

**Characterization of Neotropical forest and savannah ecosystems by
their modern pollen spectra**

Volume 2

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By

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Appendix I
Study plot details

Appendix I

Study plot details

Plots sampled for pollen are listed alphabetically. Names and ecological classifications are taken from Killeen and Schulenberg (1998) and Panfil (2001).

Name	Location	Ecosystem	Plant community	Size (m)	Orientation °N ⁺	Trap numbers
Acuario 1	15 14 58 S 61 14 42 W	Deciduous and semi-deciduous forest	Semi-deciduous dry forest	500x20	180	41 - 50
Acuario 2	15 14 58 S 61 14 42 W	Deciduous and semi-deciduous forest	Semi-deciduous dry forest	500x20	180	51 - 60
Cerrao Pilou 1	14 32 24 S 61 29 53 W	Deciduous and semi-deciduous forest	Deciduous dry forest (edaphic)	100x100 [^]	320	61 - 70
Cerrao Pilou 2	14 32 08 S 61 30 02 W	Deciduous and semi-deciduous forest	Deciduous dry forest (edaphic)	100x100 [^]	260	71 - 80
El Chore 1	14 23 08 S 61 8 52 W	Moist <i>terra firma</i> evergreen forest	Evergreen <i>terra firma</i> liana forest	500x20	0	161 - 170
El Chore 2	14 20 35 S 61 9 37 W	Moist <i>terra firma</i> evergreen forest	Evergreen <i>terra firma</i> liana forest	500x20	0	151 - 160
Los Fierros 1	14 34 50 S 66 49 48 W	Moist <i>terra firma</i> evergreen forest	Tall <i>terra firma</i> evergreen forest	500x20	80	81 - 90
Los Fierros 2	14 34 50 S 66 49 48 W	Moist <i>terra firma</i> evergreen forest	Tall <i>terra firma</i> evergreen forest	500x20	80	91 - 100
Los Fierros, Campo cerrado	14 36 16 S 60 51 05 W	<i>Terra firma</i> savannah	Campo cerrado/Shrubby savannah	Transect ⁺	0	101 - 110
Los Fierros: Cerradão	14 35 10 S 60 50 26 W	<i>Terra firma</i> savannah	Cerradão/Closed woodland	Transect ⁺	0	111 - 120

Continued over...

Name	Location	Ecosystem	Plant community	Size (m)	Orientation (°N) ¹	Trap numbers
Los Fierros, Pampa termitero	14 36 54 S 60 51 57 W	Seasonally inundated savannah	Pampa termitero/Termite savannah	Transect ⁺	280	121 - 130
Las Londras 1	14 24 15 S 61 08 38 W	Moist inundated evergreen forest	Tall inundated evergreen forest	500x20	180	141 - 150
Las Londras 2	14 24 15 S 61 08 38 W	Moist inundated evergreen forest	Tall inundated evergreen forest	500x20	180	131 - 140
Monte Cristo 1	14 39 52 S 61 09 32 W	Moist inundated evergreen forest	Tall riverine evergreen forest	200x20 [#]	0	21 - 30
Monte Cristo 2	14 42 36 S 61 09 21 W	Moist inundated evergreen forest	Tall riverine evergreen forest	500x20	180	1 - 10
Monte Verde	14 56 33 S 61 08 23 W	Deciduous and semi-deciduous forest	Semi-deciduous inundated dry forest	500x20	0	31 - 40
Toledo	14 43 41 S 61 08 16 W	Seasonally inundated savannah	Pampa aguada/Open inundated savannah	500x300	180	11 - 20

* = Orientation indicates the line along which the traps run in degrees from north, moving from the lowest to highest trap number.

[^] = Cerro Pilou 1 and 2 are square plots, therefore the traps were arranged in two parallel lines 50 metres apart.

⁺ = Vegetation surveys were carried out along 500 meter transects.

[#] = Monte Cristo 1 is a short plot, therefore the traps are only 25 meters apart and are sequenced 21, 26, 22, 27, 23, 28, 29, 25, 30 with traps 25 and 30 outside northern limit.

Appendix II

Pollen trap recovery rates

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Appendix II

Pollen trap recovery rates

Each plot sampled for pollen is listed alphabetically. For each plot the details of traps recovered and condition listed numerically.

1. Acuario 1

No.	1998		1999 Comment	2000		2001		Comment
	Comment	Out In		Out In	Comment	Out In		
41		Yes Yes	Melted by fire.	Yes	Yes	Yes	Yes	
42		Yes No	Burnt stake only remains.	Yes	Yes	Yes	Yes	
43		Yes Yes		Yes	Yes	Yes	Yes	
44		Yes Yes	Very slight melting.	Yes	Yes	Yes	Yes	
45		Yes No	Very badly melted, funnel destroyed.	Yes	Yes	Yes	Yes	
46		Yes Yes	Very badly melted.	Yes	Yes	Yes	Yes	Termite attack, not much recovered.
47		Yes No	Completely melted.	Yes	Yes	Yes	No	No wool due to termites.
48		Yes Yes	Badly melted, on ground.	Yes	Yes	Yes	Yes	
49		Yes No	Destroyed by fire.	Yes	Yes	Yes	Yes	Termite attack, but good recovery. Tree now dead.
50		Yes Yes	Fire damage.	Yes	Yes	Yes	Yes	No tags on trees.

2. Acuario 2

No.	1998		1999 Comment	2000		2001		Comment	
	Comment	Out In		Out In	Comment	Out In			
51		Yes Yes	Slightly melted	Yes	Yes	Yes	Yes		
52		Yes Yes	Badly melted	Yes	Yes	Hanging off stake	Yes	Yes	
53		Yes Yes		Yes	Yes		Yes	Yes	On side due to Fox/Sorro
54		Yes Yes	Very badly melted	Yes	Yes		Yes	Yes	
55		Yes Yes		Yes	No	Not found	No	No	Area very overgrown
56		Yes Yes		Yes	Yes		Yes	Yes	
57		Yes Yes	Slightly melted	Yes	Yes		Yes	Yes	
58		Yes Yes	Badly melted and termites	Yes	Yes	Out of bottle	Yes	Yes	Termite attack
59		Yes Yes	Slightly melted	Yes	No		Yes	Yes	
60		Yes Yes	Melted	Yes	No	In accessible due to wasps nest	No	No	Inaccessible due to wasps

3. Cerro Pilou 1

No.	1998		1999		2000		2001	
	Comment	Out	In	Comment	Out	In	Comment	Out
61		Yes	Yes		Yes	Yes		Yes
62		Yes	Yes		Yes	Yes	Rat bites	Yes
63		Yes	Yes		Yes	Yes		Yes
64		Yes	Yes		Yes	Yes		Yes
65		Yes	Yes		Yes	Yes		Yes
66		Yes	Yes		Yes	Yes	Trap out of bottle	Yes
67		Yes	Yes		Yes	Yes		Yes
68		Yes	Yes	Trap broken bottle split	Yes	Yes		Yes
69		Yes	Yes		Yes	Yes		Yes
70		Yes	Yes		Yes	Yes		Yes

4. Cerro Pilou 2

No.	1998		1999		2000		2001	
	Comment	Out	In	Comment	Out	In	Comment	Out
71		Yes	Yes		Yes	Yes	Limited recovery due to rats after water in bottles	Yes
72		Yes	Yes		Yes	Yes	Limited recovery due to rats after water in bottles	Yes
73		Yes	Yes		Yes	Yes	Limited recovery due to rats after water in bottles	Yes
74		Yes	Yes		Yes	Yes	Limited recovery due to rats after water in bottles	Yes
75		Yes	Yes		Yes	Yes	Limited recovery due to rats after water in bottles	Yes
76		Yes	Yes		Yes	Yes		Yes
77		Yes	Yes	Trap broken, found 15ft away	Yes	Yes		Yes
78	Trap on ground due to thin soil	Yes	Yes	On stake	Yes	Yes		Yes
79		Yes	Yes		Yes	Yes		Yes
80		Yes	Yes		Yes	Yes		Yes

5. El Chore 1

No.	1998		1999 Comment	2000		2001		Comment	
	Comment	Out In		Out In	Comment	Out In			
161	Yes	Yes	Intact mesh eaten partially by animals	Yes	Yes	Yes	Yes		
162	Yes	Yes	Intact mesh eaten partially by animals	Yes	Yes	termite	Yes	Yes	Termite attack
163	Yes	Yes	Intact with termites	Yes	Yes		Yes	Yes	
164	Yes	Yes		Yes	Yes		Yes	Yes	Termite attack, not much recovered
165	Yes	No	Could not find and not replaced	No	Yes		Yes	Yes	
166	Yes	Yes		Yes	Yes		Yes	Yes	
167	Yes	Yes		Yes	Yes		Yes	Yes	Termite attack, not much recovered
168	Yes	Yes		Yes	Yes		Yes	Yes	Only filter paper recovered
169	Yes	Yes		Yes	Yes		Yes	Yes	
170	Yes	Yes		Yes	Yes	rat attack	Yes	Yes	

6. El Chore 2

No.	1998		1999 Comment	2000		2001		Comment	
	Comment	Out In		Out In	Comment	Out In			
151	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	
152	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	Monkey attack bottle trap good
153	Yes	Yes	Funnel dislodged, monkey tooth marks	Yes	No	Plot not reached due to broken bridge	No	Yes	
154	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	
155	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	
156	Yes	No	Could not find and not replaced	No	No	Plot not reached due to broken bridge	No	No	
157	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	No	Nothing recovered
158	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	Rats
159	Yes	Yes		Yes	No	Plot not reached due to broken bridge	No	Yes	
160	Yes	No	Could not find and not replaced	No	No	Plot not reached due to broken bridge	No	Yes	

7. Los Fierros 1

No.	1998		1999		2000			2001
	Comment	Out	In	Comment	Out	In	Comment	
81		Yes	Yes		Yes	Yes		
82		Yes	Yes		Yes	Yes	Termites, not much left	
83		Yes	Yes		Yes	Yes	Rats and termites not much recovered	
84		Yes	Yes		Yes	Yes		
85		Yes	Yes		Yes	Yes		
86		Yes	Yes	Ant / termite attack	Yes	No	No wool recovered termites	
87		Yes	Yes	Ant / termite attack	Yes	No	No wool recovered termites	
88		Yes	Yes		Yes	Yes	Termite attack, white blobs = termite shit?	
89		Yes	Yes	Termite damage	Yes	Yes	Lots of termites not much recovered	
90		Yes	Yes		Yes	Yes		

8. Los Fierros 2

No.	1998		1999		2000			2001
	Comment	Out	In	Comment	Out	In	Comment	
91		Yes	Yes		Yes	Yes		
92		Yes	Yes		Yes	Yes		
93		Yes	Yes		Yes	Yes		
94		Yes	Yes		Yes	Yes	Termites, but some recovered	
95		Yes	Yes		Yes	Yes		
96		Yes	Yes	Termite damage	Yes	Yes		
97		Yes	Yes		Yes	Yes	Termites	
98		Yes	Yes		Yes	Yes	Termites, not much recovered - <i>Phernakospermum</i>	
99		Yes	Yes		Yes	Yes		
100		Yes	No	No trace of filter or fibre	Yes	Yes	Collected by Louise Emmons in MAY	

9. Los Fierros, Campo cerrado

No.	1998		1999		2000			2001	
	Comment	Out	In	Comment	Out	In	Comment	Out	In
101		Yes	Yes	Termite damage	Yes	No	Fire	Yes	Yes
102		Yes	Yes		Yes	No	Fire	Yes	Yes
103		Yes	Yes		Yes	No	Fire	Yes	Yes
104		Yes	Yes		Yes	No	Fire	Yes	Yes
105		Yes	Yes		Yes	No	Fire	Yes	Yes
106		Yes	Yes		Yes	No	Fire	Yes	Yes
107		Yes	Yes	Funnel of ground	Yes	No	Fire	Yes	Yes
108		Yes	Yes	Termite damage	Yes	No	Fire	Yes	Yes
109		Yes	Yes		Yes	No	Fire	Yes	Yes
110		Yes	Yes		Yes	No	Fire	Yes	Yes

10. Los Fierros, Cerradão

No.	1998		1999		2000			2001	
	Comment	Out	In	Comment	Out	In	Comment	Out	In
111		Yes	Yes	Filter and funnel on ground animal / sun	Yes	Yes	Intact on ground, wool turned to dust	Yes	Yes
112		Yes	No	On ground no trace of fibre or filter	Yes	Yes		Yes	Yes
113		Yes	Yes	On ground but sample in tact some termite damage	Yes	Yes	Termite damage	Yes	Yes
114		Yes	No	Bottle broken on ground, no trace of funnel	Yes	Yes	On ground, replacement on tree	Yes	Yes
115		Yes	Yes	Bottle broken, sample infested with termites	Yes	Yes	On ground, replacement on tree	Yes	Yes
116		Yes	Yes	Funnel on ground but intact	Yes	Yes	Burnt, on ground and termites	Yes	Yes
117		Yes	Yes	Funnel on ground but intact, chewed by animal	Yes	Yes	Intact on ground, termites	Yes	Yes
118		Yes	Yes	Intact on ground	Yes	Yes	Melted on one side	Yes	Yes
119		Yes	Yes		Yes	Yes	Melted on ground and termites	Yes	Yes
120		Yes	Yes	Intact on ground	Yes	Yes	Melted on ground and termites	Yes	Yes

11. Los Fierros, Pampa termitero

No.	1998		1999		2000		2001		
	Comment	Out	In	Comment	Out	In	Comment	Out	In
121		Yes	Yes		Yes	Yes		Yes	Yes
122		Yes	Yes	Intact on ground, chewed by animal	Yes	Yes		Yes	Yes
123		Yes	Yes	Intact on ground (upside down)	Yes	Yes	On ground	Yes	Yes
124		Yes	Yes		Yes	Yes		Yes	Yes
125		Yes	Yes	Intact on ground	Yes	Yes	Melted funnel and cotton wool inseparable so all bagged	Yes	Yes
126		Yes	Yes		Yes	Yes		Yes	Yes
127		Yes	Yes	Intact funnel on ground, chewed by animal	Yes	Yes	Intact on ground	Yes	Yes
128		Yes	Yes	On ground, termites	Yes	No	Absent	Yes	Yes
129		Yes	Yes		Yes	Yes	Off stake and melted	Yes	Yes
130		Yes	Yes	Funnel dislodged	Yes	Yes		Yes	Yes

12. Las Londras 1

No.	1998		1999		2000		2001		
	Comment	Out	In	Comment	Out	In	Comment	Out	In
141		Yes	Yes	Yes	Yes		Yes	Yes	
142		Yes	Yes	Yes	Yes	Recovered with fungus	Yes	Yes	
143		Yes	Yes	Yes	Yes		Yes	Yes	
144		Yes	Yes	Yes	Yes		Yes	Yes	
145		Yes	Yes	Yes	Yes		Yes	Yes	Termite attach, little recovered
146		Yes	Yes	Yes	Yes		Yes	Yes	
147		Yes	Yes	Yes	Yes		Yes	Yes	Small sample, unsure why
148		Yes	Yes	Yes	Yes		Yes	Yes	
149		Yes	Yes	Yes	Yes		Yes	Yes	
150		Yes	Yes	Yes	Yes		Yes	Yes	

13. Las Londras 2

No.	1998		1999 Comment	2000		2001		Comment
	Comment	Out In		Out In	Comment	Out In		
131		Yes Yes		Yes Yes	Yes Yes			
132		Yes Yes		Yes Yes	Yes Yes			
133		Yes Yes		Yes Yes	Yes Yes			
134		Yes Yes		Yes Yes	Yes Yes			Termite attack, wool on outside of trap
135		Yes Yes		Yes Yes	Yes Yes			Termite attack, wool on outside of trap
136		Yes Yes		Yes Yes	Yes Yes			
137		Yes Yes		Yes Yes	Yes Yes			
138		Yes Yes		Yes Yes	Yes Yes			
139		Yes Yes	Funnel dislodged, some monkey tooth marks	Yes Yes	Yes Yes			
140		Yes Yes		Yes Yes	Yes Yes			

14. Monte Cristo 1

No.	1998		1999 Comment	2000		2001		Comment
	Comment	Out In		Out In	Comment	Out In		
21		Yes Yes		Yes Yes	Yes Yes			Termite attack
22		Yes Yes		Yes Yes	Yes Yes			
23		Yes Yes	Funnel dislodged from bottle by monkeys	Yes Yes	Yes Yes			
24		Yes Yes	Monkey damage but intact	Yes Yes	Yes No			Termite attack
25		Yes Yes		Yes Yes	Yes Yes			
26		Yes Yes		Yes Yes	Yes Yes			
27		Yes Yes	Funnel on ground, chewed by monkey	Yes Yes	Yes No			Pollen trap loose on stake, no wool due to termites
28		Yes Yes	Monkey damage but intact	Yes Yes	Yes Yes			
29		Yes Yes	Monkey damage but intact	Yes Yes	Yes Yes			Trap found on side eaten by termites?
30		Yes Yes		Yes Yes	Yes Yes			

15. Monte Cristo 2

No.	1998		1999		2000		2001
	Comment	Out In	Comment	Out In	Comment	Out In	Comment
1		Yes Yes	Yes Yes	Yes Yes		Yes Yes	
2		Yes Yes	Yes Yes	Yes Yes		Yes Yes	
3		Yes Yes	Yes Yes	Yes Yes		Yes Yes	River between traps 3 and 4
4		Yes Yes	Yes Yes	Yes Yes		Yes Yes	Trap infested with ants
5		Yes Yes	Yes Yes	Yes Yes		Yes Yes	
6		Yes Yes	Yes Yes	Yes Yes	Reversed with trap 9	Yes Yes	
7		Yes Yes	Yes Yes	Yes Yes		Yes Yes	
8		Yes Yes	Yes Yes	Yes Yes		Yes Yes	
9		Yes Yes	Yes Yes	Yes Yes	Reversed with trap 6	Yes Yes	Trap found on ground
10		Yes Yes	Yes Yes	Yes Yes		Yes Yes	

16. Monte Verde

No.	1998		1999		2000		2001
	Comment	Out In	Comment	Out In	Comment	Out In	Comment
31		Yes Yes		Yes Yes		Yes Yes	
32		Yes Yes		Yes Yes		Yes Yes	Collapsed stake pollen trap on side, v. little recovered due to termites
33		Yes Yes	Monkey damage but intact	Yes Yes		Yes Yes	
34		Yes Yes	Monkey damage but intact	Yes Yes		Yes Yes	Trap at 45° but stake upright
35		Yes Yes		Yes Yes		Yes Yes	
36		Yes Yes		Yes Yes		Yes Yes	
37		Yes Yes		Yes Yes	slightly melted	Yes Yes	
38		Yes Yes		Yes Yes		Yes Yes	Stake at 45°. Cecropia
39		Yes Yes		Yes Yes		Yes Yes	
40		Yes Yes		Yes Yes		Yes Yes	

17. Toledo

No.	1998		1999		2000		2001			
	Comment	Out	In	Comment	Out	In	Comment	In		
11		Yes	No	Destroyed by fire	Yes	Yes		Yes	Yes	
12		Yes	No	Destroyed by fire	Yes	Yes		Yes	Yes	
13		Yes	No	Destroyed by fire	Yes	Yes		Yes	Yes	
14		Yes	No	Destroyed by fire	Yes	Yes		Yes	Yes	Liana hanging over trap
15		Yes	No	Destroyed by fire	Yes	Yes	Broken, wool recovered from ground	Yes	Yes	Found on side
16		Yes	Yes	Some melting	Yes	Yes	Intact on ground	Yes	Yes	With bird shit
17		Yes	Yes	Melted and on ground	Yes	Yes	Intact on ground	Yes	Yes	
18		Yes	Yes	Degraded by sun	Yes	Yes	Intact on ground	Yes	Yes	
19		Yes	No	Trap not present	Yes	Yes	Intact on ground	Yes	Yes	Eaten by tapir
20		Yes	Yes	Bottle melted, trap on ground	Yes	No	Trap not found	Yes	Yes	On ground facing up

Appendix III

Pollen preparation protocols

1. Extraction of sample from trap filter paper and mesh	15
2. Extraction of sample from cotton fibre	16
3. Final treatment	16

Appendix III

Alternative pollen preparation protocol

As described in Gosling et al. (2003).

