of urban adolescents who had heard of the tree said they would be able to identify it, χ^2 (1, N = 68) = 7.23, p = .007. Although it failed to reach significance at the 0.05 level, a similar pattern was observed for consumption patterns in that 83.6% (N = 46) of the rural adolescents had actually eaten ujushte, while only 61.5% (N = 8) of the urban adolescents who knew of the tree had tried it, χ^2 (1, N = 68) = 3.14, p = .076.

The two groups also differed in terms of their reported liking for ujushte and when they had it last. Adolescents living in rural area said they liked it better (M = 3.02) than

those living in the urban area (M = 2.25), t (12.49) = -2.66, p = .02. Indeed, while 47.8% of the rural youths said they liked the taste "very much," not a single urban youth gave ujushte the highest rating. Rural students also reported eating it more recently. Whereas 67.4% of the rural students reported eating ujushte within the past year, none of the urban students had, (Ms = 5.11 vs. 7.13, respectively), t (28.07) = 4.58, $p < .001$. While both groups had eaten it roasted, boiled, and as a tortilla, none of the urban youths had ever tried it raw.

The Effect of Economic Status on Knowledge. — To gauge economic status, students were asked to rate their self-perceptions of their family's status. They were asked which term they thought best described their family's status: "very poor," "poor," "not so poor," "middle class," or "upper class." A total of five people (2.8%) considered their families to be "very poor," 24 (13.6%) said they were "poor" and 72 (40.7%) described themselves as "not so poor." In contrast, 66 (37.7%) identified their families as "middle class," and eight (4.5%) considered their families to be from the "upper class." Because more than 50% of the students described themselves as falling into one of the "poor" categories, the decision was made to dichotomize the data into only two economic groups: "middle-class and above" versus "poor."

A chi-square analysis comparing knowledge of ujushte as a function of economic status found that 70.6% of the students who knew the tree described themselves as poor, χ^2 (1, N = 175) = 7.55, p = .006. Among those who knew of the tree, however, there were no differences between poor and middle-class students in terms of their ability to identify the tree in the field, χ^2 (1, N = 68) = 0.63, p = .43 or in terms of whether they had actually ever eaten ujushte, χ^2 (1, N = 68) = 1.53, p = .22. The economic groups also

did not differ in terms of their liking of the taste of ujushte, or the recency with which it had been eaten, both t's < 1.

As might be expected, economic status was confounded with region. The urban students were almost evenly split between the poor (N = 47, 46.5%) and middle-class (N = 54, 53.5%) categories, while in the rural area the majority (N = 54, 73.0%) of the students described themselves as poor rather than middle or upper class (N = 20, 27.0%), χ^2 (1, N = 175) = 12.23, $p < .001$. Separate analyses limited to only the rural students failed to find any evidence that knowledge of the tree or experience with eating ujushte was related to economic status.

Source of Information. — Students were asked who had taught them that ujushte is edible. A list of relatives and friends was provided. Students were free to circle as many as applied. A blank line was also supplied for students to write-in a person (such as scout leader) who did not appear on the list. Far and away, the most important source of information for students was their grandparents. Of the 54 students who had eaten ujushte, 24 named a grandparent as their sole source of information about ujushte. An additional four identified a grandparent and another family member (such as a parent) as having told them about it. In contrast, only 14 named one or both of their parents as their information sources and seven named a friend (Figure 6.5).

In order to assess whether grandparents played a larger role for some subgroups than others did, the information source variable was dichotomized into two groups: Those that named a grandparent as a source (either alone or with others) versus those who did not. Separate chi-square analyses failed to find any evidence that the dependence on grandparents for information varied as a function of either economic status or location of residence.

CONCLUSIONS

Brosimum alicastrum (Moraceae) or ujushte has been used as a source of food in El Salvador since ancient times. The tree is common throughout the country and the fruit is easily harvested when it ripens and falls to the ground. Despite its widespread availability we find that many teenagers have never heard of the tree. Lack of information about the tree is particularly acute in urban areas. Population shifts from rural to urban centers are increasingly common. Studies such as this one need to be undertaken to track rates of cultural loss as urbanization proceeds.

Contrary to our prediction, we failed to find clear evidence that socioeconomic status affected the cultural transmission of information about ujushte. The observed differences between wealthier and poorer subjects can more readily be accounted for by the economic differences found between urban and rural students. It is, of course, possible that our failure to find differences on this variable is a due to our reliance on a single self-report item. Students may not know their family's true financial status. It is also possible terms such as "poor" or "middle class" have vastly different meaning in rural areas versus urban areas. Still, the fact that, after controlling for region, students who thought of their families as well off were equally likely to have tried ujushte suggests that urbanization is the more important factor.

Our finding that grandparents are the most important source of information about this traditional food source underscores how fragile knowledge transmission may be. We did not collect information about whether or not students in our sample lived with or had ready access to a grandparent. It is possible that one effect of a population migration to urban centers is to accelerate the breakup of the tendency for people to live in extended families. It would also be interesting to survey parents in order to find out why they have not, for the most part, passed on information about ujushte. Answers to these questions

should help frame discussions about the dynamics underlying cultural transmission of botanical information and may suggest practical interventions for helping peoples sustain their cultural heritages

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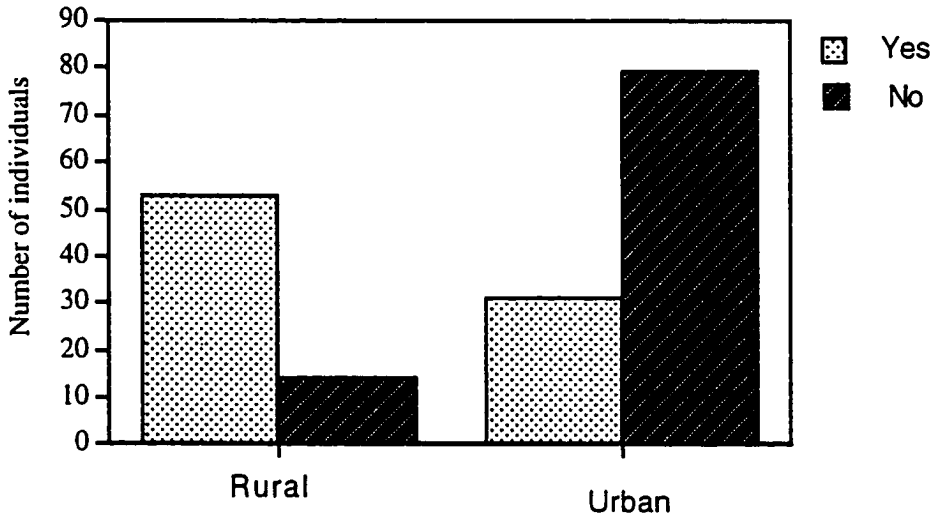

Figure 6.1. Knowledge of B. alicastrum as a function of primary residence. N = 177, P < 0.001.

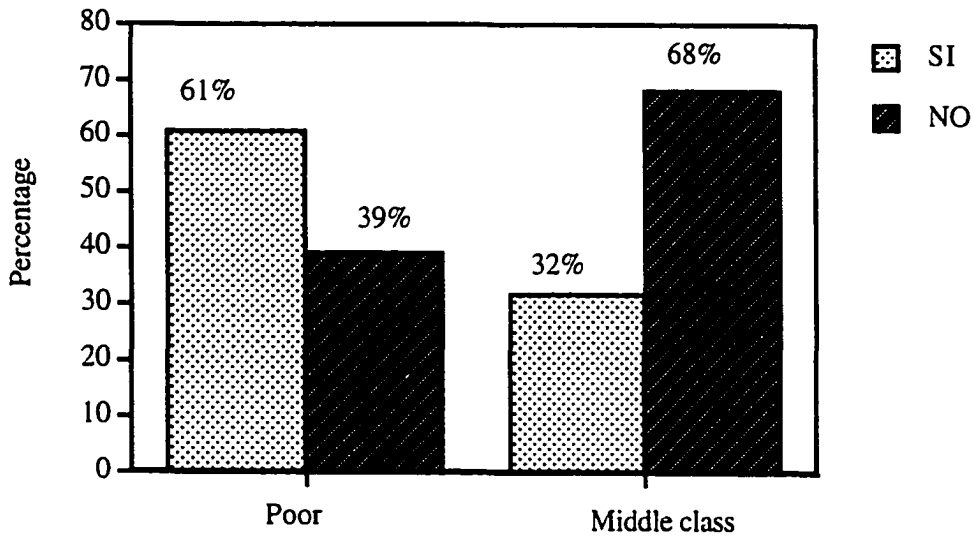

Figure 6.2. Knowledge of B. alicastrum based on economic status.

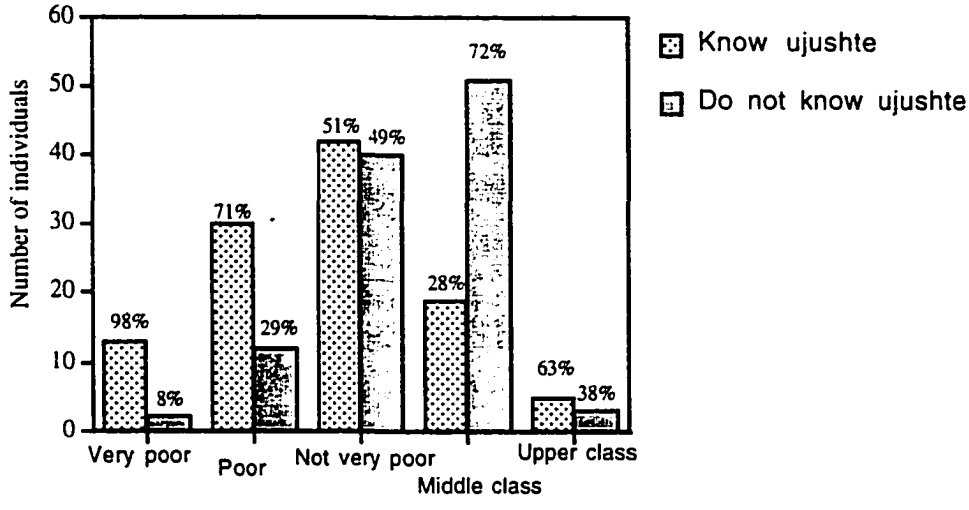

Figure 6.3. Knowledge of ujushte with respect to socio-economic perception by informants.

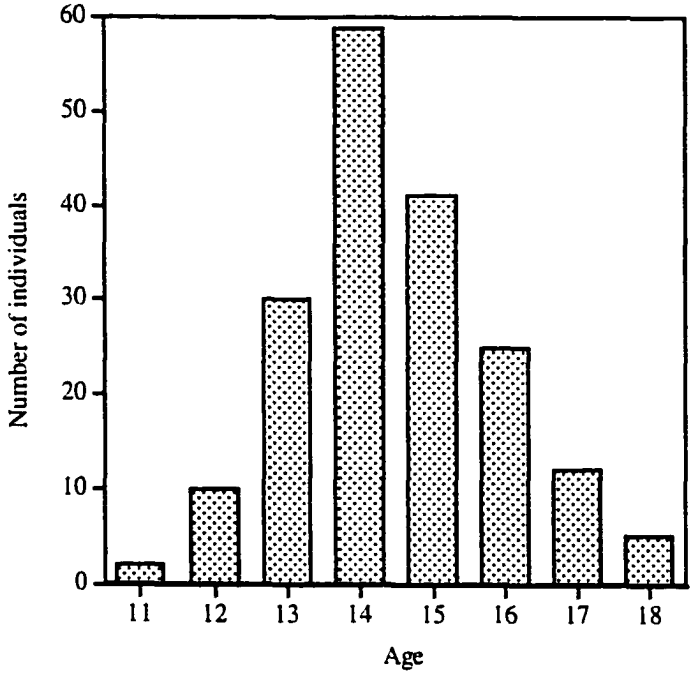

Figure 6.4. Age distribution of all informants, including adults.

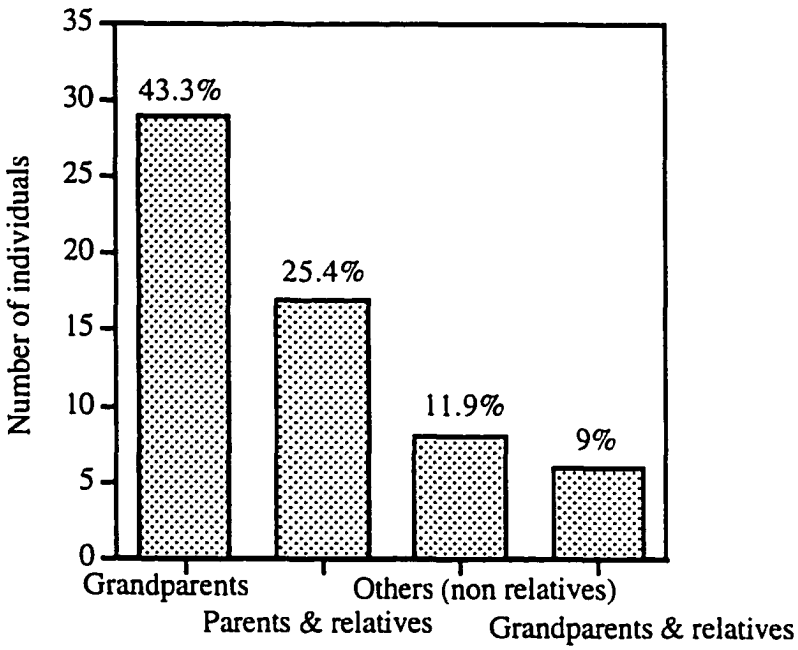

Figure 6.5. Knowledge source for adolescents in San Francisco Menéndez.

Appendix I. Questionnaire given to informants in Spanish.

_____ _____ __ __ \ __ __ \ __ __
ID Site Month Day Year

Ethnobotany of Ujushte (*Brosimum alicastrum*) in San Francisco Menéndez, Ahuachapán and Apopa, San Salvador, El Salvador, C.A.

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NOTE: Specimen shown to informant

a) dry specimen fresh specimen specimen not shown

b) specimen with fruits specimen without fruits

1) Do you know a tree called ujushte? Yes No
If Yes:

Can you recognize the tree in the wild/forest? Yes No

2) Do you know another name (s) for ujushte? Yes No

Names:

3) Which color of ujushte have you seen?

4) Have you ever eaten ujushte? Yes No (If NO, go to question 12)

5) Do you like the taste of ujushte?

1	2	3	4
no	a little	moderately	very much

6) When was the last time you ate ujushte?

1-5 days 1 weeks. 1 month 2-6 months 7-11 months 1 year > 1 year

7) Have you eaten ujushte boiled? Yes No [IF NO, go to the next question]

How much do you like it boiled?	1 nothing	2 a little	3 moderately	4 very much

8) Have you eaten ujushte roasted? Yes No [IF NO, go to the next question]

How much do you like roasted ujushte?	1 nothing	2 a little	3 moderately	4 very much

9) Have you eaten ujushte raw? Yes No [IF NO, go to the next question]

How much do you Like ujushte raw?	1 nothing	2 a little	3 moderately	4 very much

10) Have you eaten ujushte tortillas? ? Yes No

How much do you like Ujushte tortillas?	1 nothing	2 a little	3 moderately	4 very much

11) If you eaten ujushte tortillas, have you made them (mixed with)

with corn	Yes	No
with green banana	Yes	No
with corn and green banana	Yes	No
only ujushte	Yes	No

==========**********==========

NOTE: Questions 12 - 14 are only for those who have never eaten ujushte.

12) Did you know that ujushte is edible? Yes No

13) Do you know people who have eaten ujushte? Yes No

14) Why have you never eaten ujushte? _____

==========**********==========

15) Have you eaten ujushte any other way? Yes No

If Yes:

How have you eaten it? _____

16) From whom did you learn that ujushte is edible?

Father mother grandmother grandfather

sister (s) brother (s) male friend (s) female friend (s)

Other (s): _____
Do not remember

Demographic Information: To help us better understand all the answers that we get from the different people frequently it is helpful to obtain information about the invidious that answer our questions.

17) Sex: male female

18) What do you do for work?

Merchant farmer housewife student

Other: _____

19) Which is the highest school grade completed? __ __

20) Age? __ __

21) Are you from this part of the country? Yes No

If NO: Where were you born? _____

Where have you lived most of your life after growing up?_____

How long have you live at this address? _____

22) Do you consider your family _____?

Very poor poor not very poor middle class upper class

Appendix II. Original data collected in Site 1 - El Ujushtal. Tree serial No. indicates (I.e., I - 1 - 01)

I = site number 1 = quadrat number and 01 = tree number.

TREE No.	Species Name	Family	Common Name	DBH (cm)	Height (m)	X (m)	Y (m)
I - 1 - 01	Calophylum brasiliense	Clusiaceae	marillo / barío	20.3	9	1.2	4
I - 1 - 02	Alchornea latifolia Sw.	Euphorbiaceae	queso	5.5	6	1.87	3.36
I - 1 - 03	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	5.4	8	1.76	5.6
I - 1 - 04	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	16.5	10	3.84	4.84
I - 1 - 05	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	17.2	10	4.57	2.05
I - 1 - 06	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	5	6.65	0.05
I - 1 - 07	Unknown 2	Unknown 2	huevo de tacuazín	19	8	16.6	0.1
I - 1 - 08	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	22.9	10	9.39	2.85
I - 1 - 09	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	6	8.86	4.15
I - 1 - 10	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	45	24	10.65	3.54
I - 1 - 11	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	18.5	9	9.5	6.51
I - 1 - 12	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	22.1	8	8.7	6.76
I - 1 - 13	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	37	15	9.4	6.64
I - 1 - 14	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	10.1	8	9.1	10.1
I - 1 - 15	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	5	12.13	6.76
I - 1 - 16	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	9	11.87	5.84
I - 1 - 17	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	9	10.79	5.71
I - 1 - 18	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.7	9	16.43	9.52
I - 1 - 19	Brosimum alicastrum Sw.	Moraceae	ujushte	21.4	17	18.46	8.57
I - 1 - 20	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpaceae	terciopelo	13.6	9	19.74	13.3
I - 1 - 21	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	9	15.84	11.2
I - 1 - 22	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	15.1	12	15.08	10.3
I - 1 - 23	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	18.5	12	12.54	13.2
I - 1 - 24	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuacate	24	13	12.96	14
I - 1 - 25	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	23.3	16	10.56	15.6
I - 1 - 26	Casearia sylvestris SW. var. sylvestris	Flacourtiaceae	sombra de mula	9.5	9	2.54	14.7
I - 1 - 27	Casearia sylvestris SW. var. sylvestris	Flacourtiaceae	sombra de mula	13.3	11	2.34	14.7

I - 1 - 28	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	13.5	11	1.64	14.9
I - 1 - 29	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	25.6	4	8.18	11.5
I - 1 - 30	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	16	9.76	10.6
I - 1 - 31	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	34.3	17	7.78	16.5
I - 1 - 32	Casearia sylvestris SW. var. sylvestris	Flacourtiaceae	sombra de mula	98.6	6	8.08	16.8
I - 1 - 33	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	15.9	14	13.1	17.4
I - 1 - 34	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	5	3.86	16.7
I - 1 - 35	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.4	9	5.14	17.7
I - 1 - 36	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	6.6	8	11.67	19.4
I - 1 - 37	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.7	5	10.1	19
I - 1 - 38	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	10.2	12	19.79	20.1
I - 1 - 39	Casearia commersoniana Cambess	Flacourtiaceae	chilillo	9.2	6	18.33	20.6
I - 1 - 40	Unknown 2	Unknown 2	huevo de tacuazín	10	8	13.83	21.3
I - 1 - 42	Guarea glabra Vahl	Meliaceae	huevo de mico	5	5	12.3	22.2
I - 1 - 42	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	19.7	9	9.12	24.5
I - 1 - 43	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	8.4	13	11.81	24.4
I - 1 - 44	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.9	8	9.48	25.2
I - 1 - 45	Guapira witsbergeri Lundell	Nyctaginaceae	siete camisas rojo	12	7	7.23	25.6
I - 1 - 46	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.2	8	6.21	24.6
I - 1 - 47	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	27.7	18	5.3	22.6
I - 1 - 48	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.8	9	2.9	23.5
I - 1 - 49	Alchornea latifolia Sw.	Euphorbiaceae	queso	62.7	28	3	25.8
I - 1 - 50	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	10.5	9	2.77	26.9
I - 1 - 51	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	18.1	12	5	26.7
I - 1 - 52	Calophylum brasiliense	Clusiaceae	marillo / barío	16.7	9	5.27	25.9
I - 1 - 53	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	19.8	14	11.37	25.6
I - 1 - 54	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	14.6	12	15.81	24.2
I - 1 - 55	Guarea glabra Vahl	Meliaceae	huevo de mico	6.1	5	15.38	24.7
I - 1 - 56	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	13.4	12	16.43	24.5
I - 1 - 57	Licania retifolia Blake	Chrysobalanaceae	mulo	95.5	32	19.5	24.7
I - 1 - 58	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	16	16	16.66	29.8
I - 1 - 59	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.8	10	15.75	29.1
I - 1 - 60	Spondias mombin L.	Anacardiaceae	jocote jobo verde	54.8	25	11.4	28.6
I - 1 - 61	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	13.5	13	12.45	27.6
I - 1 - 62	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.5	7	11.35	26.8

I - 1 - 63	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	6	10.37	26.7
I - 1 - 64	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuacate	8.2	6	9.84	28.1
I - 1 - 65	Unknown 3	Unknown 3	morro de danta	12.1	5	10.7	29.9
I - 1 - 66	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.8	5	5.82	28.7
I - 1 - 67	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.7	8	5.2	28.2
I - 1 - 68	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.1	6	4.98	28.3
I - 1 - 69	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.3	6	3	29.1
I - 1 - 70	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	5.1	4	0.7	31.2
I - 1 - 71	Alchornea latifolia Sw.	Euphorbiaceae	queso	12.2	10	2.4	34.1
I - 1 - 72	Guarea glabra Vahl	Meliaceae	huevo de mico	22.6	16	5.3	33.3
I - 1 - 73	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.2	8	6.35	31.3
I - 1 - 74	Trichilia martiana C. DC.	Meliaceae	cedrillo	16.8	9	6	31.1
I - 1 - 75	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	6	17.92	31.5
I - 1 - 76	*Ouratea lucens* (Kunth) Engler	Ochnaceae	ojo de gallo	9.5	7	16.91	31.6
I - 1 - 77	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	20.7	13	16.95	32.5
I - 1 - 78	Aphelandra scabra (Vahl) Small	Acanthaceae	camarón	12.7	8	16.97	32
I - 1 - 79	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	23.1	8	19.78	11.2
I - 1 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	17.4	5	14.27	35.5
I - 1 - 81	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuacate	8.8	10	15.25	37
I - 1 - 82	Guarea glabra Vahl	Meliaceae	huevo de mico	12.7	10	13.05	35.1
I - 1 - 83	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	16.7	13	10.4	37.4
I - 1 - 84	Guarea glabra Vahl	Meliaceae	huevo de mico	16.9	10	11	38
I - 1 - 85	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	11.7	8	9.35	37
I - 1 - 86	Trichilia martiana C. DC.	Meliaceae	cola de pava	5.6	5	5.85	34.9
I - 1 - 87	Guarea glabra Vahl	Meliaceae	huevo de mico	7.2	7	14.37	36.1
I - 1 - 88	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	14.7	9	2.91	36.7
I - 1 - 89	Guarea glabra Vahl	Meliaceae	huevo de mico	8.9	9	1	37.5
I - 1 - 90	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	6.5	6	1.52	40.3
I - 1 - 91	Guarea glabra Vahl	Meliaceae	huevo de mico	8.5	8	1.04	39.5
I - 1 - 92	Guarea glabra Vahl	Meliaceae	huevo de mico	11	12	7.62	40.3
I - 1 - 93	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	28.3	17	9.1	38.8
I - 1 - 94	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.8	7	14.8	41
I - 1 - 95	Faramea occidentalis (L.) Rich	Rubiacea	cafecillo	5	4	16.6	38.5
I - 1 - 96	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	9.5	12	18.6	41.1
I - 1 - 97	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	11.2	7	18.05	42.8

I - 1 - 98	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	79.5	18	19.9	44
I - 1 - 99	Unknown 2	Unknown 2	huevo de tacuazín	12.7	10	15.93	41.6
I - 1 - 100	Unknown 2	Unknown 2	huevo de tacuazín	7.7	9	15.94	41.4
I - 1 - 101	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	33.7	14	14.86	42.5
I - 1 - 102	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	20.2	12	15.65	43.6
I - 1 - 103	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	7.7	10	15.67	44.4
I - 1 - 104	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	16.9	10	12.88	41.9
I - 1 - 105	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9.1	9	11.43	43.6
I - 1 - 106	Guarea glabra Vahl	Meliaceae	huevo de mico	5.7	4	9.46	43.2
I - 1 - 107	Unknown 2	Unknown 2	huevo de tacuazín	8.8	8	10.02	44.1
I - 1 - 108	Guarea glabra Vahl	Meliaceae	huevo de mico	9	7	8.6	44
I - 1 - 109	Guarea glabra Vahl	Meliaceae	huevo de mico	24.3	8	4.7	43.9
I - 1 - 110	Unknown 3	Unknown 3	morro de danta	8.7	8	4.8	40.3
I - 1 - 111	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	7.8	6	1.1	40.6
I - 1 - 112	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	15	10	2.92	0.85
I - 1 - 113	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	15.6	14	3.45	0.27
I - 1 - 114	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	5	5	7.25	46.9
I - 1 - 115	Guarea glabra Vahl	Meliaceae	huevo de mico	5.3	7	9.45	45.5
I - 1 - 116	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	18.3	17	11.2	47.6
I - 1 - 117	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	52.5	30	10	48.5
I - 1 - 118	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.3	4	12.83	45.5
I - 1 - 119	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	5	4	6.98	23.2
I - 1 - 120	Faramea occidentalis (L.) Rich	Rubiacea	cafecillo	9.1	6	2.35	44.3
I - 1 - 121	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12	8	6.82	44.4
I - 1 - 122	Unknown 2	Unknown 2	huevo de tacuazín	10	9	10.92	2.24
I - 1 - 123	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuacate	7.1	9	11.13	2.3
I - 1 - 124	Unknown 2	Unknown 2	huevo de tacuazín	23.1	9	9.11	2.14
I - 1 - 125	Unknown 4	Unknown 4	sangre de drago	6.7	12	8.29	2.02
I - 1 - 126	Unknown 2	Unknown 2	huevo de tacuazín	8	9	8.71	1.91
I - 2 - 01	Swartzia simplex (Sw.) Sprengel	Leguminosae	naranjillo	25.7	12	3.6	1.76
I - 2 - 02	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	5.8	7	3.65	1.01
I - 2 - 03	Brosimum alicastrum Sw.	Moraceae	ujushte	60	32	2.65	5.88
I - 2 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.9	6	0.63	6.45
I - 2 - 05	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	6.6	8	1.65	0.33
I - 2 - 06	Hymenaea courbaril L.	Leguminosae	copinol	13.4	12	9.26	1.58

I - 2 - 07	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	10	8	9.44	3.41
I - 2 - 08	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	19.8	12	8.4	4.65
I - 2 - 09	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	6	9.22	7.75
I - 2 - 10	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	6	8.62	8.2
I - 2 - 11	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	12.1	13	10.5	6.45
I - 2 - 12	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	13.3	10	13.14	7.2
I - 2 - 13	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.7	8	12.56	2.35
I - 2 - 14	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	9.2	5	13.95	4.14
I - 2 - 15	Spondias mombin L.	Anacardiaceae	jocote jobo verde	61.3	22	13.72	1.75
I - 2 - 16	Trichilia martiana C. DC.	Meliaceae	cola de pava	12.5	11	16.67	1.47
I - 2 - 17	Trichilia martiana C. DC.	Meliaceae	cola de pava	11.8	10	17.87	1.19
I - 2 - 18	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	6	19.65	0.96
I - 2 - 19	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	17.9	12	18.97	3.22
I - 2 - 20	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	14.3	11	19.63	11
I - 2 - 21	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12	11	11.93	0.7
I - 2 - 22	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.2	11	17.1	6.4
I - 2 - 23	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	7.5	12	19.87	0.14
I - 2 - 24	Justica soliana Standley	Acanthaceae	tinterillo	10.1	10	13.12	10.3
I - 2 - 25	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	15.7	11	10.73	12
I - 2 - 26	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	5	9.48	12.1
I - 2 - 27	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.2	6	7.25	13.2
I - 2 - 28	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	4	2.12	14.6
I - 2 - 29	Hirtella racemosa Lam.	Rosaceae	icaquillo	25.6	7	2.68	15.1
I - 2 - 30	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpaceae	terciopelo	10.5	9	4.8	17.2
I - 2 - 31	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11.5	9	5	16.9
I - 2 - 32	Urera sp. 2	Urticaceae	chichicaste rojo	7.7	6	3	19.2
I - 2 - 33	Acacia hindsii Benth.	Leguminosae	izcanal	8.2	8	0.3	22.2
I - 2 - 34	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	11	10	3.95	20.3
I - 2 - 35	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	7	7.14	19.8
I - 2 - 36	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	5.1	9	4.74	18.6
I - 2 - 37	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	22.3	13	9.63	15.3
I - 2 - 38	Hymenaea courbaril L.	Leguminosae	copinol	8.1	12	10.77	17
I - 2 - 39	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	6	13.85	14
I - 2 - 40	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.9	11	16.4	12.9
I - 2 - 41	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.3	10	18.2	13.7

I - 2 - 42	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.5	10	18.9	13.4
I - 2 - 43	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.3	9	19.94	16.8
I - 2 - 44	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.4	10	19.47	18.7
I - 2 - 45	Brosimum alicastrum Sw.	Moraceae	ujushte de verano	82.5	26	20	20
I - 2 - 46	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.5	9	17.3	20.9
I - 2 - 47	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuacate	19.1	16	19.37	23.1
I - 2 - 48	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11.8	13	14.9	24.3
I - 2 - 49	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.8	12	13.75	21.4
I - 2 - 50	Guarea glabra Vahl	Meliaceae	huevo de mico	5	6	10.06	24.9
I - 2 - 51	Swietenia macrophylla King	Meliaceae	caoba	12.7	12	10.57	22.7
I - 2 - 52	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12	11	10.18	22.8
I - 2 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	8	2.88	25
I - 2 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	8	4.82	25.6
I - 2 - 55	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	6	6.55	26
I - 2 - 56	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.6	10	6.92	25.9
I - 2 - 57	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	17.1	18	7.68	30
I - 2 - 58	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.1	8	7.05	28.4
I - 2 - 59	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.2	7	10.27	28.5
I - 2 - 60	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	67.7	32	3.85	27.7
I - 2 - 61	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6	7	2.28	30.3
I - 2 - 62	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	7.2	8	0.6	33.9
I - 2 - 63	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	10.6	18	11.14	31.2
I - 2 - 64	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	8.4	13	12.07	30.5
I - 2 - 65	Piper tuberculatum Jacq.	Piperaceae	cordoncillo	8.5	5	12.92	30
I - 2 - 66	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	13	7	16.05	30.3
I - 2 - 67	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	10.5	12	15.32	33.4
I - 2 - 68	Calophylum brasiliense	Clusiaceae	marillo	9.5	12	14.5	33.7
I - 2 - 69	Casearia commersoniana Cambess	Flacourtiaceae	chililllo	5.3	8	15.4	35.3
I - 2 - 70	Alchornea latifolia Sw.	Euphorbiaceae	queso	24.2	14	15.1	36.8
I - 2 - 71	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	7.2	10	0.52	28.6
I - 2 - 72	Licania retifolia Blake	Chrysobalanaceae	mulo	5.2	7	0.27	33.1
I - 2 - 73	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	8.7	10	4.67	32
I - 2 - 74	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	5	5.45	31.9
I - 2 - 75	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	17.7	17	3.55	34.6
I - 2 - 76	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.7	5	16.12	37.3

I - 2 - 77	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	5.8	6	7.6	33.7
I - 2 - 78	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	18	16	8.55	36.3
I - 2 - 79	Amyris elemifera L.	Rutaceae	ocote	6	8	7.77	37.5
I - 2 - 80	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.1	10	19.44	47.1
I - 2 - 81	Casearia commersoniana Cambess	Flacourtiaceae	chililo	5	6	17.5	38.9
I - 2 - 82	Casearia commersoniana Cambess	Flacourtiaceae	chililo	10.5	8	15.3	39.5
I - 2 - 83	Capparis discolor J.D.Smith	Capparaceae	polvora	29.9	14	0	39.7
I - 2 - 84	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	14.4	16	4.76	41.8
I - 2 - 85	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	64.5	26	6.75	43.3
I - 2 - 86	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	29	22	12.7	40.9
I - 2 - 87	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	6	7	13.62	40.7
I - 2 - 88	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	22.5	7	17.96	42
I - 2 - 89	Aphelandra scabra (Vahl	Acanthaceae	camarón	15.9	12	17.88	47.4
I - 2 - 90	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	43.7	23	16.4	47.1
I - 2 - 91	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	33.5	16	13.7	45.7
I - 2 - 92	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6	8	6.9	48.1
I - 2 - 93	Terminalia oblonga (Ruiz & Pavon) Steudel	Combrataceae	volador	9.6	34	1.6	45
I - 2 - 94	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	40	9	12.95	44.2
I - 3 - 01	Brosimum alicastrum Sw.	Moraceae	ujushte	95.4	25	0.1	2
I - 3 - 02	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	12.6	5	5.75	2.15
I - 3 - 03	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6.2	8	9.28	2
I - 3 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	29.5	8	12.5	1.15
I - 3 - 05	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.9	9	14.3	1.63
I - 3 - 06	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8	10	13	3.78
I - 3 - 07	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.2	9	9.76	4.01
I - 3 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.7	4	8.4	5.55
I - 3 - 09	Sloanea terniflora (Mosiño & Sesse) Standley	Elaeocarpaceae	terciopelo	25	9	15.33	3.55
I - 3 - 10	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	9	16.4	0.99
I - 3 - 11	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.3	9	17	0.3
I - 3 - 12	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9.1	9	17.5	1.06
I - 3 - 13	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5	4	18.58	2.29
I - 3 - 14	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.1	10	17.44	4.05
I - 3 - 15	Trichilia martiana C. DC.	Meliaceae	cola de pava	25.2	13	19.55	6.05
I - 3 - 16	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	7	8	16.89	8.23
I - 3 - 17	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	32.5	18	12.9	8.4

I - 3 - 18	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	9	13.75	6.85
I - 3 - 19	Hymenaea courbaril L.	Leguminosae	copinol	27	18	11.73	5.72
I - 3 - 20	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5	7	12.7	5.23
I - 3 - 21	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.7	10	11.45	9.3
I - 3 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.2	8	7.68	6.67
I - 3 - 23	Brosimum alicastrum Sw.	Moraceae	ujushte	23.7	17	6.85	5.2
I - 3 - 24	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.7	7	6.13	7.07
I - 3 - 25	Unknown 6	Unknown 6	árbol de rosa	5.2	6	3.15	6.72
I - 3 - 26	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.3	8	4.55	10.3
I - 3 - 27	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	32.7	25	4.26	13.6
I - 3 - 28	Astronium graveolens Jacq.	Anacardiaceae	ron ron	50.6	32	5	13
I - 3 - 29	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.6	5	5.27	12.4
I - 3 - 30	Hirtella racemosa Lam.	Rosaceae	icaquillo	16.1	8	4.55	16.9
I - 3 - 31	Brosimum alicastrum Sw.	Moraceae	ujushte de verano	116	29	7.1	14
I - 3 - 32	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	5	6.97	17.9
I - 3 - 33	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.3	8	11.9	13.1
I - 3 - 34	Licania retifolia Blake	Chrysobalanaceae	mulo	45.5	21	15.8	13.7
I - 3 - 35	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.5	9	17	12.8
I - 3 - 36	Hirtella racemosa Lam.	Rosaceae	icaquillo	18.6	8	15.38	18
I - 3 - 37	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	13	9	15.33	21.1
I - 3 - 38	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	46.2	24	12.3	20.9
I - 3 - 39	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	10	7	13.35	23.6
I - 3 - 40	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	22.4	18	12.05	26.2
I - 3 - 42	Hirtella racemosa Lam.	Rosaceae	icaquillo	16.7	7	18.58	26.4
I - 3 - 42	Guapira witsbergeri Lundell	Nyctaginaceae	siete camisas rojo	19.3	9	19.3	27.5
I - 3 - 43	Hymenaea courbaril L.	Leguminosae	copinol	7.6	8	16.65	27.4
I - 3 - 44	Unknown 1	Unknown 1	churumullo	5.7	7	18.8	29.5
I - 3 - 45	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	37.6	17	16.62	32
I - 3 - 46	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	26.5	20	13.68	33.1
I - 3 - 47	Hirtella racemosa Lam.	Rosaceae	icaquillo	19.3	6	13.3	32
I - 3 - 48	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.7	9	11.48	29.9
I - 3 - 49	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	20.3	12	8.4	28.8
I - 3 - 50	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	6	7.42	27.6
I - 3 - 51	Astronium graveolens Jacq.	Anacardiaceae	ron ron	34.1	16	5.8	29
I - 3 - 52	Cocccoloba montana Standley	Polygonaceae	papaturro	8.5	10	5.3	26.6