Destruction method for cotton fibre

The quantities of chemical recommended here are for use with samples of cotton fibre with a volume of 250 cm³ when dry. The cotton fibre should be separated from the filter paper and mesh parts of the trap.

1. Extraction of sample from trap filter paper and mesh

- i) Parts a and b of this section of the protocol basically follow the steps described above (see parts a and b in section 2 of the above protocol) and therefore only a summary is presented here. Part d should be run concurrently with the cotton fibre (see section 2 of this protocol) and is therefore described in detail below.
- ii) Dissolve in HF.
- iii) Place in hot 7 % HCl for 20-30 minutes, adding the exotic marker tablets if required.
- iv) Sieve at 250µm to remove any large fragments of mesh that may remain.
- v) Acetolyse the sample. Samples must be subjected to the same process as the cotton fibre described below; samples can be run concurrently in separate tubes.

- vi) Recombine with the rest of the sample after extracted from the cotton fibre.

2. Extraction of sample from cotton fibre

- i) Acetolyse the sample to destroy the cotton fibre and any other cellulose and/or polysaccharides. (N.B. Since acetolysis mixture is explosive if it comes into contact with water, the cotton fibre must be dry before hand. To dry, fibre should be placed in a beaker and put into a drying oven at ~40oC, samples should be checked regularly until dry). To prepare the acetolysis mixture combine 9 parts of Acetic Anhydride (i.e. 45 ml) with 1 part of Conc. Sulphuric Acid (i.e. 5 ml). Place sufficient mixture into each tube to cover the dry cotton fibre and incubate in water-bath at 90oC for three minutes.
- ii) After three minutes remove sample from water-bath and top up with glacial acetic acid to cool the sample and stop the acetolysis reaction. Centrifuge for five minutes at 3000 rpm, then decant supernatant away.
- iii) We recommend that large samples are split and acetolysed in separate tubes to be recombined after destruction of the cotton fibre.
- iv) Wash with water and re-combine all parts of cotton fibre sample if applicable.

3. Final treatment

- i) Recombine with the sample extracted from the filter paper and mesh.

- ii) Treat sample with 10% NaOH or KOH to remove humic acids, sieve at 250 μ m, and mount onto slides.

Note

As with all pollen preparation methodologies, this methodology should be viewed as a recipe. It may be necessary to add extra steps or modify certain existing steps depending upon sample characteristics.

Appendix IV
Pollen taxonomy

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2. Unidentified pollen types	22

Appendix IV

Pollen taxonomy

Nomenclature based on Killeen *et al.* (1993) with modifications for pollen taxonomy

following Mayle *et al.* (2000). Drawings and photographs of all pollen types are on CD enclosed.

1. Pollen identified

Listed alphabetically by family, genus and species.

ID	Family		Genus	species	Type
244	Amaranthaceae		<i>Alternanthera</i>		
287	Anacardiaceae		<i>Astronium</i>	<i>fraxinifolium</i>	
115	Anacardiaceae		<i>Astronium</i>	cf. <i>urundava</i>	
164	Anacardiaceae		<i>Spondias</i>	<i>mombin</i>	
36	Anacardiaceae/ Chrysobalanaceae		<i>Tapirira/Hirtella</i>		
234	Apocynaceae	undiff.			
38	Apocynaceae		<i>Aspidosperma</i>	cf. <i>cruenta</i>	
139	Apocynaceae		<i>Mandevilla</i>		
65	Apocynaceae		<i>Thevetia</i>		
303	Aquifoliaceae		<i>Ilex</i>		
29	Araceae	cf.	<i>Anthurium</i>		
1	Araliaceae		<i>Didymopanax</i>		
277	Arecaceae		<i>Mauritia/Mauritella</i>		
46	Asteraceae (Asteroide/Cardue)	undiff.			
266	Asteraceae (Lactucaae)	undiff.			
76	Betulaceae		<i>Alnus</i>		
146	Bignoniaceae	undiff.			type 1
257	Bignoniaceae		<i>Tabebuia</i>	cf. <i>rose-alba</i>	
165	Bombacaceae		<i>Chorisia</i>		
214	Bombacaceae	cf.	<i>Eriotheca</i>		
169	Boraginaceae		<i>Cordia</i>		
79	Bromeliaceae	undiff.			
48	Burseraceae		<i>Crepidospermum</i>		type ¹
11	Cecropiaceae		<i>Cecropia</i>		
28	Connaraceae		<i>Connerus</i>		
233	Cyperaceae				
196	Dilleniaceae		<i>Curatella</i>	<i>americana</i>	
199	Dilleniaceae		<i>Davillia</i>		
313	Elaeocarpaceae	cf.	<i>Muntingia</i>		
47	Elaeocarpaceae		<i>Sloanea</i>		
71	Euphorbiaceae		<i>Acalypha</i>		3 pore
268	Euphorbiaceae		<i>Acalypha</i>		4 pore

ID	Family	Genus	species	Type
9	Euphorbiaceae	<i>Alchornea</i>		type 1 ²
14	Euphorbiaceae	<i>Alchornea</i>		type 2 ³
297	Euphorbiaceae	<i>Alchornea</i>		type 3
150	Euphorbiaceae	<i>Dalechampsia</i>		
315	Euphorbiaceae	<i>Hevea</i>	<i>brasiliensis</i>	
53	Euphorbiaceae	<i>Hyeronima</i>		
122	Euphorbiaceae	<i>Sapium</i>		
116	Euphorbiaceae	<i>Sebastiania</i>		
77	Fabaceae (Ceasalpinioideae)	<i>Apuleia</i>	<i>leocarpa</i>	
242	cf. Fabaceae (Ceasalpinioideae)	<i>Bauhinia</i>		
103	Fabaceae (Ceasalpinioideae)	<i>Caesalpinia</i>		type 1
157	Fabaceae (Ceasalpinioideae)	<i>Caesalpinia</i>		type 2
155	Fabaceae (Ceasalpinioideae)	<i>Hymeneae</i>		
183	Fabaceae (Mimosoideae)	undiff.		8 polyad
68	Fabaceae (Mimosoideae)	<i>Acacia</i>		
72	Fabaceae (Mimosoideae)	<i>Anadenanthera</i>		
171	Fabaceae (Mimosoideae)	<i>Enterlobium</i>		
67	Fabaceae (Mimosoideae)	<i>Inga</i>	<i>ignoides</i>	
89	Fabaceae (Mimosoideae)	<i>Mimosa</i>		
136	Fabaceae (Mimosoideae)	cf. <i>Samanea</i>	<i>tubulosa</i>	
129	Fabaceae (Mimosoideae)	undiff.		4 polyad
167	Fabaceae (Papilionodeae)	<i>Amburana</i>		
226	Fabaceae (Papilionodeae)	<i>Crotalaria</i>		
202	Fabaceae (Papilionodeae)	<i>Galactia</i>		
13	Fabaceae (Papilionodeae)/ Malpighiaceae	<i>Machaerium/ Dalbergia/ Byrsonima</i>		type 1
201	Fabaceae (Papilionodeae)/ Malpighiaceae	<i>Machaerium/ Dalbergia/ Byrsonima</i>		type 2
237	Fabaceae (Papilionodeae)	<i>Ormosia</i>		
160	Flacortiaceae			
159	Gentianaceae			
56	Hippocrateaceae/ Malpighiaceae	<i>Anthodon/ Banisteriopsis</i>		
174	cf. Loganiaceae			
267	Loranthaceae	<i>Psittacanthus</i>		
51	cf. Lythraceae	<i>Cuphea</i>		
243	Lythraceae	<i>Lafoensia</i>		
269	Malpighiaceae	cf. <i>Malphigia</i>		
7	Malpighiaceae	undiff.		
148	Malpighiaceae	cf. <i>Dicella</i>		
5	Melastomataceae/Combretaceae			
107	Meliaceae	<i>Swetenia</i>		
2	Moraceae			2 pore
3	Moraceae			3 pore
4	Moraceae			4 pore
12	Moraceae			5 pore
20	Myrtaceae	undiff.		
271	Onagraceae	<i>Ludwigia</i>		
6	Palmae			type 1 ⁴
98	Palmae			type 2 ⁵
304	Palmae			type 3 ⁶
10	Piperaceae	<i>Piper</i>		

ID	Family		Genus	species	Type
35	Poaceae				
192	Poaceae	cf.	<i>Zea</i>		
90	Podocarpaceae		<i>Podocarpus</i>		
205	Polygalaceae		<i>Polygala</i>		
282	cf. Polygonaceae		<i>Coccoloba</i>	<i>coronata</i>	
258	Polygonaceae		<i>Polygonum</i>		
25	Polypodiaceae	undiff.			
63	Pteropsidia (monolete)	undiff.			
24	Pteropsidia (trilete)	undiff.			type 1
108	Pteropsidia (trilete)	undiff.			type 2
126	Pteropsidia (trilete)	undiff.			type 3
131	Pteropsidia (trilete)	undiff.			type 4
134	Rhamnaceae		<i>Rhamnidium</i>		
248	Rubiaceae		<i>Alibertia/Amaioua</i>		
179	Rubiaceae		<i>Borreria</i>		
27	Rubiaceae		<i>Ferdinandusa</i>	<i>elliptica</i>	
130	Rutaceae		<i>Zanthoxylum</i>		
318	Sapindaceae	cf.	<i>Cupania</i>		
142	Sapindaceae		<i>Dilodendron</i>		
215	Sapindaceae		<i>Matayba</i>		
316	Sapindaceae		<i>Serjana</i>		
302	Sapindaceae		<i>Talisia</i>		
317	Sapindaceae	undiff.			type 1
195	Solanaceae		<i>Solanum</i>		
166	Sterculiaceae		<i>Sterculia</i>		
272	Tiliaceae		<i>Apaiba</i>	<i>tibourbou</i>	
158	Tiliaceae		<i>Heliocarpus</i>		
138	Tiliaceae	cf.	<i>Luehea</i>		
8	Ulmaceae		<i>Celtis</i>		
21	Ulmaceae		<i>Trema</i>		
113	Verbenaceae		<i>Lippia</i>		

1 = cf. Burseraceae *Crepidospremum/Protium*, Flacortiaceae *Casearia*, Sapotaceae *Pouteria*

2 = cf. *glandulosa/grandis*

3 = cf. *schomburgkii/triplinervia*

4 = cf. *Euterpe*

5 = cf. *Attalea*

6 = cf. *Astrocaryum*

2. Unidentified pollen types

Listed numerically

ID	Type	Shape	Sexine	Size	Pores	Comment
15	Type 15	Triporate	Psilate	17	3	Thin walls
16	Type 16	Tricolporate	Psilate	20	3	
17	Type 17	Inaperturate	Psilate	10	0	cf. <i>Alternanthera</i>
18	Type 18	Stephanoporate	Psilate	17	4	pretruding annulus
19	Type 19	Inaperturate	Scabrate	10	0	
22	Type 22	Inaperturate	Foveolate	12	0	Double wall, outer thicker than inner
23	Type 23	Tricolporate	Scabrate	32	3	cf. <i>Euphorbiaceae</i>
26	Type 26	Inaperturate	Psilate	60	0	Thick wall
30	Type 30	Tricolpate	Psilate	25	0	
31	Type 31	Inaperturate	Striate	0	0	Striate short/reticulate
32	Type 32	Inaperturate	Echinate	6	0	
33	Type 33	Inaperturate	Psilate	64	0	
34	Type 34	Inaperturate	Scabrate	16	0	
37	Type 37	Tricolporate	Reticulate	28	3	Faint reticulate/psilate
39	Type 39	Inaperturate	Echinate	5	0	reticulate patterning
40	Type 40	Inaperturate	Scabrate	18	0	
42	Type 42	Tricolporate	Scabrate	18	3	
44	Type 44	Tricolporate	Psilate	0	3	
45	Type 45	Tricolporate	Reticulate	18	3	
49	Type 49	Stephanoporate	Psilate	20	4	thick wall
50	Type 50	Inaperturate	Scabrate	10	0	
52	Type 52	Tricolporate	Psilate	32	3	in polar view concave colpi
55	Type 55	Triporate	Psilate	24	3	
57	Type 57	Tricolpate	Psilate	15	0	Thin walls
58	Type 58	Tricolporate	Psilate	25	3	Concave colpi in polar view
60	Type 60	Inaperturate	Verrucate	10	0	
61	Type 61	Tricolporate	Psilate	25	3	concave colpi
62	Type 62	Tricolporate	Striate	24	3	
64	Type 64	Tricolporate	Psilate	60	3	
69	Type 69	Diporate	Scabrate	0	2	
70	Type 70	Tricolporate	Psilate	17	3	pretrusions in pores
74	Type 74	Tricolporate	Psilate	25	3	
75	Type 75	Tricolporate	Psilate	12	3	thin walls
80	Type 80	Tricolporate	Reticulate	10	3	cf. type 42
81	Type 81	Tricolporate	Psilate	25	3	pretrusions in pores cf. type 70
83	Type 83	Tricolporate	Psilate	0	3	
84	Type 84	Tricolporate	Reticulate	33	3	square ended
85	Type 85	Tricolporate	Reticulate	0	3	
86	Type 86	Tricolporate	Reticulate	0	3	coarse reticulate
91	Type 91	Stephanoporate	Psilate	28	4	wide pores
92	Type 92	Inaperturate	Verrucate	20	0	
93	Type 93	Heterosyncolpate	Psilate	35	3	
94	Type 94	Tricolporate	Scabrate	15	3	

ID	Type	Shape	Sexine	Size	Pores	Comment
95	Type 95	Inaperturate	Psilate	37	0	
96	Type 96	Stephanoporate	Scabrate	15	4	wide pores
99	Type 99	Stephanoporate	Psilate	15	4	pores around equator
100	Type 100	Diporate	Psilate	7	2	
101	Type 101	Inaperturate	Foveolate	10	0	
104	Type 104	Inaperturate	Psilate	70	0	Hexagonal sections
105	Type 105	Inaperturate	Echinate	8	0	
109	Type 109	Tricolporate	Psilate	10	3	
110	Type 110	Tricolporate	Reticulate	45	3	
111	Type 111	Tricolporate	Reticulate	25	3	scabrate reticulate
112	Type 112	Inaperturate	Psilate	7	0	
114	Type 114	Stephanoporate	Reticulate	12	5	
117	Type 117	Tricolporate	Striate	20	3	
118	Type 118	Triporate	Reticulate	15	3	
120	Type 120	Stephanoporate	Psilate	0	5	
121	Type 121	Triporate	Psilate	0	3	
123	Type 123	Tricolporate	Reticulate	17	3	
124	Type 124	Inaperturate	Baculate	10	0	
125	Type 125	Tricolporate	Psilate	0	0	
127	Type 127	Triporate	Echinate	40	3	micro-echinate
128	Type 128	Diporate	Psilate	17	2	cf. 121
133	Type 133	Tricolporate	Psilate	15	0	
135	Type 135	Inaperturate	Striate	10	0	
137	(Type 110)	Tricolporate	Scabrate	30	0	
140	Type 140	Inaperturate	Echinate	50	0	blunted echine
141	(Type 104)	Inaperturate	Psilate	50	0	segmented
143	Type 143	Tricolporate	Reticulate	18	0	
144	Type 144	Tricolporate	Reticulate	0	3	cf. 41/45
145	Type 145	Tricolporate	Reticulate	0	3	
147	Type 147	Triporate	Scabrate	18	3	thick walls
149	Type 149	Tricolporate	Reticulate	32	0	
151	Type 151	Triporate	Psilate	15	3	wide pores
152	Type 152	Tricolporate	Granulate	27	3	
153	Type 153	Tricolporate	Scabrate	18	3	scruffy
154	Type 154	Triporate	Psilate	10	3	pores in middle of walls
156	Type 156	Inaperturate	Echinate	0	0	long well spaced echine
168	Type 168	Inaperturate	Psilate	23	0	
170	Type 170	Tricolporate	Echinate	30	3	micro-echinate/psilate square ends to colpi
172	Type 172	Tricolporate	Reticulate	0	3	
173	Type 173	Tricolporate	Echinate	30	3	micro-echinate/psilate cf. 170
176	Type 176	Tricolporate	Psilate	15	3	
177	Type 177	Tricolporate	Psilate		3	wide colpi
178	Type 178	Diporate	Psilate	20	2	wide pores, walls thinning to pores
180	Type 180	Stephanoporate	Psilate	13	4	square with wide pores at corners
181	Type 181	Triporate	Psilate	15	3	wide pores
182	Type 182	Tricolporate	Psilate	28	3	wide pores
185	Type 185	Tricolporate	Psilate	12	3	straight furrows, small pores