I - 3 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	23	8	5.89	24.1
I - 3 - 54	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	18.3	9	0.84	22.9
I - 3 - 55	Hymenaea courbaril L.	Leguminosae	copinol	10.1	9	0.55	25.9
I - 3 - 56	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.2	9	2.35	25.4
I - 3 - 57	Sapium aucuparium Jacq.	Euphorbiaceae	chilamate	16.8	13	1.05	28.7
I - 3 - 58	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	35.3	20	2.55	30.3
I - 3 - 59	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	13.7	9	4.2	30.4
I - 3 - 60	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	8.7	10	6.02	32.4
I - 3 - 61	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.9	6	2.66	10.9
I - 3 - 62	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.3	9	2.1	26.7
I - 3 - 63	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.5	6	14.2	34.3
I - 3 - 64	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	32.7	12	0.12	33.1
I - 3 - 65	*Faramea occidentalis* (L.) Rich	Rubiaceae	cafecillo	6.6	8	0.35	31.8
I - 3 - 66	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	8	1.03	31.5
I - 3 - 67	Guarea glabra Vahl	Meliaceae	huevo de mico	5	6	1.88	32.1
I - 3 - 68	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	8.5	8	3.68	34.4
I - 3 - 69	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	24.6	10	6.75	36.1
I - 3 - 70	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.9	6	9.15	34.5
I - 3 - 71	Hymenaea courbaril L.	Leguminosae	copinol	31.8	17	10.1	38.3
I - 3 - 72	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.5	5	9	39.3
I - 3 - 73	Simarouba glauca DG.	Simaroubaceae	aceituno	7	8	15.75	41.8
I - 3 - 74	Licania retifolia Blake	Chrysobalanaceae	mulo	17.6	13	3.52	40.7
I - 3 - 75	Hirtella racemosa Lam.	Rosaceae	icaquillo	15.5	7	1.25	40.4
I - 3 - 76	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	6.4	8	0.82	44.2
I - 3 - 77	Phenas rugosus (Poir.) Wedd.	Urticaceae	chichicaste	5.5	4	19.63	44
I - 3 - 78	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	16.7	6	18.16	42.1
I - 3 - 79	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	33.4	13	17.8	42.7
I - 3 - 80	Hymenaea courbaril L.	Leguminosae	copinol	8.9	9	17.6	42
I - 3 - 81	Brosimum alicastrum Sw.	Moraceae	ujushte	106.8	33	19.02	40
I - 3 - 82	Acacia hindsii Benth.	Leguminosae	izcanal	6	10	16.5	40
I - 3 - 83	Hymenaea courbaril L.	Leguminosae	copinol	8	12	17.15	37.9
I - 3 - 84	Sapium aucuparium Jacq.	Euphorbiaceae	chilamate	20.8	17	18.4	37
I - 3 - 85	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	24.4	9	20	36.5
I - 3 - 86	*Hymenaea courbaril* L.	Leguminosae	copinol	5.5	12	19.8	36.1
I - 3 - 87	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.8	6	14	37.9

I - 3 - 88	Hymenaea courbaril L.	Leguminosae	copinol	5.1	6	14.26	38.8
I - 3 - 89	Hymenaea courbaril L.	Leguminosae	copinol	6.7	7	19.9	41.7
I - 3 - 90	Hymenaea courbaril L.	Leguminosae	copinol	10.2	7	19.38	45.4
I - 3 - 91	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9.2	7	20	45.6
I - 3 - 92	Hymenaea courbaril L.	Leguminosae	copinol	7.2	7	18.2	47.3
I - 3 - 93	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	17.5	9	17.05	49.7
I - 3 - 94	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24.7	11	15.95	46.2
I - 3 - 95	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.3	7	16.7	44.8
I - 3 - 96	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	6.1	10	16.17	44.7
I - 3 - 97	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.3	7	15.2	46.7
I - 3 - 98	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	8	3.2	47.4
I - 3 - 99	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.2	6	0.48	47.7
I - 3 - 100	Astronium graveolens Jacq.	Anacardiaceae	ron ron	6.1	6	1.23	47.6
I - 3 - 101	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.3	8	0.64	50
I - 3 - 102	Casearia commersoniana Cambess	Flacourtiaceae	chilillo	7.8	8	1.9	49.2
I - 3 - 103	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.4	10	2.92	48
I - 3 - 104	Hirtella racemosa Lam.	Rosaceae	icaquillo	31	6	18.35	48.2
I - 3 - 105	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	65.2	18	18.3	46.7
I - 3 - 106	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.3	7	15.4	10.6
I - 3 - 107	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5	8	4.75	27.3
I - 3 - 108	Hirtella racemosa Lam.	Rosaceae	icaquillo	20.5	6	8.74	18.9
I - 4 - 01	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9	7	2.84	2.35
I - 4 - 02	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	19	6	5.75	5.75
I - 4 - 03	Maclura tinctoria (L.) Steudel	Moraceae	árbol de hule	11.9	10	7.15	7.15
I - 4 - 04	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	16.1	10	9.1	9.1
I - 4 - 05	Urera sp. 2	Urticaceae	chichicaste rojo	9.5	9	13.16	13.2
I - 4 - 06	Urera sp. 2	Urticaceae	chichicaste rojo	5	4	15.44	15.4
I - 4 - 07	Acacia hindsii Benth.	Leguminosae	izcanal	5.5	5	18	18
I - 4 - 08	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	5.8	4	17.8	17.8
I - 4 - 09	Trichilia martiana C. DC.	Meliaceae	cola de pava	5	4	19.19	19.2
I - 4 - 10	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	50.2	7	15.3	6.23
I - 4 - 11	Trichilia martiana C. DC.	Meliaceae	cola de pava	7.6	8	15.13	5.78
I - 4 - 12	Acacia hindsii Benth.	Leguminosae	izcanal	7.1	5	14.35	6.21
I - 4 - 13	Achatocarpus nigricans Triana.	Achatocarpaceae	cuenta de agua	8.5	5	13.86	7.58
I - 4 - 14	Entreolobium cyclocarpum (Jacq.) Griseb.	Leguminosae	conacaste	5	4	13.7	9.7

I - 4 - 15	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	20.1	13	10.87	7.5
I - 4 - 16	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	8.3	7	8.43	5.58
I - 4 - 17	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	36.2	14	6.4	5.85
I - 4 - 18	Astronium graveolens Jacq.	Anacardiaceae	ron ron	10.5	11	9.2	10.2
I - 4 - 19	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7	4	4.33	9.25
I - 4 - 20	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.8	4	3.3	9.5
I - 4 - 21	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	21	6	2.06	6.95
I - 4 - 22	Simarouba glauca DG.	Simaroubaceae	aceituno	13.2	6	3.5	3.5
I - 4 - 23	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.4	6	3.68	11.5
I - 4 - 24	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	12.4	6	3.38	14.1
I - 4 - 25	Roupala glaberrina Pittier	Protaceae	zorrillo	6	6	3.27	14.4
I - 4 - 26	Triplaris malaenodendron (B.) St.& Stey	Polygonaceae	mulato	10.0	8	10.25	15.1
I - 4 - 27	Trichilia martiana C. DC.	Meliaceae	cedrillo	7.8	4	8.13	11.4
I - 4 - 28	Exothea paniculata (Juss.) Radlk.	Sapindaceae	cuiliote	13.6	3	11.17	11.3
I - 4 - 29	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.5	6	13.96	13.2
I - 4 - 30	Triplaris malaenodendron (B.) St.& Stey	Polygonaceae	mulato	9.7	6	13.26	13.6
I - 4 - 31	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.5	10	16.18	12.1
I - 4 - 32	Triplaris malaenodendron (B.) St.& Stey	Polygonaceae	mulato	13.1	11	17.93	11.6
I - 4 - 33	Erythrina berteroana Urban	Leguminosae	pito	11.5	7	19.7	10.7
I - 4 - 34	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	15.8	7	17.73	14.9
I - 4 - 35	Triplaris malaenodendron (B.) St.& Stey	Polygonaceae	mulato	23.1	14	15.13	14.4
I - 4 - 36	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	4	17.2	14.1
I - 4 - 37	Guarea glabra Vahl	Meliaceae	huevo de mico	10.8	6	18	17.3
I - 4 - 38	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	11.5	5	18.3	20.7
I - 4 - 39	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	13	6	17.7	20.1
I - 4 - 40	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	6.5	6	17.15	19.9
I - 4 - 42	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.6	6	15.73	20.2
I - 4 - 42	Psidium guajava L.	Myrtaceae	guayabo	6.3	4	14.1	15.4
I - 4 - 43	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	9.7	6	13.53	18.3
I - 4 - 44	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	22.6	6	12.85	17.7
I - 4 - 45	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5	4	10.82	17.3
I - 4 - 46	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	13.4	6	11.55	19.7
I - 4 - 47	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.5	6	10.48	20
I - 4 - 48	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.1	4	8.65	17.7
I - 4 - 49	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	8.5	5	7.07	16.9

I - 4 - 50	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.5	5	6.35	15.6
I - 4 - 51	Achatocarpus nigricans Triana.	Achatocarpaceae	cuenta de agua	8	6	6.35	18.8
I - 4 - 52	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	10.8	6	2.8	19.5
I - 4 - 53	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.7	4	1.95	19.6
I - 4 - 54	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.6	4	1.31	20.7
I - 4 - 55	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5	4	0.63	18.6
I - 4 - 56	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	13.2	6	1.1	16.9
I - 4 - 57	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	14	6	0.25	17
I - 4 - 58	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5	4	0.4	15.3
I - 4 - 59	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.2	6	3.3	15.3
I - 4 - 60	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	13.6	10	3.2	18.2
I - 4 - 61	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	36.2	10	3.7	21.4
I - 4 - 62	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.3	6	4.03	21.8
I - 4 - 63	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	12.2	9	0.95	24.1
I - 4 - 64	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.6	7	0.52	28.9
I - 4 - 65	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	7.7	8	11.2	21.2
I - 4 - 66	Piper tuberculatum Jacq.	Piperaceae	cordoncillo	5.3	4	11.3	21.8
I - 4 - 67	Acacia hindsii Benth.	Leguminosae	izcanal	5.1	6	13.57	21.6
I - 4 - 68	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	7	4	14.52	23.5
I - 4 - 69	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	30	6	13.3	24.8
I - 4 - 70	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.6	4	16.15	23.1
I - 4 - 71	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	6.6	5	16.92	22.8
I - 4 - 72	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	5.4	6	19.3	21.9
I - 4 - 73	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	17.3	10	19.8	22.1
I - 4 - 74	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	10.5	8	19.9	24.3
I - 4 - 75	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	33	15	19.5	24.8
I - 4 - 76	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	19	4	18.58	27.7
I - 4 - 77	Triplaris malaenodendron (B.) St.& Stey	Polygonaceae	mulato	25.7	10	1.6	30.1
I - 4 - 78	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.1	4	14.86	30.6
I - 4 - 79	Hymeneae courbaril L.	Leguminosae	copinol	9.2	7	13.21	30.2
I - 4 - 80	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	8.3	7	11.85	30.7
I - 4 - 81	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	24.5	8	10.95	26.7
I - 4 - 82	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	10	6	7.75	29.3
I - 4 - 83	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	5	6	6.42	30
I - 4 - 84	Sapium aucuparium Jacq.	Euphorbiaceae	chilamate	10.3	7	3.69	31.1

I - 4 - 85	Persea americana Mill.	Lauraceae	ahuacate	67.4	11	0.3	32.6
I - 4 - 86	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.9	6	6.78	33
I - 4 - 87	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.7	6	7.97	32.8
I - 4 - 88	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	8.2	9	17.11	33.7
I - 4 - 89	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	12.9	9	17.15	31.9
I - 4 - 90	Anacardium occidentalis	Anacardiaceae	marañón	22.6	9	19.65	33.5
I - 4 - 91	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.3	4	14.75	37.6
I - 4 - 92	*Lonchocarpus salvadorensis Pittier*	Leguminosae	sangre de chucho	8	8	18	36.9
I - 4 - 93	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	8.1	6	14.72	37.9
I - 4 - 94	Anacardium occidentalis	Anacardiaceae	marañón	26.2	4	11.2	37.4
I - 4 - 95	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	17.2	6	10.72	37.8
I - 4 - 96	*Lonchocarpus salvadorensis Pittier*	*Leguminosae*	*sangre de chucho*	24.5	5	11.57	39.9
I - 4 - 97	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.3	6	9.44	39.2
I - 4 - 98	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.7	4	7.38	40.4
I - 4 - 99	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.5	5	6.7	38.3
I - 4 - 100	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	5.6	6	5.93	38.6
I - 4 - 101	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.1	4	5.24	36.2
I - 4 - 102	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5	5	2.3	37.2
I - 4 - 103	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.7	6	3.05	40.4
I - 4 - 104	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.6	6	4.38	41
I - 4 - 105	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5	3	2.13	42.1
I - 4 - 106	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	5	4	2.9	43.7
I - 4 - 107	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.7	6	6.1	40.9
I - 4 - 108	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	13.3	7	7.55	41.7
I - 4 - 109	Roupala glaberrina Pittier	Protaceae	zorrillo	6	6	7.62	42
I - 4 - 110	Roupala glaberrina Pittier	Protaceae	zorrillo	6.7	6	8.15	42.1
I - 4 - 111	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	12.5	8	7.57	43.3
I - 4 - 112	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	5.6	6	6.17	44.3
I - 4 - 113	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.8	4	7.22	46.5
I - 4 - 114	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	25.9	10	9.07	44.7
I - 4 - 115	Tecoma stans (L.) Juss. ex H.B.K.	Bignoniaceae	san andrés	31	4	9.18	44.6
I - 4 - 116	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10	10	8.74	42.6
I - 4 - 117	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.5	5	9.7	42.2
I - 4 - 118	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.5	7	13.96	42.2
I - 4 - 119	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.4	7	13.05	44.7

I - 4 - 120	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	23	7	14.07	44.6
I - 4 - 121	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	7.9	5	16.37	42.8
I - 4 - 122	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	14.5	8	17.42	44.8
I - 4 - 123	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.4	6	18.46	43.4
I - 4 - 124	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	6	19.25	41.9
I - 4 - 125	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	16.5	10	19.7	41
I - 4 - 126	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.1	5	19.77	40.6
I - 4 - 127	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	10	7	19.95	44.4
I - 4 - 128	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	9.1	7	19.9	44.7
I - 4 - 129	Roupala glaberrina Pittier	Protaceae	zorrillo	5	6	19.3	44.4
I - 4 - 130	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	9	8	19.45	45.9
I - 4 - 131	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	6.1	6	17	46.4
I - 4 - 132	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	7.5	4	17.4	47.9
I - 4 - 133	Cocccoloba montana Standley	Polygonaceae	papaturro	21.3	5	13.2	47.1
I - 4 - 134	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	23.3	8	13.05	48.3
I - 4 - 135	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7	8	11.28	48
I - 4 - 136	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5	3	10.64	49.8
I - 4 - 137	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	17.8	10	12.56	49.7
I - 4 - 138	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	5.6	8	13.1	49.7
I - 4 - 139	Simarouba glauca DG.	Simaroubaceae	aceituno	14.5	4	9.82	48.3
I - 4 - 140	Psidium guajava L.	Myrtaceae	guayabo	6.1	2	2.65	49.6
I - 4 - 141	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	15.4	9	0.2	49.8
I - 5 - 01	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	25.5	16	6.35	2.65
I - 5 - 02	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	26.9	18	7	3.2
I - 5 - 03	Astronium graveolens Jacq.	Anacardiaceae	ron ron	7.2	6	8.8	1.1
I - 5 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.4	4	9.4	0.31
I - 5 - 05	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	8	13.55	2.9
I - 5 - 06	Spondias purpurea L.	Anacardiaceae	jocote verde	11	10	17	0.65
I - 5 - 07	Poeppigia procera C. Presl.	Luguminosae	memble	22.4	20	17.4	0.5
I - 5 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.4	7	16.3	4.6
I - 5 - 09	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	39	17	13.6	5.9
I - 5 - 10	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	6.8	9	12.95	6.5
I - 5 - 11	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.4	8	11.5	5
I - 5 - 12	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6	8	10.7	6.15
I - 5 - 13	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.5	9	9	5.85

I - 5 - 14	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.6	9	7.95	4.85
I - 5 - 15	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.1	7	7.1	5.75
I - 5 - 16	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.2	6	6.7	7.15
I - 5 - 17	Pogonopus speciosus (Jaq.) schumann	Rubiaceae	chorcha de pava	15.2	9	1.1	7.9
I - 5 - 18	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	10.2	12	0.3	8.7
I - 5 - 19	Unknown1	Unknown1	huevo de tacuazín	12.6	9	0.3	9.75
I - 5 - 20	Pogonopus speciosus (Jaq.) schumann	Rubiaceae	chorcha de pava	12	8	2.7	7.75
I - 5 - 21	Astronium graveolens Jacq.	Anacardiaceae	ron ron	5.7	4	4.4	9.95
I - 5 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.7	5	3.35	11.8
I - 5 - 23	Alibertia edulis Rich.	Rubiaceae	cantarito	8	6	0.1	13.6
I - 5 - 24	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.9	5	3.5	15.8
I - 5 - 25	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	8.7	9	5.1	16.5
I - 5 - 26	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.6	8	7.4	11.1
I - 5 - 27	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	17.3	15	7.2	7.85
I - 5 - 28	Hirtella racemosa Lam.	Rosaceae	icaquillo	16.7	5	9.5	9.45
I - 5 - 29	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.8	9	10.8	8.85
I - 5 - 30	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.9	7	18.1	9.5
I - 5 - 31	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	10.8	12	16.05	11.8
I - 5 - 32	Licania retifolia Blake	Chrysobalanaceae	mulo	9.3	8	13.7	16
I - 5 - 33	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	9.8	9	11.6	14.8
I - 5 - 34	Castilla elastica Sesse ex Cervantes	Moraceae	hule	21.9	15	11.2	15.3
I - 5 - 35	Casearia commersoniana Cambess	*Flacourtiaceae*	*chilillo*	5	5	11.35	14.3
I - 5 - 36	Licania retifolia Blake	Chrysobalanaceae	mulo	21.7	12	9.3	13.7
I - 5 - 37	Brosimum alicastrum Sw.	Moraceae	ujushte	64.6	18	5.5	17.6
I - 5 - 38	Ocotea sinuata (Mez) Rohwer	Lauracea	cashulahuaca	29.8	15	2.6	21.7
I - 5 - 39	Trichilia martiana C. DC.	Meliaceae	cedrillo	5.7	7	0.8	22
I - 5 - 40	Spondias purpurea L.	Anacardiaceae	jocote verde	30.5	15	0.65	24.8
I - 5 - 41	Licania retifolia Blake	Chrysobalanaceae	mulo	5.8	5	8.85	23.3
I - 5 - 42	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	61	19	8.9	24
I - 5 - 43	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.7	7	9.9	22.6
I - 5 - 44	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	7.9	9	9.7	20.3
I - 5 - 45	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	14.9	14	13.1	19.9
I - 5 - 46	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	22.4	16	13.1	17.9
I - 5 - 47	Alchornea latifolia Sw.	Euphorbiaceae	queso	16	14	11	17.1
I - 5 - 48	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	19.6	13	17.55	16.8

I - 5 - 49	Castilla elastica Sesse ex Cervantes	Moraceae	árbol de hule	10.5	9	18.2	17.5
I - 5 - 50	Spondias purpurea L.	Anacardiaceae	jocote verde	14.6	13	19.8	17.2
I - 5 - 51	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.1	7	19.6	24.6
I - 5 - 52	*Castilla elastica Sesse ex Cervantes*	Moraceae	árbol de hule	8.5	11	16.5	21.9
I - 5 - 53	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	51	20	14.8	24.7
I - 5 - 54	Licania retifolia Blake	Chrysobalanaceae	mulo	53.2	20	12.3	30.4
I - 5 - 55	Aphananthe monoica (Hemsley) Leroy	Ulmaceae	duraznillo	90	21	5.7	29
I - 5 - 56	*Hirtella racemosa Lam.*	Rosaceae	*icaquillo*	9	5	0.5	32.1
I - 5 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	26.7	7	1.95	33.4
I - 5 - 58	Brosimum alicastrum Sw.	Moraceae	ujushte	13.6	4	5.25	38.8
I - 5 - 59	Unknown2	Unknown2	cuenta de agua	24.5	12	5.55	35.7
I - 5 - 60	*Hirtella racemosa Lam.*	Rosaceae	*icaquillo*	10.1	8	6.25	38.9
I - 5 - 61	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	7	11.1	37.7
I - 5 - 62	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.9	5	15.75	34.8
I - 5 - 63	Calophylum brasiliense	Clusiaceae	marillo	12.9	12	19.2	38.1
I - 5 - 64	Unknown1	Unknown1	huevo de tacuazín	11.4	9	14.55	38.8
I - 5 - 65	Unknown1	Unknown1	huevo de tacuazín	6.5	7	14.65	39.1
I - 5 - 66	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	7	9.3	40.4
I - 5 - 67	Brosimum alicastrum Sw.	Moraceae	ujushte	46	19	9.1	41.6
I - 5 - 68	Brosimum alicastrum Sw.	Moraceae	ujushte	42	20	5.5	41
I - 5 - 69	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.4	11	3.1	40.1
I - 5 - 70	Unknown1	Unknown1	huevo de tacuazín	12	8	1.42	43.8
I - 5 - 71	Licania retifolia Blake	Chrysobalanaceae	mulo	14.8	12	1.9	46
I - 5 - 72	Brosimum alicastrum Sw.	Moraceae	ujushte	109.3	25	1.3	44.8
I - 5 - 73	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	5	4	49.5
I - 5 - 74	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.4	4	5.65	49.7
I - 5 - 75	Brosimum alicastrum Sw.	Moraceae	ujushte	54.9	17	6.3	46
I - 5 - 76	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.3	8	13	45.1
I - 5 - 77	Astronium graveolens Jacq.	Anacardiaceae	ron ron	46.6	25	13.2	46.7
I - 5 - 78	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.9	6	13.3	47
I - 5 - 79	*Casearia commersoniana Cambess*	Flacourtiaceae	camarón	12.8	9	14.7	46.8
I - 5 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	5	17.6	46.7
I - 5 - 81	Hymenea courbaril L.	Leguminosae	copinol	21.8	8	18.4	46.6
I - 5 - 82	Unknown1	Unknown1	huevo de tacuazín	8	4	12.5	48
I - 5 - 83	*Lonchocarpus salvadorensis Pittier*	Leguminosae	sabgre de chucho	5	5	15.1	49.7

I - 5 - 84	Hirtella racemosa Lam.	Rosaceae	aceituno	5	6	16.75	13
I - 5 - 85	Hirtella racemosa Lam.	Rosaceae	aceituno	5.4	4	5.65	49.7
I - 6 - 01	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	9	10	7.02	0.4
I - 6 - 02	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	9	8	7.45	2.2
I - 6 - 03	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.1	6	2.27	5.7
I - 6 - 04	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	11.2	12	3.77	6.2
I - 6 - 05	Tabebuia rosea (Bertol.) DC.	Bignoniaceae	maquilishuat	10.1	12	4.4	3.3
I - 6 - 06	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	20.2	20	9.22	7.4
I - 6 - 07	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.2	7	9.74	3.7
I - 6 - 08	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	14.8	8	10.84	3.75
I - 6 - 09	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	8.9	5	9.29	6.47
I - 6 - 10	Spondias purpurea L.	Anacardiaceae	jocote verde	23.9	20	8.32	7.7
I - 6 - 11	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	16.5	18	2.65	8.8
I - 6 - 12	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.8	6	12.06	0.1
I - 6 - 13	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.9	6	13.77	0.1
I - 6 - 14	Pogonopus speciosus (Jaq.) Schumann	Rubiaceae	chorcha de pava	14.6	10	13.36	2
I - 6 - 15	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	37.5	32	15.97	4
I - 6 - 16	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	22.3	10	15.1	6.88
I - 6 - 17	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.5	8	17.97	8.6
I - 6 - 18	Swietenia macrophylla King	Meliaceae	caoba	23.1	22	17.64	10.8
I - 6 - 19	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.8	10	14	11.2
I - 6 - 20	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	15.1	12	12.34	12.2
I - 6 - 21	Sterculia apelata (Jacq.) Karst.	Sterculiaceae	castaño	61.2	40	11.37	12
I - 6 - 22	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	12.2	12	8.23	11.1
I - 6 - 23	Acacia hindsii Benth.	Leguminosae	izcanal	5.2	8	20	9.9
I - 6 - 24	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	7.5	5	6.88	14.4
I - 6 - 25	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.7	12	3.02	12.2
I - 6 - 26	Astronium graveolens Jacq.	Anacardiaceae	ron ron	5.3	8	0.57	15.7
I - 6 - 27	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	25	10	11.56	18.5
I - 6 - 28	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	17	12	2.26	22.2
I - 6 - 29	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	17.3	16	5.85	19.4
I - 6 - 30	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	16.5	18	8.29	27.7
I - 6 - 31	Trichilia martiana C. DC.	Meliaceae	cola de pava	10.5	8	9.63	19.6
I - 6 - 32	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	5	4	10.79	18.9
I - 6 - 33	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	10.2	8	12.19	14.8

I - 6 - 34	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5.2	5	13.28	14.7
I - 6 - 35	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	13.7	16	16.02	16.1
I - 6 - 36	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.1	8	17	14.9
I - 6 - 37	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	5.8	5	17.23	15.5
I - 6 - 38	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	51.1	40	17.14	20.5
I - 6 - 39	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.1	18	16.68	21.5
I - 6 - 40	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	4	15.23	21.8
I - 6 - 42	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	4	15.02	21.4
I - 6 - 42	Sterculia apelata (Jacq.) Karst.	Sterculiaceae	castaño	41.5	24	11.08	22.8
I - 6 - 43	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	72.9	26	11.57	26.2
I - 6 - 44	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	8	8	14.43	27.8
I - 6 - 45	Guarea glabra Vahl	Meliaceae	huevo de mico	6	4	14.32	29
I - 6 - 46	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.4	16	15.17	28.2
I - 6 - 47	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	14.7	20	17.07	27.6
I - 6 - 48	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	5	17.78	26.5
I - 6 - 49	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	5	3	18.51	30.4
I - 6 - 50	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	34.5	25	17.15	32
I - 6 - 51	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.5	16	15.57	30.2
I - 6 - 52	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.2	4	13.72	32.5
I - 6 - 53	Achatocarpus nigricans Triana.	Achatocarpaceae	cuenta de agua	35.6	10	11.71	31.3
I - 6 - 54	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.6	10	7.99	32.9
I - 6 - 55	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	13	5	9.34	29.6
I - 6 - 56	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	74.9	24	4.98	30.5
I - 6 - 58	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	15.7	10	7.48	36
I - 6 - 59	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.9	20	2.21	36.3
I - 6 - 60	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.7	18	3.57	35.4
I - 6 - 61	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.1	4	2.12	41.2
I - 6 - 62	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	25.5	10	4.68	41.9
I - 6 - 63	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.4	28	5.32	40.8
I - 6 - 64	Roupala glaberrina Pittier	Protaceae	zorrillo	10.1	8	6.95	36.9
I - 6 - 65	Spondias purpurea L.	Anacardiaceae	jocote verde	55.4	12	7.45	37.4
I - 6 - 66	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.3	34	8.94	36.7
I - 6 - 67	Cordia dentata Poiret	Boraginaceae	tigüilote / cebito	5.8	10	10.4	40.6
I - 6 - 68	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	21.9	8	13	36.7
I - 6 - 69	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.1	20	12.3	36.1

I - 6 - 70	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	22	7	14.87	36.4
I - 6 - 71	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	17.2	12	15	39.7
I - 6 - 72	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.8	14	17	36.8
I - 6 - 73	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	22.2	5	17.2	39.3
I - 6 - 74	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11	18	16.5	40.8
I - 6 - 75	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	30.4	7	11.5	44.4
I - 6 - 76	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.6	20	12	44.4
I - 6 - 77	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	27	8	9	44.8
I - 6 - 78	Maclura tinctoria (L.) Steudel	Moraceae	árbol de hule	35.5	24	8.9	48.8
I - 6 - 79	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.6	20	6.33	49.9
I - 6 - 80	*Inga fagifolia* (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	44.9	8	2	47.3
I - 6 - 81	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.1	20	4.4	44.2
I - 6 - 82	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.9	12	2.2	45
I - 6 - 83	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.5	7	13.27	45
I - 7 - 01	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	41	28	0.89	0.3
I - 7 - 02	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	13.8	10	4.85	3.3
I - 7 - 03	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	17.8	20	7.55	2.33
I - 7 - 04	Casearia corymbosa Kunth	Flacourtiaceae	molleja de pata	8.5	4	6.45	3.34
I - 7 - 05	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	6.2	5	8.76	4
I - 7 - 06	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	10.9	12	10.15	0.3
I - 7 - 07	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	16.2	12	17.63	1.11
I - 7 - 08	Licania retifolia Blake	Chrysobalanaceae	mulo	31.1	20	15.7	1.5
I - 7 - 09	Casearia commersoniana Cambess	Flacourtiaceae	sombra de cuzuco	26	12	18.14	2.62
I - 7 - 10	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	7	17.74	3.82
I - 7 - 11	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.8	6	20	4.87
I - 7 - 12	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	10.7	16	18.52	8.82
I - 7 - 13	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	11.9	16	18.27	9.68
I - 7 - 14	*Cordia dentata Poiret*	*Boraginaceae*	*tigüilote*	5.4	8	16.54	7
I - 7 - 15	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	4	14.65	7.44
I - 7 - 16	Cecropia obtusifolia Bertol.	Cecroplaceae	guarumo	23.4	24	14.06	7.98
I - 7 - 17	Ardisia paschalis J.D. Smith	Myrsinaceae	cerezo	5.5	6	12.15	8.99
I - 7 - 18	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	15.1	20	13.45	8.72
I - 7 - 19	Phenas rugosus (Poir.) Wedd.	Urticaceae	chichicaste	22.2	12	10.45	9.3
I - 7 - 20	Calophylum brasiliense	Clusiaceae	marillo	16.2	16	9.13	7.2
I - 7 - 21	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	16	20	7.84	6

I - 7 - 22	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	13.8	20	6.91	7.8
I - 7 - 23	Alchornea latifolia Sw.	Euphorbiaceae	queso	13.5	16	4.65	5.35
I - 7 - 24	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	42.6	32	2.06	4.1
I - 7 - 25	*Pogonopus speciosus (Jacq.) Schumann*	Rubiaceae	chorcha de pava	11.9	10	2.26	6.73
I - 7 - 26	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	37.7	18	2.76	11
I - 7 - 27	Licania retifolia Blake	Chrysobalanaceae	mulo	33.5	20	6.42	21.8
I - 7 - 28	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	11.6	7	9.49	14.3
I - 7 - 29	Cupania guatemalensis (Turez.) Rakld.	*Sapindaceae*	*camarón*	17.4	10	11.62	7.99
I - 7 - 30	Casearia commersoniana Cambess	Flacourtiaceae	chilillo	5	10	16.54	12.2
I - 7 - 31	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.9	7	18.08	11.4
I - 7 - 32	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	30.4	25	17.64	13.4
I - 7 - 33	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	27.9	22	19.12	15
I - 7 - 34	Astronium graveolens Jacq.	Unknown 5	ron ron	5.7	7	16.83	13
I - 7 - 35	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	7.4	12	18.33	15.2
I - 7 - 36	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	29.2	20	8.43	20.2
I - 7 - 37	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	20.3	16	8.23	17.3
I - 7 - 38	Casearia commersoniana Cambess	Flacourtiaceae	chilillo	5	6	4.69	17
I - 7 - 39	Lunania mexicana Brandegee	Flacourtiaceae	tizón	7.2	8	0.93	18
I - 7 - 40	Spondias purpurea L.	Anacardiaceae	jocote verde	57.1	40	0.2	18.5
I - 7 - 42	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	9.6	10	4.21	22.6
I - 7 - 42	Trichilia martiana C. DC.	Meliaceae	cola da pava	5.2	7	4.53	20.1
I - 7 - 43	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	29.2	22	6.12	22.3
I - 7 - 44	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	10.8	10	6.98	21
I - 7 - 45	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	15	12	10.49	19.8
I - 7 - 46	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	32.2	32	10.42	20.9
I - 7 - 47	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	10.4	12	12.84	21.1
I - 7 - 48	*Trichilia martiana C. DC.*	*Meliaceae*	cola de pava	43	16	16.03	20.8
I - 7 - 49	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.9	12	16	19.4
I - 7 - 50	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.2	8	18.59	23.4
I - 7 - 51	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.2	10	19.54	24
I - 7 - 52	Castilla elastica Sesse ex. Cervantes	*Moraceae*	*árbol de hule*	13.5	12	19.92	25.3
I - 7 - 53	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.6	8	16.68	26
I - 7 - 54	Zanthoxylum microcarpum Griseb.	Rutaceae	pochote	6.6	12	15.08	29
I - 7 - 55	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.9	8	13.13	29.9
I - 7 - 56	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	5.8	7	11.47	26.5

I - 7 - 57	Phenas rugosus (Poir.) Wedd.	Urticaceae	chichicaste	8.6	7	11.57	27.3
I - 7 - 58	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.5	8	6.73	28
I - 7 - 59	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	9.5	8	5.68	26.7
I - 7 - 60	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	13.1	12	3.68	25.5
I - 7 - 61	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	6.9	7	4.29	29.3
I - 7 - 62	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	6.8	10	3.15	29.6
I - 7 - 63	Cordia dentata Poiret	Boraginaceae	tigüilote	5.1	7	2.5	32.6
I - 7 - 64	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	18.1	20	5.25	30.5
I - 7 - 65	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.2	8	8.18	30.6
I - 7 - 66	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	5.1	4	6.33	33.2
I - 7 - 67	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	21.3	24	7.5	33.3
I - 7 - 68	Unknown 2	Unknown 2	huevo de tacuazín	5.8	6	9.1	34.5
I - 7 - 69	Unknown 2	Unknown 2	huevo de tacuazín	5.9	5	9.17	34.8
I - 7 - 70	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	14.6	8	13.73	33.1
I - 7 - 71	Urera sp. 1	Urticaceae	chichicaste dulce	6.8	8	13.28	34.2
I - 7 - 72	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	13	12	15.66	31
I - 7 - 73	Acacia hindsii Benth.	Leguminosae	izcanal	6.2	12	19.58	35
I - 7 - 74	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	7.3	8	19.87	32.4
I - 7 - 75	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	5	7	19.58	31.6
I - 7 - 76	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	7.1	8	18.59	40.2
I - 7 - 77	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.2	12	13.78	42.7
I - 7 - 78	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.3	10	12.98	39.7
I - 7 - 79	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.3	12	2.7	37.6
I - 7 - 80	Licania retifolia Blake	Chrysobalanaceae	mulo	45.6	16	11.7	42.3
I - 7 - 81	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	32.3	16	11.39	42.3
I - 7 - 82	Trichilia martiana C. DC.	Meliaceae	cedrillo	7.8	10	8.77	39.8
I - 7 - 83	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	28.6	20	6.05	37.4
I - 7 - 84	Trichilia martiana C. DC.	Meliaceae	cola de pava	5.9	7	6.88	38.7
I - 7 - 85	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	14.4	20	3.47	39.4
I - 7 - 86	Randia chiapensis Standl.	Rubiaceae	crucito	5.4	7	3.1	39.1
I - 7 - 87	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	6.9	7	2.39	39.1
I - 7 - 88	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.6	10	1.98	39.2
I - 7 - 89	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	6	8	2	35.3
I - 7 - 90	Bauhinia ungulata L.	Leguminosae	pata de venedo	5.6	10	3.34	39.7
I - 7 - 91	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.1	8	5.19	41.5

I - 8 - 21	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	22.2	17	16.98	12.8
I - 8 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	6	17.77	17.4
I - 8 - 23	Calophylum brasiliense	Clusiaceae	marillo / barío	11.2	10	13.62	20.2
I - 8 - 24	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	37.2	24	13.2	19.5
I - 8 - 25	Unknown 9	Unknown 9	sombra de cuzuco	39.6	20	13.5	17.8
I - 8 - 26	Ardisia paschalis J.D. Smith	Myrsinaceae	cerezo	6	6	9.22	20.9
I - 8 - 27	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	7	6.72	20.2
I - 8 - 28	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	14.9	10	6.6	17.7
I - 8 - 29	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.8	7	6.72	16.8
I - 8 - 30	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	33.5	32	1.35	18.2
I - 8 - 31	Alibertia edulis Rich.	Rubiaceae	trompillo / cantarito	5.8	7	9.07	18.4
I - 8 - 32	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.8	7	3.09	21.1
I - 8 - 33	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.4	7	10	23.6
I - 8 - 34	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	10.2	8	3.32	23.3
I - 8 - 35	*Licania retifolia Blake*	Chrysobalanaceae	mulo	27.5	24	6.59	24
I - 8 - 36	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	37.3	24	12.98	24.3
I - 8 - 37	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	19.5	20	17.33	20.6
I - 8 - 38	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	6.8	10	17.65	24.2
I - 8 - 39	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7	7	18.48	24.9
I - 8 - 40	Poeppigia procera C. Presl.	Leguminosae	memble	5	7	18.57	24.6
I - 8 - 42	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5	7	7.75	26.6
I - 8 - 42	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	30.6	20	16.4	27.5
I - 8 - 43	Calophylum brasiliense	Clusiaceae	marillo / barío	6.7	7	16.3	27.3
I - 8 - 44	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	6.2	2	15.1	30.8
I - 8 - 45	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	8.5	10	11.7	28
I - 8 - 46	Alibertia edulis Rich.	Rubiaceae	trompillo	5.4	5	14.2	26.8
I - 8 - 47	Licania retifolia Blake	Chrysobalanaceae	mulo	9.2	10	16.1	29.1
I - 8 - 48	Urera baccifera (L.) Gaudich.	*Urticaceae*	*chichicaste de nigua*	5.2	5	6.13	28.2
I - 8 - 49	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	6.6	8	3.58	26.6
I - 8 - 50	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.8	8	3.5	28.2
I - 8 - 51	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	40	24	1.25	20
I - 8 - 52	Unknown 2	Unknown 2	huevo de tacuazín	7.4	12	3.1	30.5
I - 8 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.8	7	4.45	30.2
I - 8 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	8	5.5	36.4
I - 8 - 55	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	8	5.25	30.6

I - 7 - 92	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	9.5	10	5.19	45.2
I - 7 - 93	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	17.5	10	2.04	45
I - 7 - 94	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	66	32	2.59	48.1
I - 7 - 95	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	10.2	10	6.88	49
I - 7 - 96	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	16.3	8	11.76	47
I - 7 - 97	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	16.2	16	14.14	49.9
I - 7 - 98	Acacia hindsii Benth.	Leguminosae	izcanal	6.7	12	17.78	49.3
I - 7 - 99	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.2	12	19.17	50
I - 7 - 100	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.5	12	19.04	50
I - 7 - 101	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.1	6	19.19	47.5
I - 7 - 102	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.1	6	18.92	46.2
I - 7 - 103	Inga Sapindoides Wild.	Leguminosae	guamito	10.5	14	19.32	46.5
I - 7 - 104	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.1	8	17.73	44.8
I - 7 - 105	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11.4	12	15.8	44
I - 7 - 106	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.7	12	1.04	44.9
I - 8 - 01	Trichilia martiana C. DC.	Meliaceae	cola de pava	17.1	16	0.65	2.8
I - 8 - 02	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	16.1	20	5.02	3.23
I - 8 - 03	Hirtella racemosa Lam.	Rosaceae	icaquillo	18.4	8	6.72	3.45
I - 8 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.5	6	10.12	0.7
I - 8 - 05	Unknown 9	Unknown 9	sombra de cuzuco	5.1	8	15.54	1.7
I - 8 - 06	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	7	16.58	2.44
I - 8 - 07	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.8	8	15.84	7.35
I - 8 - 08	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	5.5	7	16.42	8.48
I - 8 - 09	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	20.5	12	13.72	5.82
I - 8 - 10	Tabebuia rosea (Bertol.) DC.	Bignoniaceae	maquilishuat	5.8	7	13.11	10.3
I - 8 - 11	Licania retifolia Blake	Chrysobalanaceae	mulo	38.2	22	9.07	9.47
I - 8 - 12	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	14.1	16	7.3	7
I - 8 - 13	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.6	6	6.68	8.5
I - 8 - 14	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	9.1	12	5.74	5.3
I - 8 - 15	Dalbergia sp.	Leguminosae	cagalera	5.5	7	2.99	6.1
I - 8 - 16	Spondias purpurea L.	Anacardiaceae	jocote verde	42.2	32	3	9.22
I - 8 - 17	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	6.4	8	1.03	14
I - 8 - 18	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.6	5	3.44	14.1
I - 8 - 19	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	24.2	22	8.89	13.3
I - 8 - 20	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6.6	12	8.89	14.9

I - 8 - 56	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.6	7	9	31.4
I - 8 - 57	Licania retifolia Blake	Chrysobalanaceae	mulo	6.8	8	9.23	33.7
I - 8 - 58	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.6	7	11.4	33.9
I - 8 - 59	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	42.4	32	12	32.6
I - 8 - 60	Licania retifolia Blake	Chrysobalanaceae	mulo	10.2	12	13.44	32.9
I - 8 - 61	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	12	16.7	32.6
I - 8 - 62	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.6	5	16.78	36.4
I - 8 - 63	Alchornea latifolia Sw.	Euphorbiaceae	queso	13.5	14	16.63	38.5
I - 8 - 64	Astronium graveolens Jacq.	Anacardiaceae	ron ron	9.5	12	14.53	37.9
I - 8 - 65	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	11.4	12	13.54	38
I - 8 - 66	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6.1	10	12.9	40.2
I - 8 - 67	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	11.2	12	13.78	41.3
I - 8 - 68	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.2	8	12	40.2
I - 8 - 69	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.6	14	4.55	40
I - 8 - 70	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.9	10	7.45	41.7
I - 8 - 71	Licania retifolia Blake	Chrysobalanaceae	mulo	9.9	12	8.33	37
I - 8 - 72	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.9	8	4.75	36
I - 8 - 73	Unknown 1	Unknown 1	churumullo	8.7	14	4.1	39.7
I - 8 - 74	Phenas rugosus (Poir.) Wedd.	Urticaceae	chichiaste	27	10	0.2	38.3
I - 8 - 75	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	4	0.85	36.4
I - 8 - 76	Brosimum alicastrum Sw.	Moraceae	ujushte	74.3	36	1.3	42.3
I - 8 - 77	Urera sp. 1	Urticaceae	chichicaste dulce	6.2	12	11	45.4
I - 8 - 78	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	12	6	43.5
I - 8 - 79	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	4	7.3	43.7
I - 8 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	3	6.5	44.5
I - 8 - 81	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	15	10	18.1	46.8
I - 8 - 82	Licania retifolia Blake	Chrysobalanaceae	mulo	109	52	16.2	47.1
I - 8 - 83	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.2	8	16.7	46.6
I - 8 - 84	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.4	8	17.8	49.2
I - 8 - 85	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	8	12.52	46.2
I - 8 - 86	Brosimum alicastrum Sw.	Moraceae	ujushte	74.5	40	11.63	45.8
I - 8 - 87	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	13.2	14	10.2	48.6
I - 8 - 88	Casearia commersoniana Cambess	Flacourtiaceae	camarón	20.2	14	16	48.7
I - 8 - 89	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.4	7	6.3	48.5
I - 8 - 90	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	9.2	10	6.5	46.2

I - 8 - 91	*Pogonopus speciosus* (Jacq.) Schumann	Rubiaceae	chorcha de pava	7.6	12	3.8	47.4
I - 8 - 92	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.7	7	4.35	40.7
I - 8 - 93	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	10.5	7	4.8	50
I - 8 - 94	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9.7	14	1.4	48.2
I - 8 - 95	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	11	16	1.44	47.7
I - 8 - 96	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.6	10	1.23	46.2
I - 9 - 01	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	8	11.1	1.13
I - 9 - 02	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	8	1.2	1.3
I - 9 - 03	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.1	6	3.55	2.3
I - 9 - 04	*Unknown 2*	Unknown 2	huevo de tacuazín	12.1	10	3	4.8
I - 9 - 05	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	29.6	20	7.35	1
I - 9 - 06	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11	10	8.24	0.26
I - 9 - 07	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	12.1	3.8
I - 9 - 08	Allophylus occidentalis (SW.) Radlk.	Sapindaceae	huesito	8.5	7	12.4	0.1
I - 9 - 09	Ardisia paschalis J.D. Smith	Myrsinaceae	cerezo	5.1	7	14.8	1.9
I - 9 - 10	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.1	6	17.33	2.73
I - 9 - 11	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.8	7	19.65	5.6
I - 9 - 12	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	5.3	4	14.23	7.7
I - 9 - 13	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	5.4	8	14.4	9.3
I - 9 - 14	Justicia specigera Schldl.	Acanthaceae	tinterillo	6.5	8	14.2	9.9
I - 9 - 15	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.4	10	12.1	5.5
I - 9 - 16	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	10.3	12	9.93	5.2
I - 9 - 17	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	39.5	20	7.64	4.5
I - 9 - 18	*Unknown 2*	Unknown 2	huevo de tacuazín	7.1	8	8.4	7.6
I - 9 - 19	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	18.1	12	4.46	9.9
I - 9 - 20	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	13.3	16	1.4	7
I - 9 - 21	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	7.9	10	2.45	6.6
I - 9 - 22	Ficus obtusifolia Kunth	Moraceae	matapalo	11.5	7	1.78	11.4
I - 9 - 23	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	7.4	10	2.68	10.3
I - 9 - 24	Trichilia martiana C. DC.	Meliaceae	cola de pava	8	7	1.65	13.8
I - 9 - 25	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	9.7	12	2.7	14.4
I - 9 - 26	Hirtella racemosa Lam.	Rosaceae	icaquillo	13	5	5	9.82
I - 9 - 27	*Hirtella racemosa Lam.*	Rosaceae	icaquillo	6.1	4	17.1	14.9
I - 9 - 28	Lonchocarpus astropurpureus Benth.	Leguminosae	chaperno	6.2	7	9.3	10.7
I - 9 - 29	Trichilia martiana C. DC.	Meliaceae	cola de pava	8	8	11	10.7

I - 9 - 30	Trichilia martiana C. DC.	Meliaceae	cola de pava	5.8	8	10.38	12.2
I - 9 - 31	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	12.2	20	11.64	13.7
I - 9 - 32	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	15.2	12	12.4	14.2
I - 9 - 33	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.4	4	17.3	13.3
I - 9 - 34	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	5	19	11.4
I - 9 - 35	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	6.3	6	20	13
I - 9 - 36	Aphananthe monoica (Hemsley) Leroy	Ulmaceae	durasnillo	92.7	40	17.1	15.7
I - 9 - 37	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	13.1	18	11.65	16.4
I - 9 - 38	Trichilia martiana C. DC.	Meliaceae	cola de pava	9.5	8	9.9	15.1
I - 9 - 39	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.8	12	9.8	14.5
I - 9 - 40	Trichilia martiana C. DC.	Meliaceae	cola de pava	12.3	14	7.15	17
I - 9 - 42	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	5.5	6	9	18.2
I - 9 - 42	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	5	1.2	19.4
I - 9 - 43	Hirtella racemosa Lam.	Rosaceae	icaquillo	20.5	16	1.53	17.7
I - 9 - 44	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	13.3	7	1.5	15.7
I - 9 - 45	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.2	7	0.8	24.3
I - 9 - 46	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	6	2.35	21.5
I - 9 - 47	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.5	6	3.34	21
I - 9 - 48	Trichilia martiana C. DC.	Meliaceae	cola de pava	14.4	14	4.6	21.8
I - 9 - 49	Guarea glabra Vahl	Meliaceae	huevo de mico	5.7	6	5.8	21.3
I - 9 - 50	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	8.5	14	9.35	23.8
I - 9 - 51	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.9	5	10.55	25.8
I - 9 - 52	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	8	8	10.3	20
I - 9 - 53	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	77.8	32	10.85	19.7
I - 9 - 54	Calophylum brasiliense	Clusiaceae	marillo / barío	24.2	18	13.23	22.5
I - 9 - 55	Brosimum alicastrum Sw.	Moraceae	ujushte	69	32	11.4	26.4
I - 9 - 56	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	5.8	7	10	25.7
I - 9 - 57	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	13.6	18	9.6	28.1
I - 9 - 58	Trichilia martiana C. DC.	Meliaceae	cola de pava	25.5	18	6.65	27
I - 9 - 59	Alibertia edulis Rich.	Rubiaceae	trompillo	5.6	4	6.7	29.2
I - 9 - 60	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	9	8	5.8	29.4
I - 9 - 61	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11.1	12	4	32.7
I - 9 - 62	Alibertia edulis Rich.	Rubiaceae	trompillo	5.2	5	4.8	34
I - 9 - 63	Swietenia macrophylla King	Meliaceae	caoba	39.9	32	5.4	33.6
I - 9 - 64	Alibertia edulis Rich.	Rubiaceae	trompillo	8	5	10.5	33.3

I - 9 - 65	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	11.5	16	14.53	32.7
I - 9 - 66	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	17.2	22	1.8	33.6
I - 9 - 67	Piper marginatum Jacq.	Piperaceae	cordoncillo	11.4	8	14.5	35.8
I - 9 - 68	Trichilia martiana C. DC.	Meliaceae	cedro real	24	18	15.2	35.4
I - 9 - 69	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	8	10	17.3	32.7
I - 9 - 70	Enterolobium cyclocarpum (Jaq.) Griseb.	Leguminosae	conacaste	19	20	18.2	32.8
I - 9 - 71	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	14.8	20	19	32
I - 9 - 72	Piper marginatum Jacq.	Piperaceae	cordoncillo	5	5	19.7	34.2
I - 9 - 73	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	44.1	20	17.75	37.6
I - 9 - 74	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	5.6	7	20	39.4
I - 9 - 75	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.4	16	17.7	37.2
I - 9 - 76	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	12.8	16	16.9	40.2
I - 9 - 77	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	8	4	17.6	40.3
I - 9 - 78	Urera sp. 2	Urticaceae	chichicaste rojo	9.9	7	13.6	40
I - 9 - 79	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	9.8	7	11.83	39.5
I - 9 - 80	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	17.4	18	12	37.3
I - 9 - 81	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6.7	7	10	37
I - 9 - 82	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	14.1	14	11.9	36
I - 9 - 83	Guarea glabra Vahl	Meliaceae	huevo de mico	6.1	3	9.23	36.5
I - 9 - 84	Piper marginatum Jacq.	Piperaceae	cordoncillo	5.3	4	7.2	38.4
I - 9 - 85	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	26.8	24	5.3	38.4
I - 9 - 86	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11	8	3	39.6
I - 9 - 87	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	7	7	0.6	43.5
I - 9 - 88	Parathesis congesta Lundell	Myrsinaceae	amaranto silvestre	5.9	4	4	42.4
I - 9 - 89	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	10.5	12	6.3	41.1
I - 9 - 90	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11	7	6.9	40.9
I - 9 - 91	Licania retifolia Blake	Chrysobalanaceae	mulo	7.7	3	6	42.1
I - 9 - 92	Cordia panamensis Riley	Boraginaceae	manuno blanco	5.1	5	5.35	43.8
I - 9 - 93	Licania retifolia Blake	Chrysobalanaceae	mulo	6.3	3	7.5	44.4
I - 9 - 94	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	6.6	3	9.4	40.2
I - 9 - 95	Unknown 1	Unknown 1	churumullo	11.7	10	9.8	43.7
I - 9 - 96	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	14.5	16	17.1	43.7
I - 9 - 97	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	21.7	20	17	41.6
I - 9 - 98	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	8.5	12	18.4	40.7
I - 9 - 99	Spondias purpurea L.	Anacardiaceae	jocote verde	34.9	20	16.4	45.8

I - 9 - 100	Spondias purpurea L.	Anacardiaceae	jocote verde	17.8	12	17.6	47.2
I - 9 - 101	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	5.1	4	18.75	49.1
I - 9 - 102	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	11.7	10	16.8	49.1
I - 9 - 103	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	34	20	15.2	48
I - 9 - 104	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.7	5	16.2	50
I - 9 - 105	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.3	8	16.6	50
I - 9 - 106	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	19.3	5	12.55	46.3
I - 9 - 107	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón	18.5	10	11.8	46.6
I - 9 - 108	Guarea glabra Vahl	Meliaceae	huevo de mico	17.5	10	9.25	49.1
I - 9 - 109	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	5.3	5	12	46.8
I - 9 - 110	Tabebuia rosea (Bertol.) DC.	Bignoniaceae	maquilishuat	7.5	3	9.6	48.8
I - 9 - 111	Casearia commersoniana Cambess	Flacourtiaceae	chililllo	8	5	8	49.5
I - 9 - 112	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste pica pica	5.2	5	7.3	47.9
I - 9 - 113	Manilkara chicle (Pittier) Gilly	Sapotaceae	nispero	21.6	8	0.7	48
I - 9 - 114	Casearia commersoniana Cambess	Flacourtiaceae	chililllo	5.5	5	3.4	46.2
I - 10 - 01	Licania retifolia Blake	Chrysobalanaceae	mulo	5.3	4	3.6	1
I - 10 - 02	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	7.9	7	2.28	1.1
I - 10 - 03	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	5	6	3.48	1.3
I - 10 - 04	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	13.5	9	6.42	1.8
I - 10 - 05	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	7.6	3	9.24	2
I - 10 - 06	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9	10	9.82	7
I - 10 - 07	Thouinia sp.	Sapindaceae	huesito	9.4	9	11.69	1.1
I - 10 - 08	Roupala glaberrina Pittier	Protaceae	zorrillo	14.8	15	14.15	1.5
I - 10 - 09	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	11.4	5	15.6	2.4
I - 10 - 10	Maclura tinctora (L.) Steudel.	Moraceae	mora	14	15	17.13	1
I - 10 - 11	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	5.2	5	16.98	3.6
I - 10 - 12	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	8	10	15.19	4.55
I - 10 - 13	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	8	15.1	5.8
I - 10 - 14	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.3	9	19.19	9.3
I - 10 - 15	Enterolobium cyclocarpum (Jacq.) Griseb.	Leguminosae	conacaste	36.3	13	15.14	9.8
I - 10 - 16	Roupala glaberrina Pittier	Protaceae	zorrillo	10	12	13.68	5.1
I - 10 - 17	Roupala glaberrina Pittier	Protaceae	zorrillo	7	7	2.83	4.15
I - 10 - 18	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	7.1	9	10.68	4.2
I - 10 - 19	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	8.2	5	9.32	10.1
I - 10 - 20	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	9.4	8	7.63	8.8

I - 10 - 21	Allophylus occidentalis (Sw.) Radlk.	Sapindaceae	huesito	9.2	8	8.5	6.2
I - 10 - 22	Brosimum alicastrum Sw.	Moraceae	ujushte de verano	55.7	11	5.17	4.6
I - 10 - 23	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	10.5	7	2.15	6.5
I - 10 - 24	Roupala glaberrina Pittier	Protaceae	zorrillo	5.5	4	1.02	5.2
I - 10 - 25	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	8.9	5	1.71	10
I - 10 - 26	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	22.8	15	1.06	13
I - 10 - 27	Brosimum alicastrum Sw.	Moraceae	ujushte de verano	53.2	23	1.22	13.7
I - 10- 28	Piper marginatum Jacq.	Piperaceae	cordoncillo	13.2	7	5.59	13.7
I - 10 - 29	Roupala glaberrina Pittier	Protaceae	zorrillo	6.1	6	8.06	11.6
I - 10 - 30	Sapium aucuparium Jacq.	Euphorbiaceae	chilamate	11.4	8	9.28	11
I - 10 - 31	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	7.5	9	10.37	12.2
I - 10 - 32	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	13.5	8	14.2	12.9
I - 10 - 33	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	5.3	7	13.7	14.6
I - 10- 34	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.2	6	15.07	14.9
I - 10 - 35	Guapira witsbergeri Lundell	Nyctaginaceae	siete camisas rojo	13	6	16.22	14
I - 10 - 36	Tabebuia rosea (Bertol.) DC.	Bignoniaceae	maquilishuat	6.5	8	17.76	14.8
I - 10 - 37	Calycophyllum candidissimum (Vahl) DC.	Rubiaceae	salamo	13.7	5	17.09	18.1
I - 10 - 38	Unknown 8	Unknown 8	trompillo	6.3	5	13.79	19.6
I - 10 - 39	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.3	4	14.33	11
I - 10 - 40	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	11.5	4	1.65	16
I - 10 - 42	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	8.7	7	9.78	17.5
I - 10 - 42	Simarouba glauca DG.	Simaroubaceae	aceituno	12	8	10.07	17.8
I - 10 - 43	Dalbergia sp.	Leguminosae	cagalera	5.4	5	9.43	19.4
I - 10 - 44	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	10.4	10	2.62	15.5
I - 10 - 45	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	21.5	15	0	17
I - 10 - 46	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5	10	2.19	20.1
I - 10 - 47	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5.7	4	2.26	25
I - 10 - 48	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	13.3	15	2.77	24
I - 10 - 49	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	7.3	7	4.38	25
I - 10 - 50	Roupala glaberrina Pittier	Protaceae	zorrillo	6.2	7	4.52	26
I - 10 - 51	Astronium graveolens Jacq.	Anacardiaceae	ron ron	9.3	7	5.2	21.2
I - 10 - 52	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	19.3	12	10.87	21
I - 10 - 53	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	5.4	7	11.66	21.5
I - 10 - 54	Brosimum alicastrum Sw.	Moraceae	ujushte	126.5	42	11.7	23
I - 10 - 55	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.3	6	16.93	24.1

I - 10 - 56	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	12.3	8	14.58	20
I - 10 - 57	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	16.5	7	17.76	27.3
I - 10 - 58	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	9.8	5	19.8	24.3
I - 10 - 59	Achatocarpus nigricans Triana	Achatocarpaceae	cuenta de agua	19	7	17.63	24.5
I - 10 - 60	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	9	6	18.57	29.1
I - 10 - 61	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.2	6	15.43	27.3
I - 10 - 62	Brosimum alicastrum Sw.	Moraceae	ujushte	81.6	22	15.03	28
I - 10 - 63	Unknown 8	Unknown 8	trompillo	6.2	7	14.19	28.4
I - 10 - 64	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	11.3	10	1.42	29
I - 10 - 65	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	15.6	10	1.07	29
I - 10 - 66	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	15	10	6.35	24.6
I - 10 - 67	*Urera baccifera (L.) Gaudich.*	Urticaceae	chichicaste de nigua	5.2	4	4.3	25.4
I - 10 - 68	Brosimum alicastrum Sw.	Moraceae	ujushte	101.2	30	1.9	28
I - 10 - 69	Unknown 7	Unknown 7	Unknown 7	9.2	10	1.85	26.7
I - 10 - 70	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	19	14	0	26
I - 10 - 71	Calophylum brasiliense	Clusiaceae	marillo / barío	25.3	14	1.03	13.2
I - 10 - 72	Unknown 8	Unknown 8	trompillo	12.1	5	5.6	34.4
I - 10 - 73	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	20	12	7.8	32.9
I - 10 - 74	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cojón de tunco	9.8	8	8.04	30.1
I - 10 - 75	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.1	6	5.91	30.1
I - 10 - 76	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	9.1	6	11.83	23.1
I - 10 - 77	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	7	11.92	35
I - 10 - 78	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	6.1	6	13.52	32.1
I - 10 - 79	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6.7	7	16.22	32.4
I - 10 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	5	19.52	23
I - 10 - 81	Spondias 2	Anacardiaceae	jocote macho	11.5	10	18.18	35
I - 10 - 82	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.2	4	18.5	36.2
I - 10 - 83	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	6	4	19.5	40
I - 10 - 84	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.3	5	16.4	39.9
I - 10 - 85	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	5	7	16.38	36.6
I - 10 - 86	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	9.1	4	12.25	35.4
I - 10 - 87	Spondias 1	Anacardiaceae	jocote de pava	34.8	18	6.85	39.4
I - 10 - 88	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	5	2.2	40.4
I - 10 - 89	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	5.8	5	2	27.2
I - 10 - 90	Sloanea terniflora (Mociño & Sesse) Standley	Elaeocarpaceae	terciopelo	13.4	10	2.79	30.2

I - 10 - 91	Myriocarpa longipes Liebm.	Urticaceae	chichicaste rojo	8.5	5	6.53	47.6
I - 10 - 92	Tabernaemontana amygdalifolia Jacq.	Apocynaceae	cola de pava	9.8	7	8.69	41.3
I - 10 - 93	Tabebuia rosea (Bertol.) DC.	Bignoniaceae	maquilishuat	12.1	6	8.03	40.7
I - 10 - 94	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	24.8	8	9.27	42.3
I - 10 - 95	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	9.7	8	10.59	43.1
I - 10 - 96	Astronium graveolens Jacq.	Anacardiaceae	ron ron	7.2	6	13.39	44.1
I - 10 - 97	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	20.2	6	14	44.5
I - 10 - 98	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	8.5	9	13.64	40.2
I - 10 - 99	Senna bacillaris (L.F.) Irwing & Barnery	Leguminosae	molleja de pata	5.3	12	14.85	44.4
I - 10 - 100	Cecropia obtusifolia Bertol.	Cecropiaceae	guarumo	18.2	10	14.89	44.7
I - 10 - 101	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	15.2	7	16.54	43.3
I - 10 - 102	Albizia adinocephata (J.D. Smith) Britton & Rose	Leguminosae	polvo de queso	24	14	18.88	45.1
I - 10 - 103	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.2	7	19.15	46
I - 10 - 104	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	14.5	6	15.75	50
I - 10 - 105	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	4	12	48.6
I - 10 - 106	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.7	7	12.14	50
I - 10 - 107	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	5	8.77	47.3
I - 10 - 108	Pogonopus speciosus (Jacq.) Schumann	Rubiaceae	chorcha de pava	8.5	7	7.22	47.9
I - 10 - 109	Urera baccifera (L.) Gaudich.	Urticaceae	chichicaste de nigua	5.2	4	6.03	49.9
I - 10 - 110	Simarouba glauca DG.	Simaroubaceae	aceituno	5.1	5	5.19	45.8
I - 10 - 111	Apanantha monica (Hemsley) Leroy	Ulmaceae	duraznillo	34.2	11	5.69	48.7
I - 10 - 11'	Astronium graveolens Jacq.	Anacardiaceae	ron ron	9.5	7	4.72	45.7
I - 10 - 113	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12.5	9	2	47.2
I - 10 - 114	Terminalia oblonga (Ruiz & Pavon) Steudel	Combretaceae	volador	25	14	4	45

Appendix III. Original data collected in Site 2 - La Fincona. Tree serial No. indicates (i.e., I - 1 - 01)
I = site number 1 = quadrat number and 01 = tree number.

TREE No.	Species Name	Family	Common name	DBH (cm)	HT (m)	X (m)	Y (m)
II - 1 - 01	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	12.8	8	3.23	2.35
II - 1 - 02	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.6	6	2.6	3.1
II - 1 - 03	Unknown 1	Unknown 1	churumullo	6.5	5	0.6	4.4
II - 1 - 04	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.3	7	3	4.55
II - 1 - 05	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	17.2	8	4.9	0.6
II - 1 - 06	Unknown sp6	Bignoniaceae	huevo de tacuazín	8.3	9	6	2.9
II - 1 - 07	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	38.3	15	6.9	0.2
II - 1 - 08	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	7	8.5	0.1
II - 1 - 09	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.1	7	11.9	0.1
II - 1 - 10	Unknown sp6	Bignoniaceae	huevo de tacuazín	7.2	6	12.5	0
II - 1 - 11	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7	8	17	4.4
II - 1 - 12	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.7	6	18.8	3
II - 1 - 13	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	6	13.3	6.5
II - 1 - 14	Psidium guajava L.	Myrtaceae	guayabo	17.2	14	11.7	7.1
II - 1 - 15	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5	5	12	6.53
II - 1 - 16	Unknown sp9	Unknown sp9	mora de zope	5	5	8.75	7.5
II - 1 - 17	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.5	5	5.6	7.5
II - 1 - 18	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.3	9	4.7	7.5
II - 1 - 19	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.6	9	4	10
II - 1 - 20	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	60.7	35	2.6	9.4
II - 1 - 21	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	10	2.5	12
II - 1 - 22	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.5	10	5.3	12.2
II - 1 - 23	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	6.6	8	5.9	10.6
II - 1 - 24	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	12	5	10
II - 1 - 25	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.6	10	10.2	10.5
II - 1 - 26	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6	7	11	12.8
II - 1 - 27	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.6	9	11	14.2
II - 1 - 28	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.4	11	5.6	14.8
II - 1 - 29	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.7	13	11.9	14

II - 1 - 30	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	21.8	17	16.6	11.2
II - 1 - 31	Ouratea lucens (Kunth) Engler	Ochnaceae	cangrejo	6.2	5	18.4	11.3
II - 1 - 32	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.1	8	19.5	9.9
II - 1 - 33	Piper marginatum Jacq.	Piperaceae	anisillo negro	5.2	6	15.4	16
II - 1 - 34	Unknown sp6	Bignoniaceae	huevo de tacuazín	7.1	8	1.2	18
II - 1 - 35	Mastichodendron Capiri (A. DC.) Cronquist	Sapotaceae	tempisque	5.5	4	17.2	18.9
II - 1 - 36	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	30.5	16	13.8	16
II - 1 - 37	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	8	12.8	16.3
II - 1 - 38	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.5	7	12.9	19.8
II - 1 - 39	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.7	11	10.5	15.9
II - 1 - 40	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.3	6	9	15.1
II - 1 - 42	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	9.5	8	9.5	18
II - 1 - 42	Unknown sp6	Bignoniaceae	huevo de tacuazín	5	6	4.5	19.4
II - 1 - 43	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5	5	3.4	19.5
II - 1 - 44	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.4	8	1	16.2
II - 1 - 45	Coffea arabica	Rubiaceae	cafeto	5	4	4	24
II - 1 - 46	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	8	7.5	23.2
II - 1 - 47	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	8	8.2	22.9
II - 1 - 48	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12.7	12	8.5	23.8
II - 1 - 49	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.1	5	10.4	24.8
II - 1 - 50	Inga sp.	Leguminosae	pepeto liso	8.8	10	13.45	32.2
II - 1 - 51	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	39.2	14	12.9	29.4
II - 1 - 52	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.3	6	13.5	20.2
II - 1 - 53	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.3	7	16.2	20.5
II - 1 - 54	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.3	6	19	23.3
II - 1 - 55	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	7.1	6	19.5	23.4
II - 1 - 56	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.4	10	18.9	25.4
II - 1 - 57	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	40.5	18	18.6	27
II - 1 - 58	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11	10	17.9	30.5
II - 1 - 59	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.5	11	17.4	30.1
II - 1 - 60	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12.9	10	15.6	29.6
II - 1 - 61	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	26.5	20	16.2	27.8
II - 1 - 62	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	8	16.1	26.3
II - 1 - 63	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7.5	6	14.3	26
II - 1 - 64	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.5	10	13.8	27.5

II - 1 - 65	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	11	12.5	29.1
II - 1 - 66	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	6	9.7	28
II - 1 - 67	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	24.8	16	10.2	25
II - 1 - 68	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.4	6	7.2	27.3
II - 1 - 69	Unknown 5	Unknown 5	murumullo	6	7	6	25.9
II - 1 - 70	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.2	10	3.7	26.8
II - 1 - 71	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	6	2.2	28.4
II - 1 - 72	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.3	7	1	29.3
II - 1 - 73	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	32.3	22	3.6	32.8
II - 1 - 74	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	9	4.1	34.2
II - 1 - 75	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.4	11	6	33
II - 1 - 76	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.9	9	6	30.3
II - 1 - 77	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.6	10	6.5	30.2
II - 1 - 78	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13	11	7	29.4
II - 1 - 79	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12	6	10	31.8
II - 1 - 80	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	5	6	13.8	30.8
II - 1 - 81	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.6	9	13.8	32.9
II - 1 - 82	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.2	11	12.4	33.9
II - 1 - 83	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.4	6	16.6	33.3
II - 1 - 84	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	11.1	10	16.7	32.8
II - 1 - 85	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7	8	17.4	33.1
II - 1 - 86	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	29.8	17	16.5	31
II - 1 - 87	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.2	8	18.8	30.6
II - 1 - 88	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	6	19.3	32.4
II - 1 - 89	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.6	7	19.5	33.9
II - 1 - 90	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.7	11	18.5	35.6
II - 1 - 91	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	11.5	12	18.4	37.8
II - 1 - 92	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.3	8	17	39.7
II - 1 - 93	Apananthe monoica (Hemsley) Leroy	Ulmaceae	duraznillo	102	23	14.8	34.9
II - 1 - 94	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	8	14	39.7
II - 1 - 95	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	62	6	13.2	39.6
II - 1 - 96	Bursera simaruba (L.) Sarg.	Burseraceae	jiote	6.2	7	13.3	40.3
II - 1 - 97	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11	12	17.6	38
II - 1 - 98	Inga sp.	Leguminosae	pepeto liso	5.7	7	13.2	36.8
II - 1 - 99	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.2	11	10.8	36.3

II - 1 - 100	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.7	9	1.1	37
II - 1 - 101	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15.1	13	10.3	38.4
II - 1 - 102	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	10	9.5	38.2
II - 1 - 103	Tabebuia donnell-smithii	Bignoniaceae	cortés blanco	24.4	25	8	38.1
II - 1 - 104	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.5	7	7.7	37.9
II - 1 - 105	Cordia Collococca L.	Boraginaceae	manuno blanco	12.9	11	7.6	38.6
II - 1 - 106	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.1	7	8.3	46
II - 1 - 107	Unknown 5	Unknown 5	murumullo	10	9	4.6	39
II - 1 - 108	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.4	9	4	40.3
II - 1 - 109	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	2.8	37
II - 1 - 110	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.5	11	0.4	37
II - 1 - 111	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5	5	1.1	38.5
II - 1 - 112	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	22.7	15	0.9	39.3
II - 1 - 113	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	10.3	10	4	47
II - 1 - 114	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.7	8	1.1	46.3
II - 1 - 115	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6.2	9	2.8	44.5
II - 1 - 116	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	8	5	44
II - 1 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.5	10	6	47.2
II - 1 - 118	Unknown 1	Unknown 1	churumullo	8.7	6	7.2	42.6
II - 1 - 119	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.7	12	7.3	42.4
II - 1 - 120	Unknown 1	Unknown 1	churumullo	9.5	8	8	39.5
II - 1 - 121	Inga sp.	Leguminosae	pepeto liso	6.2	7	9	42.6
II - 1 - 122	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	8	9.6	42.3
II - 1 - 123	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	8	9.9	43
II - 1 - 124	Inga sp.	Leguminosae	pepeto liso	6.7	6	10.3	42.2
II - 1 - 125	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15.3	12	11	42.1
II - 1 - 126	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9	9	11.5	43.7
II - 1 - 127	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	12.5	43.8
II - 1 - 128	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6.2	8	12.4	44.2
II - 1 - 129	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.3	10	14.6	44.8
II - 1 - 130	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.7	9	17	43.6
II - 1 - 131	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	11	18.5	43
II - 1 - 132	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.1	5	19	43.5
II - 1 - 133	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5	6	18.5	42
II - 1 - 134	Inga sp.	Leguminosae	pepeto liso	6.9	8	16.36	46.3

II - 1 - 135	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.3	9	16.35	46.5
II - 1 - 136	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	47	22	15.7	47.8
II - 1 - 137	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12.6	13	19	48.5
II - 1 - 138	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	25.2	18	19	50
II - 1 - 139	Unknown spp1	Unknown spp1	aguja de arra	5.1	6	13.2	46.2
II - 1 - 140	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6.4	8	13.25	48.6
II - 1 - 141	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	9	14.3	49.9
II - 1 - 142	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.4	11	15.4	50
II - 1 - 143	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.6	9	9.8	45.7
II - 1 - 144	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.5	9	9.2	45
II - 1 - 145	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9	9	7.5	44
II - 1 - 146	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	11	8.8	46
II - 1 - 147	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	8	6.7	47.2
II - 1 - 148	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.2	5	6	46.7
II - 1 - 149	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	9	3.7	46.3
II - 1 - 150	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.2	6	3.7	41.8
II - 1 - 151	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7	7	1.7	47
II - 1 - 152	Unknown 1	Unknown 1	churumullo	6	4	2	50
II - 2 - 01	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.5	6	3.23	0.7
II - 2 - 02	Unknown spp1	Unknown spp1	aguja de arra	6.6	6	2.6	0
II - 2 - 03	Unknown spp6	Unknown spp6	árbol de yegua	11.5	8	0.6	1.95
II - 2 - 04	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	23.5	14	3	2.6
II - 2 - 05	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.7	6	4.9	3.3
II - 2 - 06	Unknown 1	Unknown 1	churumullo	16.7	8	6	3.25
II - 2 - 07	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	10.2	7	6.9	6.35
II - 2 - 08	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.8	5	8.5	1.85
II - 2 - 09	Unknown spp1	Unknown spp1	aguja de arra	6.9	8	11.9	3.15
II - 2 - 10	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	11.3	6	12.5	0.3
II - 2 - 11	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.5	5	17	2.3
II - 2 - 12	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	11.7	5	18.8	3.6
II - 2 - 13	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	18	8	13.3	3.8
II - 2 - 14	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	6.5	6	11.7	10.8
II - 2 - 15	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	14	11	12	9.2
II - 2 - 16	Cestrum sp.	Solacaceae	huele de noche	8.2	8	8.75	7.6
II - 2 - 17	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	22.3	11	5.6	8.8