ID	Type	Shape	Sexine	Size	Pores	Comment
187	Type 187	Diporate	Scabrate	6	2	faint pores
189	Type 189	Inaperturate	Striate	15	0	many raised striae
190	Type 190	Inaperturate	Scabrate	15	0	cf. large piper
194	Type 192	Tricolporate	Reticulate	18	3	slightly striate reticulate
197	Type 197	Tricolporate	Scabrate	15	3	Thick outer wall
198	Type 198	Stephanoporate	Psilate	18	4	V-shaped pores at corners
200	Type 200	Tricolporate	Reticulate	25	3	cf. 182, coarse reticulate
203	Type 203	Polyad	Echinate	20	0	echinae 2.5um
204	Type 204	Triporate	Scabrate	15	3	darkening at V-shaped pores
207	Type 207	Inaperturate	Psilate	40	0	split like juniper
208	Type 208	Triporate	Foveolate	25	3	dimond shaped pore
211	Type 211	Tricolporate	Scabrate	15	3	wide colpi, v-shaped furrows
213	Type 213	Inaperturate	Verrucate	17	0	
216	Type 216	Inaperturate	Scabrate	20	0	
217	Type 217	Tricolporate	Psilate	10	0	
218	Type 218	Inaperturate	Reticulate	10	0	
219	Type 219	Tricolporate	Scabrate	30	0	wide colpi
220	Type 220	Stephanoporate	Scabrate	20	4	square
221	Type 221	Tricolporate	Reticulate	18	3	
222	Type 222	Tricolporate	Psilate	12	3	small pore
223	Type 223	Tricolporate	Striate	22	3	finger print pattern
224	Type 224	Stephanoporate	Psilate	15	5	cf. type 88
225	Type 225	Tricolporate	Striate	15	0	colpi joined at poles
227	Type 227	Tricolporate	Psilate	12	3	
228	Type 228	Tricolporate	Scabrate	20	3	round
229	Type 229	Tricolporate	Psilate	17	3	pores on sides in polar view
230	Type 230	Tricolporate	Verrucate	20	3	double wall
231	Type 231	Tricolporate	Psilate	17	3	
232	Type 232	Tricolporate	Scabrate	30	3	
235	Type 235	Triporate	Scabrate	17	3	
238	Type 238	Tricolporate	Psilate	15	3	round small pore
239	Type 239	Diporate	Psilate	20	2	thin wall wide pore
240	Type 240	Stephanoporate	Psilate	17	5	thin wall wide pore
241	Type 241	Stephanoporate	Psilate	12	6	thick wall
245	Type 245	Diporate	Psilate	17	2	thin wall, wide pore with annulus
246	Type 246	Stephanoporate	Psilate	15	4	square
247	Type 247	Tricolporate	Psilate	10	3	round
249	Type 249	Tricolporate	Scabrate	18	3	small pores
250	Type 250	Tricolporate	Psilate	17	3	
251	Type 251	Tricolporate	Psilate	15	0	
254	Type 254	Tricolporate	Psilate	18	3	
255	Type 255	Diporate	Psilate	0	2	pretruding pores
256	Type 256	Tricolporate	Reticulate	20	3	course reticulate, wide
260	Type 260	Inaperturate	Scabrate	32	0	long thin
262	Type 262	Tricolporate	Psilate	12	3	cf. type 211 and 166
263	Type 263	Inaperturate	Scabrate	38	0	
264	Type 264	Tricolporate	Psilate	15	3	
265	Type 265	Tricolporate	Psilate	8	3	rectangular
270	Type 270	Tricolporate	Psilate	10	3	wide spaced colpi

ID	Type	Shape	Sexine	Size	Pores	Comment
273	Type 273	Tricolporate	Reticulate	18	3	double wall
275	Type 275	Tricolporate	Psilate	17	3	copi shorter than wide
276	Type 276	Tricolporate	Psilate	25	3	lozenge shaped
278	Type 278	Tricolpate	Psilate	15	0	
279	Type 279	Tricolpate	Psilate	13	0	copi shorter than wide
280	Type 280	Tricolporate	Reticulate	25	3	double wall
281	Type 281	Tricolporate	Psilate	10	3	double wall
283	Type 283	Tricolporate	Psilate	20	0	copi shorter than wide
284	Type 284	Inaperturate	Scabrate	20	0	
285	Type 285	Triporate	Striate	23	3	
286	Type 286	Inaperturate	Psilate	10	0	
288	Type 288	Tricolpate	Psilate	15	0	cf. type 278
289	Type 289	Inaperturate	Striate	27	0	thick wall
292	Type 292	Stephanoporate	Striate	25	4	thick annulus, pores at corners
294	Type 294	Tricolpate	Scabrate	25	0	
296	Type 296	Triporate	Psilate	18	3	annulus
298	Type 298	Tricolporate	Scabrate	20	3	wide pores
300	Type 300	Tricolporate	Reticulate	25	3	large wide pores
301	Type 301	Tricolpate	Scabrate	18	0	colpi wider than long joined at ends
305	Type 305	Triporate	Psilate	18	3	
308	Type 308	Stephanoporate	Foveolate	15	5	cf. <i>Ulmus?</i>
309	Type 309	Tricolporate	Psilate	10	3	
310	Type 310	Tetrad	Psilate	30	0	
311	Type 311	Triporate	Psilate	0	3	v-shaped pores
312	Type 312	Inaperturate	Psilate	38	0	wheel like

Appendix V

Pilot research pollen data

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Appendix V

Pilot research pollen data

1. Pollen counts

1.1 Acuario 2

ID	Family		Genera	species	Type	T99-52	T99-54	T99-57	T99-59
1	Araliaceae		<i>Didymopanax</i>			7	47	16	9
2	Moraceae/ Urticaceae				2 pore	22	52	36	43
3	Moraceae/ Urticaceae				3 pore	10	26	7	21
4	Moraceae/ Urticaceae				4 pore	3		5	7
5	Melastomataceae/ Combretaceae					3	2	1	9
6	Palmae	cf.	<i>Euterpe</i>		type 1	4	25	5	79
7	Malpighiaceae	undiff.					3	3	
8	Ulmaceae		<i>Celtis</i>				5	4	5
9	Euphorbiaceae		<i>Alchornea</i>		type 1	2	1		2
10	Piperaceae		<i>Piper</i>			20	1	55	
11	Cecropiaceae		<i>Cecropia</i>			1	4	4	
12					Type 12		1		7
13	Fabaceae (Pap.)		<i>Machaerium</i>					1	3
20	Myrtaceae					5	6	1	4
21	Ulmaceae		<i>Trema</i>				2	2	
24	Pteropsidia (trilete)	undiff.			type 1	1	5	11	3
25	Polypodiaceae	undiff.					32	3	4
35	Poaceae					2	19	3	13
43	Sapindaceae						2		3
50					Type 50		39		
60					Type 60			3	
63	Pteropsidia (monolete)	undiff.				1			5
65	Apocynaceae		<i>Thevetia</i>			1		1	1
68	Fabaceae (Mim.)		<i>Acacia</i>				9		29
71	Euphorbiaceae		<i>Acalypha</i>				1		3
72	Fabaceae (Mim.)		<i>Anadenanthera</i>			128	1	82	56
73	Asteraceae (Asteroide/Cardue)	undiff.				1	1		1
76	Betulaceae		<i>Alnus</i>				1		1

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
77				Type 77	1			
79	Bromeliaceae	undiff.			1		2	
83	Solanaceae	<i>Solanum</i>						2
94				Type 94	2			
95				Type 95		1		
98	Arecaceae			type 2			6	
99				Type 99	45	1	12	
101				Type 101	2			
102	Fabaceae (Mim.)	<i>8 polyad</i>			17	24	5	
103	Fabaceae (Ceas.)	<i>Caesalpinia</i>			2			
104				Type 104	10		19	
105				Type 105	5			
106	cf Betulaceae	<i>Betula</i>			3			
107	Meliaceae	<i>Swetenia</i>			1	1		
108	Pteropsidia (trilete) undiff.			type 2	2	1	9	
109				Type 109	1			
110				Type 110	1			
111				Type 111	2			
112				Type 112	1	1		
113	cf Rutaceae	<i>Citrus</i>					2	
116				Type 116			2	
118				Type 118		2		
119	cf Myrtaceae					1		
120				Type 120		1		
121				Type 121		2		
122				Type 122		1		
123				Type 123		2		
124				Type 124		9		
125				Type 125		1		2
126	Pteropsidia (trilete) undiff.			type 3		3	1	
127				Type 127		3		

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
128				Type 128		1		
129	Fabaceae (Mim.)	<i>4 polyad</i>				1		
130	Anacardiaceae	<i>Astronium</i>	<i>fraxinifolium</i>			3	2	2
131				Type 131		1		
134				Type 134			5	
135				Type 135			1	
136	Apocynaceae	<i>Forsteronia</i>					5	
137				Type 137			2	
138				Type 138			2	
139	Apocynaceae	<i>Mandevilla</i>					1	
166	Sterculiaceae	<i>Sterculia</i>				1		
171	Fabaceae (Mim.)	<i>Enterlobium</i>						1
	Total				307	346	319	315
	Broken					9	6	2
	Concealed					1	1	
	Corroded							
	Crumpled				1	9	5	2
	Degraded							1
	Lycopodium counted				162	256	87	254
	Lycopodium per tablet				12542	12542	12542	12542
	Lycopodium tablets added				2	2	2	1
	Lycopodium added				25084	25084	25084	12542

1.2 Las Londras 1

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
1	Araliaceae	<i>Didymopanax</i>			5	4		2
2	Moraceae/ Urticaceae			2 pore	82	85	54	104
3	Moraceae/ Urticaceae			3 pore	19	21	7	15
4	Moraceae/ Urticaceae			4 pore	3	5	4	1
5	Melastomataceae/ Combretaceae				136	156	268	38
6	Palmae	cf. <i>Euterpe</i>		type 1	27	6	8	13

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
7	Malpighiaceae	undiff.			6			
8	Ulmaceae		<i>Celtis</i>		1	8		7
9	Euphorbiaceae		<i>Alchornea</i>	type 1				2
10	Piperaceae		<i>Piper</i>		1			1
11	Cecropiaceae		<i>Cecropia</i>			2	3	3
12				Type 12	2		1	4
13	Fabaceae (Pap.)		<i>Machaerium</i>				1	2
35	Poaceae				3	1	2	3
37				Type 37			2	
38	Apocynaceae		<i>Aspidosperma</i>			4		
41				Type 41				14
43	Sapindaceae					1		
47	Elaeocarpaceae		<i>Sloanea</i>		13	4		
50				Type 50		6	10	1
60				Type 60			1	
61				Type 61	7			
63	Pteropsidia (monolete)	undiff.				1	4	
71	Euphorbiaceae		<i>Acalypha</i>		2			1
99				Type 99		2		
122				Type 122				1
189				Type 189			1	
190				Type 190				1
193	Euphorbiaceae		<i>Alchornea</i>	type 2		1		
241				Type 241		4		
286				Type 286				79
307						2		
308						1		
309						4		4
310						1	2	1
311							1	
312							1	
313								52
314								3
315					2			
	Total				312	320	371	362

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
	Broken				1	3	3	3
	Concealed				2			2
	Corroded							
	Crumpled					6		1
	Degraded							
	Lycopodium counted				59	53	22	133
	Lycopodium per tablet				12542	12542	12542	12542
	Lycopodium tablets added				1	2	2	2
	Lycopodium added				12542	25084	25084	25084

1.3 Los Fierros 1

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
1	Araliaceae		<i>Didymopanax</i>			5	3	72
2	Moraceae/ Urticaceae			2 pore	272	296	80	48
3	Moraceae/ Urticaceae			3 pore	1	5	2	48
4	Moraceae/ Urticaceae			4 pore				9
5	Melastomataceae/ Combretaceae				26	27	4	42
6	Palmae	cf.	<i>Euterpe</i>	type 1	3	2	3	18
7	Malpighiaceae	undiff.						2
8	Ulmaceae		<i>Celtis</i>		4	8		24
9	Euphorbiaceae		<i>Alchornea</i>	type 1			1	
11	Cecropiaceae		<i>Cecropia</i>		1		4	3
12				Type 12			1	1
13	Fabaceae (Pap.)		<i>Machaerium</i>			11		4
15				Type 15				6
17				Type 17	2			
21	Ulmaceae		<i>Trema</i>		5		2	1
22				Type 22	2			
23				Type 23	1			
24	Pteropsidia (trilete)	undiff.		type 1	1			
25	Polypodiaceae	undiff.			2	1		

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
26				Type 26	2			
27	Rubiaceae		<i>Ferdinandusa</i>	<i>elliptica</i>	1			
29	Araceae	cf.	<i>Anthurium</i>		5	2		1
30				Type 30	2	1		1
31				Type 31	2			
32				Type 32	1			
33				Type 33	1			
34				Type 34	1			4
35	Poaceae						1	
41				Type 41				1
42	Umbelliferae					5		1
43	Sapindaceae					1		
44				Type 44		2		
45				Type 45		4		
46				Type 46		1		
53	Euphorbiaceae		<i>Hyeronima</i>				1	
54							1	
55				Type 55			3	1
56				Type 56			1	
58				Type 58				2
61				Type 61				5
62	Anacardiaceae		<i>Spondias</i>					1
63	Pteropsidia (monolete)	undiff.						6
64				Type 64				2
65	Apocynaceae		<i>Thevetia</i>					2
115	Anacardiaceae		<i>Astronium</i>					
	Total				335	371	107	305
	Broken				2		5	3
	Concealed						2	3
	Corroded						1	
	Crumpled				1		2	5
	Degraded						6	3

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
	Lycopodium counted				76	29	9	214
	Lycopodium per tablet				12542	12542	12542	12542
	Lycopodium tablets added				2	2	2	1
	Lycopodium added				25084	25084	25084	12542

1.4 Los Fierros, Cerradão

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119
1	Araliaceae	<i>Didymopanax</i>				8	8
2	Moraceae/ Urticaceae			2 pore	2	15	71
3	Moraceae/ Urticaceae			3 pore		8	32
4	Moraceae/ Urticaceae			4 pore			5
5	Melastomataceae/ Combretaceae					36	11
6	Palmae	cf. <i>Euterpe</i>		type 1	2	30	24
7	Malpighiaceae	undiff.					1
8	Ulmaceae	<i>Celtis</i>				3	3
9	Euphorbiaceae	<i>Alchornea</i>		type 1	1		
11	Cecropiaceae	<i>Cecropia</i>				4	1
12				Type 12		3	30
20	Myrtaceae				1	5	5
21	Ulmaceae	<i>Trema</i>				4	
24	Pteropsidia (trilete)	undiff.		type 1			2
28				Type 28		2	
35	Poaceae				2	40	19
37				Type 37		8	
42	Umbelliferae					1	
45				Type 45	1	9	
50				Type 50		5	35
60				Type 60			3
63	Pteropsidia (monolete)	undiff.			2	14	10
76	Betulaceae	<i>Alnus</i>					1

ID	Family		Genera	species	Type	T99-113	T99-117	T99-119	
89	Fabaceae (Mim.)		<i>Mimosa</i>			1			
93					Type 93		11		
122					Type 122			1	
154					Type 154		2		
161	cf Fabaceae (Ceas.)		<i>Cassia</i>					4	
162					Type 162		25	3	
175	Fabaceae (Pap.)		<i>Machaerium/Dalbergia</i>		type 1			22	
179	Rubiaceae		<i>Borreria</i>			2			
182					Type 182	1			
183	Fabaceae (Mim.)	undiff.			8 polyad	1			
185					Type 185			3	
188					Type 188		13	2	
190					Type 190		4		
191					Type 191		1		
192	Poaceae	cf	<i>Zea</i>				5		
193	Euphorbiaceae		<i>Alchornea</i>		type 2		6	2	
194					Type 192		2		
195	Solanaceae	cf	<i>Solanum</i>				7	1	
196	Dilleniaceae		<i>Curatella</i>	<i>americana</i>			4		
197					Type 197		1		
198					Type 198		1		
199	Dilleniaceae		<i>Davillia</i>				1		
200					Type 200			5	
247					Type 247			8	
253	Fabaceae (Ceas.)		<i>Apuleia</i>	<i>leiocapa</i>				4	
254					Type 254			1	
255					Type 255			1	
256					Type 256			2	

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119	
	Total				16	278	320	
	Broken				3	7	3	
	Concealed					7	7	
	Corroded					1		
	Crumpled				1		2	
	Degraded				4	4	2	
	Lycopodium counted				7	453	255	
	Lycopodium per tablet				12542	12542	12542	
	Lycopodium tablets added				2	2	2	
	Lycopodium added				25084	25084	25084	

1.5 Los Fierros, Pampa termitero

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126	T99-130
1	Araliaceae	<i>Didymopanax</i>			2	7	9	
2	Moraceae/ Urticaceae			2 pore	89	86	119	15
3	Moraceae/ Urticaceae			3 pore	13	17	12	1
4	Moraceae/ Urticaceae			4 pore	16	7		
5	Melastomataceae/ Combretaceae			Type 1	15	12	10	3
6	Palmae	cf. <i>Euterpe</i>		Type 1	9	9	5	3
8	Ulmaceae	<i>Celtis</i>			9	6		3
11	Cecropiaceae	<i>Cecropia</i>			3			16
12				Type 12	5	21	32	2
13	Fabaceae (Pap.)	<i>Machaerium</i>			2			
21	Ulmaceae	<i>Trema</i>			5		6	12
24	Pteropsidia (trilete)	undiff.		type 1	4	2		
25	Polypodiaceae	undiff.			8	3		
35	Poaceae				34	47	62	41
42	Umbelliferae						4	
43	Sapindaceae				1	2	1	
47	Elaeocarpaceae	<i>Sloanea</i>				1		
50				Type 50	4	6	10	1

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126	T99-130
60				Type 60	1		1	
62	Anacardiaceae	<i>Spondias</i>			3	6	1	
63	Pteropsidia (monolete)	undiff.			1			
73	Asteraceae (Asteroide/Cardue)	undiff.			1			
77				Type 77		1		
89	Fabaceae (Mim.)	<i>Mimosa</i>						1
90	Podocarpaceae	<i>Podocarpus</i>				2	1	
98	Arecaceae			type 2		2		
108	Pteropsidia (trilete) undiff.			type 2		1	1	1
110				Type 110	1		3	3
119cf	Myrtaceae					2		
144				Type 144			1	
148	Apocynaceae	<i>Hancorina</i>				2		
159	Gentianaceae					1		
179	Rubiaceae	<i>Borreria</i>					1	
188				Type 188				6
190				Type 190	2	4	5	
193	Euphorbiaceae	<i>Alchornea</i>		type 2	19	15	18	7
202				Type 202				1
240				Type 240		2		
241				Type 241	3		4	
242cf	Fabaceae (Ceas.)	<i>Bauhinia</i>				1		
252	Burseraceae	<i>Protium</i>				2		
257	Bignoniaceae	<i>Tabebuia</i>	cf. <i>rose-alba</i>		2			
266	Asteraceae (Lactucaae)	undiff				1		
274				Type 274	7	11		
275				Type 275	1	3		
276				Type 276	2			
277	Palmae	<i>Mauritia/Mauritella</i>			1	3		
278				Type 278	1			1
279				Type 279	1			1

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126	T99-130
280				Type 280	2			
281				Type 281	1			
282	Polygonaceae	<i>Coccoloba</i>	<i>coronata</i>		1	1	1	
283				Type 283	1			
284				Type 284		9		
285				Type 285		2		
286				Type 286		8		
287				Type 287		3		
288				Type 288		3		
289				Type 289		1		
290				Type 290		2		
291				Type 291		2		
292				Type 292		1		
293				Type 293		2		
294				Type 294		1		
295				Type 295		1	6	
296				Type 296			3	
297	Euphorbiaceae	<i>Alchornea</i>		type 3			2	
298				Type 298			2	
299				Type 299			5	
300				Type 300			1	
301				Type 301			1	
302	Sapindaceae	<i>Talisia</i>					1	
303	Aquifoliaceae	<i>Ilex</i>					1	
304	Palmae			type 3				30
305				Type 305				13
306	Fabaceae (Ceas.)	<i>Bauhinia</i>	<i>guianensis</i>					3
	Total				272	321	332	164

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126	T99-130
	Broken				9	8		3
	Concealed				2	6	4	
	Corroded				3	5	2	
	Crumpled				4	12	8	5
	Degraded				1	2		5
	Lycopodium counted				534	727	387	0
	Lycopodium per tablet				12542	12542	12542	
	Lycopodium tablets added				2	2	2	0
	Lycopodium added				25084	25084	25084	0

2. Pollen percentages

2.1 Acuario 2

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
1	Araliaceae		<i>Didymopanax</i>		2.28	13.58	5.02	2.86
2	Moraceae/ Urticaceae			2 pore	7.17	15.03	11.29	13.65
3	Moraceae/ Urticaceae			3 pore	3.26	7.51	2.19	6.67
4	Moraceae/ Urticaceae			4 pore	0.98		1.57	2.22
5	Melastomataceae/ Combretaceae				0.98	0.58	0.31	2.86
6	Palmae	cf.	<i>Euterpe</i>	type 1	1.30	7.23	1.57	25.08
7	Malpighiaceae	undiff.				0.87	0.94	
8	Ulmaceae		<i>Celtis</i>			1.45	1.25	1.59
9	Euphorbiaceae		<i>Alchornea</i>	type 1	0.65	0.29		0.63
10	Piperaceae		<i>Piper</i>		6.51	0.29	17.24	
11	Cecropiaceae		<i>Cecropia</i>		0.33	1.16	1.25	
12				Type 12		0.29		2.22
13	Fabaceae (Pap.)		<i>Machaerium</i>				0.31	0.95
20	Myrtaceae				1.63	1.73	0.31	1.27
21	Ulmaceae		<i>Trema</i>			0.58	0.63	
24	Pteropsidia (trilete)	undiff.		type 1	0.33	1.45	3.45	0.95
25	Polypodiaceae	undiff.				9.25	0.94	1.27
35	Poaceae				0.65	5.49	0.94	4.13
43	Sapindaceae					0.58		0.95
50				Type 50		11.27		

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
60				Type 60			0.94	
63	Pteropsidia (monolete)	undiff.			0.33			1.59
65	Apocynaceae	<i>Thevetia</i>			0.33		0.31	0.32
68	Fabaceae (Mim.)	<i>Acacia</i>				2.60		9.21
71	Euphorbiaceae	<i>Acalypha</i>				0.29		0.95
72	Fabaceae (Mim.)	<i>Anadenanthera</i>			41.69	0.29	25.71	17.78
73	Asteraceae (Asteroide/Cardue)	undiff.			0.33	0.29		0.32
76	Betulaceae	<i>Alnus</i>				0.29		0.32
77				Type 77	0.33			
79	Bromeliaceae	undiff.			0.33		0.63	
83	Solanaceae	<i>Solanum</i>						0.63
94				Type 94	0.65			
95				Type 95		0.29		
98	Arecaceae			type 2			1.88	
99				Type 99	14.66	0.29	3.76	
101				Type 101	0.65			
102	Fabaceae (Mim.)	<i>8 polyad</i>			5.54	6.94	1.57	
103	Fabaceae (Ceas.)	<i>Caesalpinia</i>			0.65			
104				Type 104	3.26		5.96	
105				Type 105	1.63			
106	cf Betulaceae	<i>Betula</i>			0.98			
107	Meliaceae	<i>Swetenia</i>			0.33	0.29		
108	Pteropsidia (trilete) undiff.			type 2	0.65	0.29	2.82	
109				Type 109	0.33			
110				Type 110	0.33			
111				Type 111	0.65			
112				Type 112	0.33	0.29		
113	cf Rutaceae	<i>Citrus</i>					0.63	
116				Type 116			0.63	
118				Type 118		0.58		
119	cf Myrtaceae					0.29		
120				Type 120		0.29		

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
121				Type 121		0.58		
122				Type 122		0.29		
123				Type 123		0.58		
124				Type 124		2.60		
125				Type 125		0.29		0.63
126	Pteropsidia (trilete) undiff.			type 3		0.87	0.31	
127				Type 127		0.87		
128				Type 128		0.29		
129	Fabaceae (Mim.)	<i>4 polyad</i>				0.29		
130	Anacardiaceae	<i>Astronium</i>	<i>fraxinifolium</i>			0.87	0.63	0.63
131				Type 131		0.29		
134				Type 134			1.57	
135				Type 135			0.31	
136	Apocynaceae	<i>Forsteronia</i>					1.57	
137				Type 137			0.63	
138				Type 138			0.63	
139	Apocynaceae	<i>Mandevilla</i>					0.31	
166	Sterculiaceae	<i>Sterculia</i>				0.29		
171	Fabaceae (Mim.)	<i>Enterlobium</i>						0.32
	Total				10	10	10	10
	Broken					2.47	1.81	0.63
	Concealed					0.27	0.30	
	Corroded							
	Crumpled				0.32	2.47	1.51	0.63
	Degraded							0.31

2.2 Las Londras 1

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
1	Araliaceae	<i>Didymopanax</i>			1.60	1.25		0.55
2	Moraceae/ Urticaceae			2 pore	26.28	26.56	14.56	28.73
3	Moraceae/ Urticaceae			3 pore	6.09	6.56	1.89	4.14

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
4	Moraceae/ Urticaceae			4 pore	0.96	1.56	1.08	0.28
5	Melastomataceae/ Combretaceae				43.59	48.75	72.24	10.50
6	Palmae	cf.	<i>Euterpe</i>	type 1	8.65	1.88	2.16	3.59
7	Malpighiaceae	undiff.			1.92			
8	Ulmaceae		<i>Celtis</i>		0.32	2.50		1.93
9	Euphorbiaceae		<i>Alchornea</i>	type 1				0.55
10	Piperaceae		<i>Piper</i>		0.32			0.28
11	Cecropiaceae		<i>Cecropia</i>			0.63	0.81	0.83
12				Type 12	0.64		0.27	1.10
13	Fabaceae (Pap.)		<i>Machaerium</i>				0.27	0.55
24	Pteropsidia (trilete)	undiff.		type 1		0.31	0.27	
25	Polypodiaceae	undiff.			0.96			
28				Type 28				2.76
35	Poaceae				0.96	0.31	0.54	0.83
37				Type 37			0.54	
38	Apocynaceae		<i>Aspidosperma</i>			1.25		
41				Type 41				3.87
43	Sapindaceae					0.31		
47	Elaeocarpaceae		<i>Sloanea</i>		4.17	1.25		
50				Type 50		1.88	2.70	0.28
60				Type 60			0.27	
61				Type 61	2.24			
63	Pteropsidia (monolete)	undiff.				0.31	1.08	
71	Euphorbiaceae		<i>Acalypha</i>		0.64			0.28
99				Type 99		0.63		
122				Type 122				0.28
189				Type 189			0.27	
190				Type 190				0.28
193	Euphorbiaceae		<i>Alchornea</i>	type 2		0.31		
241				Type 241		1.25		
286				Type 286				21.82
307						0.63		

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
308						0.31		
309						1.25		1.10
310						0.31	0.54	0.28
311							0.27	
312							0.27	
313								14.36
314								0.83
315					0.64			
	Total				10	10	10	10
	Broken				0.32	0.91	0.80	0.82
	Concealed				0.63			0.54
	Corroded							
	Crumpled					1.82		0.27
	Degraded							

2.3 Los Fierros 1

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
1	Araliaceae	<i>Didymopanax</i>				1.35	2.80	23.61
2	Moraceae/ Urticaceae			2 pore	81.19	79.78	74.77	15.74
3	Moraceae/ Urticaceae			3 pore	0.30	1.35	1.87	15.74
4	Moraceae/ Urticaceae			4 pore				2.95
5	Melastomataceae/ Combretaceae				7.76	7.28	3.74	13.77
6	Palmae	cf. <i>Euterpe</i>		type 1	0.90	0.54	2.80	5.90
7	Malpighiaceae	undiff.						0.66
8	Ulmaceae	<i>Celtis</i>			1.19	2.16		7.87
9	Euphorbiaceae	<i>Alchornea</i>		type 1			0.93	
11	Cecropiaceae	<i>Cecropia</i>			0.30		3.74	0.98
12				Type 12			0.93	0.33
13	Fabaceae (Pap.)	<i>Machaerium</i>				2.96		1.31
15				Type 15				1.97
17				Type 17	0.60			
21	Ulmaceae	<i>Trema</i>			1.49		1.87	0.33
22				Type 22	0.60			
23				Type 23	0.30			
24	Pteropsidia (trilete)	undiff.		type 1	0.30			
25	Polypodiaceae	undiff.			0.60	0.27		

ID	Family		Genera	species	Type	T99-82	T99-84	T99-86	T99-88
26					Type 26	0.60			
27	Rubiaceae		<i>Ferdinandusa</i>	<i>elliptica</i>		0.30			
29	Araceae	cf.	<i>Anthurium</i>			1.49	0.54		0.33
30					Type 30	0.60	0.27		0.33
31					Type 31	0.60			
32					Type 32	0.30			
33					Type 33	0.30			
34					Type 34	0.30			1.31
35	Poaceae							0.93	
41					Type 41				0.33
42	Umbelliferae						1.35		0.33
43	Sapindaceae						0.27		
44					Type 44		0.54		
45					Type 45		1.08		
46					Type 46		0.27		
53	Euphorbiaceae		<i>Hyeronima</i>					0.93	
54								0.93	
55					Type 55			2.80	0.33
56					Type 56			0.93	
58					Type 58				0.66
61					Type 61				1.64
62	Anacardiaceae		<i>Spondias</i>						0.33
63	Pteropsidia (monolete)	undiff.							1.97
64					Type 64				0.66
65	Apocynaceae		<i>Thevetia</i>						0.66
	Total					10	10	10	10
	Broken					0.59		4.07	0.94
	Concealed							1.63	0.94
	Corroded							0.81	
	Crumpled					0.30		1.63	1.57
	Degraded							4.88	0.94

2.4 Los Fierros, Cerradão

ID	Family		Genera	species	Type	T99-113	T99-117	T99-119
1	Araliaceae		<i>Didymopanax</i>				2.88	2.50
2	Moraceae/ Urticaceae				2 pore	12.50	5.40	22.19
3	Moraceae/ Urticaceae				3 pore		2.88	1
4	Moraceae/ Urticaceae				4 pore			1.56
5	Melastomataceae/ Combretaceae						12.95	3.44
6	Palmae	cf.	<i>Euterpe</i>		type 1	12.50	10.79	7.50
7	Malpighiaceae	undiff.						0.31
8	Ulmaceae		<i>Celtis</i>				1.08	0.94
9	Euphorbiaceae		<i>Alchornea</i>		type 1	6.25		
11	Cecropiaceae		<i>Cecropia</i>				1.44	0.31
12					Type 12		1.08	9.38
20	Myrtaceae					6.25	1.80	1.56
21	Ulmaceae		<i>Trema</i>				1.44	
24	Pteropsidia (trilete)	undiff.			type 1			0.63
28					Type 28		0.72	
35	Poaceae					12.50	14.39	5.94
37					Type 37		2.88	
42	Umbelliferae						0.36	
45					Type 45	6.25	3.24	
50					Type 50		1.80	10.94
60					Type 60			0.94
63	Pteropsidia (monolete)	undiff.				12.50	5.04	3.13
76	Betulaceae		<i>Alnus</i>					0.31
89	Fabaceae (Mim.)		<i>Mimosa</i>			6.25		
93					Type 93		3.96	
122					Type 122			0.31
154					Type 154		0.72	
161	cf Fabaceae (Ceas.)		<i>Cassia</i>					1.25
162					Type 162		8.99	0.94
175	Fabaceae (Pap.)		<i>Machaerium/ Dalbergia</i>		type 1			6.88
179	Rubiaceae		<i>Borreria</i>			12.50		

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119
182				Type 182	6.25		
183	Fabaceae (Mim.)	undiff.		8 polyad	6.25		
185				Type 185			0.94
188				Type 188		4.68	0.63
190				Type 190		1.44	
191				Type 191		0.36	
192	Poaceae	cf	<i>Zea</i>			1.80	
193	Euphorbiaceae		<i>Alchornea</i>	type 2		2.16	0.63
194				Type 192		0.72	
195	Solanaceae	cf	<i>Solanum</i>			2.52	0.31
196	Dilleniaceae		<i>Curatella</i>	<i>americana</i>		1.44	
197				Type 197		0.36	
198				Type 198		0.36	
199	Dilleniaceae		<i>Davillia</i>			0.36	
200				Type 200			1.56
247				Type 247			2.50
253	Fabaceae (Ceas.)		<i>Apuleia</i>	<i>leiocapa</i>			1.25
254				Type 254			0.31
255				Type 255			0.31
256				Type 256			0.63
	Total				10	10	10
	Broken				12.50	2.36	0.90
	Concealed					2.36	2.10
	Corroded					0.34	
	Crumpled				4.17		0.60
	Degraded				16.67	1.35	0.60

2.5 Los Fierros, Pampa termitero

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126	T00-130
1	Araliaceae		<i>Didymopanax</i>		0.74	2.18	2.71	

ID	Family		Genera	species	Type	T99-113	T99-117	T99-119	
2	Moraceae/ Urticaceae				2 pore	32.72	26.79	35.84	9.15
3	Moraceae/ Urticaceae				3 pore	4.78	5.30	3.61	0.61
4	Moraceae/ Urticaceae				4 pore	5.88	2.18		
5	Melastomataceae/ Combretaceae					5.51	3.74	3.01	1.83
6	Palmae	cf.	<i>Euterpe</i>		type 1	3.31	2.80	1.51	1.83
8	Ulmaceae		<i>Celtis</i>			3.31	1.87		1.83
11	Cecropiaceae		<i>Cecropia</i>			1.10			9.76
12					Type 12	1.84	6.54	9.64	1.22
13	Fabaceae (Pap.)		<i>Machaerium</i>			0.74			
21	Ulmaceae		<i>Trema</i>			1.84		1.81	7.32
24	Pteropsidia (trilete)	undiff.			type 1	1.47	0.62		
25	Polypodiaceae	undiff.				2.94	0.93		
35	Poaceae					12.50	14.64	18.67	25.00
42	Umbelliferae							1.20	
43	Sapindaceae					0.37	0.62	0.30	
47	Elaeocarpaceae		<i>Sloanea</i>				0.31		
50					Type 50	1.47	1.87	3.01	0.61
60					Type 60	0.37		0.30	
61					Type 61				
62	Anacardiaceae		<i>Spondias</i>			1.10	1.87	0.30	
63	Pteropsidia (monolete)	undiff.				0.37			
71	Euphorbiaceae		<i>Acalypha</i>			0.37		0.90	
73	Asteraceae (Asteroide/Cardue)	undiff.				0.37			
77					Type 77		0.31		
89	Fabaceae (Mim.)		<i>Mimosa</i>						0.61
90	Podocarpaceae		<i>Podocarpus</i>				0.62	0.30	
98	Arecaceae				type 2		0.62		
108	Pteropsidia (trilete) undiff.				type 2		0.31	0.30	0.61
110					Type 110	0.37		0.90	1.83
119	cf Myrtaceae						0.62		
130	Anacardiaceae		<i>Astronium</i>	<i>fraxinifolium</i>		0.37			
144					Type 144			0.30	

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119		
148	Apocynaceae		<i>Hancorina</i>			0.62			
159	Gentianaceae					0.31			
179	Rubiaceae		<i>Borreria</i>				0.30		
188				Type 188					3.66
190				Type 190	0.74	1.25	1.51		
193	Euphorbiaceae		<i>Alchornea</i>	type 2	6.99	4.67	5.42	4.27	
202				Type 202					0.61
240				Type 240		0.62			
241				Type 241	1.10		1.20		
242	cf Fabaceae (Ceas.)		<i>Bauhinia</i>			0.31			
252	Burseraceae		<i>Protium</i>			0.62			
257	Bignoniaceae		<i>Tabebuia</i>	cf. <i>rose-alba</i>	0.74				
266	Asteraceae (Lactucae)	undiff				0.31			
274				Type 274	2.57	3.43			
275				Type 275	0.37	0.93			
276				Type 276	0.74				
277	Palmae		<i>Mauritia/Mauritella</i>		0.37	0.93			
278				Type 278	0.37				0.61
279				Type 279	0.37				0.61
280				Type 280	0.74				
281				Type 281	0.37				
282	cf Polygonaceae		<i>Coccoloba</i>	<i>coronata</i>	0.37	0.31	0.30		
283				Type 283	0.37				
284				Type 284		2.80			
285				Type 285		0.62			
286				Type 286		2.49			
287				Type 287		0.93			
288				Type 288		0.93			
289				Type 289		0.31			
290				Type 290		0.62			

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119		
291				Type 291		0.62			
292				Type 292		0.31			
293				Type 293		0.62			
294				Type 294		0.31			
295				Type 295		0.31	1.81		
296				Type 296			0.90		
297	Euphorbiaceae	<i>Alchornea</i>		type 3			0.60		
298				Type 298			0.60		
299				Type 299			1.51		
300				Type 300			0.30		
301				Type 301			0.30		
302	Sapindaceae	<i>Talisia</i>					0.30		
303	Aquifoliaceae	<i>Ilex</i>					0.30		
304	Palmae			type 3					18.29
305				Type 305					7.93
306	Fabaceae (Ceas.)	<i>Bauhinia</i>	<i>guianensis</i>						1.83
	Total				10	10	10		10
	Broken				3.09	2.26			1.69
	Concealed				0.69	1.69	1.16		
	Corroded				1.03	1.41	0.58		
	Crumpled				1.37	3.39	2.31		2.82
	Degraded				0.34	0.56			2.82

3. Pollen accumulation rates

Given in grains per cm⁻² per year⁻¹

3.1 Acuario 2

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
1	Araliaceae	<i>Didymopanax</i>			14.97	63.62	63.73	6.14
2	Moraceae/ Urticaceae			2 pore	47.06	70.39	143.40	29.33
3	Moraceae/ Urticaceae			3 pore	21.39	35.20	27.88	14.33
4	Moraceae/ Urticaceae			4 pore	6.42		19.92	4.78

ID	Family		Genera	species	Type	T99-52	T99-54	T99-57	T99-59
5	Melastomataceae/Combretaceae					6.42	2.71	3.98	6.14
6	Palmae	cf.	<i>Euterpe</i>		type 1	8.56	33.84	19.92	53.89
7	Malpighiaceae	undiff.					4.06	11.95	
8	Ulmaceae		<i>Celtis</i>				6.77	15.93	3.41
9	Euphorbiaceae		<i>Alchornea</i>		type 1	4.28	1.35		1.36
10	Piperaceae		<i>Piper</i>			42.78	1.35	219.08	
11	Cecropiaceae		<i>Cecropia</i>			2.14	5.41	15.93	
12					Type 12		1.35		4.78
13	Fabaceae (Pap.)		<i>Machaerium</i>					3.98	2.05
20	Myrtaceae					10.70	8.12	3.98	2.73
21	Ulmaceae		<i>Trema</i>				2.71	7.97	
24	Pteropsidia (trilete)	undiff.			type 1	2.14	6.77	43.82	2.05
25	Polypodiaceae	undiff.					43.32	11.95	2.73
35	Poaceae					4.28	25.72	11.95	8.87
43	Sapindaceae						2.71		2.05
50					Type 50		52.79		
60					Type 60			11.95	
63	Pteropsidia (monolete)	undiff.				2.14			3.41
65	Apocynaceae		<i>Thevetia</i>			2.14		3.98	0.68
68	Fabaceae (Mim.)		<i>Acacia</i>				12.18		19.78
71	Euphorbiaceae		<i>Acalypha</i>				1.35		2.05
72	Fabaceae (Mim.)		<i>Anadenanthera</i>			273.82	1.35	326.63	38.20
73	Asteraceae (Asteroide/Cardue)	undiff.				2.14	1.35		0.68
76	Betulaceae		<i>Alnus</i>				1.35		0.68
77					Type 77	2.14			
79	Bromeliaceae	undiff.				2.14		7.97	
83	Solanaceae		<i>Solanum</i>						1.36
94					Type 94	4.28			
95					Type 95		1.35		
98	Arecaceae				type 2			23.90	
99					Type 99	96.26	1.35	47.80	
101					Type 101	4.28			
102	Fabaceae (Mim.)		8 polyad			36.37	32.49	19.92	