II - 2 - 18	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	Ocote/Melón	5	5	4.7	5.55
II - 2 - 19	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	7.8	9	4	6.4
II - 2 - 20	Unknown 9	Unknown 9	soguío	5.2	8	2.6	8
II - 2 - 21	Unknown 9	Unknown 9	soguío	8.2	10	2.5	8.3
II - 2 - 22	Cestrum sp.	Solacaceae	huele de noche	9	6	5.3	14.1
II - 2 - 23	Spondias sp.	Anacardiaceae	jocote macho	6.8	7	5.9	13.1
II - 2 - 24	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	42.7	13	5	12.9
II - 2 - 25	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	12.1	9	10.2	10.2
II - 2 - 26	Unknown 3	Unknown 3	morrillo	6	8	11	13.4
II - 2 - 27	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	18.2	10	11	13.4
II - 2 - 28	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.8	13	5.6	13.9
II - 2 - 29	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	16	10	11.9	14.4
II - 2 - 30	Unknown spp1	Unknown spp1	aguja de arra	6.5	4	16.6	15
II - 2 - 31	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	6.5	7	18.4	4.4
II - 2 - 32	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	9	19.5	7.8
II - 2 - 33	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.8	10	15.4	8.9
II - 2 - 34	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	17.3	11	1.2	14.8
II - 2 - 35	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.2	10	17.2	15.1
II - 2 - 36	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	20.8	14	13.8	15.1
II - 2 - 37	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.8	6	12.8	19.1
II - 2 - 38	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.9	9	12.9	16.8
II - 2 - 39	Cestrum sp.	Solacaceae	huele de noche	5.2	6	10.5	17.8
II - 2 - 40	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	12.4	10	9	18.3
II - 2 - 41	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.5	10	9.5	17.8
II - 2 - 42	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.3	5	4.5	16
II - 2 - 43	Unknown 9	Unknown 9	soguío	8.2	8	3.4	19.9
II - 2 - 44	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	17	11	1	24.4
II - 2 - 45	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	14.8	9	4	20.6
II - 2 - 46	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	21.5	12	7.5	21.5
II - 2 - 47	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	7	8	8.2	22.7
II - 2 - 48	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	15.8	9	8.5	12.7
II - 2 - 49	Unknown spp1	Unknown spp1	aguja de arra	5.8	9	10.4	14.7
II - 2 - 50	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	16.3	12	13.45	17.3
II - 2 - 51	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.7	8	12.9	3.13
II - 2 - 52	Unknown 1	Unknown 1	churumullo	15	12	13.5	4.8

II - 2 - 53	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	5.6	8	16.2	4.9
II - 2 - 54	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.6	9	19	10
II - 2 - 55	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	12.6	10	19.5	13
II - 2 - 56	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	20.5	11	18.9	16.8
II - 2 - 57	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6	8	18.6	27
II - 2 - 58	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	24	20	17.9	24.8
II - 2 - 59	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.1	8	17.4	11.3
II - 2 - 60	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	8.1	9	15.6	10.3
II - 2 - 61	Unknown sp5	Unknown sp5	cedratano	5.5	8	16.2	12
II - 2 - 62	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.6	9	16.1	17.2
II - 2 - 63	Unknown 9	Unknown 9	soguío	8.8	8	14.3	13.9
II - 2 - 64	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	11.6	14	13.8	15.7
II - 2 - 65	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	23	16	12.5	14.7
II - 2 - 66	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	7.2	8	9.7	15
II - 2 - 67	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8	7	10.2	15.7
II - 2 - 68	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6	8	7.2	15.3
II - 2 - 69	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.2	8	6	16.1
II - 2 - 70	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	24.5	18	3.7	18.2
II - 2 - 71	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9	9	2.2	18.7
II - 2 - 72	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	11.4	10	1	18.8
II - 2 - 73	Omphalea oleifra Hemsl.	Euphorbiaceae	tambor de tierra fría	6.6	8	3.6	19.4
II - 2 - 74	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	47.3	12	4.1	19.2
II - 2 - 75	Dussia cuscatlanica (Standley) Standley & St	Leguminosae	cashal	120.2	12	6	20.7
II - 2 - 76	Inga sp.	Leguminosae	pepeto liso	11.1	11	6	20.5
II - 2 - 77	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.7	7	6.5	21.7
II - 2 - 78	Unknown sp6	Bignoniaceae	huevo de tacuazín	9.4	8	7	21.4
II - 2 - 79	Inga sp.	Leguminosae	pepeto liso	8.9	11	10	23.6
II - 2 - 80	Unknown 1	Unknown 1	churumullo	6.5	9	13.8	22.6
II - 2 - 81	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5	5	13.8	23.2
II - 2 - 82	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.6	6	12.4	23.1
II - 2 - 83	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	16.6	21.6
II - 2 - 84	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	14.7	11	16.7	22.1
II - 2 - 85	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	19	12	17.4	21.1
II - 2 - 86	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	10	16.5	21
II - 2 - 87	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.5	6	18.8	23

II - 2 - 88	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	13.4	12	19.3	22.1
II - 2 - 89	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	11.5	11	19.5	24
II - 2 - 90	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.1	8	18.5	26.3
II - 2 - 91	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	17.9	12	18.4	26.3
II - 2 - 92	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	6	17	23.1
II - 2 - 94	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	58	23	14.8	27.8
II - 2 - 95	Euphorbia heterophylla L.	Euphorbiaceae	amatillo	28	14	14	28
II - 2 - 96	Licania retifolia Blake	Chrysobalanaceae	mulo	61.2	20	13.2	17.1
II - 2 - 97	Unknown 1	Unknown 1	churumullo	34.4	13	13.3	19.9
II - 2 - 98	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	13.5	12	17.6	31.6
II - 2 - 99	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	17.8	11	13.2	35.8
II - 2 - 100	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	6	10.8	31.5
II - 2 - 101	Unknown 5	Unknown 5	murumullo	5	8	1.1	35.6
II - 2 - 102	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	35.9	20	10.3	37.2
II - 2 - 103	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	14.6	12	9.5	37.4
II - 2 - 104	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	16.9	13	8	36.5
II - 2 - 105	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	29.5	18	7.7	37.4
II - 2 - 106	Inga sp.	Leguminosae	pepeto liso	5.3	7	7.6	39.1
II - 2 - 107	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.4	8	8.3	36.4
II - 2 - 108	Coffea arabica	Rubiaceae	cafeto	5.7	4	4.6	36.5
II - 2 - 109	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	4	35.9
II - 2 - 110	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	27.9	14	2.8	36.2
II - 2 - 111	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	9	0.4	34.7
II - 2 - 112	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.4	12	1.1	35
II - 2 - 113	Inga sp.	Leguminosae	pepeto liso	6.2	6	0.9	37.5
II - 2 - 114	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	16.9	12	4	38.7
II - 2 - 115	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	22.1	15	1.1	36.1
II - 2 - 116	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	28.7	20	18.5	35.4
II - 2 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.3	6	15.7	27
II - 2 - 118	Unknown spp1	Unknown spp1	aguja de arra	31.5	19	18.5	28.9
II - 2 - 119	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	5	13.2	41.4
II - 2 - 120	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	9.6	9	13.25	47.2
II - 2 - 121	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	123	30	16.36	48
II - 2 - 122	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.5	10	17	50
II - 2 - 123	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.2	8	12.4	50

II - 2 - 124	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	6.3	6	14.3	50
II - 2 - 125	Cestrum sp.	Solacaceae	huele de noche	5	4	9.8	45.4
II - 2 - 126	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	6.9	6	19	42.3
II - 2 - 127	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	6.1	8	2.8	47.9
II - 2 - 128	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	28.9	13	6	49.8
II - 2 - 129	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	5.6	9	14.6	37
II - 3 - 01	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	5.4	5	1.7	0.4
II - 3 - 02	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.1	6	4.7	0.3
II - 3 - 03	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	10.5	7	5.6	1
II - 3 - 04	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	122.2	34	4.5	0
II - 3 - 05	Pogonopus speciosus (Jaq.) Schumann	Rubiaceae	chorcha de pava	7	8	8.5	0.8
II - 3 - 06	Unknown 1	Unknown 1	churumullo	5	6	9	1.13
II - 3 - 07	Critonia morifolia (Miller) Kig & H. Robinson	Compositae	vara negra	6.4	5	11.9	1.2
II - 3 - 08	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	96.8	27	16.4	2.5
II - 3 - 09	Pogonopus speciosus (Jaq.) Schumann	Rubiaceae	chorcha de pava	9.7	9	18	2.6
II - 3 - 10	Alchornea latifolia Sw.	Euphorbiaceae	queso	5.8	6	17	2.7
II - 3 - 11	Unknown sp9	Unknown sp9	mora de zope	5	4	18.8	2
II - 3 - 12	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.2	8	15.7	8.6
II - 3 - 13	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	7.6	7	13.4	5.55
II - 3 - 14	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5	5	13	7.3
II - 3 - 15	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.7	7	11.4	8.2
II - 3 - 16	Unknown 1	Unknown 1	churumullo	17.5	10	11	7.9
II - 3 - 17	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	7	10	5
II - 3 - 18	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	9.2	8	9.8	5.4
II - 3 - 19	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	5	8.5	5.3
II - 3 - 20	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5	6	7.2	6
II - 3 - 21	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.1	6	3.7	7.4
II - 3 - 22	Dussia cuscatlanica (Standley) Standley &	Leguminosae	cashal	241	40	0	7.7
II - 3 - 23	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	6	5	1.37	2.59
II - 3 - 24	Pogonopus speciosus (Jaq.) Schumann	Rubiaceae	chorcha de pava	6.2	6	2.3	7.95
II - 3 - 25	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.6	11	4.25	4.39
II - 3 - 26	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	6	4.8	12
II - 3 - 27	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	17.9	12	4	9.4
II - 3 - 28	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7.1	9	7.2	11.2
II - 3 - 29	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	18.4	13	8.23	12.6

II - 3 - 30	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.8	7	8.25	12.4
II - 3 - 31	Unknown sp6	Bignoniaceae	huevo de tacuazín	9.6	10	11.14	17.4
II - 3 - 32	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	11.8	10	13.5	13.6
II - 3 - 33	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	8.1	8	17.4	12
II - 3 - 34	Unknown 1	Unknown 1	churumullo	11.8	9	18	16
II - 3 - 35	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	9	8	19.3	17.6
II - 3 - 36	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	20	13	19.67	18.7
II - 3 - 37	*Colophylum brasiliense*	Clusiaceae	marillo	5.2	5	19.7	27.7
II - 3 - 38	Inga sp.	Leguminosae	pepeto liso	7	7	18.38	19.6
II - 3 - 39	Conostegia xalapensis (Bompl.) D. Don	Melastomataceae	sirín	8.1	7	19.3	27
II - 3 - 40	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5	5	16	19
II - 3 - 42	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.2	7	17.4	17.3
II - 3 - 42	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	9.1	8	13.7	23.3
II - 3 - 43	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.5	8	13	15.8
II - 3 - 44	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	14.7	16.9
II - 3 - 45	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.7	7	15.4	18.9
II - 3 - 46	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	9.1	9	13.3	18.8
II - 3 - 47	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13	11	10.9	17
II - 3 - 48	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	10	9	19
II - 3 - 49	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.1	10	8	19
II - 3 - 50	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.3	5	7.2	17.4
II - 3 - 51	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	9	6	18.3
II - 3 - 52	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.3	7	4	6.89
II - 3 - 53	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	6	4.5	9.02
II - 3 - 54	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	8	2.2	8.69
II - 3 - 55	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	7	0.34	18.8
II - 3 - 56	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	8	0.4	20
II - 3 - 57	Roupala glaberrina Pittier	Protaceae	zorrillo	5.6	6	0.3	27.5
II - 3 - 58	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.7	9	2.8	27.3
II - 3 - 59	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.1	8	4.4	20.1
II - 3 - 60	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.3	8	4.8	19.8
II - 3 - 61	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7	9	5.9	23.4
II - 3 - 62	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	6.3	8	6.77	24
II - 3 - 63	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	7	9.8	21.9
II - 3 - 64	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	8	10.2	21.8

II - 3 - 65	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	11	22.7
II - 3 - 66	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	8	13	22.2
II - 3 - 67	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	30.3	14	16	23
II - 3 - 68	Clusia guatemalensis	Clusiaceae	mangle de tierra fría	11.3	6	18.3	24.9
II - 3 - 69	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.1	5	19.1	26.7
II - 3 - 70	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.3	6	17.5	27.5
II - 3 - 71	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	9	7	19.38	30.5
II - 3 - 72	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.9	6	14.7	26.9
II - 3 - 73	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	5	5	11.5	26.7
II - 3 - 74	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	9.8	9	11.3	26
II - 3 - 75	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	5.5	6	12.77	27.6
II - 3 - 76	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	75.3	23	7.5	26.8
II - 3 - 77	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.9	6	7.73	19
II - 3 - 78	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.9	7	2.6	17.5
II - 3 - 79	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.6	9	2.64	18.4
II - 3 - 80	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	9.1	9	1.58	18.5
II - 3 - 81	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.8	10	0.5	16.5
II - 3 - 82	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	8	1.1	20.5
II - 3 - 83	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	18.8	13	1.8	22.8
II - 3 - 84	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	8	10	2	23.8
II - 3 - 85	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	9	3.7	25.1
II - 3 - 86	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	2.7	27.5
II - 3 - 87	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6	7	3.7	27.6
II - 3 - 88	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	9	5.1	28
II - 3 - 89	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	8	5.5	30.4
II - 3 - 90	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	8	8.5	31.9
II - 3 - 91	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.9	10	7	33.4
II - 3 - 92	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	5	8.2	33.3
II - 3 - 93	Montanoa guatemalensis B.L.Bob & Greenm.	Compositae	tatascamite blanco	5.8	7	11.75	31.7
II - 3 - 94	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	10	31.5
II - 3 - 95	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.1	6	15.73	35.5
II - 3 - 96	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.3	11	15.74	34.7
II - 3 - 97	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.3	7	15.54	33.7
II - 3 - 98	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.1	11	15.4	31.3
II - 3 - 99	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	16.2	13	19.5	34.7

II - 3 - 100	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	6.1	5	18.75	36.6
II - 3 - 101	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	9.9	4	17	38.2
II - 3 - 102	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	8	17.3	41.2
II - 3 - 103	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	9	19.2	45
II - 3 - 104	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.1	9	20	45.3
II - 3 - 105	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	5.5	7	16.4	45.8
II - 3 - 106	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.3	11	14.23	45.2
II - 3 - 107	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	7	14	39.6
II - 3 - 108	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	10.4	9	14.2	38.5
II - 3 - 109	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.7	10	14.3	36
II - 3 - 110	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.3	7	12.3	37
II - 3 - 111	Tabebuia donnell-smithii	Bignoniaceae	cortés blanco	26.4	20	12.1	37
II - 3 - 112	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.7	11	10	37.6
II - 3 - 113	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	5.2	7	13	32.2
II - 3 - 114	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.8	10	4.7	35.5
II - 3 - 115	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	9	3.9	30.4
II - 3 - 116	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.6	10	2.6	37.1
II - 3 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.6	9	2.6	27.1
II - 3 - 118	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7	8	3	26.1
II - 3 - 119	Unknown 1	Unknown 1	churumullo	11.2	13	0.3	26.2
II - 3 - 120	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	8	1.1	20
II - 3 - 121	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.4	8	0.13	32.5
II - 3 - 122	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.6	9	1.43	32.6
II - 3 - 123	Unknown 1	Unknown 1	churumullo	6.2	8	1.4	23
II - 3 - 124	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.5	12	2.1	23.5
II - 3 - 125	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.6	10	2.2	32.3
II - 3 - 126	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.4	9	2.5	31.3
II - 3 - 127	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6	7	4	24.5
II - 3 - 128	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	16.7	9	7	41.5
II - 3 - 129	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.2	10	10	43.2
II - 3 - 130	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	13.2	8	11.8	41
II - 3 - 131	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13	12	13.53	43.4
II - 3 - 132	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	25.2	15	13.5	44.8
II - 3 - 133	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12.3	9	14.4	42.7
II - 3 - 134	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	7	15	42.2

II - 3 - 135	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.9	9	17.5	47.7
II - 3 - 136	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5	5	18.1	44.4
II - 3 - 137	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	15.1	47.5
II - 3 - 138	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.3	6	12.75	47.3
II - 3 - 139	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.6	9	12.2	47.3
II - 3 - 140	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	9	12	47.6
II - 3 - 141	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.4	10	11.13	47.3
II - 3 - 142	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6.1	9	9.9	46.3
II - 3 - 143	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.7	13	9.43	46.8
II - 3 - 144	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7	7	8.9	47.2
II - 3 - 145	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.8	9	9	46.9
II - 3 - 146	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.6	8	7.17	47.5
II - 3 - 147	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	9	7.6	47.9
II - 3 - 148	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9	10	7.55	45
II - 3 - 149	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12.6	9	6	45.6
II - 3 - 150	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	8	5.4	39.4
II - 3 - 151	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.8	10	3.4	37.7
II - 3 - 152	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.4	7	3.4	37.1
II - 3 - 153	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	9	5	38
II - 3 - 154	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.4	8	1.9	38.7
II - 3 - 155	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7	8	2.2	38
II - 3 - 156	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	5	1.65	37.3
II - 3 - 157	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.2	8	0.5	37
II - 4 - 01	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.3	8	0	1.5
II - 4 - 02	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	7	1.16	1.9
II - 4 - 03	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	6	1.6	2.8
II - 4 - 04	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	19.5	10	5.7	3
II - 4 - 05	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	13.2	10	14.5	3.15
II - 4 - 06	Coutarea hexandra (Jacq.) Schum.	Rubiaceae	quina blanca	7.1	6	15.9	2
II - 4 - 07	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	5	16.75	2
II - 4 - 08	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	24.9	13	16.6	7
II - 4 - 09	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.8	5	20	9
II - 4 - 10	Unknown sp4	Unknown sp4	cafecillo de costa	6	6	20	8.4
II - 4 - 11	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	9.4	8	14.16	8.7
II - 4 - 12	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.3	5	10.2	7

II - 4 - 13	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	37.2	14	9.9	7.9
II - 4 - 14	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.3	6	9	7.2
II - 4 - 15	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.6	6	7	5.5
II - 4 - 16	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	11.4	9	4.8	5.4
II - 4 - 17	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.9	7	5.6	7.5
II - 4 - 18	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.3	7	3	8.6
II - 4 - 19	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.3	6	2	8.5
II - 4 - 20	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5	6	0.9	9.12
II - 4 - 21	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9.4	8	4	9.5
II - 4 - 22	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	10.8	8	4.7	11
II - 4 - 23	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.8	5	4.7	12.5
II - 4 - 24	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.5	9	3.6	12.8
II - 4 - 25	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.2	8	5.3	14.6
II - 4 - 26	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.6	8	5.4	12
II - 4 - 27	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	5	4	5.9	12.8
II - 4 - 28	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.8	8	6	10.3
II - 4 - 29	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.1	7	6.1	9.7
II - 4 - 30	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.3	5	7.1	11.6
II - 4 - 31	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	8	7.1	15
II - 4 - 32	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10	7	9.5	14.4
II - 4 - 33	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.5	5	10.9	13.8
II - 4 - 34	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.6	6	10.8	14
II - 4 - 35	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	5	11.6	14.8
II - 4 - 36	Unknown sp4	Unknown sp4	cafecillo de costa	6.2	5	12.5	13.9
II - 4 - 37	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	9.5	7	14	14.6
II - 4 - 38	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	9.6	5	13	14.7
II - 4 - 39	Unknown spp1	Unknown spp1	aguja de arra	5.1	7	15.3	12
II - 4 - 40	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	5.6	6	16.9	10.8
II - 4 - 42	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	8	5	16.8	12
II - 4 - 42	Acacia hindsii Benth.	Leguminosae	izcanal	6.2	6	17.2	13.4
II - 4 - 43	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	9.9	7	18.27	13.6
II - 4 - 44	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	7	19.4	13.5
II - 4 - 45	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	10.6	5	19.53	13.4
II - 4 - 46	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	4	20	15
II - 4 - 47	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.8	8	19.3	19.2

II - 4 - 48	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	10.2	8	19	20.2
II - 4 - 49	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	9	16.4	17.5
II - 4 - 50	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.8	6	16.2	15.8
II - 4 - 51	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	16.7	9	15.8	17
II - 4 - 52	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.3	5	15.85	17.6
II - 4 - 53	Acacia hindsii Benth.	Leguminosae	izcanal	5.1	8	15.3	17
II - 4 - 54	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	8	15.8	19.6
II - 4 - 55	Montanoa guatemalensis B.L.Bob & Greenm.	Compositae	tatascamite blanco	6.1	7	13.8	18.9
II - 4 - 56	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.8	4	13.3	19.5
II - 4 - 57	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.6	6	11.8	17.8
II - 4 - 58	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	7.3	7	10.85	18.7
II - 4 - 59	Unknown 5	Unknown 5	murumullo	5.6	5	10.4	19.1
II - 4 - 60	Cordia Collococca L.	Boraginaceae	manuno blanco	6.2	5	8.6	19.5
II - 4 - 61	Montanoa guatemalensis B.L.Bob & Greenm.	Compositae	tatascamite blanco	6	5	6.3	19.4
II - 4 - 62	Alchornea latifolia Sw.	Euphorbiaceae	queso	15	9	7.2	20
II - 4 - 63	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	6	8.9	16.6
II - 4 - 64	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.9	6	8.2	16
II - 4 - 65	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	6	8	16
II - 4 - 66	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	7	6	16.4
II - 4 - 67	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	7	5.4	16.4
II - 4 - 68	Piper marginatum Jacq.	Piperaceae	anisillo negro	5.2	6	4.5	18.4
II - 4 - 69	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.8	9	3.7	18.4
II - 4 - 70	Unknown sp4	Unknown sp4	cafecillo de costa	6.8	6	2.9	18.7
II - 4 - 71	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.5	8	2.53	28.7
II - 4 - 72	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	5	2	27.8
II - 4 - 73	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9.5	7	0.8	28.3
II - 4 - 74	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	13.2	10	0.3	26.8
II - 4 - 75	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.9	5	0.35	27.9
II - 4 - 76	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.1	9	0.1	25
II - 4 - 77	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.2	5	0.5	25.4
II - 4 - 78	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.9	6	0.1	24.2
II - 4 - 79	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	6	1.6	24.2
II - 4 - 80	Unknown 8	Unknown 8	quina roja	58.7	18	3.9	21.2
II - 4 - 81	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	5	10.9	23
II - 4 - 82	Unknown sp4	Unknown sp4	cafecillo de costa	6.1	7	12.5	24.7

II - 4 - 83	Unknown sp6	Bignoniaceae	huevo de tacuazín	14.4	5	12.4	24.6
II - 4 - 84	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.7	4	14.83	24.9
II - 4 - 85	*Tabernaemontana amygdalifolia* Jaq.	*Apocynaceae*	cojón	8.5	6	17.7	25.6
II - 4 - 86	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7.3	5	17.1	24.4
II - 4 - 87	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	5	17.4	24
II - 4 - 88	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.5	4	16	22
II - 4 - 89	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	5	5	20	28.7
II - 4 - 90	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	13	9	18.1	29.1
II - 4 - 91	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.2	5	14.6	28
II - 4 - 92	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	49.4	17	13	26.2
II - 4 - 93	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6	5	13.2	29
II - 4 - 94	Unknown sp4	Unknown sp4	cafecillo de costa	7	7	12.4	28.6
II - 4 - 95	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.9	5	12	28
II - 4 - 96	Unknown sp4	Unknown sp4	cafecillo de costa	5.7	5	12.4	26.9
II - 4 - 97	Unknown sp8	Unknown sp8	judas	7.7	8	9.6	29.8
II - 4 - 98	Unknown sp4	Unknown sp4	cafecillo de costa	5.9	5	7.9	26.9
II - 4 - 99	Bursera simaruba (L.) Sarg.	Burseraceae	jiote	6.2	6	8	25.3
II - 4 - 100	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	7	6.1	28.9
II - 4 - 101	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	8	7	30.7
II - 4 - 102	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15.6	10	19	34.8
II - 4 - 103	Ficus pertusa L.f.	Moraceae	capulamate	5.2	5	3	25.9
II - 4 - 104	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	28	13	1.9	26
II - 4 - 105	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	5	0.2	27.6
II - 4 - 106	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	6	0.2	37.1
II - 4 - 107	Unknown sp4	Unknown sp4	cafecillo de costa	7	6	0.3	34.6
II - 4 - 108	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.3	6	4	34.3
II - 4 - 109	Unknown 4	Unknown 4	morro de danta	6.8	5	7.4	33
II - 4 - 110	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	8.9	6	8.8	31.3
II - 4 - 111	Unknown sp4	Unknown sp4	cafecillo de costa	5.5	5	9.3	26.5
II - 4 - 112	Licania retifolia Blake	Chrysobalanaceae	mulo	82.7	20	8.7	33.2
II - 4 - 113	Bursera simaruba (L.) Sarg.	Burseraceae	jiote	10.4	7	11.2	33.8
II - 4 - 114	Chrysophyllum mexicanum Brandegee ex Star	Sapotaceae	caimito	15.2	8	13.5	32.3
II - 4 - 115	Montanoa guatemalensis B.L.Bob & Greenm.	Compositae	tatascamite blanco	8	6	17	35
II - 4 - 116	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	13	8	18.5	35.4
II - 4 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	29.2	11	18.5	36

II - 4 - 118	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.2	6	18.6	35.8
II - 4 - 119	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	40.2	15	14.8	36.5
II - 4 - 120	Dhiphysa robinoides Benth.	Leguminosae	guachipilín	20.6	7	14	36.4
II - 4 - 121	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	8	6	13.6	36.4
II - 4 - 122	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	16.5	10	7	36.5
II - 4 - 123	Sophora cf. conzanttii	Leguminosae	almendro de tierra fría	6.2	6	3.8	38.8
II - 4 - 124	Bursera simaruba (L.) Sarg.	Burseraceae	jiote	7.6	6	4.56	39.4
II - 4 - 125	Clusia guatemalensis	Clusiaceae	mangle de tierra fría	6.8	5	4.66	40.2
II - 4 - 126	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6	7	4.7	41
II - 4 - 127	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	6	6	41.6
II - 4 - 128	Clusia guatemalensis	Clusiaceae	mangle de tierra fría	7.5	6	4.3	40.7
II - 4 - 129	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	6	4.4	40.9
II - 4 - 130	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.5	7	2.47	43.2
II - 4 - 131	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	5	5	0.3	38.2
II - 4 - 132	Inga sp.	Leguminosae	pepeto liso	8.9	6	1.1	43.3
II - 4 - 133	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	7	2	45.6
II - 4 - 134	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	6	5.4	46
II - 4 - 135	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	15.2	7	4.33	46.9
II - 4 - 136	Albisia adinocephala (J.D. Smith) Britton & Ro	Leguminosae	polvo de queso	27.2	16	9	47
II - 4 - 137	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	27	11	9.4	47.3
II - 4 - 138	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	17.1	10	11.7	44
II - 4 - 139	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	8	15	44.3
II - 4 - 140	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.5	9	19	44.3
II - 4 - 141	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	8	20	45.7
II - 4 - 142	Unknown 8	Unknown 8	quina roja	9.5	8	20	45.6
II - 4 - 143	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	8	19.6	48
II - 4 - 144	Unknown 1	Unknown 1	churumullo	8.1	6	17.5	47.9
II - 4 - 145	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	8	16.8	46
II - 4 - 146	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	8.5	7	16.65	46.1
II - 4 - 147	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11	9	16.2	46.8
II - 4 - 148	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	15	14	13.2	47.1
II - 4 - 149	Unknown sp6	Bignoniaceae	huevo de tacuazín	7.8	6	13	47.2
II - 4 - 150	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.3	9	11.8	46.2
II - 4 - 151	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.8	8	11.5	49.3
II - 4 - 152	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	8	13.3	50

II - 4 - 153	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	24.5	10	8.35	48.7
II - 4 - 154	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	9	7.9	49
II - 4 - 155	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	18.5	19	7.9	48.4
II - 4 - 156	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	5	64	47
II - 4 - 157	Unknown sp6	Bignoniaceae	huevo de tacuazín	37	7	8.5	49
II - 4 - 158	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.3	7	5.4	48.9
II - 4 - 159	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.5	8	2.6	47.3
II - 4 - 160	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	8	0.5	48.2
II - 5 - 01	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	8.3	6	1.9	4
II - 5 - 02	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	5.4	5	4.1	3.5
II - 5 - 03	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	5	5	4	0
II - 5 - 04	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.4	6	7.24	4.7
II - 5 - 05	Piptadenia obliqua (Pers.) MacBride	Leguminosae	plumajillo	8.2	8	7.9	16.6
II - 5 - 06	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	11	9	9.9	1.7
II - 5 - 07	Unknown 1	Unknown 1	churumullo	5.1	4	11.8	4.2
II - 5 - 08	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20.7	12	15.2	2.2
II - 5 - 09	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	25.2	11	15.27	2
II - 5 - 10	Tabebuia donnell-smithii	Bignoniaceae	cortez blanco	17.6	16	17	10.7
II - 5 - 11	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	21.8	15	18	0.1
II - 5 - 12	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.3	7	19.6	1.7
II - 5 - 13	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.9	9	17.5	5
II - 5 - 14	Inga sp.	Leguminosae	pepeto liso	5.8	6	17.1	6
II - 5 - 15	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	17.6	6
II - 5 - 16	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	7.8	9	17.5	6.7
II - 5 - 17	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	8	17.45	7.1
II - 5 - 18	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	8	16.7	8
II - 5 - 19	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	9	19	9.4
II - 5 - 20	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	7	18.9	9.2
II - 5 - 21	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	13.6	7.35
II - 5 - 22	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	7	13.7	6.9
II - 5 - 23	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	7	11.9	8.5
II - 5 - 24	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	7	10.45	5.6
II - 5 - 25	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.9	8	9.9	7.3
II - 5 - 26	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	6	11.4	10.2
II - 5 - 27	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	8	10.1	11.3

II - 5 - 28	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.5	10	9	8.2
II - 5 - 29	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	5.1	6	7.5	8.4
II - 5 - 30	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	7	6.2	7
II - 5 - 31	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	7	5	8
II - 5 - 32	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	21.8	13	5.35	6.5
II - 5 - 33	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	11.2	8	3.16	7.35
II - 5 - 34	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	17.7	13	2.43	5.54
II - 5 - 35	Unknown 1	Unknown 1	churumullo	5.8	6	1	14
II - 5 - 36	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.3	6	3.8	15
II - 5 - 37	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	37.8	15	3.4	12.6
II - 5 - 38	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	8	4.3	11
II - 5 - 39	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.9	7	4.85	12.2
II - 5 - 40	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.4	7	5.4	14.2
II - 5 - 42	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.4	5	5.7	11.8
II - 5 - 42	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	5	6.36	12.5
II - 5 - 43	Alchornea latifolia Sw.	Euphorbiaceae	queso	37.9	17	8.4	14.3
II - 5 - 44	Ceiba pentandra (L.) Gaertn.	Bombacaceae	ceiba	9.2	7	10	16
II - 5 - 45	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	7	10	14
II - 5 - 46	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.6	6	11.8	11.7
II - 5 - 47	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	8	12	11.6
II - 5 - 48	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.8	7	12	13.5
II - 5 - 49	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	26.6	18	13.6	12
II - 5 - 50	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	6	13.63	14.7
II - 5 - 51	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.8	9	17.2	13.4
II - 5 - 52	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	17.7	10	18.5	14.4
II - 5 - 53	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12.6	7	14.9	10.8
II - 5 - 54	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	20	17
II - 5 - 55	Albisia adinocephala (J.D. Smith) Britton & Ro	Leguminosae	polvo de queso	11.6	8	20	17.6
II - 5 - 56	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	11.5	8	17.6	16.3
II - 5 - 57	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	7	16	19.7
II - 5 - 58	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	7	14.43	19
II - 5 - 59	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	7	6.3	18.1
II - 5 - 60	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	6	3.9	20.2
II - 5 - 61	Dhiphysa robinoides Benth.	Leguminosae	guachipilín	19.8	7	1.6	17
II - 5 - 62	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	40.2	19	1.6	19.8

II - 5 - 63	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	6	2.3	14.8
II - 5 - 64	Licania retifolia Blake	Chrysobalanaceae	mulo	78.7	20	2.9	20.6
II - 5 - 65	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	6	4	20.2
II - 5 - 66	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	6	5	25.6
II - 5 - 67	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	7	5.45	5.7
II - 5 - 68	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.8	9	6.74	22.9
II - 5 - 69	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	8	8	24.4
II - 5 - 70	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.8	9	8.2	25.4
II - 5 - 71	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	5.9	6	9.43	25.3
II - 5 - 72	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	9.5	6	10.8	21.7
II - 5 - 73	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.9	6	12.54	22.5
II - 5 - 74	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	41.1	8	13.2	31.3
II - 5 - 75	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	5.2	6	13.55	23
II - 5 - 76	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	5	10.8	25
II - 5 - 77	Unknown 4	Unknown 4	morro de danta	5.7	5	16.3	25.4
II - 5 - 78	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	19.5	8	18.45	23.4
II - 5 - 79	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	34.7	20	15.6	21
II - 5 - 80	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.6	6	1	28.2
II - 5 - 81	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7	7	3.1	28.2
II - 5 - 82	Inga sp.	Leguminosae	pepeto liso	14.7	8	3.2	26.7
II - 5 - 83	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	5	5	28
II - 5 - 84	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	17	8	6	28.2
II - 5 - 85	Inga sp.	Leguminosae	pepeto liso	14.5	9	5.7	30
II - 5 - 86	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	5.4	5	5.7	27
II - 5 - 87	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	5.6	5	6.1	26.7
II - 5 - 88	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	7	5.4	26
II - 5 - 89	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	8	7	26
II - 5 - 90	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	5.9	6	9.4	29.6
II - 5 - 91	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	7	9.7	26.6
II - 5 - 92	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	11.5	27.9
II - 5 - 93	Unknown spp1	Unknown spp1	aguja de arra	5.4	5	12.6	28
II - 5 - 94	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.1	6	12.2	28.5
II - 5 - 95	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10	8	12.65	28.5
II - 5 - 96	Unknown 7	Unknown 7	quina negra	5.1	6	14	29.2
II - 5 - 97	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	6	14.87	29

II - 5 - 98	Unknown spp3	Unknown spp3	unknown	39.8	13	14.8	31
II - 5 - 99	Unknown spp1	Unknown spp1	aguja de arra	5	5	15	27
II - 5 - 100	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	7	13	27
II - 5 - 101	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	6	17	27.5
II - 5 - 102	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.5	8	16	26
II - 5 - 103	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	6	17.1	27
II - 5 - 104	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	12	6	18	28
II - 5 - 105	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	5	18.3	24.5
II - 5 - 106	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	5	17.4	30.4
II - 5 - 107	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	17.5	6	19.2	39.9
II - 5 - 108	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	8	18	32.8
II - 5 - 109	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	8	17.2	39.3
II - 5 - 110	Dendropanax arboreus (L.) Decne & Planch	Araliaceae	mano de león	7.3	5	18.3	35.6
II - 5 - 111	Cordia garascanthus L.	Boraginaceae	laurel negro	5.5	8	17.3	36.7
II - 5 - 112	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	7	15	34.6
II - 5 - 113	Unknown 2	Unknown 2	árbol de rosa	19.4	10	14	33
II - 5 - 114	Unknown 9	Unknown 9	soguío	6.1	6	13.7	33.7
II - 5 - 115	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	7	11	32.7
II - 5 - 116	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	5	10	36.3
II - 5 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7	7	9	34.2
II - 5 - 118	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	6	7.5	34.7
II - 5 - 119	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.1	8	6.8	33.4
II - 5 - 120	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.4	6	7.8	35.3
II - 5 - 121	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.5	8	6.9	33
II - 5 - 122	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	5	5.3	35
II - 5 - 123	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	5.1	6	5.4	35.7
II - 5 - 124	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	5.1	5	4.6	36.2
II - 5 - 125	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.5	8	4.3	32.6
II - 5 - 126	Unknown sp6	Bignoniaceae	huevo de tacuazín	11.6	9	1.8	31
II - 5 - 127	Unknown sp6	Bignoniaceae	huevo de tacuazín	21.8	9	1.6	31.9
II - 5 - 128	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.5	5	1.6	32.6
II - 5 - 129	Unknown sp6	Bignoniaceae	huevo de tacuazín	8.6	5	1.9	39
II - 5 - 130	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	6.1	6	3.2	37.4
II - 5 - 131	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	6.9	5	4.4	37.7
II - 5 - 132	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.5	6	4.8	37.7