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
103	Fabaceae (Ceas.)	<i>Caesalpinia</i>			4.28			
104				Type 104	21.39		75.68	
105				Type 105	10.70			
106	cf Betulaceae	<i>Betula</i>			6.42			
107	Meliaceae	<i>Swetenia</i>			2.14	1.35		
108	Pteropsidia (trilete) undiff.			type 2	4.28	1.35	35.85	
109				Type 109	2.14			
110				Type 110	2.14			
111				Type 111	4.28			
112				Type 112	2.14	1.35		
113	cf Rutaceae	<i>Citrus</i>					7.97	
116				Type 116			7.97	
118				Type 118		2.71		
119	cf Myrtaceae					1.35		
120				Type 120		1.35		
121				Type 121		2.71		
122				Type 122		1.35		
123				Type 123		2.71		
124				Type 124		12.18		
125				Type 125		1.35		1.36
126	Pteropsidia (trilete) undiff.			type 3		4.06	3.98	
127				Type 127		4.06		
128				Type 128		1.35		
129	Fabaceae (Mim.)	<i>4 polyad</i>				1.35		
130	Anacardiaceae	<i>Astronium</i>	<i>fraxinifolium</i>			4.06	7.97	1.36
131				Type 131		1.35		
134				Type 134			19.92	
135				Type 135			3.98	
136	Apocynaceae	<i>Forsteronia</i>					19.92	
137				Type 137			7.97	

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
138				Type 138			7.97	
139	Apocynaceae	<i>Mandevilla</i>					3.98	
166	Sterculiaceae	<i>Sterculia</i>				1.35		
171	Fabaceae (Mim.)	<i>Enterlobium</i>						0.68
	Total				656.73	468.38	1270.68	214.89
	Broken					12.18	23.90	1.36
	Concealed					1.35	3.98	
	Corroded							
	Crumpled				2.14	12.18	19.92	1.36
	Degraded							0.68

3.2 Las Londras 1

ID	Family	Genera	species	Type	T99-143	T99-145	T99-147	T99-149
1	Araliaceae	<i>Didymopanax</i>			14.68	26.15		5.21
2	Moraceae/ Urticaceae			2 pore	240.82	555.79	850.62	270.99
3	Moraceae/ Urticaceae			3 pore	55.80	137.31	110.27	39.08
4	Moraceae/ Urticaceae			4 pore	8.81	32.69	63.01	2.61
5	Melastomataceae/ Combretaceae			Type 1	399.41	1020.03	4221.59	99.01
6	Palmae	cf. <i>Euterpe</i>		Type 1	79.30	39.23	126.02	33.87
7	Malpighiaceae	undiff.			17.62			
8	Ulmaceae	<i>Celtis</i>			2.94	52.31		18.24
9	Euphorbiaceae	<i>Alchornea</i>		Type 1				5.21
10	Piperaceae	<i>Piper</i>			2.94			2.61
11	Cecropiaceae	<i>Cecropia</i>				13.08	47.26	7.82
12				Type 12	5.87		15.75	10.42
13	Fabaceae (Pap.)	<i>Machaerium</i>					15.75	5.21
24	Pteropsidia (trilete)	undiff.		type 1		6.54	15.75	
25	Polypodiaceae	undiff.			8.81			
26				Type 26				
27	Rubiaceae	<i>Ferdinandusa</i>	<i>elliptica</i>					
28				Type 28				26.06
35	Poaceae				8.81	6.54	31.50	7.82
37				Type 37			31.50	
38	Apocynaceae	<i>Aspidosperma</i>				26.15		

ID	Family	Genera	species	Type	T99-52	T99-54	T99-57	T99-59
41				Type 41				36.48
43	Sapindaceae					6.54		
47	Elaeocarpaceae	<i>Sloanea</i>			38.18	26.15		
50				Type 50		39.23	157.52	2.61
60				Type 60			15.75	
61				Type 61	20.56			
63	Pteropsidia (monolete)	undiff.				6.54	63.01	
71	Euphorbiaceae	<i>Acalypha</i>			5.87			2.61
99				Type 99		13.08		
122				Type 122				2.61
189				Type 189			15.75	
190				Type 190				2.61
193	Euphorbiaceae	<i>Alchornea</i>		type 2		6.54		
241				Type 241		26.15		
286				Type 286				205.84
307						13.08		
308						6.54		
309						26.15		10.42
310						6.54	31.50	2.61
311							15.75	
312							15.75	
313								135.49
314								7.82
315					5.87			
	Total				916.30	2092.37	5844.07	943.24
	Broken				2.94	19.62	47.26	7.82
	Concealed				5.87			5.21
	Corroded							
	Crumpled					39.23		2.61
	Degraded							

3.3 Los Fierros 1

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
1	Araliaceae	<i>Didymopanax</i>				59.75	115.52	58.30
2	Moraceae/ Urticaceae			2 pore	1240.28	3537.19	3080.43	38.87

ID	Family		Genera	species	Type	T99-82	T99-84	T99-86	T99-88
3	Moraceae/ Urticaceae				3 pore	4.56	59.75	77.01	38.87
4	Moraceae/ Urticaceae				4 pore				7.29
5	Melastomataceae/ Combretaceae				Type 1	118.56	322.65	154.02	34.01
6	Palmae	cf.	<i>Euterpe</i>		Type 1	13.68	23.90	115.52	14.57
7	Malpighiaceae	undiff.							1.62
8	Ulmaceae		<i>Celtis</i>			18.24	95.60		19.43
9	Euphorbiaceae		<i>Alchornea</i>		Type 1			38.51	
11	Cecropiaceae		<i>Cecropia</i>			4.56		154.02	2.43
12					Type 12			38.51	0.81
13	Fabaceae (Pap.)		<i>Machaerium</i>				131.45		3.24
15					Type 15				4.86
17					Type 17	9.12			
21	Ulmaceae		<i>Trema</i>			22.80		77.01	0.81
22					Type 22	9.12			
23					Type 23	4.56			
24	Pteropsidia (trilete)	undiff.			type 1	4.56			
25	Polypodiaceae	undiff.				9.12	11.95		
26					Type 26	9.12			
27	Rubiaceae		<i>Ferdinandusa</i>	<i>elliptica</i>		4.56			
29	Araceae	cf.	<i>Anthurium</i>			22.80	23.90		0.81
30					Type 30	9.12	11.95		0.81
31					Type 31	9.12			
32					Type 32	4.56			
33					Type 33	4.56			
34					Type 34	4.56			3.24
35	Poaceae							38.51	
41					Type 41				0.81
42	Umbelliferae						59.75		0.81
43	Sapindaceae						11.95		
44					Type 44		23.90		
45					Type 45		47.80		
46					Type 46		11.95		
53	Euphorbiaceae		<i>Hyeronima</i>					38.51	

ID	Family	Genera	species	Type	T99-82	T99-84	T99-86	T99-88
54							38.51	
55				Type 55			115.52	0.81
56				Type 56			38.51	
58				Type 58				1.62
61				Type 61				4.05
62	Anacardiaceae		<i>Spondias</i>					0.81
63	Pteropsidia (monolete)	undiff.						4.86
64				Type 64				1.62
65	Apocynaceae		<i>Thevetia</i>					1.62
	Total				1527.55	4433.44	4120.08	246.96
	Broken				9.12		192.53	2.43
	Concealed						77.01	2.43
	Corroded						38.51	
	Crumpled				4.56		77.01	4.05
	Degraded						231.03	2.43

3.4 Los Fierros, Cerradão

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119
1	Araliaceae		<i>Didymopanax</i>			6.12	10.87
2	Moraceae/ Urticaceae			2 pore	99.01	11.48	96.49
3	Moraceae/ Urticaceae			3 pore		6.12	43.49
4	Moraceae/ Urticaceae			4 pore			6.80
5	Melastomataceae/ Combretaceae			Type 1		27.54	14.95
6	Palmae	cf.	<i>Euterpe</i>	Type 1	99.01	22.95	32.62
7	Malpighiaceae	undiff.					1.36
8	Ulmaceae		<i>Celtis</i>			2.30	4.08
9	Euphorbiaceae		<i>Alchornea</i>	Type 1	49.51		
11	Cecropiaceae		<i>Cecropia</i>			3.06	1.36
12				Type 12		2.30	40.77
20	Myrtaceae				49.51	3.83	6.80
21	Ulmaceae		<i>Trema</i>			3.06	
24	Pteropsidia (trilete)	undiff.		type 1			2.72
28				Type 28		1.53	

ID	Family		Genera	species	Type	T99-113	T99-117	T99-119	
35	Poaceae					99.01	30.60	25.82	
37					Type 37		6.12		
42	Umbelliferae						0.77		
45					Type 45	49.51	6.89		
50					Type 50		3.83	47.57	
60					Type 60			4.08	
63	Pteropsidia (monolete)	undiff.				99.01	10.71	13.59	
76	Betulaceae		<i>Alnus</i>					1.36	
89	Fabaceae (Mim.)		<i>Mimosa</i>			49.51			
93					Type 93		8.42		
122					Type 122			1.36	
154					Type 154		1.53		
161	cf Fabaceae (Ceas.)		<i>Cassia</i>					5.44	
162					Type 162		19.13	4.08	
175	Fabaceae (Pap.)		<i>Machaerium/Dalbergia</i>		type 1			29.90	
179	Rubiaceae		<i>Borreria</i>			99.01			
182					Type 182	49.51			
183	Fabaceae (Mim.)	undiff.			8 polyad	49.51			
185					Type 185			4.08	
188					Type 188		9.95	2.72	
190					Type 190		3.06		
191					Type 191		0.77		
192	Poaceae	cf	<i>Zea</i>				3.83		
193	Euphorbiaceae		<i>Alchornea</i>		type 2		4.59	2.72	
194					Type 192		1.53		
195	Solanaceae	cf	<i>Solanum</i>				5.36	1.36	
196	Dilleniaceae		<i>Curatella</i>	<i>americana</i>			3.06		
197					Type 197		0.77		
198					Type 198		0.77		
199	Dilleniaceae		<i>Davillia</i>				0.77		
200					Type 200			6.80	

ID	Family	Genera	species	Type	T99-113	T99-117	T99-119
247				Type 247			10.87
248				Type 248			
249				Type 249			
250				Type 250			
251				Type 251			
252	Burseraceae	<i>Protium</i>					
253	Fabaceae (Ceas.)	<i>Apuleia</i>	<i>leiocapa</i>				5.44
254				Type 254			1.36
255				Type 255			1.36
256				Type 256			2.72
	Total				792.11	212.67	434.88
	Broken				148.52	5.36	4.08
	Concealed					5.36	9.51
	Corroded					0.77	
	Crumpled				49.51		2.72
	Degraded				198.03	3.06	2.72

3.5 Los Fierros, Pampa termitero

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126
1	Araliaceae	<i>Didymopanax</i>			1.30	3.34	8.06
2	Moraceae/ Urticaceae			2 pore	57.76	40.99	106.56
3	Moraceae/ Urticaceae			3 pore	8.44	8.10	10.75
4	Moraceae/ Urticaceae			4 pore	10.38	3.34	
5	Melastomataceae/ Combretaceae			Type 1	9.73	5.72	8.95
6	Palmae	cf. <i>Euterpe</i>		Type 1	5.84	4.29	4.48
8	Ulmaceae	<i>Celtis</i>			5.84	2.86	
11	Cecropiaceae	<i>Cecropia</i>			1.95		
12				Type 12	3.24	10.01	28.66
13	Fabaceae (Pap.)	<i>Machaerium</i>			1.30		
21	Ulmaceae	<i>Trema</i>			3.24		5.37
24	Pteropsidia (trilete)	undiff.		type 1	2.60	0.95	

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126
25	Polypodiaceae	undiff.			5.19	1.43	
35	Poaceae				22.06	22.40	55.52
42	Umbelliferae						3.58
43	Sapindaceae				0.65	0.95	0.90
47	Elaeocarpaceae	<i>Sloanea</i>				0.48	
50				Type 50	2.60	2.86	8.95
60				Type 60	0.65		0.90
62	Anacardiaceae	<i>Spondias</i>			1.95	2.86	0.90
63	Pteropsidia (monolete)	undiff.			0.65		
71	Euphorbiaceae	<i>Acalypha</i>			0.65		2.69
72	Fabaceae (Mim.)	<i>Anadenanthera</i>					
73	Asteraceae (Asteroide/Cardue)	undiff.			0.65		
77				Type 77		0.48	
90	Podocarpaceae	<i>Podocarpus</i>				0.95	0.90
98	Arecaceae			type 2		0.95	
108	Pteropsidia (trilete) undiff.			type 2		0.48	0.90
109				Type 109			
110				Type 110	0.65		2.69
119cf	Myrtaceae					0.95	
130	Anacardiaceae	<i>Astronium</i>	<i>fraxinifolium</i>		0.65		
144				Type 144			0.90
148	Apocynaceae	<i>Hancorina</i>				0.95	
159	Gentianaceae					0.48	
179	Rubiaceae	<i>Borreria</i>					0.90
190				Type 190	1.30	1.91	4.48
191				Type 191			
192	Poaceae	cf <i>Zea</i>					
193	Euphorbiaceae	<i>Alchornea</i>		type 2	12.33	7.15	16.12
240				Type 240		0.95	
241				Type 241	1.95		3.58
242cf	Fabaceae (Ceas.)	<i>Bauhinia</i>				0.48	
252	Burseraceae	<i>Protium</i>				0.95	
257	Bignoniaceae	<i>Tabebuia</i>	cf. <i>rose-alba</i>		1.30		
266	Asteraceae (Lactucaae)	undiff				0.48	

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126
274				Type 274	4.54	5.24	
275				Type 275	0.65	1.43	
276				Type 276	1.30		
277	Palmae	<i>Mauritia/Mauritella</i>			0.65	1.43	
278				Type 278	0.65		
279				Type 279	0.65		
280				Type 280	1.30		
281				Type 281	0.65		
282	cf Polygonaceae	<i>Coccoloba</i>	<i>coronata</i>		0.65	0.48	0.90
283				Type 283	0.65		
284				Type 284		4.29	
285				Type 285		0.95	
286				Type 286		3.81	
287				Type 287		1.43	
288				Type 288		1.43	
289				Type 289		0.48	
290				Type 290		0.95	
291				Type 291		0.95	
292				Type 292		0.48	
293				Type 293		0.95	
294				Type 294		0.48	
295				Type 295		0.48	5.37
296				Type 296			2.69
297	Euphorbiaceae	<i>Alchornea</i>		type 3			1.79
298				Type 298			1.79
299				Type 299			4.48
300				Type 300			0.90
301				Type 301			0.90

ID	Family	Genera	species	Type	T99-121	T99-124	T99-126
302	Sapindaceae	<i>Talisia</i>					0.90
303	Aquifoliaceae	<i>Ilex</i>					0.90
	Total				176.52	153.02	297.30
	Broken				5.84	3.81	
	Concealed				1.30	2.86	3.58
	Corroded				1.95	2.38	1.79
	Crumpled				2.60	5.72	7.16
	Degraded				0.65	0.95	

Appendix VI

Vegetation unit classifications

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Appendix VI

Vegetation unit classifications

1. Continental to regional scale

Biome ¹	Ecoregion ¹	Ecosystem ²	Plant community ² [loose English translation*]
Evergreen moist forest	Madeira-Tapajós moist forests	Moist <i>terra firma</i> evergreen forest	<ul style="list-style-type: none"> • Tall <i>terra firma</i> evergreen forest • Dwarf <i>terra firma</i> evergreen forest • Evergreen <i>terra firma</i> liana forest • Evergreen <i>terra firma</i> mixed liana forest
Evergreen moist forest	Madeira-Tapajós moist forests	Moist inundated evergreen forest	<ul style="list-style-type: none"> • Tall inundated evergreen forest • Low inundated evergreen forest • Tall riverine evergreen forest • Pioneer riverine evergreen forest
Semi-deciduous dry broadleaf forest	Chiquitano dry forests	Deciduous and semi-deciduous dry forest	<ul style="list-style-type: none"> • Deciduous dry forest • Semi-deciduous dry forest • Semi-deciduous palm forest • Semi-deciduous inundated dry forest
Grasslands, savannahs and shrublands	Cerrado (<i>sensu lato</i>)	<i>Terra firma</i> savannah	<ul style="list-style-type: none"> • Campo limpo, campo rupestre, campo sujo, campo húmido [open savannah] • Campo cerrado [shrubby savannah] • Cerrado (<i>sensu stricto</i>) [open woodland] • Cerradão [closed woodland]
Flooded grasslands and savannahs	Pantanal	Seasonally inundated savannah	<ul style="list-style-type: none"> • Pampa aguada [inundated open savannah] • Pampa termitero [inundated shrub savannah/termite savannah] • Inundated scrubland • Savannah marsh • Palm marsh • Marsh

1 = Olson *et al.* (2001)

2 = Killeen and Schulenberg (1998)

* = Loose English translation given where ecosystem has a distinct Spanish name.

2. Regional to plot scale

Ecosystem¹	Plant community¹	Plot name²
Moist <i>terra firma</i> evergreen forest	Evergreen <i>terra firma</i> liana forest	El Chore 1 El Chore 2
	Tall <i>terra firma</i> evergreen forest	Los Fierros 1 Los Fierros 2
Moist inundated evergreen forest	Tall inundated evergreen forest	Las Londras 1 Las Londras 2
	Tall riverine evergreen forest	Monte Cristo 1 Monte Cristo 2
Deciduous and semi-deciduous dry forest	Deciduous dry forest	Cerro Pilou 1 Cerro Pilou 2
	Semi-deciduous dry forest	Acuario 1 Acuario 2
	Semi-deciduous inundated dry forest	Monte Verde
<i>Terra firma</i> savannah	Campo cerrado	Los Fierros, Campo cerrado
	Cerradão	Los Fierros, Carradão
Seasonally inundated savannah	Pampa aguada	Toledo
	Pampa termitero	Los Fierros, Pampa termitero

Defined by:

1 = Killeen and Schulenberg (1998)

2 = Panfil (2001)

Appendix VII

Pollen trap data

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Appendix VII

Pollen data

In this appendix first the pollen taxa are listed in order of identification (ID) number. Then the pollen data is presented for the three ecosystems referenced through the ID numbers: i) count data, ii) pollen percentage data, and iii) pollen accumulation rates. Taxa which are not present in an ecosystem have been removed from the individual plot lists to save space.