II - 5 - 133	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.8	8	5.2	38.2
II - 5 - 134	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	11.4	9	5.2	36.2
II - 5 - 135	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6	5	6.4	37.7
II - 5 - 136	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	7.3	6	6.5	38.7
II - 5 - 137	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	12.4	10	7.9	37.2
II - 5 - 138	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6.6	6	8.66	38
II - 5 - 139	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	9.5	8	10.7	36.8
II - 5 - 140	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	6	6	10.7	39.4
II - 5 - 141	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	12.1	9	12.16	38
II - 5 - 142	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	8.5	9	13.1	37.5
II - 5 - 143	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	5.7	6	13.8	39.1
II - 5 - 144	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	5.2	4	15.4	38.3
II - 5 - 145	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	6.3	7	17.9	36.4
II - 5 - 146	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	11.1	8	19.8	36
II - 5 - 147	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	44.5	18	19.2	39
II - 5 - 148	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	5	6	19.5	41.7
II - 5 - 149	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	5.6	6	17.2	41.7
II - 5 - 150	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	5.4	5	16.5	42
II - 5 - 151	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	6.6	8	16.2	42.8
II - 5 - 152	Unknown 1	Unknown 1	churumullo	8.7	8	15.2	43.1
II - 5 - 153	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.2	8	17.3	46
II - 5 - 154	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.6	7	20	44.6
II - 5 - 155	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	6.6	8	20	45
II - 5 - 156	Casearia aculeata Jacq.	Flacourtiaceae	cagalera	5	4	19.56	44.4
II - 5 - 157	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.2	6	15.4	44.6
II - 5 - 158	Unknown 1	Unknown 1	churumullo	38.2	18	19.4	43.2
II - 5 - 159	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.1	7	15	41.4
II - 5 - 160	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9.2	6	14.3	42.2
II - 5 - 161	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	5	13	43
II - 5 - 162	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	7	12.15	43.8
II - 5 - 163	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.4	8	11.75	44.2
II - 5 - 164	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.6	9	11.3	44.9
II - 5 - 165	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.3	9	11	44.1
II - 5 - 166	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.4	6	10.5	44
II - 5 - 167	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	6	10.6	42.8

II - 5 - 168	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.8	9	10.5	42.6
II - 5 - 169	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	5	10.4	41.6
II - 5 - 170	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	16.2	10	10	45
II - 5 - 171	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	6	8.37	43.6
II - 5 - 172	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	6	7.5	43
II - 5 - 173	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.2	9	6.5	43
II - 5 - 174	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	6	6	43.7
II - 5 - 175	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.8	7	2	45
II - 5 - 176	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	6	1.9	44.3
II - 5 - 177	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	5	3.6	42.2
II - 5 - 178	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5	5	3.7	41.1
II - 5 - 179	Coccoloba Barbadensis Jacq.	Plygonaceae	papaturro	7.1	6	3	45.2
II - 5 - 180	Cordia garascanthus L.	Boraginaceae	laurel negro	6.2	6	1.2	46.8
II - 5 - 181	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	14	9	2.7	50
II - 5 - 182	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	6.6	6	5.82	47.6
II - 5 - 183	Cordia garascanthus L.	Boraginaceae	laurel negro	12.4	14	5.8	49
II - 5 - 184	Cordia garascanthus L.	Boraginaceae	laurel negro	6.9	6	8.2	47
II - 5 - 185	Cordia garascanthus L.	Boraginaceae	laurel negro	7.5	7	9.2	46.6
II - 5 - 186	Cordia garascanthus L.	Boraginaceae	laurel negro	26.5	15	9.45	49.5
II - 5 - 187	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	11.1	9	11	50
II - 5 - 188	Unknown 9	Unknown 9	soguío	9.1	9	11.2	47
II - 5 - 189	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirín	6.5	7	13.2	47.7
II - 5 - 190	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	11.5	12	16.3	48
II - 5 - 191	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	6.2	8	17.4	49.6
II - 5 - 192	Unknown 2	Unknown 2	árbol de rosa	5.2	7	20	50
II - 5 - 193	Unknown spp6	Unknown spp6	árbol de yegua	6.1	8	18.55	48.8
II - 5 - 194	Unknown 7	Unknown 7	quina negra	37.5	21	20	49
II - 5 - 195	Exostema mexicanum A. Gray	Rubiaceae	quina	5.3	7	17.5	46.5
II - 6 - 01	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	18.1	8	3	0
II - 6 - 02	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	30.7	17	4.4	0.3
II - 6 - 03	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.4	13	1.4	4
II - 6 - 04	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	8.1	6	0.6	3.3
II - 6 - 05	Tabebuia donnell-smithii	Bignoniaceae	cortez blanco	49.3	23	6.4	2
II - 6 - 06	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.3	5	8.8	7.3
II - 6 - 07	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	31.2	10	8.7	1

II - 6 - 08	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.5	6	11.1	10.5
II - 6 - 09	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.4	7	16.3	1
II - 6 - 10	Astronium graveolens Jacq.	Anacardiaceae	ron rón	24.5	12	18	3.1
II - 6 - 11	Inga sp.	Leguminosae	pepeto liso	7.9	8	18.5	2.8
II - 6 - 12	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.8	6	20	0
II - 6 - 13	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	11.4	6	0.3	5.6
II - 6 - 14	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	7	2	4.6
II - 6 - 15	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	28.9	20	2.4	7.5
II - 6 - 16	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.9	8	2.8	5.9
II - 6 - 17	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.1	9	3.8	7.9
II - 6 - 18	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20.3	17	5.6	7.3
II - 6 - 19	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	13.2	15	6.2	6.2
II - 6 - 20	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.2	13	5.4	3.1
II - 6 - 21	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12.2	14	5.2	2.75
II - 6 - 22	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	19.3	18	8.7	7.75
II - 6 - 23	Inga sp.	Leguminosae	pepeto liso	13.2	12	12.7	8.9
II - 6 - 24	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20.5	16	13.8	5.8
II - 6 - 25	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.2	4	12.6	5.1
II - 6 - 26	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.4	5	14.3	8
II - 6 - 27	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	21	12	17.6	10.8
II - 6 - 28	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	23	16	18.9	11.7
II - 6 - 29	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	23.7	17	17.7	12.6
II - 6 - 30	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.6	6	19.5	13.1
II - 6 - 31	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	7.8	7	19	14.5
II - 6 - 32	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	21.2	13	11.2	11.2
II - 6 - 33	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.1	6	8.5	12.7
II - 6 - 34	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.5	5	7	11.4
II - 6 - 35	Unknown 1	Unknown 1	churumullo	8.8	7	5.7	10.2
II - 6 - 36	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	11.7	10	6.2	11.3
II - 6 - 37	Inga sp.	Leguminosae	pepeto liso	9.8	8	1.4	9.8
II - 6 - 38	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	8	0.8	38.8
II - 6 - 39	Inga sp.	Leguminosae	pepeto liso	14.2	9	2.2	39.7
II - 6 - 40	Alchornea latifolia Sw.	Euphorbiaceae	queso	46.8	13	2.5	38
II - 6 - 41	Luehea candida (DC.) Mart.	Tiliaceae	contamal	5.2	5	0.1	38.4
II - 6 - 42	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	24.7	10	2.2	39

II - 6 - 43	Ficuc obtusifolia Kunth	Moraceae	amate	6.2	5	2.5	41.4
II - 6 - 44	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.2	6	4.1	16.6
II - 6 - 45	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20.7	12	5.7	18
II - 6 - 46	Inga sp.	Leguminosae	pepeto liso	6.1	5	6.4	14
II - 6 - 47	Inga sp.	Leguminosae	pepeto liso	5.9	7	10	25.3
II - 6 - 48	Inga sp.	Leguminosae	pepeto liso	11.8	8	10	19.2
II - 6 - 49	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	30.8	17	11.7	19
II - 6 - 50	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	21	15	14	42.1
II - 6 - 51	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	30.1	21	13.8	15.3
II - 6 - 52	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6	5	12	46.4
II - 6 - 53	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	6	15.3	15.9
II - 6 - 54	Acacia hindsii Benth.	Leguminosae	izcanal	6.2	7	12.2	17.6
II - 6 - 55	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.2	7	16.1	16.6
II - 6 - 56	Unknown 7	Unknown 7	quina negra	7	6	16.8	15.8
II - 6 - 57	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.2	5	15.5	18
II - 6 - 58	Inga sp.	Leguminosae	pepeto liso	14.8	9	17.9	18.7
II - 6 - 59	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	19	8	20	14.5
II - 6 - 60	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	6	19.7	15.8
II - 6 - 61	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.3	7	20	16
II - 6 - 62	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	31.7	22	19.3	16.4
II - 6 - 63	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	19.3	14	19.55	24.8
II - 6 - 64	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.8	7	19.3	20.6
II - 6 - 65	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.4	6	17	20.2
II - 6 - 66	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.4	7	15.4	26.3
II - 6 - 67	Unknown 1	Unknown 1	churumullo	6.7	4	15.5	26.8
II - 6 - 68	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.2	5	13.1	22.7
II - 6 - 69	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	6	11.3	22
II - 6 - 70	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	7	10.2	23.9
II - 6 - 71	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	6	10.2	24.6
II - 6 - 72	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.3	6	10.2	26.5
II - 6 - 73	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.6	5	8.5	24
II - 6 - 74	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	13.2	6	6.7	24.9
II - 6 - 75	Tabebuia donnell-smithii	Bignoniaceae	cortez blanco	61.5	27	7.2	19
II - 6 - 76	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	6	3.35	19.9
II - 6 - 77	Ouratea lucens (Kunth) Engler	Ochnaceae	cangrejo	6.5	8	2	20.7

II - 6 - 78	Unknown spp1	Unknown spp1	aguja de arra	5	4	3	24
II - 6 - 79	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	8	2.4	25.1
II - 6 - 80	Inga sp.	Leguminosae	pepeto liso	5.2	7	0.2	24.9
II - 6 - 81	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.6	8	0.4	29.4
II - 6 - 82	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.3	7	2.7	26.7
II - 6 - 83	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12.2	8	3.7	27
II - 6 - 84	Inga sp.	Leguminosae	pepeto liso	5.8	8	5.6	26.4
II - 6 - 85	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.4	6	6.3	28.1
II - 6 - 86	Inga sp.	Leguminosae	pepeto liso	10.5	9	7	28.5
II - 6 - 87	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.4	11	6.5	29.7
II - 6 - 88	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.9	9	5.6	30
II - 6 - 89	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10	10	9.5	29.4
II - 6 - 90	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6.9	8	8.1	27.3
II - 6 - 91	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.9	8	8.2	26.8
II - 6 - 92	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	21.2	7	11.8	26.6
II - 6 - 93	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20	13	13.1	28
II - 6 - 94	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	7	14.2	28.8
II - 6 - 95	Unknown 1	Unknown 1	churumullo	5.6	6	14.3	27.8
II - 6 - 96	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7.8	10	12.7	29
II - 6 - 97	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	14.5	12	11.9	29.3
II - 6 - 98	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.1	8	10.8	29.8
II - 6 - 99	Inga sp.	Leguminosae	pepeto liso	7.8	6	12.6	31.2
II - 6 - 100	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.1	7	13.7	31.5
II - 6 - 101	Senna cobanensis (Britton & Rose) Irwin & Ba	Leguminosae	barajo negro	6.6	6	13.8	30.4
II - 6 - 102	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.5	6	17	32
II - 6 - 103	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7.3	9	16.35	29.5
II - 6 - 104	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	13.4	16	17.4	27.7
II - 6 - 105	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	29	14	17.8	30.3
II - 6 - 106	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.4	6	19	30.2
II - 6 - 107	Unknown 9	Unknown 9	soguío	7.9	7	19	30.8
II - 6 - 108	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.4	9	19.5	31.3
II - 6 - 109	Inga sp.	Leguminosae	pepeto liso	13.1	12	18.9	28.4
II - 6 - 110	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6	5	15.4	36.1
II - 6 - 111	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	19.9	15	13.4	33.6
II - 6 - 112	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.7	7	13.2	32.8

II - 6 - 113	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	7	13.6	33
II - 6 - 114	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.6	6	10.8	32.5
II - 6 - 115	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	26	17	10.7	32.8
II - 6 - 116	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.2	18	11.6	35.8
II - 6 - 117	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.8	6	10.7	34.8
II - 6 - 118	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	9.4	6	8.4	35.2
II - 6 - 119	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	14	10	7.3	30.3
II - 6 - 120	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12.1	9	6.1	32.4
II - 6 - 121	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	24.3	7	6	34
II - 6 - 122	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	16.4	15	4.3	34.2
II - 6 - 123	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.5	8	3.1	31.6
II - 6 - 124	Unknown spp1	Unknown spp1	aguja de arra	10.4	11	2.2	32.1
II - 6 - 125	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.5	10	1.6	31.2
II - 6 - 126	Piper marginatum Jacq.	Piperaceae	anisillo negro	15.1	9	0.4	36.2
II - 6 - 127	Unknown sp7	Rosaceae	icaquillo silvestre	7.1	9	3.4	38.2
II - 6 - 128	Brosimum alicastrum Sw.	Moraceae	ujushte de verano	20	9	0.1	39.4
II - 6 - 129	Brosimum alicastrum Sw.	Moraceae	ujushte de invierno	8.1	12	0.1	41.1
II - 6 - 130	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	24	9	5.7	40.3
II - 6 - 131	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.2	11	8.35	41
II - 6 - 132	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	7	5	9	48.9
II - 6 -133	Unknown sp6	Bignoniaceae	huevo de tacuazín	9.4	6	7	49.3
II - 6 - 134	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	6	8	7.5	49.6
II - 6 - 135	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	24.4	6	6.6	50
II - 6 - 136	Acacia hindsii Benth.	Leguminosae	izcanal	11.8	11	14	39
II - 6 - 137	Unknown sp7	Rsaceae	icaquillo silvestre	9	6	14	40.5
II - 6 - 138	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.1	6	16.7	38.8
II - 6 - 139	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	5.1	6	17.2	38.7
II - 6 - 140	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	9.1	8	16.82	38
II - 6 - 141	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	21	11	17	38.4
II - 6 - 142	Unknown 9	Unknown 9	soguío	10.3	6	18.2	39
II - 6 - 143	Inga sp.	Leguminosae	pepeto liso	5.1	6	19.1	41.4
II - 6 - 144	*Cecropica obtusifolia Bertol.*	*Cecropiaceae*	guarumo	5.7	6	13.2	45.8
II - 6 - 145	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.6	6	7.65	43.4
II - 6 - 146	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.1	6	4.7	42
II - 6 - 147	Unknown 7	Unknown 7	quina negra	17.8	7	0.5	42.1

II - 6 - 148	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	7.2	8	2.1	42.6
II - 6 - 149	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	13.4	6	3	45.7
II - 6 - 150	Unknown 7	Unknown 7	quina negra	15.2	7	2.2	46.1
II - 6 - 151	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	15	8	1	47.1
II - 6 - 152	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	28.5	10	0.7	47.8
II - 6 - 153	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	36.5	15	6	45.3
II - 6 - 154	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	52.2	20	6.8	47.2
II - 6 - 155	Inga sp.	Leguminosae	pepeto liso	7.3	6	7.8	48.5
II - 6 - 156	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	15.5	11	8	47.9
II - 6 - 157	Inga sp.	Leguminosae	pepeto liso	10.3	8	8.1	50
II - 6 - 158	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	6	8.2	47.4
II - 6 - 159	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7	6	7	46.4
II - 6 - 160	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	6.2	7	7	40.4
II - 6 - 161	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.9	7	7	46.6
II - 6 - 162	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.7	5	10	48.7
II - 6 - 163	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.2	5	11.9	50
II - 7 - 01	Unknown 9	Unknown 9	soguío	19.1	10	0.3	5.4
II - 7 - 02	Luehea candida (DC.) Mart.	Tiliaceae	contamal / bonete	45.6	13	6.4	1.75
II - 7 - 03	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12	9	6	1.35
II - 7 - 04	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	11.5	9	6.4	0.6
II - 7 - 05	Unknown 2	Unknown 2	árbol de rosa	7.5	5	8	1.3
II - 7 - 06	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	8.5	9	11.9	0.6
II - 7 - 07	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.1	9	14.6	0.75
II - 7 - 08	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.1	7	12.4	3.7
II - 7 - 09	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7.4	8	14.7	3.32
II - 7 - 10	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.1	7	14.7	3.25
II - 7 - 11	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	15.6	11	15.2	3.25
II - 7 - 12	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.1	8	15.9	3.25
II - 7 - 13	Cedrela odorata L.	Meliaceae	cedro real	35.5	22	18.4	0.95
II - 7 - 14	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.4	9	18.1	3.2
II - 7 - 15	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7.9	6	13.2	13.5
II - 7 - 16	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.5	8	12.6	14.8
II - 7 - 17	Saurarauia Kegeliana Schldl.	Actinidiaceae	alais	29.6	8	7.3	6.33
II - 7 - 18	Saurarauia Kegeliana Schldl.	Actinidiaceae	alais	12.1	8	6.94	0.75
II - 7 - 19	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	31.2	12	4.9	8.75

II - 7 - 20	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	33.9	15	2.4	9.5
II - 7 - 21	Unknown spp9	Unknown spp9	unknown 2	5	4	4.9	8.7
II - 7 - 22	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	20.7	9	0.4	9.75
II - 7 - 23	Ardisia compresaKunth	Myrsinaceae	cotomate	8.8	6	1.7	12.3
II - 7 - 24	Unknown 6	Unknown 6	palo de yegua	7.2	6	0.4	14.1
II - 7 - 25	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	5.7	5	3.4	1.4
II - 7 - 26	Licania retifolia Blake	Chrysobalanaceae	mulo	47.1	25	3.9	5.27
II - 7 - 27	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	12.3	9	3.25	11.6
II - 7 - 28	Unknown sp6	Bignoniaceae	huevo de tacuazín	6.4	6	4.15	10.5
II - 7 - 29	Brosimum alicastrum Sw.	Moraceae	ujushte de invuerno	6.4	5	5.1	8.75
II - 7 - 30	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	6.8	6	5.85	12.3
II - 7 - 31	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	6.1	7	6.5	12.2
II - 7 - 32	Unknown 9	Unknown 9	soguío	7.1	6	5.35	13.1
II - 7 - 33	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	10.2	8	7.5	13.6
II - 7 - 34	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	7.5	7	9.1	9.93
II - 7 - 35	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	6.2	6	8.5	11.7
II - 7 - 36	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	6.5	7	6.6	11.3
II - 7 - 37	Chiococca pachyphylla Werham	Rubiaceae	arito blanco	5	6	11.9	10.8
II - 7 - 38	Chiococca pachyphylla Werham	Rubiaceae	arito blanco	5	6	13.4	9.7
II - 7 - 39	Licania retifolia Blake	Chrysobalanaceae	mulo	72	40	13.2	11.5
II - 7 - 40	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	16	5	14.9	14.8
II - 7 - 42	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.9	6	16.5	15.6
II - 7 - 42	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	15.5	9	17.36	17.8
II - 7 - 43	Inga sp.	Leguminosae	pepeto liso	6.9	6	15.2	17.8
II - 7 - 44	Brosimum alicastrum Sw.	Moraceae	ujushte de invuerno	5	4	16	18.8
II - 7 - 45	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	6.1	5	16.6	19.7
II - 7 - 46	Unknown 6	Unknown 6	palo de yegua	13	7	13.8	19.3
II - 7 - 47	Unknown spp4	Unknown spp4	unknown 1	6	5	12	19.1
II - 7 - 48	Ocotea veraguensis (Missner) Mez	Lauraceae	pimiento	23.7	10	10.2	19.7
II - 7 - 49	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.6	5	11.8	15.9
II - 7 - 50	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.1	7	8.5	16.3
II - 7 - 51	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	19.9	15	7.1	15.4
II - 7 - 52	Unknown 6	Unknown 6	palo de yegua	17.5	9	6.5	13.1
II - 7 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	5.5	19.5
II - 7 - 54	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	6.1	6	5	20.2

II - 7 - 55	Unknown sp5	Unknown sp5	cedratano	6.2	7	2.4	18.9
II - 7 - 56	Unknown sp7	Unknown sp7	unknown 5	7.1	5	1.5	38.9
II - 7 - 57	Unknown 6	Unknown 6	palo de yegua	8.1	6	1.4	19.2
II - 7 - 58	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	6.6	25	0.8	19
II - 7 - 59	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	55	5	1	19.6
II - 7 - 60	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	13.1	7	1.9	24.6
II - 7 - 61	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	17.5	9	0	24.2
II - 7 - 62	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	5.1	5	2.6	24.6
II - 7 - 63	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	10.1	7	2.7	25.7
II - 7 - 64	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	15.3	6	1	26.5
II - 7 - 65	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	5.3	5	3.97	25.2
II - 7 - 66	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	5.2	4	3.4	25.2
II - 7 - 67	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	7.3	7	6	26.5
II - 7 - 68	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	6.3	6	5.7	24.5
II - 7 - 69	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	9.6	5	5.72	23.2
II - 7 - 70	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.3	9	4.67	22.2
II - 7 - 71	Unknown 4	Unknown 4	morro de danta	5.5	5	5.4	20.2
II - 7 - 72	Unknown spp2	Unknown spp2	unknown 6	5.4	5	6.1	20.7
II - 7 - 73	Colophylum brasiliense	Clusiaceae	marillo	39.6	16	7.17	20.9
II - 7 - 74	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	8.5	8	8.9	21.1
II - 7 - 75	Croton reflexifolius Kunth.	Euphorbiaceae	copalchí	16.1	9	8.2	23.3
II - 7 - 76	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	8	4	9.1	23.6
II - 7 - 77	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	7.6	6	10.15	22.8
II - 7 - 78	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	14.2	8	10.1	23.1
II - 7 - 79	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.1	4	11.5	23
II - 7 - 80	Unknown sp5	Unknown sp5	cedratano	7.4	6	11.3	25.3
II - 7 - 81	Unknown sp6	Bignoniaceae	huevo de tacuazín	5	5	14.7	23.2
II - 7 - 82	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	19.6	5	16.6	21.7
II - 7 - 83	Unknown sp1	Unknown sp1	unknown 7	15.3	9	18.1	23
II - 7 - 84	Unknown sp2	Unknown sp2	unknown 8	12.1	9	20	22.6
II - 7 - 85	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	10.1	8	19.4	20.7
II - 7 - 86	Colophylum brasiliense	Clusiaceae	marillo	9.9	9	19.9	25.6
II - 7 - 87	Unknown sp3	Unknown sp3	unknown 9	10.9	6	17.6	25.9
II - 7 - 88	Trichospermum galeottii (Turez.) Kosterm	Tiliaceae	capulín macho	18.4	10	17.3	26.6
II - 7 - 89	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	11.6	9	17	27.1

II - 7 - 90	Unknown spp5	Unknown spp5	unknown 10	9.7	9	15.2	26.7
II - 7 - 91	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	15	8	15.4	28.8
II - 7 - 92	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.6	4	17	30.7
II - 7 - 93	Unknown spp7	Unknown spp7	unknown 11	6	4	14.2	29.4
II - 7 - 94	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.6	4	14.22	28.2
II - 7 - 95	Unknown 2	Unknown 2	árbol de rosa	7.6	6	14.85	28.1
II - 7 - 96	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	26.5	9	12.1	29.9
II - 7 - 97	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	6.1	7	12	30.5
II - 7 - 98	Eugenia lindiana Berg	Myrtaceae	escobo negro	7.5	6	11	31.1
II - 7 - 99	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.7	6	11.4	28.5
II - 7 - 100	Unknown sp6	Bignoniaceae	huevo de tacuazín	5.5	4	12.12	26
II - 7 - 101	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	6.1	5	14.2	25.6
II - 7 - 102	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	10.7	7	10.2	27.8
II - 7 - 103	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	16.9	9	9.55	27.2
II - 7 - 104	Unknown spp8	Unknown spp8	unknown 12	27.9	12	7.6	28.2
II - 7 - 105	Unknown sp5	Unknown sp5	cedratano	15.2	8	5.55	29.4
II - 7 - 106	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	4	5.5	30.2
II - 7 - 107	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	12.1	8	5.8	30.5
II - 7 - 108	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	5	4	5.83	31.4
II - 7 - 109	Chiococca pachyphylla Werham	Rubiaceae	arito blanco	11	5	3.42	29.1
II - 7 - 110	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	11.8	7	0.6	30.4
II - 7 - 111	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11	7	0.83	28.8
II - 7 - 112	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.1	5	3.4	26.9
II - 7 - 113	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5	5	4	26.7
II - 7 - 114	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.9	7	0.8	32.5
II - 7 - 115	Colophylum brasiliense	Clusiaceae	marillo	35.2	16	0	33.9
II - 7 - 116	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.1	5	2.8	32.1
II - 7 - 117	Ouratea lucens (Kunth) Engler	Ochnaceae	cangrejo	12.5	8	4	31.8
II - 7 - 118	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	7.8	5	4	33.7
II - 7 - 119	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	8.7	6	5	34.3
II - 7 - 120	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	21.5	9	3.45	34.7
II - 7 - 121	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	6	5.97	36.6
II - 7 - 122	Ocotea veraguensis (Missner) Mez	Lauraceae	pimiento	16.4	6	7.7	35.7
II - 7 - 123	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.2	5	7.8	36.7
II - 7 - 124	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.2	6	9.2	35

II - 7 - 125	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	6	9.4	35.8
II - 7 - 126	Unknown 6	Unknown 6	palo de yegua	6.6	4	9.3	33
II - 7 - 127	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	7.5	6	9.3	31
II - 7 - 128	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	8.6	7	7.2	31.5
II - 7 - 129	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	6.1	5	10.2	34.6
II - 7 - 130	Ouratea lucens (Kunth) Engler	Ochnaceae	cangrjo	5.2	5	10.8	35.7
II - 7 - 131	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.4	4	10.8	36
II - 7 - 132	Colophylum brasiliense	Clusiaceae	marillo	36.4	25	11.2	35.9
II - 7 - 133	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.9	4	12.7	35.4
II - 7 - 134	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.9	5	12.1	34.5
II - 7 - 135	Unknown 6	Unknown 6	palo de yegua	21.1	7	13	35.5
II - 7 - 136	Eugenia lindiana Berg	Myrtaceae	escobo negro	8.4	5	12.3	32.5
II - 7 - 137	Ocotea veraguensis (Missner) Mez	Lauraceae	pimiento	11.8	7	12.9	31.9
II - 7 - 138	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.1	5	12.8	32.3
II - 7 - 139	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	8	6	14.4	31.2
II - 7 - 140	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	5.2	6	15.6	42.5
II - 7 - 141	Unknown ssp1	Unknown ssp1	unknown 3	8.7	6	16.5	42.6
II - 7 - 142	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	7.1	7	16.5	42.5
II - 7 - 143	Licania retifolia Blake	Chrysobalanaceae	mulo	68.6	32	16.45	45
II - 7 - 144	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.1	5	15.85	35
II - 7 - 145	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	5.7	4	17.85	42.2
II - 7 - 146	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	4	19.5	32.3
II - 7 - 147	Unknown sp6	Unknown sp6	huevo de tacuazín	7.3	6	19	47
II - 7 - 148	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.1	4	17.8	48.3
II - 7 - 149	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	20.2	10	17.2	48.7
II - 7 - 150	Eugenia lindiana Berg	Myrtaceae	escobo negro	11.6	6	17.85	40
II - 7 - 151	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	12.2	8	19.15	39.5
II - 7 - 152	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	5.4	4	16.3	40.9
II - 7 - 153	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	8	16.2	42.9
II - 7 - 154	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	22.1	4	15.3	41.2
II - 7 - 155	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.6	4	15.8	47.5
II - 7 - 156	Unknown 5	Unknown 5	murumullo	7.5	7	15.7	46.8
II - 7 - 157	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	12.1	6	14.6	40.6
II - 7 - 158	Rheedia edulis (Seermann) Triana & Polanchor	Cluisiaceae	chaparrón	5.8	4	14	39.7
II - 7 - 159	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.6	4	14	41.6

II - 7 - 160	Pilocarpus racemosusVahl	Rutaceae	matazanillo	17.9	8	13.74	45.5
II - 7 - 161	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	6	10.45	40.4
II - 7 - 162	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7.8	5	13.4	38.7
II - 7 - 163	Colophylum brasiliense	Clusiaceae	marillo	18.1	8	13.3	38.7
II - 7 - 164	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	7.5	6	12	38.7
II - 7 - 165	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.2	4	9.75	37.3
II - 7 - 166	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	5	8.9	39.2
II - 7 - 167	Ardisia paschalis J.D. Smith	Myrsinaceae	cerezo	5.2	4	9.2	40.5
II - 7 - 168	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	10	5	9.1	40.2
II - 7 - 169	Unknown 6	Unknown 6	palo de yegua	8	4	7.8	38.8
II - 7 - 170	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.2	4	6.4	37.5
II - 7 - 171	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	8.6	5	5.1	31.6
II - 7 - 172	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	9.5	5	5.9	40
II - 7 - 173	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	8.6	5	5.9	41.3
II - 7 - 174	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	6.1	5	5.9	41.8
II - 7 - 175	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	icaquillo	16.1	7	5.95	41.7
II - 7 - 176	Unknown sp5	Unknown sp5	cedratano	14.1	8	6.55	41.8
II - 7 - 177	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	7.6	5	4.1	40.1
II - 7 - 178	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	5	3.65	31.1
II - 7 - 179	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	12.2	10	3	39.3
II - 7 - 180	Ficus pertusa L.f.	Moracae	capulamate	21.1	9	2.4	38.3
II - 7 - 181	Curatella americana L.	Dilleniaceae	chaparro	7.1	5	0.3	38.9
II - 7 - 182	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.2	5	0.35	40
II - 7 - 183	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	5	1	42.5
II - 7 - 184	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	14.3	6	0.8	42.7
II - 7 - 185	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	7.4	5	1.4	43.3
II - 7 - 186	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	10.5	6	1.9	43.8
II - 7 - 187	Ocotea veraguensis (Missner) Mez	Lauraceae	pimiento	10.5	6	2	39.4
II - 7 - 188	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.6	6	1.55	46.5
II - 7 - 189	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	7	0	45.6
II - 7 - 190	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	17.5	8	3.2	46.3
II - 7 - 191	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	9	4.3	46.4
II - 7 - 192	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	5.4	5	4.5	44.8
II - 7 - 193	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.1	4	4.6	47.3
II - 7 - 194	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	6	5.86	46.5

II - 7 - 195	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.2	4	6.5	47.4
II - 7 - 196	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	7	7.1	45.5
II - 7 - 197	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.6	8	8.17	45.5
II - 7 - 198	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	10	6	9.3	45.5
II - 7 - 199	Unknown 6	Unknown 6	palo de yegua	5.2	7	8.95	44
II - 7 - 200	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	13.8	5	7.8	43.3
II - 7 - 201	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.6	8	5.8	49.8
II - 7 - 202	Curatella americana L.	Dilleniaceae	chaparro	6.1	4	11.65	44.8
II - 7 - 203	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	7.7	4	10.8	45.8
II - 7 - 204	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.3	7	12.44	45.3
II - 7 - 205	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	13.5	6	12.45	45.5
II - 7 - 206	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	15.6	8	13.15	46
II - 7 - 207	Inga calderonii Standley	Leguminosae	pepeto zapato de mico	6.6	8	13.3	46.5
II - 7 - 208	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	17.2	6	16.85	46
II - 7 - 209	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	19.3	10	18.55	46.6
II - 7 - 210	Colophylum brasiliense	Clusiaceae	marillo	15	11	19	46.8
II - 7 - 211	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.5	10	18.5	45.9
II - 7 - 212	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	5	18.97	42.9
II - 7 - 213	Manilkara chicle (Pitier) Gilly	Sapotaceae	nispero	5	4	17	43.1
II - 7 - 214	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	6.2	4	20	49.5
II - 7 - 215	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.7	5	18.3	50
II - 7 - 216	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.6	6	17	49.1
II - 7 - 217	Maytenus chiapensis Lundell	Celastraceae	escobo blanco de altura	5.1	5	17.8	47.9
II - 7 - 218	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.9	4	16.3	47.9
II - 7 - 219	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.1	4	15.5	49.3
II - 7 - 220	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	15.5	5	14.2	47
II - 7 - 221	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.3	8	13.6	49.4
II - 7 - 222	Ocotea veraguensis (Missner) Mez	Lauraceae	pimiento	31.5	5	13.5	49.4
II - 7 - 223	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	17.1	12	12.36	49.2
II - 7 - 224	Curatella americana L.	Dilleniaceae	chaparro	15	7	10.3	49.6
II - 7 - 225	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	9	8.15	49.4
II - 7 - 226	Rheedia edulis (Seermann) Triana & Polancho	Cluisiaceae	chaparrón	13	5	7.15	40.8
II - 7 - 227	Casearia commersoriana Cambess.	Flacourtiaceae	sombra de cuzuco	26.4	9	8.1	50
II - 7 - 228	Unknown 6	Unknown 6	palo de yegua	15.7	8	3.33	49.4
II - 7 - 229	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	5	2.1	48.5

II - 7 - 230	Myrciaria floribunda (Willd.) O.Berg	Myrtaceae	escobo blanco	7.2	6	2.7	41.5
1/8/01	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	6	7	0.3	0.7
II - 8 - 02	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.7	9	0.84	0
II - 8 - 03	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	19.8	14	0.36	1.95
II - 8 - 04	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.4	17	0.2	2.6
II - 8 - 05	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	10.1	9	1.24	3.3
II - 8 - 06	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.2	7	3.95	6.35
II - 8 - 07	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9.2	9	4.7	3.65
II - 8 - 08	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	20.3	15	6	1.85
II - 8 - 09	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	7.2	8	6.8	3.15
II - 8 - 10	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	24.6	20	11.5	3.5
II - 8 - 11	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	10.4	12	11.9	2.65
II - 8 - 12	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	37.9	25	10.5	5.25
II - 8 - 13	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	10.9	13	8.95	5.5
II - 8 - 14	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	11.9	10	8.4	8
II - 8 - 15	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12	9	6.7	9.2
II - 8 - 16	Alchornea latifolia Sw.	Euphorbiaceae	queso	20.2	10	4.4	7.6
II - 8 - 17	Alchornea latifolia Sw.	Euphorbiaceae	queso	28.3	20	4.1	8.8
II - 8 - 18	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	13.1	16	0.95	5.55
II - 8 - 19	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.8	10	1.9	11.3
II - 8 - 20	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.5	11	0.65	12.9
II - 8 - 21	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	29.2	9	3.5	14.9
II - 8 - 22	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	13.1	22	0.45	14.1
II - 8 - 23	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12.3	11	4.1	13.1
II - 8 - 24	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	34.5	11	3.5	14
II - 8 - 25	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	12.1	17	4.55	10.2
II - 8 - 26	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15.4	12	6.75	13.4
II - 8 - 27	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	23	12	8.25	13.4
II - 8 - 28	Unknown sp6	Bignoniaceae	huevo de tacuazín	6	16	8.65	13.9
II - 8 - 29	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	7	7	10.5	14.4
II - 8 - 30	Inga sp.	Leguminosae	pepeto liso	10.5	6	10.45	10.2
II - 8 - 31	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	34	6	17.65	11.9
II - 8 - 32	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	6	10	11.9	17.6
II - 8 - 33	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	12	6	12.6	19.6
II - 8 - 34	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	25.8	11	7.25	14.8