1. Taxa list

ID	Family		Genus	Species	Type
1	Araliaceae		<i>Didymopanax</i>		
2	Moraceae/ Urticaceae				(2 pore)
3	Moraceae/ Urticaceae				(3 pore)
4	Moraceae/ Urticaceae				(4 pore)
5	Melastomataceae/ Combretaceae				
6	Palmae				(type 1) cf. <i>Euterpe</i>
7	Malpighiaceae	undiff.			
8	Ulmaceae		<i>Celtis</i>		
9	Euphorbiaceae		<i>Alchornea</i>		(type 1) cf. <i>glandulosa/grandis</i>
10	Piperaceae		<i>Piper</i>		
11	Cecropiaceae		<i>Cecropia</i>		
12	Moraceae/ Urticaceae				(5 pore)
13	Fabaceae (Papilionodeae)		<i>Machaerium/Dalbergia/ (Malpighiaceae Byrsonima)</i>		(type 1)
14	Euphorbiaceae		<i>Alchornea</i>		(type 2) cf. <i>schomburgkii/triplinervia</i>
15					Type 15
16					Type 16
17					Type 17
18					Type 18
19					Type 19
20	Myrtaceae	undiff.			
21	Ulmaceae		<i>Trema</i>		
22					Type 22
23					Type 23

ID	Family		Genus	Species	Type
24	Pteropsidia (trilete)	undiff.			(type 1)
25	Polypodiaceae	undiff.			
26					Type 26
27	Rubiaceae		<i>Ferdinandusa</i>	<i>elliptica</i>	
28	Connaraceae		<i>Connerus</i>		
29	Araceae	cf.	<i>Anthurium</i>		
30					Type 30
31					Type 31
32					Type 32
33					Type 33
34					Type 34
35	Poaceae				
36	Anacardiaceae/ Chrysobalanaceae		<i>Tapirira/Hirtella</i>		
37					Type 37
38	Apocynaceae		<i>Aspidosperma</i>	cf. <i>cruenta</i>	
39					Type 39
40					Type 40
42					Type 42
44					Type 44
45					Type 45
46	Asteraceae (Asteroide/Cardue)	undiff.			
47	Elaeocarpaceae		<i>Sloanea</i>		
48	Burseraceae		<i>Crepidosperrum</i>		type cf. Burseraceae <i>Crepidosperrum/Protium</i> , Flacortiaceae <i>Casearia</i> , Sapotaceae <i>Pouteria</i>
49					Type 49
50					Type 50
51	cf. Lythraceae		<i>Cuphea</i>		
52					Type 52
53	Euphorbiaceae		<i>Hyeronima</i>		
54					Type 54
55					Type 55
56	Hippocrateaceae/ Malpighiaceae		<i>Anthodon/ Banisteriopsis</i>		
57					Type 57
58					Type 58
60					Type 60
61					Type 61
62					Type 62
63	Pteropsidia (monolete)	undiff.			
64					Type 64
65	Apocynaceae		<i>Thevetia</i>		
66					Type 66

ID	Family	Genus	Species	Type
67	Fabaceae (Mimosoideae)	<i>Inga</i>	<i>ignoides</i>	
68	Fabaceae (Mimosoideae)	<i>Acacia</i>		
69				Type 69
70				Type 70
71	Euphorbiaceae	<i>Acalypha</i>		(3 pore)
72	Fabaceae (Mimosoideae)	<i>Anadenanthera</i>		
74				Type 74
75				Type 75
76	Betulaceae	<i>Alnus</i>		
77	Fabaceae (Caesalpinioideae)	<i>Apuleia</i>	<i>leocarpa</i>	
79	Bromeliaceae	undiff.		
80				Type 80
81				Type 81
83				Type 83
84				Type 84
85				Type 85
86				Type 86
87				Type 87
89	Fabaceae (Mimosoideae)	<i>Mimosa</i>		
90	Podocarpaceae	<i>Podocarpus</i>		
91				Type 91
92				Type 92
93				Type 93
94				Type 94
95				Type 95
96				Type 96
98	Palmae			(type 2) cf. <i>Attalea</i>
99				Type 99
100				Type 100
101				Type 101
103	Fabaceae (Caesalpinioideae)	<i>Caesalpinia</i>		(type 1)
104				Type 104
105				Type 105
107	Meliaceae	<i>Swetenia</i>		
108	Pteropsidia (trilete)	undiff.		(type 2)
109				Type 109
110				Type 110
111				Type 111
112				Type 112
113	Verbenaceae	<i>Lippia</i>		
114				Type 114
115	Anacardiaceae	<i>Astronium</i>	cf. <i>urundava</i>	

ID	Family		Genus	Species	Type
116	Euphorbiaceae		<i>Sebastiania</i>		
117					Type 117
118					Type 118
120					Type 120
121					Type 121
122	Euphorbiaceae		<i>Sapium</i>		
123					Type 123
124					Type 124
125					Type 125
126	Pteropsidia (trilete)	undiff.			(type 3)
127					Type 127
128					Type 128
129	Fabaceae (Mimosoideae)	undiff.			(4 polyad)
130	Rutaceae		<i>Zanthoxylum</i>		
131	Pteropsidia (trilete)	undiff.			(type 4)
133					Type 133
134	Rhamnaceae		<i>Rhamnidium</i>		
135					Type 135
136	Fabaceae (Mimosoideae)	cf.	<i>Samanea</i>	<i>tubulosa</i>	
138	Tiliaceae	cf.	<i>Luehea</i>		
139	Apocynaceae		<i>Mandevilla</i>		
140					Type 140
142	Sapindaceae		<i>Dilodendron</i>		
143					Type 143
144					Type 144
145					Type 145
146	Bignoniaceae	undiff.			type 1
147					Type 147
148	Malpighiaceae	cf.	<i>Dicella</i>		
149					Type 149
150	Euphorbiaceae		<i>Dalechampsia</i>		
151					Type 151
152					Type 152
153					Type 153
154					Type 154
155	Fabaceae (Caesalpinioideae)		<i>Hymeneae</i>		
156					Type 156
157	Fabaceae (Caesalpinioideae)		<i>Caesalpinia</i>		(type 2)
158	Tiliaceae		<i>Heliocarpus</i>		
159	Gentianaceae				
160	Flacortiaceae				
162					Type 162
164	Anacardiaceae		<i>Spondias</i>	<i>mombin</i>	
165	Bombacaceae		<i>Chorisia</i>		
166	Sterculiaceae		<i>Sterculia</i>		

ID	Family	Genus	Species	Type
167	Fabaceae (Papilionodeae)	<i>Amburana</i>		
168				Type 168
169	Boraginaceae	<i>Cordia</i>		
170				Type 170
171	Fabaceae (Mimosoideae)	<i>Enterlobium</i>		
172				Type 172
173				Type 173
174	cf. Loganiaceae			
176				Type 176
177				Type 177
178				Type 178
179	Rubiaceae	<i>Borreria</i>		
180				Type 180
181				Type 181
182				Type 182
183	Fabaceae (Mimosoideae)	undiff.		(8 polyad)
185				Type 185
187				Type 187
189				Type 189
190				Type 190
192	Poaceae	cf. <i>Zea</i>		
194				Type 192
195	Solanaceae	<i>Solanum</i>		
196	Dilleniaceae	<i>Curatella</i>	<i>americana</i>	
197				Type 197
198				Type 198
199	Dilleniaceae	<i>Davillia</i>		
200				Type 200
201	Fabaceae (Papilionodeae)	<i>Machaerium/Dalbergia/ (Malpighiaceae Byrsonima)</i>		(type 2)
202	Fabaceae (Papilionodeae)	<i>Galactia</i>		
203				Type 203
204				Type 204
205	Polygalaceae	<i>Polygala</i>		
207				Type 207
208				Type 208
211				Type 211
213				Type 213
214	Bombacaceae	cf. <i>Eriotheca</i>		
215	Sapindaceae	<i>Matayba</i>		
216				Type 216
217				Type 217

ID	Family	Genus	Species	Type
218				Type 218
219				Type 219
220				Type 220
221				Type 221
222				Type 222
223				Type 223
224				Type 224
225				Type 225
226	Fabaceae (Papilionodeae)	<i>Crotalaria</i>		
227				Type 227
228				Type 228
229				Type 229
230				Type 230
231				Type 231
232				Type 232
233	Cyperaceae			
234	Apocynaceae	undiff.		
235				Type 235
237	Fabaceae (Papilionodeae)	<i>Ormosia</i>		
238				Type 238
239				Type 239
240				Type 240
241				Type 241
242	Fabaceae cf. (Ceasalpiniodeae)	<i>Bauhinia</i>		
243	Lythraceae	<i>Lafoensia</i>		
244	Amaranthaceae	<i>Alternanthera</i>		
245				Type 245
246				Type 246
247				Type 247
248	Rubiaceae	<i>Alibertia/Amaioua</i>		
249				Type 249
250				Type 250
251				Type 251
254				Type 254
255				Type 255
256				Type 256
257	Bignoniaceae	<i>Tabebuia</i>	cf <i>roseo-alba</i>	
258	Polygonaceae	<i>Polygonum</i>		
260				Type 260
262				Type 262
263				Type 263
264				Type 264
265				Type 265
266	Asteraceae (Lactucae)	undiff		
267	Loranthaceae	<i>Psittacanthus</i>		
268	Euphorbiaceae	<i>Acalypha</i>		(4 pore)

ID	Family		Genus	Species	Type
269	Malphiaceae	cf.	<i>Malphigia</i>		
270					Type 270
271	Onagraceae		<i>Ludwigia</i>		
272	Tiliaceae		<i>Apaiba</i>	<i>tibourbou</i>	
273					Type 273
274					Type 274
275					Type 275
276					Type 276
277	Arecaceae		<i>Mauritia/Mauritella</i>		
278					Type 278
279					Type 279
280					Type 280
281					Type 281
282	cf. Polygonaceae		<i>Coccoloba</i>	<i>coronata</i>	
283					Type 283
284					Type 284
285					Type 285
286					Type 286
287	Anacardiaceae		<i>Astronium</i>	<i>fraxinifolium</i>	
288					Type 288
289					Type 289
292					Type 292
294					Type 294
296					Type 296
297	Euphorbiaceae		<i>Alchornea</i>		(type 3)
298					Type 298
300					Type 300
301					Type 301
302	Sapindaceae		<i>Talisia</i>		
303	Aquifoliaceae		<i>Ilex</i>		
304	Palmae				(type 3) cf. <i>Astrocaryum</i>
305					Type 305
308					Type 308
309					Type 309
310					Type 310
311					Type 311
312					Type 312
313	Elaeocarpaceae	cf.	<i>Muntingia</i>		
315	Euphorbiaceae		<i>Hevea</i>	<i>brasiliensis</i>	
316	Sapindaceae		<i>Serjana</i>		
317	Sapindaceae	undiff.			(type 1)
318	Sapindaceae	cf.	<i>Cupania</i>		

2. Pollen counts

2.1 Acuario 2

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
1	1	7	1	47	3		16	2	9	4	1	2	5	1	1	2	9	8	1	1
2	10	22	25	52	27	8	36	7	43	32	38	35	46	21	81	13	3	11	2	13
3		10	1	26	1	1	7		21	2		1			4					2
4		3	1				5		7											1
5		3		2			1		9			2	1	1			1	12	2	7
6	5	4	3	25	18	2	5	2	79	2					3	1		4		1
7				3			3													
8			4	5	2	1	4		5		1	1	2	2	6					1
9	1	2		1	1				2		1	2		1	3	1		1		2
10		20	9	1	3		55			1	4				6	1			1	
11		1	6	4	5		4	2		6	1	4	3	3	4	2		2	1	
12	1		4	1					7		1	2		3	2					
13							1		3											
16			2									8								
20		5	5	7			1		4	4	1	1	2			2		3		1
21	5			2	1		2			2	2	4	3	2		2			1	1
24	1	1	17	5		5	11	29	3	3	2		1					1		6
25	3		1	32	1		3	1	4					1				2		
27											43	4		1						
32					1															
35	8	2	7	19	6	5	3	14	13		10	9	10	4	1	3	3	13		7
42													1				1			
46	2	1	1	1				1	1		11				2		4	6	9	5
50			3	39																

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
60	3						3													
63	2	1	1						5					1						
65		1					1		1							1				
68				9				1	29	1									1	
71				1					3		2		1			1				1
72	49	145	2	25		31	87	64	56	34	5	8	2	26	2	52	68	10	74	51
76				1					1				1							
77		1	1					1					1			19				
79	5	1	3		7		2	1		6				3			2	2		1
83									2											
89					1	3							2		2					
90																1				
94	1	2																		
95	22			1																
96	1																			
98	3		12		45	51	6	7		8		10	11	5	1	3	1	9		3
99	2	45		1		1	12				1									
100	1																			
101		2																		
103		2															1		1	
104		10	1				19	1				3		18					4	
105		5																		
107		1		1																
108		2	17	1		13	9				5									
109		1																		
110		1					2	1					1							
111		2																		
112		1		1	1															
113			1				2													
114			1																	

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01	
115			1												1				1		
116			2				2					1									
117			1			4															
118				2								6									
120				1																	
121				2																	
122				1																	
123				2																	
124				9																	
125				1					2												
126				3			1			3											
127				3																	
128				1																	
129				1																	
130				3			2		2	2				1	1			1			
131				1						2											
133					1																
134							5	1						1							
135							1						1								
136							5								3	3	1				
138							2														
139							1														
140								1											2		
142										5							1				
143										1											
144											1								2		
145											1				1						
146											1										
147												1									
148														1	2		1	1			

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01	
149											1										
150												3						1			
151												1	4								
152												1									2
153												1									
154												1									
155														1							2
156														1							
157														1							
158														2							
159														1							
160															1	1					
162																5	2				1
164																1					
165																	1				
166				1													1				1
167																	2				
168																	1				
169													3					2	2		
170																		3			
171									1									2			
172																		1			
173																					1
174																					1
257					1																
316		3	2	2	1				3	1	1							7			1
Σ	126	307	135	346	126	125	319	136	315	119	133	105	104	106	127	114	103	106	100	114	

2.2 Los Fierros 1

75

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90
1	6			5	29	3	8	72	1	2			10	1	1		1	3	10	2
2	64	272	69	296	56	80	56	48	101	61	166	79	57	42	39	86	33	80	29	31
3	1	1	3	5	2	2	4	48	1		1	5	1	3		6	6	6	14	4
4			1		2			9						3			3	1	3	4
5	12	26	3	27	5	4	1	42	1	6		4	2	11	7	6		2	16	
6	7	3	1	2	1	3	5	18			3	5	6	3	22	7	4		4	7
7								2												
8		4	1	8	2			24			2	2	2		1	2	1	1	4	1
9			1		1	1	4						2	2	4	2	1	2	3	2
10	1									2										
11	4	1	4		1	4	11	3	2	14		7	2	3	20	4	3	1	15	1
12	3		5		1	1		1				2		3	1	2	1	2		2
13				11				4										1		
14	1																			
15	1						1	6				4					3		3	
16	1																			
17	1	2																		
18	1																			
19	1																			
20	1						1			1				1					1	1
21		5	6		1	2		1	2	3			1		1					
22		2																		
23		1																		
24		1																		
25		2		1																
26		2																		
27		1					2										1		1	

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90
28			2					1								1				
29		5		2				1												
30		2		1				1									2			
31		2																		
32		1																		
33		1																		
34		1	1					4												
35			1			1											1	1	1	
36			2																	
37			1															2		1
38			1		1															
39			1																1	
40			1																	
42				5			1	1												
44				2			2													
45				4										1					2	1
46			1	1									1				1			1
47	2				1						1	1			3		1			
48					2															
49					1															
50					2		2			1					2					
51					1															
52					1															
53						1				14		4	1		22		3	1		47
54						1	1								1					
55						3		1												
56						1														
57							1													
58							1	2										8	1	
60																				

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90	
61								5												1	
62								1				1						1			
63								6		1							2				
64								2													
65								2													
66										1											
67										1				3							
68												1									
69												2	1	2	2	4					
70												1									
71													1			1	1			1	
72													1								
74													21				2				
75													1								
76													1								
77													1		1						1
79				1										2		2					
80														2							1
81														1							
83															1						3
84																	1				
85																	1				
86																	1				
87																		1			
89																					1
90																					1
91																					1
92																					1
93																					1

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90
318				1							1									
Σ	107	335	106	371	110	107	101	305	108	107	172	119	116	80	128	130	68	111	114	111

2.3 Los Fierros, Cerradão

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
1	4		1	8		8	6			1		3	1	5	4	3		3	3	1	
2	28	2	23	15	36	71	25	23	18	17	19	24	23	11	25	14	6	13	9	11	18
3	4		3	21	4	34	1		2	1	1	3	3	7	4	9	3	18	12	14	22
4						5		1			1		6		1		1	3	3	4	
5	3		3	36	2	11		2	1	1	3		1	4	2	1		4	1	7	4
6	1	2	5	30	12	24		1	1			1		19	1	2	2	1	6	3	3
7						1															
8	1			3	1	3	1			1			8		6	3	2	2	3	1	2
9	4	1	5		1		1	5	3	4	4	1							1		
10			1																		
11	4		2	4	6	1	2	5	2	1	9	2	5		3	2	1	10	4	6	8
12	2			3		30	1	2								2					
13	2		1			22			3				1					2		1	1
14				6		2							1	5	6	5	6	8	6	5	7
15								2					1	2	8	4		1		2	
20	1	1	10	5	1	5		1	3	1	1				2		52	1	13	5	1
21				4				1		1					1	1		1	2	3	2
22												1									
24	1				2	2							2					1	1	1	3
25															3						1
28				2																	

78

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
189	2				1		1														
190				4			2	1				1									
192				5																	
194				2																	
195				7		1	15	35	2		3	2	9	6	9	40	9	17	9	11	3
196				4																	
197				1				5				1	5								
198				1																	
199				1												1		1	1		
200						5							2								
201							2	10			1				3					1	
202							1														
203							2														
204							1														
205							1														
207							2														
208								1													1
211										1									1		
213											2										
214											1										
215											1									1	
216												1									
217												1									
218												1	1							1	
219												2									
220												1									
221												1									
222													1								
223													1								

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01	
224													2	2	4							
225													1									
226														1								
227															1							
228															1			2				
229															1					3		1
230															1							
231															2	1	5					
232																						
233															1				1			1
234																1						
235																2			1			
237																	1					
238																	1					
239																		4	1	8		4
240																		1	2	3		1
241																		1				
242																			1			
243																			1			
244												1									1	
245																					1	
246																					1	
247						8															1	2
248																						1
249																						1
250																						1
251																						
254						1																
255						1																

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
256						2															
317									1					1		4		1			
Σ	106	16	112	277	99	320	100	108	97	99	104	98	105	99	115	106	122	107	104	108	105

3. Pollen percentages

3.1 Acuario 2

84

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
1	0.79	2.28	0.74	13.58	2.38		5.02	1.47	2.86	3.36	0.75	1.90	4.81	0.94	0.79	1.75	8.74	7.55	1.00	0.88
2	7.94	7.17	18.52	15.03	21.43	6.40	11.29	5.15	13.65	26.89	28.57	33.33	44.23	19.81	63.78	11.40	2.91	10.38	2.00	11.40
3		3.26	0.74	7.51	0.79	0.80	2.19		6.67	1.68		0.95			3.15					1.75
4		0.98	0.74				1.57		2.22											0.88
5		0.98		0.58			0.31		2.86		1.90	0.96	0.94			0.97	11.32	2.00	6.14	
6	3.97	1.30	2.22	7.23	14.29	1.60	1.57	1.47	25.08	1.68				2.36	0.88		3.77		0.88	
7				0.87			0.94													
8			2.96	1.45	1.59	0.80	1.25		1.59		0.75	0.95	1.92	1.89	4.72					0.88
9	0.79	0.65		0.29	0.79				0.63		0.75	1.90		0.94	2.36	0.88		0.94		1.75
10		6.51	6.67	0.29	2.38		17.24			0.84	3.01			4.72	0.88				1.00	
11		0.33	4.44	1.16	3.97		1.25	1.47		5.04	0.75	3.81	2.88	2.83	3.15	1.75		1.89	1.00	
12	0.79		2.96	0.29					2.22		0.75	1.90		2.83	1.57					
13							0.31		0.95											
16			1.48									7.62								
20		1.63	3.70	2.02			0.31		1.27	3.36	0.75	0.95	1.92			1.75		2.83		0.88
21	3.97			0.58	0.79		0.63			1.68	1.50	3.81	2.88	1.89		1.75			1.00	0.88
24	0.79	0.33	12.59	1.45		4.00	3.45	21.32	0.95	2.52	1.50		0.96					0.94		5.26
25	2.38		0.74	9.25	0.79		0.94	0.74	1.27					0.94				1.89		
27											32.33	3.81		0.94						
32					0.79															
35	6.35	0.65	5.19	5.49	4.76	4.00	0.94	10.29	4.13		7.52	8.57	9.62	3.77	0.79	2.63	2.91	12.26		6.14
42													0.96				0.97			
46	1.59	0.33	0.74	0.29				0.74	0.32		8.27				1.57		3.88	5.66	9.00	4.39
50			2.22	11.27																

150													2.88					0.94			
151													0.96	3.77							
152													0.96							1.75	
153													0.96								
154													0.96								
155														0.94						1.75	
156														0.94							
157														0.94							
158														1.89							
159														0.94							
160															0.79	0.88					
162																4.39	1.94			0.88	
164																0.88					
165																		0.97			
166				0.29														0.97		0.88	
167																		1.94			
168																		0.97			
169													2.88						1.89	2.00	
170																			2.83		
171									0.32										1.89		
172																			0.94		
173																				0.88	
174																				0.88	
257					0.79																
316		0.98	1.48	0.58	0.79					0.95	0.84	0.75								6.60	0.88

3.2 Los Fierros 1

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90
1	5.61			1.35	26.36	2.80	7.92	23.61	0.93	1.87			8.62	1.25	0.78		1.47	2.70	8.77	1.80

68

33		0.30																	
34		0.30	0.94				1.31												
35			0.94			0.93									1.47	0.90	0.88		
36			1.89																
37			0.94													1.80		0.90	
38			0.94		0.91														
39			0.94															0.88	
40			0.94																
42				1.35			0.99	0.33											
44				0.54			1.98												
45				1.08									1.25					1.75	0.90
46			0.94	0.27								0.86			1.47				0.90
47	1.87				0.91						0.84	0.86		2.34	1.47				
48					1.82														
49					0.91														
50					1.82		1.98			0.93					1.56				
51					0.91														
52					0.91														
53						0.93			13.08		3.36	0.86		17.19	4.41	0.90			42.34
54						0.93	0.99							0.78					
55						2.80		0.33											
56						0.93													
57							0.99												
58							0.99	0.66								7.21	0.88		
61								1.64										0.88	
62								0.33			0.84				1.47				
ID T99-81 T99-82 T99-83 T99-84 T99-85 T99-86 T99-87 T99-88 T99-89 T99-90 T00-81 T00-84 T00-86 T00-88 T00-90 T01-81 T01-84 T01-86 T01-88 T01-90																			
63								1.97		0.93					1.54				
64								0.66											
65								0.66											
66										0.93									
67										0.93			2.59						

06

68												0.84									
69												1.68	0.86	2.50	1.56	3.08					
70												0.84									
71													0.86			0.77	1.47			0.88	
72													0.86								
74													18.10			1.54					
75													0.86								
76													0.86								
77													0.86		0.78						0.90
79			0.94											2.50		1.54					
80														2.50							0.90
81														1.25							
83															0.78						2.70
84																0.77					
85																0.77					
86																0.77					
87																	1.47				
89																				0.88	
90																				0.88	
91																				0.88	
92																				0.88	
93																					0.90
318				0.27									0.84								

3.3 Los Fierros, Cerradão

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
1	3.77		0.89	2.89		2.50	6.00			1.01		3.06	0.95	5.05	3.48	2.83		2.80	2.88	0.93	
2	26.42	12.50	20.54	5.42	36.36	22.19	25.00	21.30	18.56	17.17	18.27	24.49	21.90	11.11	21.74	13.21	4.92	12.15	8.65	10.19	17.14

3	3.77		2.68	7.58	4.04	10.63	1.00		2.06	1.01	0.96	3.06	2.86	7.07	3.48	8.49	2.46	16.82	11.54	12.96	20.95
4						1.56		0.93			0.96		5.71		0.87		0.82	2.80	2.88	3.70	
5	2.83		2.68	13.00	2.02	3.44		1.85	1.03	1.01	2.88		0.95	4.04	1.74	0.94		3.74	0.96	6.48	3.81
6	0.94	12.50	4.46	10.83	12.12	7.50		0.93	1.03			1.02		19.19	0.87	1.89	1.64	0.93	5.77	2.78	2.86
7						0.31															
8	0.94			1.08	1.01	0.94	1.00			1.01			7.62		5.22	2.83	1.64	1.87	2.88	0.93	1.90
9	3.77	6.25	4.46		1.01		1.00	4.63	3.09	4.04	3.85	1.02							0.96		
10			0.89																		
11	3.77		1.79	1.44	6.06	0.31	2.00	4.63	2.06	1.01	8.65	2.04	4.76		2.61	1.89	0.82	9.35	3.85	5.56	7.62
12	1.89			1.08		9.38	1.00	1.85							1.89						
13	1.89		0.89			6.88			3.09				0.95					1.87		0.93	0.95
14				2.17		0.63							0.95	5.05	5.22	4.72	4.92	7.48	5.77	4.63	6.67
15								1.85					0.95	2.02	6.96	3.77		0.93		1.85	
20	0.94	6.25	8.93	1.81	1.01	1.56		0.93	3.09	1.01	0.96				1.74		42.62	0.93	12.50	4.63	
21				1.44				0.93		1.01					0.87	0.94		0.93	1.92	2.78	0.95
22												1.02									1.90
24	0.94				2.02	0.63							1.90					0.93	0.96	0.93	2.86
25															2.61						0.95
28				0.72																	
35	12.26	12.50	1.79	14.44	14.14	5.94	9.00	6.48	25.77	37.37	37.50	31.63	4.76	18.18	9.57	4.72	2.46	3.74	3.85	3.70	8.57
37				2.89									2.86				0.82				
42				0.36																	
45		6.25		3.25																	
46	4.72				1.01		1	0.93				9.18		12.12					0.96	0.93	
47													1.90								
	T111- ID	T113- 99	T116- 99	T117- 99	T118- 99	T119- 99	T111- 00	T112- 00	T113- 00	T115- 00	T118- 00	T111- 01	T112- 01	T113- 01	T114- 01	T115- 01	T116- 01	T117- 01	T118- 01	T119- 01	T120- 01
48													0.95								
49							1.00				0.96		0.95								
50	0.94		0.89	1.81	2.02	10.94	4.00		9.28			1.02								0.93	
51							1.00														
58										1.01					5.22						

205						1.00															
207						2.00															
208							0.93												0.93		
211								1.01								0.93					
213									1.92												
214									0.96												
215									0.96									0.96			
216										1.02											
217										1.02											
218										1.02	0.95							0.96			
219										2.04											
220										1.02											
221										1.02											
222											0.95										
223											0.95										
224											1.90	2.02	3.48								
225											0.95										
226												1.01									
227													0.87								
228													0.87			1.87					
229													0.87						2.78	0.95	
230													0.87								
	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
231															1.74	0.94	4.10				
233															0.87			0.93			0.95
234																0.94					
235																1.89		0.93			
237																	0.82				
238																	0.82				
239																		3.74	0.96	7.41	3.81
240																		0.93	1.92	2.78	0.95

241																		0.93			
242																			0.96		
243																			0.96		
244											1.02									0.93	
245																				0.93	
246																				0.93	
247						2.50														0.93	1.90
248																					0.95
249																					0.95
250																					0.95
251																					0.95
254						0.31															
255						0.31															
256						0.63															
317								1.03						0.87		3.28	0.93				

4. Pollen accumulation rates

4.1 Acuario 2

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
1	31	15	5	64	43		64	14	6	40	47	55	325	18	27	149	167	107	74	21
2	306	47	117	70	390	116	143	48	29	320	1796	958	2989	376	2216	965	56	147	149	270
3		21	5	35	14	14	28		14	20		27			109					42
4		6	5				20		5											21
5		6		3			4		6			55	65	18			19	160	149	146
6	153	9	14	34	260	29	20	14	54	20				82	74			53		21
7				4			12													
8			19	7	29	14	16		3		47	27	130	36	164					21
9	31	4		1	14				1		47	55		18	82	74		13		42
10		43	42	1	43		219			10	189				164	74			74	
11		2	28	5	72		16	14		60	47	109	195	54	109	149		27	74	
12	31		19	1					5		47	55		54	55					
13							4		2											
16			9									219								
20		11	23	9			4		3	40	47	27	130			149		40		21
21	153			3	14		8			20	95	109	195	36		149			74	21
24	31	2	80	7		72	44	198	2	30	95		65					13		125
25	92		5	43	14		12	7	3					18				27		
27											2032	109		18						
32					14															
35	245	4	33	26	87	72	12	96	9		473	246	650	72	27	223	56	173		146
42													65				19			
46	61	2	5	1				7	1		520				55		74	80	668	104
50			14	53																

96

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01	
53																					21
60	92						12														
63	61	2	5						3					18							
65		2					4		1								19				
68				12				7	20	10										74	
71				1					2		95		65			74					21
72	1498	310	9	34		448	347	438	38	340	236	219	130	466	55	3862	1262	133	5495	1060	
76				1					1				65								
77		2	5					7					65			1411					
79	153	2	14		101		8	7		60				54			37	27			21
83									1												
89					14	43							130		55						
90																	74				
94	31	4																			
95	673			1																	
96	31																				
98	92		56		650	736	24	48		80		274	715	90	27	223	19	120			62
99	61	96		1		14	48				47										
100	31																				
101		4																			
103		4															19			74	
104		21	5				76	7				82		323						297	
105		11																			
107		2		1																	
108		4	80	1		188	36				236										
109		2																			
110		2					8	7					65								
111		4																			
112		2		1	14																

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
113			5				8													
114			5																	
115			5												27				74	
116			9				8				27									
117			5			58														
118				3							164									
120				1																
121				3																
122				1																
123				3																
124				12																
125				1					1											
126				4			4			30										
127				4																
128				1																
129				1																
130				4			8		1	20				18	27			13		
131				1						20										
133					14															
134							20	7						18						
135							4						65							
136							20								82	223	19			
138							8													
139							4													
140								7											27	
142										50							74			
143										10										
144											47								27	
145											47				27					
146											47									
147												27								

ID	T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99	T51-00	T52-00	T54-00	T57-00	T59-00	T51-01	T52-01	T54-01	T57-01	T59-01
148														18	55		19	13		
149											27									
150													195					13		
151													65	72						
152													65							42
153													65							
154													65							
155														18						42
156														18						
157														18						
158														36						
159														18						
160															27	74				
162																371	37			21
164																74				
165																	19			
166				1													19			21
167																	37			
168																	19			
169													195					27	149	
170																		40		
171									1									27		
172																		13		
173																				21
174																				21
257					14															
316		6	9	3	14				2	10	47							93		21
Σ	3853	657	632	468	1819	1805	1271	930	215	1190	6285	2873	6758	1900	3475	8466	1912	1413	7426	2370

4.2 Los Fierros 1

100

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90
1	223			60	754	116	122	58	520	116			578	260	74		130	520	578	260
2	2376	1240	2110	3537	1456	3080	856	39	52502	3523	14382	8213	3292	10916	2896	5588	4289	13862	1675	4029
3	37	5	92	60	52	77	61	39	520		87	520	58	780		390	780	1040	809	520
4			31		52			7						780			390	173	173	520
5	446	119	92	323	130	154	15	34	520	347		416	116	2859	520	390		347	924	
6	260	14	31	24	26	116	76	15			260	520	347	780	1634	455	520		231	910
7								2												
8		18	31	96	52			19			173	208	116		74	130	130	173	231	130
9			31		26	39	61						116	520	297	130	130	347	173	260
10	37									116										
11	149	5	122		26	154	168	2	1040	809		728	116	780	1485	260	390	173	866	130
12	111		153		26	39		1				208		780	74	130	130	347		260
13				131				3											173	
14	37																			
15	37						15	5				416					390		173	
16	37																			
17	37	9																		
18	37																			
19	37																			
20	37						15			58				260					58	130
21		23	183		26	77		1	1040	173			58		74					
22		9																		
23		5																		
24		5																		
25		9		12																
26		9																		
27		5					31										130		58	
28			61					1								65				

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90	
29		23		24				1													
30		9		12				1									260				
31		9																			
32		5																			
33		5																			
34		5	31					3													
35			31			39											130	173	58		
36			61																		
37			31															347		130	
38			31		26																
39			31																	58	
40			31																		
42				60			15	1													
44				24			31														
45				48										260						116	130
46			31	12									58				130				130
47	74				26						104	58		223		130					
48					52																
49					26																
50					52		31			58					149						
51					26																
52					26																
53						39				809	416	58		1634		390	173			6108	
54						39	15							74							
55						116		1													
56						39															
57							15														
58							15	2										1386	58		
60																					

ID	T99-81	T99-82	T99-83	T99-84	T99-85	T99-86	T99-87	T99-88	T99-89	T99-90	T00-81	T00-84	T00-86	T00-88	T00-90	T01-81	T01-84	T01-86	T01-88	T01-90	
61								4												58	
62								1			104						130				
63								5	58							130					
64								2													
65								2													
66									58												
67									58				173								
68											104										
69											208	58	520	149	260						
70											104										
71												58				65	130			58	
72												58									
74												1213				130					
75												58									
76												58									
77												58			74						130
79			31											520		130					
80														520							130
81														260							
83															74						390
84																	65				
85																	65				
86																	65				
87																		130			
89																					58
90																					58
91																					58
92																					58
93																					130
318				12							104										
Σ	3973	1528	3241	4433	2859	4120	1544	247	56141	6180	14902	12372	6700	20793	9505	8447	8837	19233	6584	14425	

4.3 Los Fierros, Cerradão

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01	
1	59		24	6		11	3			173		32	8	31	51	23		32	34	11		
2	416	99	543	11	312	96	14	3985	390	2946	186	260	187	67	317	107	520	141	102	122	144	
3	59		71	16	35	46	1			43	173	10	32	24	43	51	69	260	195	136	155	176
4						7		173			10		49		13		87	32	34	44		
5	45		71	28	17	15		347	22	173	29		8	24	25	8		43	11	77	32	
6	15	99	118	23	104	33		173	22			11		116	13	15	173	11	68	33	24	
7						1																
8	15			2	9	4	1			173			65		76	23	173	22	34	11	16	
9	59	50	118		9		1	866	65	693	39	11							11			
10			24																			
11	59		47	3	52	1	1	866	43	173	88	22	41		38	15	87	108	45	66	64	
12	30			2		41	1	347								15						
13	30		24			30				65				8					22		11	8
14				5		3								8	31	76	38	520	87	68	55	56
15								347						8	12	101	31		11		22	
20	15	50	236	4	9	7		173	65	173	10				25		4505	11	147	55	8	
21				3				173		173					13	8		11	23	33	16	
22												11										
24	15				17	3								16					11	11	11	24
25															38							8
28				2																		
35	193	99	47	31	121	26	5	1213	541	6411	383	336	41	110	139	38	260	43	45	44	72	
37				6										24				87				
42				1																		
45		50		7																		
46	74				9		6	173				97		73					11	11		
47													16									
48													8									

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
49							1				10		8								
50	15		24	4	17	48	2		195			11									11
51							1														
58										173					76						
60	30				9	4							8	6							
62	15																				
63		99		11	43	14			152		10				13	8	87				
66					9															11	
68									173												
71									173											11	
72												22									
76						1	1														
77						11							8							11	
79					9									6	13					11	16
84																		11			
89	15	50								173											
90																				11	
93				8						173											
94																					33
96								173					8		13	8				23	
98					9				43					12						11	
101													24								
108																				23	
115																	87			33	8
116	15				9				22												
122						1															
130					9										25						
131															13						
136											20								11		
143												11									

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
148													24				87				
151	89						1			347		43	16							57	
154				2												38					
158											10										
160															13	8					
162			47	19		4						11	65	6			87	11			
165									22												
169							1													11	
170																					8
173									22												
176	74		1134						347	43	173					15				11	32
177	15								22												
178	119																				
179	15	99	24							260	4505	137	22								
180	15																				
181	45																				
182		50	47		9		2														
183		50																			
185			47			4	2			173				6	13		1819	22	23		
187					35																
189	30				9		1														
190				3			1	173				11									
192				4																	
194				2																	
195				5		1	9	6065	43		29	22	73	37	114	306	780	184	102	122	24
196				3																	
197				1				866				11	41								
198				1																	
199				1												8		11	11		
200						7							16								

106

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
201							1	1733			10				38				11		
202							1														
203							1														
204							1														
205							1														
207							1														
208								173												11	
211									173									11			
213										20											
214										10											
215										10									11		
216											11										
217											11										
218											11	8							11		
219												22									
220												11									
221												11									
222													8								
223													8								
224													16	12	51						
225													8								
226														6							
227															13						
228															13			22			
229															13					33	8
230															13						
231															25	8	433				8
233															13				11		
234																8					
235																15			11		

Appendix VII: Pollen trap data

ID	T111-99	T113-99	T116-99	T117-99	T118-99	T119-99	T111-00	T112-00	T113-00	T115-00	T118-00	T111-01	T112-01	T113-01	T114-01	T115-01	T116-01	T117-01	T118-01	T119-01	T120-01
237																	87				
238																	87				
239																		43	11	88	32
240																		11	23	33	8
241																		11			
242																			11		
243																			11		
244												11								11	
245																				11	
246																				11	
247						11														11	16
248																					8
249																					8
250																					8
251																					8
254						1															
255						1															
256						3															
317									22						13		347	11			
Σ	1574	792	2646	212	858	435	57	18714	2101	17154	1020	1061	853	605	1458	810	10570	1159	1175	1194	840

Appendix VIII

Intra-plot variation

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Appendix VIII

Intra-plot spatial variation

Spearman's rank correlation coefficients calculated from pollen percentage abundance data for the three main study plots: i) all taxa, ii) taxa $\geq 3\%$, iii) $\geq 5\%$, and iv) $\geq 10\%$.