II - 8 - 35	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	12.4	22	5.85	15.1
II - 8 - 36	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	17.5	12	5	15.1
II - 8 - 37	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6	15	6.4	19.1
II - 8 - 38	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	7.5	6	4.95	15.8
II - 8 - 39	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13.3	9	3.15	18.3
II - 8 - 40	Cedrela odorata L.	Meliaceae	cedro real	51.7	12	2.25	18.3
II - 8 - 42	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	7.1	22	0.9	18.6
II - 8 - 42	Inga sp.	Leguminosae	pepeto liso	21.3	8	0.45	19.2
II - 8 - 43	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	12	4.5	19.5
II - 8 - 44	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.9	6	8.15	24.4
II - 8 - 45	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	17.3	8	9.3	22.7
II - 8 - 46	Inga sp.	Leguminosae	pepeto liso	17.8	15	9.4	35.3
II - 8 - 47	Inga sp.	Leguminosae	pepeto liso	23	9	11.15	30.2
II - 8 - 48	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	12	9	18.65	26.2
II - 8 - 49	*Clethra lanata Martius & Galeotti*	*Clethraceae*	*estoraque*	63	17	16.8	25.6
II - 8 - 50	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	15.1	22	17.35	30.2
II - 8 - 51	Alchornea latifolia Sw.	Euphorbiaceae	queso	17	9	15.5	28.9
II - 8 - 52	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	11.5	11	13.35	30.3
II - 8 - 53	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	12	13	25.3
II - 8 - 54	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	37.9	6	10.65	26
II - 8 - 55	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	17	18	8.55	27.5
II - 8 - 56	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	14.5	16	9.85	28.3
II - 8 - 57	Alchornea latifolia Sw.	Euphorbiaceae	queso	5	13	7.28	27
II - 8 - 58	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.5	7	5.34	24.8
II - 8 - 59	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.5	7	3.95	28
II - 8 - 60	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	13.5	6	2.34	27.6
II - 8 - 61	Inga sp.	Leguminosae	pepeto liso	11	13	1.5	27.6
II - 8 - 62	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.5	14	0.5	26.8
II - 8 - 63	*Unknown 1*	Unknown 1	churumullo	9.9	6	0.24	27.3
II - 8 - 64	Inga sp.	Leguminosae	pepeto liso	11	8	0.44	34.2
II - 8 - 65	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	20.5	12	0.5	34.4
II - 8 - 66	Inga sp.	Leguminosae	pepeto liso	5.3	9	7.33	33.6
II - 8 - 67	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	19	7	6.4	31.2
II - 8 - 68	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	25.3	17	9.65	30
II - 8 - 69	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6.8	16	12	30

II - 8 - 70	Urera sp.	Urticaceae	chichicaste dulce	8	9	12.1	30.7
II - 8 - 71	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	11	6	12.1	34
II - 8 - 72	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	5.3	9	12	35.4
II - 8 - 73	Unknown 5	Unknown 5	murumullo	5.5	9	14.65	31.6
II - 8 - 74	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.7	8	14.9	31.7
II - 8 - 75	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	13	10	15.1	32.4
II - 8 - 76	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5.5	12	16.53	36.1
II - 8 - 77	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	13	7	17.52	36.6
II - 8 - 78	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8.5	17	19.8	37.2
II - 8 - 79	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15	7	20.5	32.9
II - 8 - 80	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6.3	15	19.5	37
II - 8 - 81	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.3	8	16.85	36.6
II - 8 - 82	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	10.5	9	18.95	41.5
II - 8 - 83	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	6	10	17.85	41.4
II - 8 - 84	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6.5	7	15.35	42.3
II - 8 - 85	Luehea candida (DC.) Mart.	Tiliaceae	contamal / bonete	12.8	6	12.25	41.6
II - 8 - 86	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	15.5	9	11.24	38
II - 8 - 87	Guazuma ulmifolia Lam.	Sterculiaceae	caulote	10.9	12	9.2	38.9
II - 8 - 88	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	23	11	8.7	38.3
II - 8 - 89	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	14	15	6.55	26.4
II - 8 - 90	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.2	11	4.5	36.7
II - 8 - 91	Cordia alliodora Ruiz Lopez & Pavon) Oken	Boraginaceae	laurel	13	12	4.5	47.2
II - 8 - 92	Cordia Collococca L.	Boraginaceae	manuno blanco	8.5	12	3.7	40.9
II - 8 - 93	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	24	13	1.35	42.2
II - 8 - 94	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	6	3.65	43
II - 8 - 95	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	6	9	3.7	43
II - 8 - 96	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	5	9	1	47.7
II - 8 -97	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	17.4	6	5	42.3
II - 8 - 98	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	14.9	13	5.2	43.4
II - 8 - 99	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	6	13	4.8	42.7
II - 8 - 100	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	14	6	5.9	42.4
II - 8 - 101	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8	9	8.15	42.4
II - 8 - 102	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	5.5	8	9	44.5
II - 8 - 103	Unknown sp6	Bignoniaceae	huevo de tacuazín	5	9	7.45	46.3
II - 8 - 104	Lonchocarpus salvadorensis Pittier	Leguminosae	sangre de chucho	14.5	12	10.65	45

II - 8 - 105	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	9.4	13	12.6	45.2
II - 8 - 106	Unknown 1	Unknown 1	churumullo	9.5	9	13.3	47.5
II - 8 - 107	Unknown sp6	Bignoniaceae	huevo de tacuazín	5	9	14.5	42.9
II - 8 - 108	Heliocarpus mexicanus (Turez.) Sprague	Tiliaceae	calagua	28	8	14.95	45.4
II - 8 - 109	Unknown sp6	Bignoniaceae	huevo de tacuazín	8.4	17	18	44.6
II - 8 - 110	Casearia sylvestris SW.	Flacourtiaceae	sombra de mula	7	7	18.65	45.6
II - 8 - 111	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	27.2	6	16	46.5
II - 8 - 112	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón	8	11	14.85	50
II - 8 - 113	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	22.2	8	13.4	46.3
II - 8 - 114	Unknown 1	Unknown 1	churumullo	5	10	8.75	50
II - 8 - 115	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	9	6	7.55	48.6
II - 8 - 116	Alstonia longofolia (A.DC.) Pichon	Apocynaceae	sulfatío	8.2	9	6.85	47.5
II - 8 - 117	Unknown 2	Unknown 2	árbol de rosa	39.7	9	5.3	46.9
II - 8 - 118	Cecropica obtusifolia Bertol.	Cecropiaceae	guarumo	5.7	13	3.17	47.5

Appendix IV. Original data collected in Site 3 - La Montañona.
Tree serial No. indicates (I.e., III - 1 - 01) III = site number ,1 = quadrat number, and 01 = tree number.

TREE No.	Species	Family	Common Name	DBH (cm)	Height (m)	X (m)	Y (m)
III - 1 - 01	Unknown 5	Unknown 4	árbol de rosa	5.4	6	1.9	2.95
III - 1 - 02	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.8	6	4	0.4
III - 1 - 03	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.8	4	4.1	3.75
III - 1 - 04	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	9.5	9	5.35	4.12
III - 1 - 05	Luehea candida (DC.) Mart.	Tiliaceae	contamal	5.7	5	7.4	1.12
III - 1 - 06	Inga sp 1	Leguminosae	pepeto liso	17.5	15	8.95	2.45
III - 1 - 07	Luehea candida (DC.) Mart.	Tiliaceae	contamal	5	6	9.75	3.35
III - 1 - 08	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón de puerco	5	4	8.3	4
III - 1 - 09	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	12.5	10	11.8	3.5
III - 1 - 10	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	7	6	12.2	3.1
III - 1 - 11	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21	14	14.6	0.5
III - 1 - 12	Swietenia macrophylla King	Meliaceae	caoba	5.3	6	14.2	3.1
III - 1 - 13	Luehea candida (DC.) Mart.	Tiliaceae	contamal	6.9	4	15.2	3.6
III - 1 - 14	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.5	7	17.2	2.7
III - 1 - 15	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	7.5	8	18.4	3.5
III - 1 - 16	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	17	10	18.7	4.4
III - 1 - 17	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	32	15	17.4	4.6
III - 1 - 18	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	7	19.4	9
III - 1 - 19	Astronium graveolens Jacq.	Anacardiaceae	ronrón	5	6	17.2	8
III - 1 - 20	Colophylum brasiliense	Clusiaceae	marillo	32.3	18	17.9	9.7
III - 1 - 21	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5.3	6	16.3	7.5
III - 1 - 22	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	24.5	17	15	6
III - 1 - 23	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	6	14.7	5.5
III - 1 - 24	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6.3	5	12.4	8.4
III - 1 - 25	Luehea candida (DC.) Mart.	Tiliaceae	contamal	5.3	7	10.9	6.1
III - 1 - 26	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	5	11.5	5.5
III - 1 - 27	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	5.5	8	10.6	4.8
III - 1 - 28	Alchornea latifolia Sw.	Euphorbiaceae	queso	17.9	19	7.45	9
III - 1 - 29	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.6	16	7.15	8.8
III - 1 - 30	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.9	6	6.2	9.1
III - 1 - 31	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	6	9	5	4.95

III - 1 - 32	Unknown	Unknown 7	moyeja de pato	7.5	7	4.45	4.2
III - 1 - 33	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.5	6	4.25	7.75
III - 1 - 34	Colophylum brasiliense	Clusiaceae	marillo	7	7	2.35	7.75
III - 1 - 35	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	9	12	2.2	6.45
III - 1 - 36	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	5	8	1.3	5.8
III - 1 - 37	Colophylum brasiliense	Clusiaceae	marillo	6.2	9	0.75	4.9
III - 1 - 38	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	12	13	0.5	5.8
III - 1 - 39	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.5	11	0.1	9.6
III - 1 - 40	Unknown 3	Unknown 8	huevo de tacuazín	6	6	0.35	10.3

III - 1 - 41	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.8	11	2	10.2
III - 1 - 42	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	9	2.85	14
III - 1 - 43	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.5	13	4.3	12.3
III - 1 - 44	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	8	10.4	101
III - 1 - 45	Inga sp 1	Leguminosae	pepeto liso	9	9	6.55	11.7
III - 1 - 46	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	14	14	6.85	14
III - 1 - 47	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	12	9	7.7	14.3
III - 1 - 48	Licania retifolia Blake	Chrysobalanaceae	mulo	7	4	8.7	11.2
III - 1 - 49	Luehea candida (DC.) Mart.	Tiliaceae	contamal	6.5	8	10.3	10.9
III - 1 - 50	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	5.5	6	12.2	11.3
III - 1 - 51	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	27	17	18.8	12.5
III - 1 - 52	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	6	5	18.5	16
III - 1 - 53	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	10	8	19.5	18
III - 1 - 54	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	9.7	9	16.7	16.8
III - 1 - 55	Colophylum brasiliense	Clusiaceae	marillo	5.5	5	15.4	16.4
III - 1 - 56	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6	6	15	46.2
III - 1 - 57	Dendropanax arboreus	Araliaceae	mano de león	6.7	6	13.5	46.8
III - 1 - 58	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	9	12.3	20.5
III - 1 - 59	Ficus sp.	Moraceae	amate trompillo	90	40	8.85	18.3
III - 1 - 60	Swietenia macrophylla King	Meliaceae	caoba	10	10	9.95	18.4
III - 1 - 61	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	5.5	15.4
III - 1 - 62	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	6.2	8	2.15	15.4
III - 1 - 63	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	9.8	10	0.3	15.3
III - 1 - 64	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	8.8	9	1	18
III - 1 - 65	Unknown 8	Unknown 5	churumullo	21	12	2.65	21.5
III - 1 - 66	Simarouba glauca DG.	Simaroubaceae	aceituno	8.5	9	2.1	24.7
III - 1 - 67	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	9.5	9	4.15	25.6
III - 1 - 68	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	12	6.5	28.8
III - 1 - 69	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	6	8.7	21.1
III - 1 - 70	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	11.2	8	9.75	22
III - 1 - 71	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.3	6	9.45	25.9
III - 1 - 72	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6	5	10.9	26.5
III - 1 - 73	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5	4	12.7	25.8
III - 1 - 74	Licania retifolia Blake	Chrysobalanaceae	mulo	6.2	5	12.6	23
III - 1 - 75	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	45.2	24	12.4	22.5

III - 1 - 76	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	7	14.8	25
III - 1 - 77	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	5.5	6	16.4	25.1
III - 1 - 78	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	15.5	8	15.5	21.8
III - 1 - 79	Trichilia americana (Sessé 7 Moc.) Pennington	Meliaceae	cedrillo	5.5	5	16.9	21.3
III - 1 - 80	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	7.2	4	19.5	21
III - 1 - 81	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	10.2	10	19.4	21
III - 1 - 82	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	8	16.7	28
III - 1 - 83	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.9	9	14.1	29.8
III - 1 - 84	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	8	12.5	29.8
III - 1 - 85	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28	12	9.15	28.5
III - 1 - 86	Cecropica obtusifolia	Cecropiaceae	guarumo	19.5	16	6.1	28.5
III - 1 - 87	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	20.5	14	5.4	29.4
III - 1 - 88	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	19.5	17	4.2	29.4
III - 1 - 89	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	9.7	6	3.5	28.9
III - 1 - 90	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	11	1.2	29.4
III - 1 - 91	Simarouba glauca DG.	Simaroubaceae	aceituno	7	8	1.45	27.1
III - 1 - 92	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	8	12	0	27.7
III - 1 - 93	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	6	7	4.65	34.3
III - 1 - 94	Cordia panamensis Riley.	Boraginaceae	manuno blanco	6	7	6.65	32.7
III - 1 - 95	Allophylus occidentalis (Sw.) Radlk.	Sapindaceae	huesito	5.5	6	8.8	34.9
III - 1 - 96	Colophylum brasiliense	Clusiaceae	marillo	65.5	70	9.75	33.2
III - 1 - 97	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	8.5	9	9.95	32.3
III - 1 - 98	Tabebuia rosea (Bertol.) DC.	Bignonaceae	maquilishuat	6.8	8	12.3	34.1
III - 1 - 99	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	6	7	12.9	34.9
III - 1 - 100	Cordia panamensis Riley.	Boraginaceae	manuno blanco	8.2	9	13.2	33.5
III - 1 - 101	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	12	12	14.7	33.9
III - 1 - 102	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	6	14.9	32.2
III - 1 - 103	Sweetia panamensis Benth.	Leguminosae	chichipate	67	80	16.3	29
III - 1 - 104	Astronium graveolens Jacq.	Anacardiaceae	ronrón	8	8	17	30.9
III - 1 - 105	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	17.9	29.1
III - 1 - 106	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6.5	8	17.8	32.7
III - 1 - 107	Cordia panamensis Riley.	Boraginaceae	manuno blanco	7.5	9	18.1	32.2
III - 1 - 108	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5	5	0.1	34.5
III - 1 - 109	Cecropica obtusifolia	Cecropiaceae	guarumo	21.9	10	19.4	36.4
III - 1 - 110	Cecropica obtusifolia	Cecropiaceae	guarumo	12	11	17.5	39.4

III - 1 - 111	Cecropica obtusifolia	Cecropiaceae	guarumo	8.5	12	16.5	37.5
III - 1 - 112	Unknown 1	Unknown 7	molleja de pato	5	6	16.1	34.6
III - 1 - 113	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.5	8	18.7	35.7
III - 1 - 114	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	5.7	7	15.5	39
III - 1 - 115	Cecropica obtusifolia	Cecropiaceae	guarumo	15	12	14.8	39.4
III - 1 - 116	Unknown 8	Unknown 5	churumullo	7	6	13.7	35.8
III - 1 - 117	Allophylus occidentalis (Sw.) Radlk.	Sapindaceae	huesito	6.4	8	13.6	36
III - 1 - 118	Swietenia macrophylla King	Meliaceae	caoba	7.8	9	10.6	36.3
III - 1 - 119	Swietenia macrophylla King	Meliaceae	caoba	6	8	11	37.5
III - 1 - 120	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	6.2	9	9	36.5
III - 1 - 121	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	7	6.1	38.5
III - 1 - 122	Luehea candida (DC.) Mart.	Tiliaceae	contamal	52.3	32	4.5	41.3
III - 1 - 123	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	35.7	22	4.7	41.3
III - 1 - 124	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	24.2	23	2.9	42.8
III - 1 - 125	Licania retifolia Blake	Chrysobalanaceae	mulo	7.5	9	3.2	43.5
III - 1 - 126	Hirtella racemosa Lam.	Rosaceae	icaquillo	15.4	8	11.5	41.5
III - 1 - 127	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	9.5	10	10.6	45.3
III - 1 - 128	Licania retifolia Blake	Chrysobalanaceae	mulo	6	5	12.5	44.2
III - 1 - 129	Colophylum brasiliense	Clusiaceae	marillo	7.7	7	12.7	45.5
III - 1 - 130	Cecropica obtusifolia	Cecropiaceae	guarumo	16.6	13	13.1	44.8
III - 1 - 131	Cecropica obtusifolia	Cecropiaceae	guarumo	19.5	15	15.5	44.5
III - 1 - 132	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	6	15.5	41.4
III - 1 - 133	Cecropica obtusifolia	Cecropiaceae	guarumo	7	8	16.8	41.8
III - 1 - 134	Cecropica obtusifolia	Cecropiaceae	guarumo	17	13	18.5	40.8
III - 1 - 135	Unknown 7	Unknown 6	morro de danta	7	8	19.6	40.8
III - 1 - 136	Cecropica obtusifolia	Cecropiaceae	guarumo	5.5	6	19.7	41
III - 1 - 137	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.7	6	17.5	45.2
III - 1 - 138	Luehea candida (DC.) Mart.	Tiliaceae	contamal	43	26	19.5	45.5
III - 1 - 139	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6.5	5	18.3	46.4
III - 1 - 140	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.5	9	16.8	47.5
III - 1 - 141	Licania retifolia Blake	Chrysobalanaceae	mulo	6.1	5	16.5	46.7
III - 1 - 142	Licania retifolia Blake	Chrysobalanaceae	mulo	32	13	14.4	48.3
III - 1 - 143	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.5	9	19.2	50
III - 1 - 144	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	7	20	50
III - 1 - 145	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	6	14.7	49.1

III - 1 - 146	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	14.6	10	12.4	50
III - 1 - 147	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	6.5	7	10.7	48.2
III - 1 - 148	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.5	9	11.8	49.5
III - 1 - 149	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	6	4.65	47.4
III - 2 - 01	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	7	0.65	0.7
III - 2 - 02	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	9	3.25	1.4
III - 2 - 03	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.5	8	3.45	2.4
III - 2 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.7	6	3.75	2.6
III - 2 - 05	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.2	11	2.35	3.4
III - 2 - 06	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	8	2.55	4.8
III - 2 - 07	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	10	4.35	4.4
III - 2 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	6	6.15	2.4
III - 2 - 09	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.4	9	6.7	1.4
III - 2 - 10	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	6	7.35	2.1
III - 2 - 11	Licania retifolia Blake	Chrysobalanaceae	mulo	31.5	18	7.65	2.5
III - 2 - 12	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10	9	9.5	2.2
III - 2 - 13	Licania retifolia Blake	Chrysobalanaceae	mulo	16.5	14	7.95	3.1
III - 2 - 14	Inga sp.	Leguminosae	pepeto zapato de	13.4	8	9.4	3
III - 2 - 15	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	6	10.3	4.1
III - 2 - 16	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.4	7	11.9	2.1
III - 2 - 17	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23	13	12.8	0.2
III - 2 - 18	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	6	1.75	0.9
III - 2 - 19	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	11.2	10	13.9	4.46
III - 2 - 20	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	12	15.7	1.6
III - 2 - 21	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	5.5	4	16.4	2.7
III - 2 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	5	16.7	3.5
III - 2 - 23	Colophylum brasiliense	Clusiaceae	marillo	18.5	14	17.7	0.85
III - 2 - 24	Alibertia edulis Rich.	Rubiaceae	cantarito	5.3	5	19.8	3.8
III - 2 - 25	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10	8	17.9	9
III - 2 - 26	Colophylum brasiliense	Clusiaceae	marillo	8.5	5	14.5	8
III - 2 - 27	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	14	11	12.4	7.65
III - 2 - 28	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5	6	14.7	6
III - 2 - 29	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	6	13.5	5.35
III - 2 - 30	Astronium graveolens Jacq.	Anacardiaceae	ronrón	7.5	9	12.6	7.5
III - 2 - 31	Licania retifolia Blake	Chrysobalanaceae	mulo	7.5	6	11	6.3

III - 2 - 32	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	9.8	9	10.4	6.25
III - 2 - 33	Colophylum brasiliense	Clusiaceae	marillo	32.2	15	7.85	7.8
III - 2 - 34	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	9	7.1	6
III - 2 - 35	*Ouratea lucens (Kunth) Engler*	Ochnaceae	ojo de gallo	9	7	2.65	9.5
III - 2 - 36	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6.5	6	1.1	12.2
III - 2 - 37	Inga sp.	Leguminosae	pepeto zapato de	10.5	9	1.35	14.4
III - 2 - 38	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.8	10	3.35	13.4
III - 2 - 39	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.8	8	4.65	20.5
III - 2 - 40	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	6	7	5.25	12.6
III - 2 - 41	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	5	7.15	13.6
III - 2 - 42	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	19.2	10	7	13.3
III - 2 - 43	Inga sp.	Leguminosae	pepeto zapato de	16	9	6.65	14.9
III - 2 - 44	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6.2	6	8	14
III - 2 - 45	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	7	7.5	11.9
III - 2 - 46	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	6	7.65	12.5
III - 2 - 47	*Colophylum brasiliense*	Clusiaceae	marillo	8	8	9.15	15.5
III - 2 - 48	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.7	6	9.45	16
III - 2 - 49	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.7	4	9.7	16
III - 2 - 50	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	26	15	10.5	10.3
III - 2 - 51	Brosimum alicastrum Sw.	Moraceae	ujushte	8.2	6	15.6	11.4
III - 2 - 52	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.5	11	16.4	10.7
III - 2 - 53	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	5	15.6	9.9
III - 2 - 54	Colophylum brasiliense	Clusiaceae	marillo	7.2	7	17.2	10.7
III - 2 - 55	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.7	6	18.7	12
III - 2 - 56	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	7	16.9	12.7
III - 2 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	5	18.2	14.7
III - 2 - 58	Licania retifolia Blake	Chrysobalanaceae	mulo	7	6	16.4	14.5
III - 2 - 59	*Michonia argentea (SW.) DC.*	Melastomataceae	sirinón	10.5	8	16.5	16
III - 2 - 60	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	8.5	5	18.3	16.7
III - 2 - 61	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	5	19.8	17.2
III - 2 - 62	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	45.5	30	16.6	15.8
III - 2 - 63	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	10	8	15	17.1
III - 2 - 64	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6	5	12.8	17.8
III - 2 - 65	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21.5	9	12.8	16.5
III - 2 - 66	*Rheedia edulis (Seemann) Triana & Planchon*	Clusiaceae	chaparrón	8	5	12.4	16.7

III - 2 - 67	Astronium graveolens Jacq.	Anacardiaceae	ronrón	7.8	8	13.1	18
III - 2 - 68	Cecropica obtusifolia	Cecropiaceae	guarumo	9.5	9	9.45	15.8
III - 2 - 69	Brosimum alicastrum Sw.	Moraceae	ujushte	39.5	18	9.7	16.5
III - 2 - 70	Cecropica obtusifolia	Cecropiaceae	guarumo	14.3	11	7.1	17.7
III - 2 - 71	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	8	6.75	16.1
III - 2 - 72	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	5	9.3	18.2
III - 2 - 73	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	5	4.25	19.9
III - 2 - 74	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	8.9	8	2.35	19
III - 2 - 75	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	12.5	9	2.75	19.4
III - 2 - 76	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.6	8	0.95	16.1
III - 2 - 77	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	1.5	21.6
III - 2 - 78	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	7	2.6	23.8
III - 2 - 79	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	5.7	6	2.9	25.2
III - 2 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	5	3.7	21.1
III - 2 - 81	Licania retifolia Blake	Chrysobalanaceae	mulo	10	7	5.85	17.8
III - 2 - 82	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	8	6.75	19.5
III - 2 - 83	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	6	6.5	20.8
III - 2 - 84	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	9	7.1	20.9
III - 2 - 85	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	5	7.85	21.6
III - 2 - 86	Colophylum brasiliense	Clusiaceae	marillo	6.5	6	8.7	23.6
III - 2 - 87	Astronium graveolens Jacq.	Anacardiaceae	ronrón	8	7	10.2	21.8
III - 2 - 88	Swietenia macrophylla King	Meliaceae	caoba	7	6	9.45	21.1
III - 2 - 89	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	5.7	5	8.45	19.8
III - 2 - 90	*Maytenus chiapensis Lundell*	Celastraceae	escobo blanco	6	5	11.5	19.9
III - 2 - 91	Inga sp 1	Leguminosae	pepeto liso	9.5	9	11.7	19.9
III - 2 - 92	Hirtella racemosa Lam.	Rosaceae	icaquillo	13.2	7	14.4	23.4
III - 2 - 93	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	9.6	8	14.9	19.8
III - 2 - 94	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	5.7	6	15.4	20.1
III - 2 - 95	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	5.7	6	15.8	20.9
III - 2 - 96	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	13.5	9	16.4	22.7
III - 2 - 97	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	13	9	18.3	20.8
III - 2 - 98	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	6.4	7	20	24.9
III - 2 - 99	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	5	7	17.3	26.2
III - 2 - 100	Cecropica obtusifolia	Cecropiaceae	guarumo	17	11	17.3	27
III - 2 - 101	Cecropica obtusifolia	Cecropiaceae	guarumo	21	7	17.5	27.6

III - 2 - 102	Cecropica obtusifolia	Cecropiaceae	guarumo	6.7	7	19.4	27.6
III - 2 - 103	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	6	15.1	27
III - 2 - 104	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.7	4	15.1	29.6
III - 2 - 105	Licania retifolia Blake	Chrysobalanaceae	mulo	8	6	13.7	28.4
III - 2 - 106	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.8	7	13.9	27.9
III - 2 - 107	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13	8	13.7	26.8
III - 2 - 108	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	5.8	8	13.8	26.5
III - 2 - 109	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	12.3	27
III - 2 - 110	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.8	5	12.5	27.6
III - 2 - 111	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.2	7	13.3	28.8
III - 2 - 112	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7	5	7.8	26.5
III - 2 - 113	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	7	6.5	25.8
III - 2 - 114	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.3	7	6.35	26.4
III - 2 - 115	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	5	5.9	26.7
III - 2 - 116	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8.5	6	1.45	26.1
III - 2 - 117	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8	5	2	26
III - 2 - 118	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8	6	4.15	27
III - 2 - 119	Colophylum brasiliense	Clusiaceae	marillo	7	7	1.9	31.8
III - 2 - 120	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	6	0.6	32.7
III - 2 - 121	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	6	2.95	33.2
III - 2 - 122	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.5	10	3.9	35.5
III - 2 - 123	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.5	8	5.15	35.4
III - 2 - 124	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	21.3	11	5.1	34
III - 2 - 125	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	6	7.2	30.3
III - 2 - 126	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	8.5	7	10.4	29.8
III - 2 - 127	Bursera simaruba (L.) Sarg.	Burseraceae	jiote	5	5	10.2	30
III - 2 - 128	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	7.5	7	10.6	29.3
III - 2 - 129	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	5	11.6	30.7
III - 2 - 130	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	12.5	8	14.2	31.3
III - 2 - 131	Astronium graveolens Jacq.	Anacardiaceae	ronrón	13	9	14.9	29.9
III - 2 - 132	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.5	6	13.9	32.9
III - 2 - 133	Alibertia edulis Rich.	Rubiaceae	cantarito	7.7	7	14.8	7.8
III - 2 - 134	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.3	8	16.2	34.8
III - 2 - 135	Hirtella racemosa Lam.	Rosaceae	icaquillo	12	7	17.9	30.6
III - 2 - 136	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.3	7	17.2	33.9

III - 2 - 137	Licania retifolia Blake	Chrysobalanaceae	mulo	6	6	19.3	36.3
III - 2 - 138	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27	12	17.8	35.7
III - 2 - 139	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.3	5	18.5	35.3
III - 2 - 140	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9.5	8	17.3	35.6
III - 2 - 141	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.9	5	16.3	35.4
III - 2 - 142	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	9	19.9	40
III - 2 - 143	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	6	19	54.7
III - 2 - 144	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.1	6	16.8	38.3
III - 2 - 145	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	14.4	39.7
III - 2 - 146	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.8	5	12.5	35.9
III - 2 - 147	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6	7	10.3	38.2
III - 2 - 148	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	18.3	7	9.95	37.8
III - 2 - 149	Swietenia macrophylla King	Meliaceae	caoba	8.8	7	9.3	35.7
III - 2 - 150	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.6	5	7.8	35.1
III - 2 - 151	Colophylum brasiliense	Clusiaceae	marillo	21.6	13	5.4	34.3
III - 2 - 152	Swietenia macrophylla King	Meliaceae	caoba	5.1	6	5.5	35.6
III - 2 - 153	Astronium graveolens Jacq.	Anacardiaceae	ronrón	7.6	8	7.2	38.9
III - 2 - 154	Swietenia macrophylla King	Meliaceae	caoba	9.4	9	9	39.6
III - 2 - 155	Astronium graveolens Jacq.	Anacardiaceae	ronrón	6.1	6	9.75	39.4
III - 2 - 156	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5.7	5	3.5	39.2
III - 2 - 157	Colophylum brasiliense	Clusiaceae	marillo	8.7	6	3.5	38.2
III - 2 - 158	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6	5	4.1	36.5
III - 2 - 159	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.3	9	4	36.9
III - 2 - 160	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.9	7	4	36.4
III - 2 - 161	Inga sp.	Leguminosae	pepeto zapato de	10.2	6	0.75	39.1
III - 2 - 162	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	12	8	0.2	39.5
III - 2 - 163	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6.8	5	1	42.1
III - 2 - 164	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.3	6	2	43.7
III - 2 - 165	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	4	2.1	43.2
III - 2 - 166	Alchornea latifolia Sw.	Euphorbiaceae	queso	7.4	7	1.5	45.8
III - 2 - 167	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	7.5	7	3.65	43.9
III - 2 - 168	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	8	5	4.65	39.4
III - 2 - 169	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	6	3.75	45.5
III - 2 - 170	Astronium graveolens Jacq.	Anacardiaceae	ronrón	5.7	6	5.6	46.3
III - 2 - 171	Inga sp.	Leguminosae	pepeto zapato de	10	6	6.6	40.5

III - 2 - 172	Inga sp.	Leguminosae	pepeto zapato de	5.5	5	6.65	41.4
III - 2 - 173	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.7	6	6.95	41.7
III - 2 - 174	Alchornea latifolia Sw.	Euphorbiaceae	queso	11.3	9	8.7	43.4
III - 2 - 175	Alchornea latifolia Sw.	Euphorbiaceae	queso	5.2	5	10.9	42.7
III - 2 - 176	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	8	10.5	40.8
III - 2 - 177	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.9	6	13.9	45.7
III - 2 - 178	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	7	13.6	42.9
III - 2 - 179	Inga sp 1	Leguminosae	pepeto liso	14.5	9	12.9	44.8
III - 2 - 180	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19	12	15.2	39.7
III - 2 - 181	Spondia mombin L.	Anacardiaceae	jocote verde	11.5	8	17.9	43.6
III - 2 - 182	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	20	48.5
III - 2 - 183	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.4	6	20	46.3
III - 2 - 184	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	5	17.7	47.9
III - 2 - 185	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	8	17.5	47
III - 2 - 186	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.8	10	16.6	46.6
III - 2 - 187	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.3	7	14.3	45.5
III - 2 - 188	Colophylum brasiliense	Clusiaceae	marillo	67.5	40	12.6	49
III - 2 - 189	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	12.5	50
III - 2 - 190	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	11.8	47.3
III - 2 - 191	Astronium graveolens Jacq.	Anacardiaceae	ronrón	6	6	10.4	47.7
III - 2 - 192	Swietenia macrophylla King	Meliaceae	caoba	8.5	6	5.9	47.6
III - 2 - 193	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5	4	9	47.3
III - 2 - 194	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	4	6.95	50
III - 2 - 195	Inga sp 1	Leguminosae	pepeto liso	9	7	8.95	45.2
III - 2 - 196	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.9	5	6.6	44.2
III - 2 - 197	Licania retifolia Blake	Chrysobalanaceae	mulo	6.7	7	5.85	45.8
III - 2 - 198	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	7.5	8	4.9	50
III - 2 - 199	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	7	6	5.5	50
III - 2 - 200	Alchornea latifolia Sw.	Euphorbiaceae	queso	7.7	8	3.8	48
III - 2 - 201	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	9	7	3.55	49
III - 2 - 202	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	12	0.85	46.2
III - 2 - 203	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	5	1.3	46.7
III - 3 - 01	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	7	5	1.4	0.1
III - 3 - 02	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6.3	6	0.85	1.9
III - 3 - 03	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.5	7	3.55	2

III - 3 - 04	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	14.9	9	2.55	4.6
III - 3 - 05	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.5	6	4.8	3
III - 3 - 06	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	7.4	7	5.95	2.5
III - 3 - 07	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	15	9	7.8	4.2
III - 3 - 08	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.8	7	7.75	1
III - 3 - 09	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.1	6	9.4	2.45
III - 3 - 10	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.7	5	10.4	3.3
III - 3 - 11	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27.3	13	10.3	1.2
III - 3 - 12	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5.7	6	11.8	0.4
III - 3 - 13	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	6	10.7	3.15
III - 3 - 14	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12.6	7	14.4	3.38
III - 3 - 15	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	7	14.6	3
III - 3 - 16	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	5	15.3	0.95
III - 3 - 17	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.9	5	16.3	1.75
III - 3 - 18	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	11.5	8	19.4	4.2
III - 3 - 19	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	5	19.9	0.45
III - 3 - 20	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.8	6	17.4	6.85
III - 3 - 21	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	5	17.2	4.2
III - 3 - 22	Licania retifolia Blake	Chrysobalanaceae	mulo	21.7	14	16.3	8.1
III - 3 - 23	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.4	7	15.5	5.55
III - 3 - 24	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	6	15.6	6.35
III - 3 - 25	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.2	8	12.7	5.5
III - 3 - 26	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	7	10.4	6.9
III - 3 - 27	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	9.7	7	8.45	9.8
III - 3 - 28	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	9	6.15	5.9
III - 3 - 29	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	12	8	3.1	6.2
III - 3 - 30	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	18	14	2.1	7.3
III - 3 - 31	Unknown 2	Unknown 3	sombra de mula	5.3	5	2.4	3.4
III - 3 - 32	Colophylum brasiliense	Clusiaceae	marillo	12.5	11	2.25	9
III - 3 - 33	Coccoloba barbadensis Jacq.	Polygonaceae	queso	8.2	8	1.15	5.4
III - 3 - 34	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.6	10	0.15	11.6
III - 3 - 35	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	25.2	13	0.85	12.6
III - 3 - 36	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	9	4.1	12.4
III - 3 - 37	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	5.15	13.7
III - 3 - 38	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	23.5	16	5.25	12.9

III - 3 - 39	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	9.1	9	6.5	11.7
III - 3 - 40	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	18	9	6.5	10.8
III - 3 - 42	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	6	7.9	10.7
III - 3 - 42	Colophylum brasiliense	Clusiaceae	marillo	46	20	10.2	11.5
III - 3 - 43	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.5	9	13	13.3
III - 3 - 44	Unknown 7	Unknown 6	morro de danta	9.2	8	14.6	13.7
III - 3 - 45	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	10.2	9	13.4	11.8
III - 3 - 46	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	6	15.9	10.6
III - 3 - 47	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	7	16.2	10.2
III - 3 - 48	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	17.3	12.2
III - 3 - 49	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.3	5	17.2	10.3
III - 3 - 50	Licania retifolia Blake	Chrysobalanaceae	mulo	10.6	8	16.9	13.9
III - 3 - 51	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6	6	19.5	1.35
III - 3 - 52	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	19.8	11.9
III - 3 - 53	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	18.6	15.8
III - 3 - 54	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	12.2	7	17.9	16.7
III - 3 - 55	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	5.6	6	17.8	17.7
III - 3 - 56	Colophylum brasiliense	Clusiaceae	marillo	13.1	9	16	33.1
III - 3 - 57	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.3	6	15.6	18.4
III - 3 - 58	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	9.6	9	14.6	18.9
III - 3 - 59	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	5.2	6	12.4	18.2
III - 3 - 60	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	5.3	6	13.5	16.6
III - 3 - 61	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.1	6	13.4	18.3
III - 3 - 62	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21.6	9	10.1	14.9
III - 3 - 63	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17.7	6	10.5	17.4
III - 3 - 64	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	6.2	8	8.35	20.1
III - 3 - 65	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.7	8	6.35	18.4
III - 3 - 66	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.5	8	3.75	16
III - 3 - 67	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	6	2.9	20.1
III - 3 - 68	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	18.7	10	1.25	21.4
III - 3 - 69	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	7	1.1	23.8
III - 3 - 70	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	8	2.65	23.5
III - 3 - 71	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	17.2	9	4.35	23.4
III - 3 - 72	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	25	11	8.35	23.6
III - 3 - 73	Coccoloba barbadensis Jacq.	Polygonaceae	queso	40.5	26	10.1	22.6

III - 3 - 74	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.3	8	10.5	21.9
III - 3 - 75	Brosimum alicastrum Sw.	Moraceae	ujushte	30	15	13.6	21.7
III - 3 - 76	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23.9	13	14.8	24.5
III - 3 - 77	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	79.5	40	14.6	21.7
III - 3 - 78	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	5.7	4	15.4	21.2
III - 3 - 79	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.5	9	16.6	22
III - 3 - 80	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	8	18	19.9
III - 3 - 81	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	5.9	6	19.2	21.9
III - 3 - 82	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.1	6	19.4	27
III - 3 - 83	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	8	19.4	27.1
III - 3 - 84	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	5	15.6	25.5
III - 3 - 85	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	15.2	26
III - 3 - 86	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.9	8	14.8	27.3
III - 3 - 87	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.3	8	11.7	29.3
III - 3 - 88	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.3	8	10.5	25.9
III - 3 - 89	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	7	7.6	26.1
III - 3 - 90	Astronium graveolens Jacq.	Anacardiaceae	ronrón	37	17	6.25	29
III - 3 - 91	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18.2	11	6.1	26.3
III - 3 - 92	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	7	5.95	28.7
III - 3 - 93	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	6	4.65	26.1
III - 3 - 94	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.4	8	4.1	25.6
III - 3 - 95	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.7	7	3.5	25.6
III - 3 - 96	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	8	2.15	27.9
III - 3 - 97	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.8	8	1.25	28.7
III - 3 - 98	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.8	10	2.5	29.2
III - 3 - 99	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.8	7	3.95	30
III - 3 - 100	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	8	0.25	32.9
III - 3 - 101	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.6	11	2.25	39.2
III - 3 - 102	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.6	10	2.45	24.6
III - 3 - 103	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	6	4.7	34.9
III - 3 - 104	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	6.6	6	5.25	32.5
III - 3 - 105	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.4	7	7.55	31.5
III - 3 - 106	Swietenia macrophylla King	Meliaceae	caoba	60.5	39	6.7	30
III - 3 - 107	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	8.3	8	9.5	30.7
III - 3 - 108	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.1	5	7.4	34.7

III - 3 - 109	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.2	6	10.7	34.4
III - 3 - 110	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	7	12.6	33.7
III - 3 - 111	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23.2	11	12.7	35.6
III - 3 - 112	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7.5	9	13	31.8
III - 3 - 113	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	8	13.3	30.8
III - 3 - 114	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	11.6	12	14.4	36
III - 3 - 115	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	10.8	7	14.9	33.8
III - 3 - 116	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	10.3	7	16.2	33.7
III - 3 - 117	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	6.9	6	16.9	31.7
III - 3 - 118	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	20.2	14	17.3	30.7
III - 3 - 119	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.4	6	16.6	29.8
III - 3 - 120	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	5	19.3	29.8
III - 3 - 121	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7	9	20	30.2
III - 3 - 122	Unknown 3	Unknown 8	huevo de tacuazín	6	7	19.6	30.7
III - 3 - 123	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	5.9	7	19	31.5
III - 3 - 124	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.6	7	20	32.3
III - 3 - 125	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.4	6	17.8	37
III - 3 - 126	Cedrela odorata L.	Meliaceae	cedro real	24.2	17	17.7	37.2
III - 3 - 127	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	16.7	34.9
III - 3 - 128	Cedrela odorata L.	Meliaceae	cedro real	12.5	9	15.4	37.5
III - 3 - 129	Pilocharpus racemosus Vahl	Rutaceae	matasanillo	10.1	12	14.6	35.4
III - 3 - 130	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5	6	13.5	35.5
III - 3 - 131	Colophylum brasiliense	Clusiaceae	marillo	10.5	11	12.6	38.2
III - 3 - 132	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.5	7	10.7	39.2
III - 3 - 133	Colophylum brasiliense	Clusiaceae	marillo	48.2	30	7.6	39.2
III - 3 - 134	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.5	6	6.5	35.7
III - 3 - 135	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.9	7	4.5	37.1
III - 3 - 136	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.9	10	4.5	38.2
III - 3 - 137	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8.7	6	3.45	39.6
III - 3 - 138	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6	6	0.95	44.5
III - 3 - 139	Luehea candida (DC.) Mart.	Tiliaceae	contamal	47.5	16	3	43.3
III - 3 - 140	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8	7	2.5	42.5
III - 3 - 141	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.2	12	3.45	41.7
III - 3 - 142	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.5	8	5.25	42.4
III - 3 - 143	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18.2	13	3.85	40.4

III - 3 - 144	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	7	9.5	41.5
III - 3 - 145	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.9	7	10.8	40.4
III - 3 - 146	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17.2	6	13.6	90.4
III - 3 - 147	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.7	10	12.5	44.5
III - 3 - 148	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18.5	11	12.8	44.8
III - 3 - 149	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	6	14.8	41.6
III - 3 - 150	Inga fagifolia (L.) Wild. ex Benth.	Leguminosae	pepeto caspirol	14.1	9	15.2	42.5
III - 3 - 151	Unknown 3	Unknown 8	huevo de tacuazín	6.1	6	16.5	41.4
III - 3 - 152	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	6	16.5	40.5
III - 3 - 153	Licania retifolia Blake	Chrysobalanaceae	mulo	5.8	7	18.5	40.7
III - 3 - 154	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.2	8	16.7	44.1
III - 3 - 155	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	6	20	48.4
III - 3 - 156	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	6	18.2	47
III - 3 - 157	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.9	6	14.8	48
III - 3 - 158	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	7	14.1	47.8
III - 3 - 159	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	6	12.5	44.7
III - 3 - 160	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	86	50	9.5	42.2
III - 3 - 161	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.8	9	9.9	47.6
III - 3 - 162	Brosimum alicastrum Sw.	Moraceae	ujushte	13.9	9	8.75	49.2
III - 3 - 163	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.5	7	8.7	48.1
III - 3 - 164	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	5.7	6	8.55	46.2
III - 3 - 165	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.1	9	6.5	47.3
III - 3 - 166	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	6	5.85	47.1
III - 3 - 167	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.2	6	5.2	48.4
III - 3 - 168	Brosimum alicastrum Sw.	Moraceae	ujushte	35.5	22	1.4	49.1
III - 3 - 169	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	10	0.25	49.1
III - 3 - 170	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8.2	6	0.7	50
III - 4 - 01	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.2	5	0.9	2
III - 4 - 02	Inga sp.	Leguminosae	pepeto zapato de	13.5	9	2.5	2.15
III - 4 - 03	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	12.1	9	3.65	0.7
III - 4 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.4	9	4.4	2.1
III - 4 - 05	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	8.1	8	5.75	4.12
III - 4 - 06	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	7	8.25	4.1
III - 4 - 07	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.3	6	10.2	2
III - 4 - 08	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	43.5	28	9.65	0.4

III - 4 - 09	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	37.8	26	10.8	2.1
III - 4 - 10	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.8	9	11.9	0
III - 4 - 11	Alchornea latifolia Sw.	Euphorbiaceae	queso	34.1	20	10.9	4.75
III - 4 - 12	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.7	8	16	3.2
III - 4 - 13	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.7	7	16.6	2.45
III - 4 - 14	Ficus sp.	Moraceae	amate / matapalo	115	23	17.1	0
III - 4 - 15	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.6	9	19.8	5.55
III - 4 - 16	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	8	18	7.85
III - 4 - 17	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.8	6	19	9.5
III - 4 - 18	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	59	30	14.2	7.7
III - 4 - 19	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.6	9	13.5	8.4
III - 4 - 20	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	9.5	9	7.55	9.33
III - 4 - 21	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.5	12	6.45	8
III - 4 - 22	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6.7	6	6.25	10.5
III - 4 - 23	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.6	9	2.45	5.17
III - 4 - 24	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8.8	8	2.25	6.4
III - 4 - 25	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.7	6	1.1	5.17
III - 4 - 26	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.9	8	0.8	5.15
III - 4 - 27	Casearia commersoniana Cambess	Flacoutiaceae	camarón	12.2	9	0.5	8.6
III - 4 - 28	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.5	8	1.45	9.6
III - 4 - 29	Licania retifolia Blake	Chrysobalanaceae	mulo	19	11	1.55	10.6
III - 4 - 30	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	47.5	25	0.25	11.3
III - 4 - 31	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.2	8	4	12.4
III - 4 - 32	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	18.9	11	4.1	13.4
III - 4 - 33	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	8	5.95	13.7
III - 4 - 34	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.7	6	8.65	14.2
III - 4 - 35	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.2	8	10.8	11.3
III - 4 - 36	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22	15	12.7	13.8
III - 4 - 37	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	38.5	22	13.3	14.3
III - 4 - 38	Licania retifolia Blake	Chrysobalanaceae	mulo	5.1	6	13.5	14.5
III - 4 - 39	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23.1	13	13.5	10.6
III - 4 - 40	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.3	7	17.5	11.1
III - 4 - 42	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.8	9	19.4	20.1
III - 4 - 42	Licania retifolia Blake	Chrysobalanaceae	mulo	11.2	9	18.4	14
III - 4 - 43	Licania retifolia Blake	Chrysobalanaceae	mulo	7.4	6	17.5	19.3

III - 4 - 44	Licania retifolia Blake	Chrysobalanaceae	mulo	13.3	11	16.3	19.3
III - 4 - 45	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	6	12	18.4
III - 4 - 46	Licania retifolia Blake	Chrysobalanaceae	mulo	5.1	4	12	18.1
III - 4 - 47	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.2	10	10.6	19.8
III - 4 - 48	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	9.1	8	8.45	19.4
III - 4 - 49	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.8	9	7.9	15.8
III - 4 - 50	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.1	6	4.45	14.3
III - 4 - 51	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	40.5	18	3.35	17.1
III - 4 - 52	Colophylum brasiliense	Clusiaceae	marillo	59.9	39	1.45	15.5
III - 4 - 53	Unknown 3	Unknown 8	huevo de tacuazín	7.5	7	0.95	18.6
III - 4 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	6	1.55	18.8
III - 4 - 55	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.2	5	0.15	20
III - 4 - 56	Swietenia macrophylla King	Meliaceae	caoba	10.5	9	2.35	20.8
III - 4 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	4.35	21.1
III - 4 - 58	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.4	6	6.5	23.9
III - 4 - 59	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	29.3	18	6.35	24
III - 4 - 60	Licania retifolia Blake	Chrysobalanaceae	mulo	7.5	9	7.55	20.3
III - 4 - 61	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.8	6	9.55	21.7
III - 4 - 62	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	29.1	17	10.1	20
III - 4 - 63	Alchornea latifolia Sw.	Euphorbiaceae	queso	40.8	21	10.6	22.3
III - 4 - 64	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.6	13	12.3	22.3
III - 4 - 65	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	6	10.2	52.1
III - 4 - 66	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.7	6	17	23.9
III - 4 - 67	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.1	11	18.8	26.9
III - 4 - 68	Licania retifolia Blake	Chrysobalanaceae	mulo	24.5	17	19.9	27.5
III - 4 - 69	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	10.5	10	15.7	29.5
III - 4 - 70	Colophylum brasiliense	Clusiaceae	marillo	6.4	8	15.8	25.3
III - 4 - 71	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	9	14.9	27.8
III - 4 - 72	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	21.6	16	13.2	29.2
III - 4 - 73	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.1	7	13.2	28.5
III - 4 - 74	Colophylum brasiliense	Clusiaceae	marillo	49.5	38	12.5	26
III - 4 - 75	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5	6	11.4	27.8
III - 4 - 76	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	13.9	10	8.3	28.1
III - 4 - 77	Hirtella racemosa Lam.	Rosaceae	icaquillo	13	9	6.45	25.5
III - 4 - 78	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	5.4	5	4.65	26.9

III - 4 - 79	Colophylum brasiliense	Clusiaceae	marillo	53.5	39	4.1	26.9
III - 4 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	5	3.4	27.9
III - 4 - 81	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	12	10	2.2	26.5
III - 4 - 82	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	7	2.85	26.2
III - 4 - 83	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	8.1	9	5.15	33.9
III - 4 - 84	Alchornea latifolia Sw.	Euphorbiaceae	queso	22.1	11	6.2	32.2
III - 4 - 85	Colophylum brasiliense	Clusiaceae	marillo	11.8	9	6.9	34.2
III - 4 - 86	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	7	5.85	35
III - 4 - 87	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.6	6	9.55	35.4
III - 4 - 88	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	6	10.5	34.7
III - 4 - 89	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	75.5	42	10.6	29.6
III - 4 - 90	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	10	12.7	30.9
III - 4 - 91	Licania retifolia Blake	Chrysobalanaceae	mulo	10.5	11	4.5	34.4
III - 4 - 92	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.6	6	15.6	34.5
III - 4 - 93	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.3	6	18.8	30.8
III - 4 - 94	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	66	7	20	30
III - 4 - 95	Unknown 4	Unknown 1	árbol de llegua	23.2	9	17.5	36.8
III - 4 - 96	Licania retifolia Blake	Chrysobalanaceae	mulo	7	7	16	38
III - 4 - 97	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.1	9	19.3	39.7
III - 4 - 98	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	7	14.1	31.6
III - 4 - 99	Licania retifolia Blake	Chrysobalanaceae	mulo	33.6	15	10	37.3
III - 4 - 100	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	7.2	5	10.9	39.5
III - 4 - 101	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	6	9	38.1
III - 4 - 102	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18.9	10	8.1	35.8
III - 4 - 103	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.1	7	6.9	37
III - 4 - 104	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.9	6	6.35	36.1
III - 4 - 105	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.5	8	5.7	36.2
III - 4 - 106	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	8.5	4	3.9	34.9
III - 4 - 107	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.2	6	3.95	38.5
III - 4 - 108	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	52.9	26	0.5	40.6
III - 4 - 109	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.2	8	0.4	42.7
III - 4 - 110	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	9	0.25	48.9
III - 4 - 111	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	7	4.25	41
III - 4 - 112	Licania retifolia Blake	Chrysobalanaceae	mulo	7.5	8	5.7	41.3
III - 4 - 113	Hirtella racemosa Lam.	Rosaceae	icaquillo	17.7	12	7.7	42.4

III - 4 - 114	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	8	10.7	42.8
III - 4 - 115	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.9	9	11.3	43.8
III - 4 - 116	*Aphananthe monoica (Hemsley) Leroy*	*Ulmaceae*	*durasnillo*	5.5	5	11.7	41.8
III - 4 - 117	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.3	8	14.4	42.4
III - 4 - 118	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	6	16.3	44.6
III - 4 - 119	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.8	13	17.3	44.4
III - 4 - 120	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	13	18.5	43.7
III - 4 - 121	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	5	19.7	40
III - 4 - 122	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.9	6	19.4	47.8
III - 4 - 123	Hirtella racemosa Lam.	Rosaceae	icaquillo	5	7	18.3	28.4
III - 4 - 124	Colophylum brasiliense	Clusiaceae	marillo	7.8	8	19.4	29.2
III - 4 - 125	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.3	9	19.7	50
III - 4 - 126	Licania retifolia Blake	Chrysobalanaceae	mulo	75	45	14.8	46.5
III - 4 - 127	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	6	16.4	45.7
III - 4 - 128	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.4	6	15.6	45.1
III - 4 - 129	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	9	12.4	45.7
III - 4 - 130	*Lunaria mexicana Brandegee*	*Flacourtiaceae*	*tizón*	29.5	18	11.2	47.7
III - 4 - 131	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.2	5	11.8	48.5
III - 4 - 132	Brosimum alicastrum Sw.	Moraceae	ujushte	12.2	9	10.7	49.2
III - 4 - 133	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	9	9.5	33.3
III - 4 - 134	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	7.5	10	7.55	35.3
III - 4 - 135	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.4	13	6.9	36.3
III - 4 - 136	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	8	5.4	46.5
III - 5 - 01	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	5	0.1	2.3
III - 5 - 02	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.8	6	0.55	3
III - 5 - 03	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	8.6	10	0.1	3.2
III - 5 - 04	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.2	6	0.5	3.6
III - 5 - 05	*Rheedia edulis (Seemann) Triana & Planchon*	*Clusiaceae*	*chaparrón*	20.9	13	1	4.7
III - 5 - 06	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7	6	2.5	4.4
III - 5 - 07	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	7.6	9	4.25	3.4
III - 5 - 08	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	14.9	10	4.3	3
III - 5 - 09	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	6	7	8.2	2.6
III - 5 - 10	Colophylum brasiliense	Clusiaceae	marillo	29.4	17	9.45	3.4
III - 5 - 11	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	10.4	10	10.5	2.5
III - 5 - 12	Inga sp.	Leguminosae	pepeto zapato de	7	7	12.5	0.5

III - 5 - 13	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	7	11.6	3.9
III - 5 - 14	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	8	15.5	1.7
III - 5 - 15	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.5	10	16.5	1.15
III - 5 - 16	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.3	8	15.9	0.35
III - 5 - 17	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	32.7	15	19.4	2.7
III - 5 - 18	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.3	13	18.9	3.45
III - 5 - 19	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	19.2	3.7
III - 5 - 20	Licania retifolia Blake	Chrysobalanaceae	mulo	9.8	8	20	6.75
III - 5 - 21	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	6	18.4	7.15
III - 5 - 22	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	7.6	6	17.5	4.85
III - 5 - 23	Brosimum alicastrum Sw.	Moraceae	ujushte	49.9	22	15.5	8.9
III - 5 - 24	Brosimum alicastrum Sw.	Moraceae	ujushte	64.6	20	14.5	8.1
III - 5 - 25	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.1	9	14.8	8
III - 5 - 26	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.3	9	15.1	6.55
III - 5 - 27	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.1	11	12.8	8.4
III - 5 - 28	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.1	6	12.1	6.8
III - 5 - 29	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.7	7	10.4	9
III - 5 - 30	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7.9	9	5.6	9.2
III - 5 - 31	Licania retifolia Blake	Chrysobalanaceae	mulo	6.6	7	3.1	9.4
III - 5 - 32	Licania retifolia Blake	Chrysobalanaceae	mulo	12.9	10	3.15	8.4
III - 5 - 33	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.1	6	3.1	7.4
III - 5 - 34	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.3	8	2.3	7
III - 5 - 35	Colophylum brasiliense	Clusiaceae	marillo	9.5	9	0.9	10.4
III - 5 - 36	Brosimum alicastrum Sw.	Moraceae	ujushte	42.2	20	3.1	13.2
III - 5 - 37	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.2	10	5.25	12.5
III - 5 - 38	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	7.1	9	8.35	10.9
III - 5 - 39	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	11.7	9	10.5	1035
III - 5 - 40	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.9	6	15.3	11.7
III - 5 - 42	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	27.5	17	6.4	12.9
III - 5 - 42	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.2	7	17.3	15.5
III - 5 - 43	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.1	9	17.4	16.7
III - 5 - 44	Licania retifolia Blake	Chrysobalanaceae	mulo	13.5	11	16.2	17.3
III - 5 - 45	Luehea candida (DC.) Mart.	Tiliaceae	contamal	35	16	16.6	18.7
III - 5 - 46	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.2	9	15.7	19.4
III - 5 - 47	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.9	9	12.9	17.9

III - 5 - 48	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	5.1	6	12.8	18.9
III - 5 - 49	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.4	9	12.3	14.9
III - 5 - 50	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.5	6	10.2	14.8
III - 5 - 51	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.3	7	8.6	17.7
III - 5 - 52	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.7	7	8.55	19.2
III - 5 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	6	7.5	16.7
III - 5 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	6	5.5	17.4
III - 5 - 55	Hirtella racemosa Lam.	Rosaceae	icaquillo	17.5	9	1.85	18.2
III - 5 - 56	Colophylum brasiliense	Clusiaceae	marillo	8.1	6	0.1	16.4
III - 5 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	6	0.5	19
III - 5 - 58	Licania retifolia Blake	Chrysobalanaceae	mulo	13	9	1.65	20.2
III - 5 - 59	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	6	0.75	21
III - 5 - 60	Licania retifolia Blake	Chrysobalanaceae	mulo	7	4	1.95	24.6
III - 5 - 61	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	8.9	8	2.9	33.6
III - 5 - 62	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.1	9	4.75	26.2
III - 5 - 63	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.4	6	6.4	22.4
III - 5 - 64	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8.3	6	7.2	22.6
III - 5 - 65	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.9	10	8.8	23.6
III - 5 - 66	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.2	9	8.85	21.5
III - 5 - 67	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.2	9	12.5	20.2
III - 5 - 68	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.2	9	12.5	24.3
III - 5 - 69	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24.5	17	16.5	23.5
III - 5 - 70	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	5	6	17.3	22
III - 5 - 71	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17.5	14	18.2	21.9
III - 5 - 72	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.9	8	17.8	23.9
III - 5 - 73	Unknown 3	Unknown 8	huevo de tacuazín	6.3	6	18.8	26.1
III - 5 - 74	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	18.4	26.4
III - 5 - 75	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.1	10	15.3	28.3
III - 5 - 76	Brosimum alicastrum Sw.	Moraceae	ujushte	61.7	23	14.2	28.5
III - 5 - 77	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.7	13	13.8	27.1
III - 5 - 78	Inga sp.	Leguminosae	pepeto zapato de	7.2	6	13.6	27.3
III - 5 - 79	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.5	13	12.9	26.2
III - 5 - 80	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	34.5	20	9.85	27.7
III - 5 - 81	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	6	9.85	29.8
III - 5 - 82	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	6	7.9	28.7

III - 5 - 83	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.4	9	7.15	30.2
III - 5 - 84	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6.3	6	7.5	26.9
III - 5 - 85	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.5	7	4.65	31
III - 5 - 86	Colophylum brasiliense	Clusiaceae	marillo	35.4	19	3.35	28
III - 5 - 87	Licania retifolia Blake	Chrysobalanaceae	mulo	9.3	10	0.9	25.3
III - 5 - 88	Colophylum brasiliense	Clusiaceae	marillo	7.5	7	0	27
III - 5 - 89	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.4	7	2.9	33.1
III - 5 - 90	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.3	6	2.45	35
III - 5 - 91	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.5	9	7	32.4
III - 5 - 92	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	7	8.5	34.9
III - 5 - 93	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	16.5	11	9.65	31.9
III - 5 - 94	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	6	10.7	32.4
III - 5 - 95	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.1	6	14.2	31.7
III - 5 - 96	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	7	19.1	30.7
III - 5 - 97	Unknown 3	Unknown 8	huevo de tacuazín	7.5	6	17.9	38.6
III - 5 - 98	Licania retifolia Blake	Chrysobalanaceae	mulo	8.3	6	13.7	38.5
III - 5 - 99	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	6	9.9	40.5
III - 5 - 100	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	13.2	9	9.85	37.7
III - 5 - 101	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	6	9.65	37.9
III - 5 - 102	Colophylum brasiliense	Clusiaceae	marillo	20.9	11	8.6	36.7
III - 5 - 103	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.6	6	6.9	36.6
III - 5 - 104	Luehea candida (DC.) Mart.	Tiliaceae	contamal	51.5	16	5.45	37.2
III - 5 - 105	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	5	5.8	38.3
III - 5 - 106	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.5	10	3.25	36
III - 5 - 107	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	7	1.8	35.9
III - 5 - 108	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.2	12	0.1	36.9
III - 5 - 109	Alchornea latifolia Sw.	Euphorbiaceae	queso	20.9	13	0.85	43.7
III - 5 - 110	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	6	2.6	45.2
III - 5 - 111	Unknown 1	Unknown 7	manuno blanco	12.4	11	3.65	44.5
III - 5 - 112	Colophylum brasiliense	Clusiaceae	marillo	12.2	9	3.3	13.3
III - 5 - 113	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6.8	6	6.4	43
III - 5 - 114	Colophylum brasiliense	Clusiaceae	marillo	12.3	10	7.3	45.4
III - 5 - 115	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.5	5	9.35	44
III - 5 - 116	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.9	5	9.1	41.1
III - 5 - 117	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5	5	10.8	40.4

III - 5 - 118	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	12.7	42.6
III - 5 - 119	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	6.5	6	13.6	43.4
III - 5 - 120	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.3	6	13.5	40.3
III - 5 - 121	Colophylum brasiliense	Clusiaceae	marillo	11.8	9	15	41.1
III - 5 - 122	Colophylum brasiliense	Clusiaceae	marillo	8.6	9	19.3	41.9
III - 5 - 123	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12.1	8	17.8	45.2
III - 5 - 124	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.3	9	16.2	49.4
III - 5 - 125	Colophylum brasiliense	Clusiaceae	marillo	52.5	38	13.5	45.6
III - 5 - 126	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.7	6	12.4	47.6
III - 5 - 127	Unknown 4	Unknown 1	árbol de llegua	5.3	6	12.5	44.8
III - 5 - 128	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	5.3	7	7.5	36.4
III - 5 - 129	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	5.3	6	6.6	50
III - 5 - 130	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	5.4	7	5.85	36.8
III - 5 - 131	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	11.5	8	4	48.1
III - 5 - 132	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6.7	7	4.55	49.5
III - 5 - 133	Colophylum brasiliense	Clusiaceae	marillo	37.3	29	4.1	49.7
III - 5 - 134	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13.7	8	4.1	50
III - 5 - 135	Sapium aucuparium Jacq.	Euphorbiaceae	chilamate	8.5	9	2.55	49.6
III - 5 - 136	Alibertia edulis Rich.	Rubiaceae	cantarito	5.2	6	3.75	47.5
III - 5 - 137	Unknown 8	Unknown 5	churumullo	12.6	8	1.2	50
III - 5 - 138	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	9	0.45	50
III - 5 - 139	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	5.2	5	0.35	46.1
III - 5 - 140	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	5.4	6	0.5	50
III - 6 - 01	Unknown 2	Unknown 3	sombra de mula	5.3	6	18.9	1.5
III - 6 - 02	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	7	17.5	2.8
III - 6 - 03	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.4	6	13.9	2.87
III - 6 - 04	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	53.4	22	12.8	3.1
III - 6 - 05	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12.3	6	11.4	3.2
III - 6 - 06	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13.4	8	11.2	0.16
III - 6 - 07	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.5	6	3.95	1
III - 6 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	7	1.25	2.4
III - 6 - 09	Alibertia edulis Rich.	Rubiaceae	cantarito	8.2	7	0.2	1
III - 6 - 10	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.5	8	0.4	7
III - 6 - 11	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.9	10	2.95	6
III - 6 - 12	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.8	6	3.9	6.8

III - 6 - 13	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.6	7	5.25	6.7
III - 6 - 14	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.5	6	6.55	6
III - 6 - 15	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	10	7.1	4.6
III - 6 - 16	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	6	10.6	9.3
III - 6 - 17	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.2	6	12.3	9.85
III - 6 - 18	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12.6	7	15.9	9.45
III - 6 - 19	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	8	15.3	4.65
III - 6 - 20	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.4	10	16.7	5.25
III - 6 - 21	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	5.5	6	18.7	11.1
III - 6 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.2	6	14.5	13.8
III - 6 - 23	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.6	7	14.2	11.9
III - 6 - 24	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.5	7	12.7	11.9
III - 6 - 25	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.1	9	10.8	12.7
III - 6 - 26	Dendropanax arboreus	Araliaceae	mano de león	69.1	6	10.9	10
III - 6 - 27	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	22.4	32	7.25	12.1
III - 6 - 28	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	15	8.45	13.7
III - 6 - 29	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	86.3	6	1.45	11.3
III - 6 - 30	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.6	40	0.5	12
III - 6 - 31	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.2	13	0.7	16.9
III - 6 - 32	Luehea candida (DC.) Mart.	Tiliaceae	contamal	45.6	8	1.1	17.7
III - 6 - 33	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6.8	17	2.5	20.1
III - 6 - 34	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12.5	6	5.35	16.3
III - 6 - 35	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.5	8	6.55	18.8
III - 6 - 36	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.1	9	7.45	17.5
III - 6 - 37	Castilla elastica Sesse ex. Cervantes	Moraceae	árbol de hule	19.2	10	11.5	31.2
III - 6 - 38	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.2	9	16.1	17.4
III - 6 - 39	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	18.4	19.6
III - 6 - 40	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.1	8	18.3	21.2
III - 6 - 42	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.8	6	16.7	23
III - 6 - 42	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	14.1	7	17.3	20.1
III - 6 - 43	Alchornea latifolia Sw.	Euphorbiaceae	queso	9	9	12.9	31.8
III - 6 - 44	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	14.2	9	10.6	32.3
III - 6 - 45	Cupania guatemalensis (Turez.) Rakld.	Sapindaceae	camarón	18.6	10	8.35	22.2
III - 6 - 46	Licania retifolia Blake	Chrysobalanaceae	mulo	6.2	8	8.15	26.3
III - 6 - 47	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.9	8	6.3	22.2

III - 6 - 48	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.7	9	5.65	23.5
III - 6 - 49	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.3	13	2.85	22.4
III - 6 - 50	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.9	11	1.85	23.5
III - 6 - 51	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	5.4	6	1.4	24.4
III - 6 - 52	Brosimum alicastrum Sw.	Moraceae	ujushte	95.2	32	0.35	26.4
III - 6 - 53	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	7	7	6.5	27.7
III - 6 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	6	7.8	29.6
III - 6 - 55	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.1	6	8.15	27.9
III - 6 - 56	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.3	9	9.1	28.7
III - 6 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.1	6	9.1	26.5
III - 6 - 58	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	91.6	38	11.7	26.1
III - 6 - 59	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.7	14	12.7	28.6
III - 6 - 60	Unknown 8	Unknown 5	churumullo	11.6	14	12.8	24.7
III - 6 - 61	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.5	9	15.7	28.5
III - 6 - 62	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.8	10	19.1	27.5
III - 6 - 63	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.6	10	18.8	26
III - 6 - 64	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22.3	10	19.7	31.9
III - 6 - 65	Licania retifolia Blake	Chrysobalanaceae	mulo	21.2	13	16.9	30.5
III - 6 - 66	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.5	8	16.2	32.4
III - 6 - 67	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	17.2	13	16.1	30.3
III - 6 - 68	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.8	10	14.6	34.2
III - 6 - 69	Colophylum brasiliense	Clusiaceae	marillo	6.4	9	14.6	31.8
III - 6 - 70	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.1	6	13.4	33
III - 6 - 71	Licania retifolia Blake	Chrysobalanaceae	mulo	9.9	10	11.1	31.8
III - 6 - 72	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	9	9.35	32.4
III - 6 - 73	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.2	8	8.7	34.2
III - 6 - 74	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.4	6	8.25	33.7
III - 6 - 75	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.7	8	6.9	31.7
III - 6 - 76	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	6.5	6	3.25	32.5
III - 6 - 77	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	8	2.55	34.1
III - 6 - 78	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.7	6	0.7	32.5
III - 6 - 79	Licania retifolia Blake	Chrysobalanaceae	mulo	7.1	9	0.45	35.9
III - 6 - 80	Licania retifolia Blake	Chrysobalanaceae	mulo	62.7	25	6.1	36
III - 6 - 81	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	8	6.1	37.4
III - 6 - 82	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	27.3	16	8.85	37.4

III - 6 - 83	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	6	13	36.9
III - 6 - 84	Licania retifolia Blake	Chrysobalanaceae	mulo	16.6	11	12	39
III - 6 - 85	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	40	18	15.9	37.6
III - 6 - 86	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8	8	10.8	38.6
III - 6 - 87	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.2	9	16.8	38.9
III - 6 - 88	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	5.8	8	16.8	36.3
III - 6 - 89	Licania retifolia Blake	Chrysobalanaceae	mulo	22.4	17	18.3	37
III - 6 - 90	Unknown 7	Unknown 8	morro de danta	6.5	6	19.7	43.2
III - 6 - 91	Unknown 8	Unknown 5	churumullo	8.6	9	20	44.4
III - 6 - 92	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.7	11	14.5	42.5
III - 6 - 93	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.1	8	13.5	41.4
III - 6 - 94	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5.1	6	13.5	4.2
III - 6 - 95	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	9.1	10	9.5	41.5
III - 6 - 96	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	21.3	16	8.2	43.2
III - 6 - 97	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.7	10	6.95	44.2
III - 6 - 98	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	8	6.45	43.5
III - 6 - 99	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18.5	10	6.75	41.7
III - 6 - 100	Unknown	Unknown 7	molleja de pato /	53	20	2.3	43.1
III - 6 - 101	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	24.2	15	0.1	50
III - 6 - 102	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	32	13	2.85	50
III - 6 - 103	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.7	6	3.75	49.6
III - 6 - 104	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	36.7	20	6.35	45.3
III - 6 - 105	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.1	8	8.15	49
III - 6 - 106	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	7	7.55	46
III - 6 - 107	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	7	8	11	49.3
III - 6 - 108	Alchornea latifolia Sw.	Euphorbiaceae	queso	20.2	16	13	45.9
III - 6 - 109	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	18	13	13.9	45.6
III - 6 - 110	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	6.7	7	14.5	47.2
III - 6 - 111	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	5.4	6	12.9	49.6
III - 6 - 112	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.5	9	13.3	50
III - 6 - 113	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	12.6	10	15.5	47.2
III - 6 - 114	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	6	6	16.2	48.6
III - 6 - 115	Alchornea latifolia Sw.	Euphorbiaceae	queso	46.1	22	15.8	49.3
III - 6 - 116	Inga sp.	Leguminosae	pepeto zapato de	6.5	6	18.5	49.4
III - 7 - 01	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	38.2	14	0.5	11.1

III - 7 - 02	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	10.2	6	1.3	1
III - 7 - 03	Ixrora floribunda (A.Rich.) Griseb.	Rubiaceae	melón	10.2	7	4.1	1
III - 7 - 04	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13	8	4.5	4.85
III - 7 - 05	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8	8	5.7	1.6
III - 7 - 06	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	8.2	6	8.1	2
III - 7 - 07	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.2	5	9.4	1.6
III - 7 - 08	Dendropanax arboreus	Araliaceae	mano de león	78	18	9.1	1
III - 7 - 09	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	9.4	8	10.5	0
III - 7 - 10	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7	6	12.4	3.7
III - 7 - 11	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	6	7	14.6	4.25
III - 7 - 12	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	4	17.8	0.5
III - 7 - 13	Chrysophyllum mexicanus Brandegee ex Standl.	Sapotaceae	caimito	6.2	5	18.9	0.5
III - 7 - 14	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	36	13	18.6	3.35
III - 7 - 15	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	6	5	17	8.9
III - 7 - 16	Cecropica obtusifolia	Cecropiaceae	guarumo	21	15	16.5	9
III - 7 - 17	Cecropica obtusifolia	Cecropiaceae	guarumo	17	15	15.5	9.35
III - 7 - 18	Trichospermum galeottii (turez.) Kosterm.	Tiliaceae	capulín rojo	13.5	9	14.5	8.95
III - 7 - 19	Lysiloma auritum (Schlecht.) Benth.	Leguminosae	sicahuite	9	6	13.8	5.9
III - 7 - 20	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	31	13	9.85	7.3
III - 7 - 21	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	9	7	9.45	9.25
III - 7 - 22	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	5	9.55	9.9
III - 7 - 23	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	7	5	10.9	8.55
III - 7 - 24	Cecropica obtusifolia	Cecropiaceae	guarumo	9	8	11.9	10.3
III - 7 - 25	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	7	11.7	8.9
III - 7 - 26	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.2	4	13	8.9
III - 7 - 27	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	5	7	10.5
III - 7 - 28	Hirtella racemosa Lam.	Rosaceae	icaquillo	16	5	6.6	6.25
III - 7 - 29	Trichilia martiana C.DC.	Meliaceae	cola de pava	6	7	8.5	6
III - 7 - 30	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	10	3.8	8
III - 7 - 31	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	12.5	19	1.8	9.5
III - 7 - 32	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7	6	3.55	10.8
III - 7 - 33	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	32.3	10	0.35	5
III - 7 - 34	Colophylum brasiliense	Clusiaceae	marillo	11	8	0.9	14.5
III - 7 - 35	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7.5	6	2.8	15.4
III - 7 - 36	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	34	13	3.85	15.6

III - 7 - 37	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	26.4	13	6.8	14
III - 7 - 38	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	4	5.4	13
III - 7 - 39	Astronium graveolens Jacq.	Anacardiaceae	ronrón	7.5	5	7.75	10.9
III - 7 - 40	Alchornea latifolia Sw.	Euphorbiaceae	queso	19.6	14	11.6	14.5
III - 7 - 42	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	7	4	12.3	15.4
III - 7 - 42	Cecropica obtusifolia	Cecropiaceae	guarumo	10.5	10	11.4	14.3
III - 7 - 43	Cecropica obtusifolia	Cecropiaceae	guarumo	11	11	11.6	12.5
III - 7 - 44	Cecropica obtusifolia	Cecropiaceae	guarumo	12	10	12.2	12
III - 7 - 45	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8	5	11.7	11.3
III - 7 - 46	Cecropica obtusifolia	Cecropiaceae	guarumo	33	15	12.4	10.9
III - 7 - 47	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón de puerco	10	6	17	12
III - 7 - 48	Cecropica obtusifolia	Cecropiaceae	guarumo	12	11	17.5	10.9
III - 7 - 49	Brosimum alicastrum Sw.	Moraceae	ujushte	76	18	16.9	15.7
III - 7 - 50	Cecropica obtusifolia	Cecropiaceae	guarumo	14.5	10	18.7	17
III - 7 - 51	Cecropica obtusifolia	Cecropiaceae	guarumo	33	14	20	16.7
III - 7 - 52	Cecropica obtusifolia	Cecropiaceae	guarumo	21	9	15.7	17
III - 7 - 53	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21.8	8	13.8	17.4
III - 7 - 54	Astronium graveolens Jacq.	Anacardiaceae	ronrón	6.5	5	12.8	17.1
III - 7 - 55	Hirtella racemosa Lam.	Rosaceae	icaquillo	14.1	5	10.5	17.4
III - 7 - 56	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	9.4	8	8.35	20.6
III - 7 - 57	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7.1	6	6.45	18
III - 7 - 58	Inga sp 1	Leguminosae	pepeto liso	19	11	6.25	6.9
III - 7 - 59	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.1	4	5.85	19.2
III - 7 - 60	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	29	13	5.6	18.1
III - 7 - 61	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	15	10	2.7	19.2
III - 7 - 62	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.9	6	2.5	16
III - 7 - 63	Colophylum brasiliense	Clusiaceae	marillo	6.1	7	0.1	16.5
III - 7 - 64	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	7.1	6	0.25	16.5
III - 7 - 65	Unknown 3	Unknown 8	huevo de tacuazín	8	7	2.4	16
III - 7 - 66	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	26.3	9	4.1	12.3
III - 7 - 67	Colophylum brasiliense	Clusiaceae	marillo	25	13	4.1	25.5
III - 7 - 68	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	7.4	6	6.5	24
III - 7 - 69	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	5	7.1	25.5
III - 7 - 70	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	7.5	12.1
III - 7 - 71	Cecropica obtusifolia	Cecropiaceae	guarumo	9.5	10	7.9	12.2

III - 7 - 72	Brosimum alicastrum Sw.	Moraceae	ujushte	110	24	10.5	20.7
III - 7 - 73	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	6.8	4	11.1	24.8
III - 7 - 74	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	7	6	9.85	20.2
III - 7 - 75	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón de puerco	11	7	13.7	20.4
III - 7 - 76	Hirtella racemosa Lam.	Rosaceae	icaquillo	38	9	13.7	25
III - 7 - 77	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	8.3	5	15.1	21.1
III - 7 - 78	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	7	18.5	20.1
III - 7 - 79	Licania retifolia Blake	Chrysobalanaceae	mulo	10	7	0.15	20.5
III - 7 - 80	Colophylum brasiliense	Clusiaceae	marillo	28.6	15	1.4	26.3
III - 7 - 81	Brosimum alicastrum Sw.	Moraceae	ujushte	90	24	1.5	28.1
III - 7 - 82	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13	7	2.9	29.7
III - 7 - 83	Colophylum brasiliense	Clusiaceae	marillo	14.3	10	3.6	26.5
III - 7 - 84	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28.5	13	7.6	25.8
III - 7 - 85	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.8	6	7.1	26.9
III - 7 - 86	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	5	5.5	28.8
III - 7 - 87	Licania retifolia Blake	Chrysobalanaceae	mulo	19.1	10	6	29.3
III - 7 - 88	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.5	5	9.35	30.4
III - 7 - 89	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	11	9.85	30.7
III - 7 - 90	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8	4	10.2	28.8
III - 7 - 91	Astronium graveolens Jacq.	Anacardiaceae	ronrón	25.5	20	11.5	27.5
III - 7 - 92	Hirtella racemosa Lam.	Rosaceae	icaquillo	15.5	4	10.1	27.9
III - 7 - 93	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	16.6	29.1
III - 7 - 94	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.7	7	17.3	30.1
III - 7 - 95	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	8	18.5	31.6
III - 7 - 96	Hirtella racemosa Lam.	Rosaceae	icaquillo	17.5	7	16.4	33
III - 7 - 97	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	6	17.4	35.1
III - 7 - 98	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	15.9	8	15.4	34.6
III - 7 - 99	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.3	5	11.7	33
III - 7 - 100	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	9.55	33.8
III - 7 - 101	Colophylum brasiliense	Clusiaceae	marillo	23.5	15	9.15	34.8
III - 7 - 102	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	8	8	9.25	35.2
III - 7 - 103	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.6	5	6.15	33
III - 7 - 104	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	7	5.1	35.2
III - 7 - 105	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	6	3.1	34.6
III - 7 - 106	Inga sp 1	Leguminosae	pepeto liso	10.5	9	2.15	35.9

III - 7 - 107	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón de puerco	24	14	0.2	36.7
III - 7 - 108	Unknown 7	Unknown 6	morro de danta	18	10	2.85	40.4
III - 7 - 109	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	21	10	2	40
III - 7 - 110	Unknown 7	Unknown 6	morro de danta	7.9	5	3.2	38.9
III - 7 - 111	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	5	6.5	40
III - 7 - 112	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	5	7.4	31.2
III - 7 - 113	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	7	6.9	35.8
III - 7 - 114	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	0.55	40
III - 7 - 115	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	16	8	9.1	38.2
III - 7 - 116	Swietenia macrophylla King	Meliaceae	caoba	10.6	7	9.85	29
III - 7 - 117	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	23	15	10.9	31.8
III - 7 - 118	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	6	11.2	38.8
III - 7 - 119	Brosimum alicastrum Sw.	Moraceae	ujushte	118	25	11.2	35.5
III - 7 - 120	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	11	4	12.7	35.8
III - 7 - 121	Tabebuia chrysantha (Jacq.) Urban	Bignoniaceae	cartez blanco	7.3	6	10.9	38.3
III - 7 - 122	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	17.3	11	11.6	41.2
III - 7 - 123	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	14.5	10	13.9	40
III - 7 - 124	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19.7	9	16.7	31
III - 7 - 125	Licania retifolia Blake	Chrysobalanaceae	mulo	19.4	10	17.4	37.9
III - 7 - 126	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	19.5	12	18.3	34.7
III - 7 - 127	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	27.3	9	15.8	42
III - 7 - 128	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	37	20	16.5	43
III - 7 - 129	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	8	6	19	44.8
III - 7 - 130	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	10.8	11	18.3	45.3
III - 7 - 131	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	21	11	17.6	44.5
III - 7 - 132	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	9.5	9	18.2	43.6
III - 7 - 133	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	4	11.9	466
III - 7 - 134	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	13.5	8	12.5	44
III - 7 - 135	Tabernaemontana amygdalifolia Jaq.	Apocynaceae	cojón de puerco	8.3	7	8.85	44.5
III - 7 - 136	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	8	5	9.2	46.3
III - 7 - 137	Conostegia xalapensis (Bompl.) D.Don	Melastomataceae	sirinón	14.5	9	7.6	45.3
III - 7 - 138	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.5	6	6.95	44
III - 7 - 139	Colophylum brasiliense	Clusiaceae	marillo	27.5	15	6.7	43.4
III - 7 - 140	Cecropica obtusifolia	Cecropiaceae	guarumo	22.5	20	5.35	46.2
III - 7 - 141	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	19.6	13	7.6	40.7

III - 7 - 142	Colophylum brasiliense	Clusiaceae	marillo	34.2	7	5.35	41
III - 7 - 143	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.5	6	3.2	41.7
III - 7 - 144	Unknown 3	Unknown 8	huevo de tacuazín	7.3	5	3.1	45.7
III - 7 - 145	Brosimum alicastrum Sw.	Moraceae	ujushte	33	20	4.35	45.5
III - 7 - 146	Inga sp.	Leguminosae	pepeto zapato de	10	6	1.4	45.8
III - 7 - 147	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	17	13	1.4	49.2
III - 7 - 148	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	13.5	9	0.15	45.5
III - 7 - 149	Colophylum brasiliense	Clusiaceae	marillo	20	7	0.15	44.1
III - 7 - 150	Unknown 3	Unknown 8	huevo de tacuazín	11.3	7	0.4	41.9
III - 7 - 151	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.9	5	2.95	46
III - 7 - 152	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	9	6	5.5	46.3
III - 7 - 153	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	16	9	6.25	46.5
III - 7 - 154	Licania retifolia Blake	Chrysobalanaceae	mulo	7	5	8.55	48.5
III - 7 - 155	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	6	8.5	49.1
III - 7 - 156	Swietenia macrophylla King	Meliaceae	caoba	32.5	13	10.1	47.1
III - 7 - 157	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	32	15	10.4	41.1
III - 7 - 158	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	8.3	7	10.5	41.7
III - 7 - 159	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	5	13.5	49.7
III - 7 - 160	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	6	13.8	50
III - 7 - 161	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	21	8	14.4	47.4
III - 7 - 162	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	7.4	7	10.8	48.8
III - 7 - 163	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.5	5	10.8	48.8
III - 7 - 164	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	25.5	14	16.7	48.8
III - 7 - 165	Colophylum brasiliense	Clusiaceae	marillo	41	17	18.5	47.2
III - 8 - 01	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.3	5	1.65	1
III - 8 - 02	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.9	5	3.45	3.8
III - 8 - 03	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.2	6	3.1	4.3
III - 8 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	1.9	4.15
III - 8 - 05	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	5	3.95	2.2
III - 8 - 06	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.8	5	5.35	1.1
III - 8 - 07	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.9	5	6.1	1
III - 8 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.1	5	6	3.3
III - 8 - 09	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	7.2	5	7.85	2.5
III - 8 - 10	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	10	8	8.5	2.1
III - 8 - 11	Licania retifolia Blake	Chrysobalanaceae	mulo	117	28	15.1	2.25

III - 8 - 12	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9	8	19.6	4.45
III - 8 - 13	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.4	6	19.6	0.65
III - 8 - 14	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	5	14.8	0.6
III - 8 - 15	Brosimum alicastrum Sw.	Moraceae	ujushte	37.3	13	18.5	8
III - 8 - 16	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	17.5	11	18.4	10.3
III - 8 - 17	Astronium graveolens Jacq.	Anacardiaceae	ronrón	8	7	15.5	9.35
III - 8 - 18	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	31.5	13	13.3	5.35
III - 8 - 19	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.2	6	10.9	9.1
III - 8 - 20	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20	9	8.65	7.75
III - 8 - 21	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	19.5	10	8.5	9.5
III - 8 - 22	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	9	5.95	8.65
III - 8 - 23	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	14	8	6.5	4.8
III - 8 - 24	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	21	13	6.9	5.3
III - 8 - 25	Randia chiapensis Standl.	Rubiaceae	crucito blanco	8	4	6.45	5.4
III - 8 - 26	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	19.5	9	3.5	6.2
III - 8 - 27	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20	9	2.95	7.15
III - 8 - 28	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	7	6	3.5	9.45
III - 8 - 29	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8.9	5	0.5	11
III - 8 - 30	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22	10	1.9	10.5
III - 8 - 31	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	7.2	4	1.25	10.5
III - 8 - 32	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	17	10	2.5	15
III - 8 - 33	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	9	4.75	12.4
III - 8 - 34	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	26.3	9	6.55	16.5
III - 8 - 35	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14.5	8	10.2	11.9
III - 8 - 36	Acacia hindsii Benth.	Leguminosae	izcanal	7	9	9.65	12.5
III - 8 - 37	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28	15	15.5	5.65
III - 8 - 38	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	18.9	11	14.1	7.6
III - 8 - 39	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	5	14.9	10.3
III - 8 - 40	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.4	7	16.5	45.5
III - 8 - 42	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	100	30	16.6	3.6
III - 8 - 42	Zanthoxylum microcarpum Griseb.	Rutaceae	poshote	8.5	9	8.8	10.1
III - 8 - 43	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	6	19.3	11.6
III - 8 - 44	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	8	8	17.7	11.6
III - 8 - 45	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	29	17	16.2	19.2
III - 8 - 46	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	9	7	15.2	19.4

III - 8 - 47	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	10	10	15.4	15.9
III - 8 - 48	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14	9	13.4	16.8
III - 8 - 49	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	6	9.85	17.9
III - 8 - 50	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	8.6	8	9.6	17.1
III - 8 - 51	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	30.2	13	9.75	17.6
III - 8 - 52	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	9	8.4	16.2
III - 8 - 53	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	8.5	7	8.7	19.4
III - 8 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.4	6	8.7	20
III - 8 - 55	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	5	7.3	17.8
III - 8 - 56	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	8.6	8	5.55	17.3
III - 8 - 57	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19	7	5.45	18
III - 8 - 58	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	25	13	5.95	16.5
III - 8 - 59	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	7	6.5	17.1
III - 8 - 60	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	16	10	2.75	18
III - 8 - 61	Castilla elastica Sessé ex Cervantes	Moraceae	árbol de hule	16	12	1.8	16
III - 8 - 62	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	8	9	2.6	15.8
III - 8 - 63	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	0.5	17.6
III - 8 - 64	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	6	0.4	18
III - 8 - 65	Sloanea terniflora (Mosiño & Sessé) Standley	Elaeocarpacea	terciopelo	26	12	2.25	24.7
III - 8 - 66	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8.9	8	5.15	20.3
III - 8 - 67	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	21	13	5.15	21.7
III - 8 - 68	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	5	7.35	22
III - 8 - 69	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	10	9	9.6	23
III - 8 - 70	Colophylum brasiliense	Clusiaceae	marillo	21	10	10.1	23.8
III - 8 - 71	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	8.5	8	10.9	20.6
III - 8 - 72	Colophylum brasiliense	Clusiaceae	marillo	15	9	13.2	24
III - 8 - 73	Casearia corymbosa Kunth	Flacourtiaceae	moyeja de pata	13	12	14.1	25.1
III - 8 - 74	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	6	17.6	22.6
III - 8 - 75	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8	9	18.6	21.2
III - 8 - 76	Colophylum brasiliense	Clusiaceae	marillo	13	12	18.7	19.4
III - 8 - 77	Hirtella racemosa Lam.	Rosaceae	icaquillo	12	8	15.6	18.3
III - 8 - 78	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	26.5	14	14.4	12.2
III - 8 - 79	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	5	13.8	9
III - 8 - 80	Ocotea sinuata (Mez) Rohwer	Lauraceae	cachulahuaca	14	10	15	25.2
III - 8 - 81	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13	8	11.7	28.3

III - 8 - 82	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	8.9	9	10.7	25
III - 8 - 83	Hirtella racemosa Lam.	Rosaceae	icaquillo	12.5	7	11.9	25.8
III - 8 - 84	Pilocharpus racemosus Vahl	Rutaceae	matazanillo	17.4	9	7.35	26
III - 8 - 85	Hirtella racemosa Lam.	Rosaceae	icaquillo	10.1	7	7.6	28
III - 8 - 86	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	6	8.5	22.6
III - 8 - 87	Casearia commersoriana Cambess.	Flacourtiaceae	chililllo	9	10	6.35	21.6
III - 8 - 88	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	19.5	6	6.5	21.4
III - 8 - 89	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	18	10	4.4	29
III - 8 - 90	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	8	3.9	27
III - 8 - 91	Hirtella racemosa Lam.	Rosaceae	icaquillo	15	7	0.6	27
III - 8 - 92	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23.3	12	0.6	28.7
III - 8 - 93	Hirtella racemosa Lam.	Rosaceae	icaquillo	14	8	0.8	34.1
III - 8 - 94	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	6	2.45	34.5
III - 8 - 95	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	8	7	5.45	32.1
III - 8 - 96	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	8	5.45	34
III - 8 - 97	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	4	6.6	33.8
III - 8 - 98	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17.5	8	7.2	32.6
III - 8 - 99	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de galo	8	7	7.45	32.5
III - 8 - 100	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	6	17.6	31.4
III - 8 - 101	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.9	5	11.8	32.3
III - 8 - 102	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	5	10.1	32.6
III - 8 - 103	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27.5	13	10.6	32.5
III - 8 - 104	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8.5	6	10.9	35.5
III - 8 - 105	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	6	13.8	35.7
III - 8 - 106	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	5	15.3	34.5
III - 8 - 107	Dendropanax arboreus	Araliaceae	mano de león	148	19	14	32.9
III - 8 - 108	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	8	13.8	34.4
III - 8 - 109	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	6	14.5	35.7
III - 8 - 110	Hirtella racemosa Lam.	Rosaceae	icaquillo	12	5	12.1	31.1
III - 8 - 111	Hirtella racemosa Lam.	Rosaceae	icaquillo	22	6	14.4	31.2
III - 8 - 112	Hymenaea courbaril L.	Leguminosae	copinol	93	35	11.7	31.3
III - 8 - 113	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14	9	11.5	36.3
III - 8 - 114	Hirtella racemosa Lam.	Rosaceae	icaquillo	14	8	7.65	38.5
III - 8 - 115	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	70	24	2.65	38
III - 8 - 116	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	10	8	0.4	39

III - 8 - 117	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.1	6	0	35.8
III - 8 - 118	Brosimum alicastrum Sw.	Moraceae	ujushte	67	22	2.7	44.5
III - 8 - 119	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	8	4	4.2	43.5
III - 8 - 120	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.5	9	3.95	41.5
III - 8 - 121	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28	13	5	43
III - 8 - 122	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.5	6	3.95	39.8
III - 8 - 123	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.8	9	7	40.5
III - 8 - 124	Colophylum brasiliense	Clusiaceae	marillo	84	42	7.6	40.3
III - 8 - 125	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	12	9.25	43.1
III - 8 - 126	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14	11	8.2	44
III - 8 - 127	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	7.5	6	8.15	43.2
III - 8 - 128	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23	14	12.5	44.5
III - 8 - 129	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	8	8	13.5	45.3
III - 8 - 130	Hirtella racemosa Lam.	Rosaceae	icaquillo	11.2	8	14.2	41.2
III - 8 - 131	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	25	10	17.5	41.2
III - 8 - 132	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	25.5	11	15.8	45
III - 8 - 133	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	13	18	44.8
III - 8 - 134	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	11	7	18.1	49.6
III - 8 - 135	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	5	13.2	49
III - 8 - 136	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	5	10.6	49.5
III - 8 - 137	Cecropica obtusifolia	Cecropiaceae	guarumo	23	14	9.5	49.6
III - 8 - 138	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	8	8	10.5	46.6
III - 8 - 139	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9	6	5.55	47.5
III - 8 - 140	Spondia mombin L.	Anacardiaceae	jocote verde	11.5	9	7.5	45.5
III - 8 - 141	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.2	10	1.2	45.5
III - 8 - 142	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	6	4.2	45.6
III - 8 - 143	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	4	1.45	47.5
III - 8 - 144	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	1.4	46
III - 8 - 145	Michonia argentea (SW.) DC.	Melastomataceae	sirinón	18	12	3.35	50
III - 9 - 01	Astronium graveolens Jacq.	Anacardiaceae	ronrón	8.6	8	1	0.1
III - 9 - 02	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	15	6	1.2	1.6
III - 9 - 03	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	6	3.1	0.15
III - 9 - 04	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	5	4.1	3.75
III - 9 - 05	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8	7	0.95	4
III - 9 - 06	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23	10	6.35	0.15

III - 9 - 07	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	23	6	7.5	0.15
III - 9 - 08	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9.4	6	6.55	2.9
III - 9 - 09	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	10	5.85	2.9
III - 9 - 10	Unknown 6	Unknown 2	sombra de cuzuco	15.5	10	9	2.5
III - 9 - 11	Brosimum alicastrum Sw.	Moraceae	ujushte	49	18	8.4	3.9
III - 9 - 12	Cecropica obtusifolia	Cecropiaceae	guarumo	17	13	10.3	0.5
III - 9 - 13	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.7	8	16.5	3.65
III - 9 - 14	Unknown 6	Unknown 2	sombra de cuzuco	30	19	18	1.25
III - 9 - 15	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	17.7	1.55
III - 9 - 16	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.8	7	16.2	9.45
III - 9 - 17	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28.5	11	12.5	8.5
III - 9 - 18	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	15	8	5.65	6.95
III - 9 - 19	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	5.9	7.1
III - 9 - 20	Brosimum alicastrum Sw.	Moraceae	ujushte	83	25	5.5	8.25
III - 9 - 21	Brosimum alicastrum Sw.	Moraceae	ujushte	12	12	1.7	9.85
III - 9 - 22	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	12	1.6	9.5
III - 9 - 23	Colophylum brasiliense	Clusiaceae	marillo	8.5	7	2.2	8.5
III - 9 - 24	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	14	8	0.55	13.9
III - 9 - 25	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21	8	2.7	15.1
III - 9 - 26	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.5	8	3.95	15.8
III - 9 - 27	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.7	8	6.3	12.9
III - 9 - 28	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27	13	6.25	11
III - 9 - 29	Licania retifolia Blake	Chrysobalanaceae	mulo	16	9	5.75	11
III - 9 - 30	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	6.75	11.4
III - 9 - 31	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	7	8.9	2.7
III - 9 - 32	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	8	8.75	11.2
III - 9 - 33	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	10	10.7	11.6
III - 9 - 34	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27	21	11.2	13.9
III - 9 - 35	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	19.4	12	14	19
III - 9 - 36	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	12	16.9	17.1
III - 9 - 37	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	33.5	22	17	10.6
III - 9 - 38	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	15	18.2	15
III - 9 - 39	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	9	19.2	18.5
III - 9 - 40	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11.5	9	17.4	18.3
III - 9 - 42	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	7	11.4	18.4

III - 9 - 42	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	50	23	16.9	18.1
III - 9 - 43	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22	15	7.55	17.7
III - 9 - 44	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.3	7	8.45	18
III - 9 - 45	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	27	13	4.35	5
III - 9 - 46	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	8	3.45	17.3
III - 9 - 47	Aphananthe monoica (Hemsley) Leroy	Ulmaceae	durasnillo	15	21	0.25	18.8
III - 9 - 48	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	8	0	17
III - 9 - 49	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	8	0.9	15
III - 9 - 50	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	7	3.2	23.7
III - 9 - 51	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.3	5	2.4	25.2
III - 9 - 52	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12.2	7	6.5	23.4
III - 9 - 53	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	10	7.2	23.4
III - 9 - 54	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.8	5	7.55	24.5
III - 9 - 55	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	14	10	8.7	24.4
III - 9 - 56	Inga fagifolia (L.) Wild. ex Benth	Leguminosae	pepeto caspirol	92	38	9.2	21
III - 9 - 57	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	6	7.5	2.52
III - 9 - 58	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	9	5.5	20.5
III - 9 - 59	Brosimum alicastrum Sw.	Moraceae	ujushte	14.5	11	10.4	32
III - 9 - 60	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	11	32
III - 9 - 61	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	30	19	16	22.1
III - 9 - 62	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.4	9	18.6	26.1
III - 9 - 63	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	7	16.3	27.2
III - 9 - 64	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	9	16.3	27.7
III - 9 - 65	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	10	12.1	28.9
III - 9 - 66	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	13.2	7	8.4	29.9
III - 9 - 67	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	18	11	4.65	20.1
III - 9 - 68	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	34.2	15	2.6	25.5
III - 9 - 69	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	7	2.45	28.4
III - 9 - 70	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.5	5	0.6	25.5
III - 9 - 71	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14	9	1.7	26.1
III - 9 - 72	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	9	1	27
III - 9 - 73	Colophylum brasiliense	Clusiaceae	marillo	90	28	0.15	28
III - 9 - 74	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10	9	5.35	30
III - 9 - 75	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	7	7	31.1
III - 9 - 76	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	8	8.7	39.6

III - 9 - 77	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	22	14	8.8	32.4
III - 9 - 78	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21	11	11	32.3
III - 9 - 79	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	12	9	12.6	32.6
III - 9 - 80	Colophylum brasiliense	Clusiaceae	marillo	80	26	14.3	33.4
III - 9 - 81	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	5	12.2	34.8
III - 9 - 82	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	9	16.8	33.1
III - 9 - 83	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	26	15	17.4	32.3
III - 9 - 84	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	36	18	17.2	30
III - 9 - 85	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	8	17.5	35.2
III - 9 - 86	Brosimum alicastrum Sw.	Moraceae	ujushte	32	19	14.5	26.2
III - 9 - 87	Brosimum alicastrum Sw.	Moraceae	ujushte	23	11	15.9	39.5
III - 9 - 88	Unknown 9	Unknown 1	árbol de llegua	37	15	11.8	39.5
III - 9 - 89	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20	9	5.4	38.3
III - 9 - 90	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8.4	5	4.65	37.4
III - 9 - 91	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	16	8	1.25	36.3
III - 9 - 92	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	6	3.8	35.4
III - 9 - 93	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	5	0.5	48.8
III - 9 - 94	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	13	8	2.9	36.2
III - 9 - 95	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	3.6	37.4
III - 9 - 96	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	47	18	2.1	39
III - 9 - 97	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	52	21	5.1	40.6
III - 9 - 98	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	6	5.2	41.1
III - 9 - 99	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	44	16	5.25	43.1
III - 9 - 100	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	8	6.9	40.6
III - 9 - 101	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	8	7.7	41.5
III - 9 - 102	Hirtella racemosa Lam.	Rosaceae	icaquillo	17	9	8.45	42.1
III - 9 - 103	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	6	8.3	43.3
III - 9 - 104	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	5	10.9	44.5
III - 9 - 105	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	7	8.65	45.2
III - 9 - 106	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9.7	6	12.9	44.3
III - 9 - 107	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	6	11.5	40.3
III - 9 - 108	Hirtella racemosa Lam.	Rosaceae	icaquillo	14	6	13.9	41.6
III - 9 - 109	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	4	14.7	41.8
III - 9 - 110	Casearia commersoniana Cambess	Flacoutiaceae	camarón	20	11	16	40.5
III - 9 - 111	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	6	16.3	43.2

III - 9 - 112	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	13	18.2	45.3
III - 9 - 113	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8	5	14.8	46.2
III - 9 - 114	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.5	7	17.5	46.6
III - 9 - 115	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	6	17.3	50
III - 9 - 116	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	19	9	14.2	47.6
III - 9 - 117	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	19	6	11.6	48.5
III - 9 - 118	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	5	12.3	48.3
III - 9 - 119	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21.5	10	10.9	47.7
III - 9 - 120	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20	6	6.7	48.8
III - 9 - 121	Machaerium biovolatum Micheli	Leguminosae	cedazo	31	20	6.75	48.4
III - 9 - 122	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	10	7.15	48.5
III - 9 - 123	Hirtella racemosa Lam.	Rosaceae	icaquillo	12	6	6.25	47.3
III - 10 - 01	Unknown 6	Unknown 2	sombra de cuzuco	16.5	12	1.5	2.85
III - 10 - 02	Colophylum brasiliense	Clusiaceae	marillo	17	21	2.4	3.1
III - 10 - 03	Licania retifolia Blake	Chrysobalanaceae	mulo	5.5	6	3.65	4.85
III - 10 - 04	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	5.4	0.95
III - 10 - 05	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.2	8	5.65	0.5
III - 10 - 06	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10.5	8	8.75	1.3
III - 10 - 07	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21	9	8.6	0
III - 10 - 08	Hirtella racemosa Lam.	Rosaceae	icaquillo	6.5	8	8.85	3.9
III - 10 - 09	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	9	8.85	3.9
III - 10 - 10	Hirtella racemosa Lam.	Rosaceae	icaquillo	7.5	7	12.2	8.3
III - 10 - 11	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19	10	15.6	2.7
III - 10 - 12	Hirtella racemosa Lam.	Rosaceae	icaquillo	20	9	11.1	3.1
III - 10 - 13	Licania retifolia Blake	Chrysobalanaceae	mulo	6	6	9.2	4.2
III - 10 - 14	Licania retifolia Blake	Chrysobalanaceae	mulo	13	9	10	6.95
III - 10 - 15	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.5	9	7.6	7.25
III - 10 - 16	Cecropica obtusifolia	Cecropiaceae	guarumo	14.5	9	5.2	7.85
III - 10 - 17	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.2	6	5.65	5.45
III - 10 - 18	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	7.2	8	2.4	7.65
III - 10 - 19	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	8	7	1.5	5.3
III - 10 - 20	Cecropica obtusifolia	Cecropiaceae	guarumo	5.2	8	0.75	8.95
III - 10 - 21	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	8.5	7	0.55	11.3
III - 10 - 22	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	7.5	8	1.65	12.3
III - 10 - 23	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	11	1.8	14.1

III - 10 - 24	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	9	3.55	12.6
III - 10 - 25	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	15	8	3.15	10.3
III - 10 - 26	Cecropica obtusifolia	Cecropiaceae	guarumo	42	24	4.5	9.9
III - 10 - 27	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	12	9	4.95	11.3
III - 10 - 28	Cecropica obtusifolia	Cecropiaceae	guarumo	29	15	6.1	9.95
III - 10 - 29	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	11	10	9.5	12
III - 10 - 30	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	9.5	9	8.55	14
III - 10 - 31	Astronium graveolens Jacq.	Anacardiaceae	ronrón	19.5	15	8.45	14.7
III - 10 - 32	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.2	8	9.95	12.7
III - 10 - 33	Swietenia macrophylla King	Meliaceae	caoba	43	16	11.9	17.7
III - 10 - 34	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	5	8	12.4	14.4
III - 10 - 35	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	11	14	11.5	11.5
III - 10 - 36	Casearia commersoniana Cambess	Flacoutiaceae	camarón	9	8	12.9	13.4
III - 10 - 37	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	9	12.6	13.4
III - 10 - 38	Unknown 3	Unknown 8	huevo de tacuazín	8	4	14.2	14.1
III - 10 - 39	Unknown 3	Unknown 8	huevo de tacuazín	9	4	14.4	13.2
III - 10 - 40	Clethra lanata Martius & Galeotti	Clethraceae	estoraque	28	13	14.5	11
III - 10 - 42	Manilkara chicle (Pittier) Gilly	Sapotaceae	níspero	28	17	17.4	11.6
III - 10 - 42	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	17	17.2	18.7
III - 10 - 43	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	13.6	12	16	19.8
III - 10 - 44	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	42.3	24	14.6	15.6
III - 10 - 45	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	24	12	15	15.2
III - 10 - 46	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	5	12.9	19.2
III - 10 - 47	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15.5	12	9.85	19.4
III - 10 - 48	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	12	10.1	19.7
III - 10 - 49	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	8	10.7	20.1
III - 10 - 50	Colophylum brasiliense	Clusiaceae	marillo	32	22	9.35	17.1
III - 10 - 51	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	7	5.85	17.6
III - 10 - 52	Alchornea latifolia Sw.	Euphorbiaceae	queso	37	20	3.8	17.7
III - 10 - 53	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	4	1.45	18.6
III - 10 - 54	Hirtella racemosa Lam.	Rosaceae	icaquillo	11	4	0	21.2
III - 10 - 55	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10	8	0	24.5
III - 10 - 56	Licania retifolia Blake	Chrysobalanaceae	mulo	8.5	9	1.2	24.3
III - 10 - 57	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	12	10	2.25	22.4
III - 10 - 58	Hirtella racemosa Lam.	Rosaceae	icaquillo	10	7	7.2	21.6

III - 10 - 59	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	17	14	14.9	22.3
III - 10 - 60	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16	8	16.9	23.4
III - 10 - 61	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	10	10	18.3	24.4
III - 10 - 62	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7.7	4	18.1	27.3
III - 10 - 63	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	10	14.1	27.9
III - 10 - 64	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	15	12	11.9	28.5
III - 10 - 65	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21	9	11.4	21
III - 10 - 66	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	6	3.1	29.9
III - 10 - 67	Hirtella racemosa Lam.	Rosaceae	icaquillo	8.7	4	3.15	20.5
III - 10 - 68	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	14	9	0.2	29
III - 10 - 69	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	10.5	8	0.2	30
III - 10 - 70	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	31.5	16	0.7	25.5
III - 10 - 71	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	5	2.1	34.4
III - 10 - 72	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	13	4.95	33.3
III - 10 - 73	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	5	7	34.4
III - 10 - 74	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	16.5	12	8.5	32.3
III - 10 - 75	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	11	9.5	33.6
III - 10 - 76	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8	5	11.9	34.6
III - 10 - 77	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	11	6	12.7	32.7
III - 10 - 78	Brosimum alicastrum Sw.	Moraceae	ujushte	43	22	13.8	30.8
III - 10 - 79	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	9	9	13.8	30.7
III - 10 - 80	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	7	12.3	31.1
III - 10 - 81	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	8.5	5	15.5	33
III - 10 - 82	Cecropica obtusifolia	Cecropiaceae	guarumo	21	15	16.7	36.2
III - 10 - 83	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	6.5	6	16.7	36.3
III - 10 - 84	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	20.5	9	16.5	38.9
III - 10 - 85	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	11	16.2	39.9
III - 10 - 86	Ouratea lucens (Kunth) Engler	Ochnaceae	ojo de gallo	8	8	17.8	37.3
III - 10 - 87	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11	8	12.1	35.6
III - 10 - 88	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	11.9	7	12.5	38.9
III - 10 - 89	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	18	9	11.6	39.5
III - 10 - 90	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	37	5	10.9	39.1
III - 10 - 91	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	21.2	15	10.1	37.7
III - 10 - 92	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	28	5	9.9	37
III - 10 - 93	Godmania aesculifolia (H.B.K.) Standl.	Bignoniaceae	trompillo	8.5	5	9.4	35.6

III - 10 - 94	Brosimum alicastrum Sw.	Moraceae	ujushte	88	24	6.8	38.7
III - 10 - 95	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	9	5	4.35	38.4
III - 10 - 96	Maytenus chiapensis Lundell	Celastraceae	escobo blanco	10	9	4.1	40
III - 10 - 97	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	19	14	2.1	36.9
III - 10 - 98	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	27	15	1	42
III - 10 - 99	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	0.7	42
III - 10 - 100	Hirtella racemosa Lam.	Rosaceae	icaquillo	8	9	3.35	42
III - 10 - 101	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6.5	5	2	44.4
III - 10 - 102	Hirtella racemosa Lam.	Rosaceae	icaquillo	5.6	5	4.85	45.4
III - 10 - 103	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	7	4	6.7	42.3
III - 10 - 104	Cecropica obtusifolia	Cecropiaceae	guarumo	22.5	16	8.9	45.3
III - 10 - 105	Hirtella racemosa Lam.	Rosaceae	icaquillo	7	5	7.5	45.5
III - 10 - 106	Casearia commersoriana Cambess.	Flacourtiaceae	chilillo	5	6	10.2	45.7
III - 10 - 107	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	5	10.4	43.6
III - 10 - 108	Hirtella racemosa Lam.	Rosaceae	icaquillo	9	6	11.4	42.4
III - 10 - 109	Faramea occidentalis (L.) Rich	Rubiaceae	cafecillo	6	4	13.3	40.5
III - 10 - 110	Casearia corymbosa Kunth	Flacourtiaceae	moyeja de pato	32	24	16.4	42.1
III - 10 - 111	Licania retifolia Blake	Chrysobalanaceae	mulo	14	9	18.1	42.7
III - 10 - 112	Brosimum alicastrum Sw.	Moraceae	ujushte	20	20	16.8	49.2
III - 10 - 113	Licania retifolia Blake	Chrysobalanaceae	mulo	6	5	15.3	43.1
III - 10 - 114	Brosimum alicastrum Sw.	Moraceae	ujushte	27	5	11.3	47.9
III - 10 - 115	Hirtella racemosa Lam.	Rosaceae	icaquillo	6	5	10.9	48.4
III - 10 - 116	Unknown 3	Unknown 8	huevo de tacuazín	7.5	5	10	48.8
III - 10 - 117	Cecropica obtusifolia	Cecropiaceae	guarumo	11	15	8.55	49
III - 10 - 118	Cecropica obtusifolia	Cecropiaceae	guarumo	19	20	6.6	40
III - 10 - 119	Hirtella racemosa Lam.	Rosaceae	icaquillo	9.5	5	5.9	40.9
III - 10 - 120	Rheedia edulis (Seemann) Triana & Planchon	Clusiaceae	chaparrón	23	11	4.25	40.6
III - 10 - 121	Lunaria mexicana Brandegee	Flacourtiaceae	tizón	11	6	5.25	48.4
III - 10 - 122	Cecropica obtusifolia	Cecropiaceae	guarumo	7	8	2.95	48
III - 10 - 123	Apeiba tibourbou Aublet	Tiliaceae	peine de mico	5.1	5	1.1	45.7

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