1. Acuario 2

1.1 Correlation of all taxa present

		T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99
T51-99	Correlation Coefficient	1	0.271	0.331	0.228	0.357	0.379	0.317	0.475	0.328	0.296
	Sig. (2-tailed)	.	0.015	0.003	0.042	0.001	0.001	0.004	0.000	0.003	0.008
	N	80	80	80	80	80	80	80	80	80	80
T52-99	Correlation Coefficient	0.271	1	0.399	0.201	0.269	0.311	0.411	0.339	0.362	0.294
	Sig. (2-tailed)	0.015	.	0.000	0.073	0.016	0.005	0.000	0.002	0.001	0.008
	N	80	80	80	80	80	80	80	80	80	80
T53-99	Correlation Coefficient	0.331	0.399	1	0.294	0.416	0.503	0.493	0.484	0.372	0.409
	Sig. (2-tailed)	0.003	0.000	.	0.008	0.000	0.000	0.000	0.000	0.001	0.000
	N	80	80	80	80	80	80	80	80	80	80
T54-99	Correlation Coefficient	0.228	0.201	0.294	1	0.289	0.288	0.267	0.265	0.488	0.418
	Sig. (2-tailed)	0.042	0.073	0.008	.	0.009	0.010	0.017	0.018	0.000	0.000
	N	80	80	80	80	80	80	80	80	80	80
T55-99	Correlation Coefficient	0.357	0.269	0.416	0.289	1	0.375	0.346	0.373	0.244	0.430
	Sig. (2-tailed)	0.001	0.016	0.000	0.009	.	0.001	0.002	0.001	0.029	0.000
	N	80	80	80	80	80	80	80	80	80	80
T56-99	Correlation Coefficient	0.379	0.311	0.503	0.288	0.375	1	0.478	0.389	0.310	0.312
	Sig. (2-tailed)	0.001	0.005	0.000	0.010	0.001	.	0.000	0.000	0.005	0.005
	N	80	80	80	80	80	80	80	80	80	80
T57-99	Correlation Coefficient	0.317	0.411	0.493	0.267	0.346	0.478	1	0.477	0.291	0.432
	Sig. (2-tailed)	0.004	0.000	0.000	0.017	0.002	0.000	.	0.000	0.009	0.000
	N	80	80	80	80	80	80	80	80	80	80
T58-99	Correlation Coefficient	0.475	0.339	0.484	0.265	0.373	0.389	0.477	1	0.324	0.444
	Sig. (2-tailed)	0.000	0.002	0.000	0.018	0.001	0.000	0.000	.	0.003	0.000
	N	80	80	80	80	80	80	80	80	80	80
T59-99	Correlation Coefficient	0.328	0.362	0.372	0.488	0.244	0.310	0.291	0.324	1	0.302
	Sig. (2-tailed)	0.003	0.001	0.001	0.000	0.029	0.005	0.009	0.003	.	0.007
	N	80	80	80	80	80	80	80	80	80	80
T60-99	Correlation Coefficient	0.296	0.294	0.409	0.418	0.430	0.312	0.432	0.444	0.302	1
	Sig. (2-tailed)	0.008	0.008	0.000	0.000	0.000	0.005	0.000	0.000	0.007	.
	N	80	80	80	80	80	80	80	80	80	80

1.2 Correlation of taxa $\geq 3\%$ abundance

		T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99
T51-99	Correlation Coefficient	1	0.071	0.053	0.301	0.364	0.318	0.123	0.479	0.318	0.209
	Sig. (2-tailed)	.	0.759	0.821	0.186	0.104	0.160	0.596	0.028	0.160	0.362
	N	21	21	21	21	21	21	21	21	21	21
T52-99	Correlation Coefficient	0.071	1	0.286	0.353	0.053	0.242	0.813	0.168	0.357	0.154
	Sig. (2-tailed)	0.759	.	0.209	0.117	0.818	0.290	0.000	0.466	0.112	0.504
	N	21	21	21	21	21	21	21	21	21	21
T53-99	Correlation Coefficient	0.053	0.286	1	0.138	0.458	0.556	0.459	0.488	0.139	0.328
	Sig. (2-tailed)	0.821	0.209	.	0.550	0.037	0.009	0.036	0.025	0.549	0.146
	N	21	21	21	21	21	21	21	21	21	21
T54-99	Correlation Coefficient	0.301	0.353	0.138	1	0.253	0.112	0.293	0.407	0.857	0.177
	Sig. (2-tailed)	0.186	0.117	0.550	.	0.269	0.630	0.198	0.067	0.000	0.442
	N	21	21	21	21	21	21	21	21	21	21
T55-99	Correlation Coefficient	0.364	0.053	0.458	0.253	1	0.149	0.191	0.427	0.193	0.404
	Sig. (2-tailed)	0.104	0.818	0.037	0.269	.	0.520	0.406	0.053	0.402	0.070
	N	21	21	21	21	21	21	21	21	21	21
T56-99	Correlation Coefficient	0.318	0.242	0.556	0.112	0.149	1	0.387	0.464	0.283	0.166
	Sig. (2-tailed)	0.160	0.290	0.009	0.630	0.520	.	0.083	0.034	0.214	0.471
	N	21	21	21	21	21	21	21	21	21	21
T57-99	Correlation Coefficient	0.123	0.813	0.459	0.293	0.191	0.387	1	0.399	0.216	0.210
	Sig. (2-tailed)	0.596	0.000	0.036	0.198	0.406	0.083	.	0.073	0.347	0.362
	N	21	21	21	21	21	21	21	21	21	21
T58-99	Correlation Coefficient	0.479	0.168	0.488	0.407	0.427	0.464	0.399	1	0.519	0.471
	Sig. (2-tailed)	0.028	0.466	0.025	0.067	0.053	0.034	0.073	.	0.016	0.031
	N	21	21	21	21	21	21	21	21	21	21
T59-99	Correlation Coefficient	0.318	0.357	0.139	0.857	0.193	0.283	0.216	0.519	1	0.250
	Sig. (2-tailed)	0.160	0.112	0.549	0.000	0.402	0.214	0.347	0.016	.	0.275
	N	21	21	21	21	21	21	21	21	21	21
T60-99	Correlation Coefficient	0.209	0.154	0.328	0.177	0.404	0.166	0.210	0.471	0.250	1
	Sig. (2-tailed)	0.362	0.504	0.146	0.442	0.070	0.471	0.362	0.031	0.275	.
	N	21	21	21	21	21	21	21	21	21	21

1.3 Correlation of taxa $\geq 5\%$ abundance

		T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99
T51-99	Correlation Coefficient	1	0.012	0.084	0.213	0.302	0.309	-0.119	0.493	0.301	0.323
	Sig. (2-tailed)	.	0.965	0.757	0.429	0.256	0.244	0.660	0.052	0.257	0.222
	N	16	16	16	16	16	16	16	16	16	16
T52-99	Correlation Coefficient	0.012	1	0.086	0.239	-0.050	0.204	0.834	0.021	0.228	0.216
	Sig. (2-tailed)	0.965	.	0.752	0.373	0.855	0.448	0.000	0.940	0.396	0.422
	N	16	16	16	16	16	16	16	16	16	16
T53-99	Correlation Coefficient	0.084	0.086	1	0	0.472	0.632	0.333	0.428	0.023	0.405
	Sig. (2-tailed)	0.757	0.752	.	1	0.065	0.009	0.207	0.098	0.932	0.120
	N	16	16	16	16	16	16	16	16	16	16
T54-99	Correlation Coefficient	0.213	0.239	0	1	0.173	0.077	0.159	0.301	0.806	0.245
	Sig. (2-tailed)	0.429	0.373	1	.	0.521	0.777	0.557	0.258	0.000	0.360
	N	16	16	16	16	16	16	16	16	16	16
T55-99	Correlation Coefficient	0.302	-0.050	0.472	0.173	1	0.191	-0.059	0.299	0.191	0.463
	Sig. (2-tailed)	0.256	0.855	0.065	0.521	.	0.480	0.827	0.260	0.479	0.071
	N	16	16	16	16	16	16	16	16	16	16
T56-99	Correlation Coefficient	0.309	0.204	0.632	0.077	0.191	1	0.290	0.517	0.249	0.399
	Sig. (2-tailed)	0.244	0.448	0.009	0.777	0.480	.	0.275	0.040	0.353	0.126
	N	16	16	16	16	16	16	16	16	16	16
T57-99	Correlation Coefficient	-0.119	0.834	0.333	0.159	-0.059	0.290	1	0.190	0.060	0.333
	Sig. (2-tailed)	0.660	0.000	0.207	0.557	0.827	0.275	.	0.481	0.825	0.207
	N	16	16	16	16	16	16	16	16	16	16
T58-99	Correlation Coefficient	0.493	0.021	0.428	0.301	0.299	0.517	0.190	1	0.519	0.592
	Sig. (2-tailed)	0.052	0.940	0.098	0.258	0.260	0.040	0.481	.	0.039	0.016
	N	16	16	16	16	16	16	16	16	16	16
T59-99	Correlation Coefficient	0.301	0.228	0.023	0.806	0.191	0.249	0.060	0.519	1	0.409
	Sig. (2-tailed)	0.257	0.396	0.932	0.000	0.479	0.353	0.825	0.039	.	0.116
	N	16	16	16	16	16	16	16	16	16	16
T60-99	Correlation Coefficient	0.323	0.216	0.405	0.245	0.463	0.399	0.333	0.592	0.409	1
	Sig. (2-tailed)	0.222	0.422	0.120	0.360	0.071	0.126	0.207	0.016	0.116	.
	N	16	16	16	16	16	16	16	16	16	16

1.4 Correlation of taxa $\geq 10\%$ abundance

		T51-99	T52-99	T53-99	T54-99	T55-99	T56-99	T57-99	T58-99	T59-99	T60-99
T51-99	Correlation Coefficient	1	0.108	-0.284	0.347	0.120	0.233	-0.151	0.444	0.512	0.301
	Sig. (2-tailed)	.	0.752	0.397	0.296	0.725	0.490	0.658	0.172	0.107	0.368
	N	11	11	11	11	11	11	11	11	11	11
T52-99	Correlation Coefficient	0.108	1	-0.170	0.492	-0.115	-0.049	0.795	0.054	0.388	0.306
	Sig. (2-tailed)	0.752	.	0.618	0.124	0.736	0.887	0.003	0.875	0.238	0.360
	N	11	11	11	11	11	11	11	11	11	11
T53-99	Correlation Coefficient	-0.284	-0.170	1	0.063	0.365	0.557	0.151	0.303	0.062	0.297
	Sig. (2-tailed)	0.397	0.618	.	0.853	0.270	0.075	0.658	0.365	0.856	0.375
	N	11	11	11	11	11	11	11	11	11	11
T54-99	Correlation Coefficient	0.347	0.492	0.063	1	0.199	-0.052	0.340	0.453	0.866	0.484
	Sig. (2-tailed)	0.296	0.124	0.853	.	0.558	0.880	0.306	0.162	0.001	0.131
	N	11	11	11	11	11	11	11	11	11	11
T55-99	Correlation Coefficient	0.120	-0.115	0.365	0.199	1	0.218	-0.115	0.202	0.301	0.372
	Sig. (2-tailed)	0.725	0.736	0.270	0.558	.	0.520	0.737	0.552	0.369	0.260
	N	11	11	11	11	11	11	11	11	11	11
T56-99	Correlation Coefficient	0.233	-0.049	0.557	-0.052	0.218	1	0.074	0.577	0.193	0.454
	Sig. (2-tailed)	0.490	0.887	0.075	0.880	0.520	.	0.830	0.063	0.570	0.161
	N	11	11	11	11	11	11	11	11	11	11
T57-99	Correlation Coefficient	-0.151	0.795	0.151	0.340	-0.115	0.074	1	0.173	0.162	0.582
	Sig. (2-tailed)	0.658	0.003	0.658	0.306	0.737	0.830	.	0.611	0.634	0.061
	N	11	11	11	11	11	11	11	11	11	11
T58-99	Correlation Coefficient	0.444	0.054	0.303	0.453	0.202	0.577	0.173	1	0.637	0.653
	Sig. (2-tailed)	0.172	0.875	0.365	0.162	0.552	0.063	0.611	.	0.035	0.029
	N	11	11	11	11	11	11	11	11	11	11
T59-99	Correlation Coefficient	0.512	0.388	0.062	0.866	0.301	0.193	0.162	0.637	1	0.512
	Sig. (2-tailed)	0.107	0.238	0.856	0.001	0.369	0.570	0.634	0.035	.	0.107
	N	11	11	11	11	11	11	11	11	11	11
T60-99	Correlation Coefficient	0.301	0.306	0.297	0.484	0.372	0.454	0.582	0.653	0.512	1
	Sig. (2-tailed)	0.368	0.360	0.375	0.131	0.260	0.161	0.061	0.029	0.107	.
	N	11	11	11	11	11	11	11	11	11	11

2. Los Fierros 1

2.1 Correlation of all taxa present

		T81-99	T82-99	T83-99	T84-99	T85-99	T86-99	T87-99	T88-99	T89-99	T90-99
T81-99	Correlation Coefficient	1	0.205	0.190	0.210	0.361	0.422	0.403	0.282	0.494	0.337
	Sig. (2-tailed)	.	0.120	0.150	0.110	0.005	0.001	0.002	0.030	0.000	0.009
	N	59	59	59	59	59	59	59	59	59	59
T82-99	Correlation Coefficient	0.205	1	0.284	0.428	0.241	0.282	0.181	0.329	0.456	0.156
	Sig. (2-tailed)	0.120	.	0.029	0.001	0.066	0.030	0.170	0.011	0.000	0.237
	N	59	59	59	59	59	59	59	59	59	59
T83-99	Correlation Coefficient	0.190	0.284	1	0.158	0.431	0.459	0.151	0.311	0.487	0.130
	Sig. (2-tailed)	0.150	0.029	.	0.231	0.001	0.000	0.252	0.016	0.000	0.326
	N	59	59	59	59	59	59	59	59	59	59
T84-99	Correlation Coefficient	0.210	0.428	0.158	1	0.276	0.251	0.351	0.463	0.393	0.091
	Sig. (2-tailed)	0.110	0.001	0.231	.	0.034	0.056	0.006	0.000	0.002	0.493
	N	59	59	59	59	59	59	59	59	59	59
T85-99	Correlation Coefficient	0.361	0.241	0.431	0.276	1	0.464	0.371	0.358	0.569	0.296
	Sig. (2-tailed)	0.005	0.066	0.001	0.034	.	0.000	0.004	0.005	0.000	0.023
	N	59	59	59	59	59	59	59	59	59	59
T86-99	Correlation Coefficient	0.422	0.282	0.459	0.251	0.464	1	0.478	0.374	0.681	0.419
	Sig. (2-tailed)	0.001	0.030	0.000	0.056	0.000	.	0.000	0.004	0.000	0.001
	N	59	59	59	59	59	59	59	59	59	59
T87-99	Correlation Coefficient	0.403	0.181	0.151	0.351	0.371	0.478	1	0.316	0.493	0.312
	Sig. (2-tailed)	0.002	0.170	0.252	0.006	0.004	0.000	.	0.015	0.000	0.016
	N	59	59	59	59	59	59	59	59	59	59
T88-99	Correlation Coefficient	0.282	0.329	0.311	0.463	0.358	0.374	0.316	1	0.500	0.192
	Sig. (2-tailed)	0.030	0.011	0.016	0.000	0.005	0.004	0.015	.	0.000	0.145
	N	59	59	59	59	59	59	59	59	59	59
T89-99	Correlation Coefficient	0.494	0.456	0.487	0.393	0.569	0.681	0.493	0.500	1	0.594
	Sig. (2-tailed)	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	.	0.000
	N	59	59	59	59	59	59	59	59	59	59
T90-99	Correlation Coefficient	0.337	0.156	0.130	0.091	0.296	0.419	0.312	0.192	0.594	1
	Sig. (2-tailed)	0.009	0.237	0.326	0.493	0.023	0.001	0.016	0.145	0.000	.
	N	59	59	59	59	59	59	59	59	59	59

2.2 Correlation of taxa $\geq 3\%$ abundance

		T81-99	T82-99	T83-99	T84-99	T85-99	T86-99	T87-99	T88-99	T89-99	T90-99
T81-99	Correlation Coefficient	1	0.205	0.190	0.210	0.361	0.422	0.403	0.282	0.494	0.337
	Sig. (2-tailed)	.	0.120	0.150	0.110	0.005	0.001	0.002	0.030	0.000	0.009
	N	59	59	59	59	59	59	59	59	59	59
T82-99	Correlation Coefficient	1	0.490	0.388	0.484	0.572	0.792	0.746	0.591	0.524	0.611
	Sig. (2-tailed)	.	0.089	0.190	0.094	0.041	0.001	0.003	0.034	0.066	0.026
	N	13	13	13	13	13	13	13	13	13	13
T83-99	Correlation Coefficient	0.490	1	0.634	0.517	0.468	0.505	0.308	0.389	0.620	0.617
	Sig. (2-tailed)	0.089	.	0.020	0.071	0.107	0.078	0.306	0.189	0.024	0.025
	N	13	13	13	13	13	13	13	13	13	13
T84-99	Correlation Coefficient	0.388	0.634	1	-0.001	0.297	0.363	0.239	-0.024	0.640	0.565
	Sig. (2-tailed)	0.190	0.020	.	0.996	0.325	0.222	0.431	0.938	0.019	0.044
	N	13	13	13	13	13	13	13	13	13	13
T85-99	Correlation Coefficient	0.484	0.517	-0.001	1	0.544	0.234	0.280	0.756	0.263	0.295
	Sig. (2-tailed)	0.094	0.071	0.996	.	0.054	0.442	0.353	0.003	0.385	0.327
	N	13	13	13	13	13	13	13	13	13	13
T86-99	Correlation Coefficient	0.572	0.468	0.297	0.544	1	0.332	0.471	0.800	0.493	0.477
	Sig. (2-tailed)	0.041	0.107	0.325	0.054	.	0.267	0.104	0.001	0.087	0.099
	N	13	13	13	13	13	13	13	13	13	13
T87-99	Correlation Coefficient	0.792	0.505	0.363	0.234	0.332	1	0.729	0.322	0.697	0.765
	Sig. (2-tailed)	0.001	0.078	0.222	0.442	0.267	.	0.005	0.284	0.008	0.002
	N	13	13	13	13	13	13	13	13	13	13
T88-99	Correlation Coefficient	0.746	0.308	0.239	0.280	0.471	0.729	1	0.468	0.588	0.576
	Sig. (2-tailed)	0.003	0.306	0.431	0.353	0.104	0.005	.	0.107	0.034	0.039
	N	13	13	13	13	13	13	13	13	13	13
T89-99	Correlation Coefficient	0.591	0.389	-0.024	0.756	0.800	0.322	0.468	1	0.382	0.301
	Sig. (2-tailed)	0.034	0.189	0.938	0.003	0.001	0.284	0.107	.	0.198	0.317
	N	13	13	13	13	13	13	13	13	13	13
T90-99	Correlation Coefficient	0.524	0.620	0.640	0.263	0.493	0.697	0.588	0.382	1	0.903
	Sig. (2-tailed)	0.066	0.024	0.019	0.385	0.087	0.008	0.034	0.198	.	0.000
	N	13	13	13	13	13	13	13	13	13	13

2.3 Correlation of taxa $\geq 5\%$ abundance

		T81-99	T82-99	T83-99	T84-99	T85-99	T86-99	T87-99	T88-99	T89-99	T90-99
T81-99	Correlation Coefficient	1	0.295	0.046	0.496	0.500	0.852	0.698	0.435	0.257	0.520
	Sig. (2-tailed)	.	0.440	0.906	0.175	0.170	0.004	0.037	0.242	0.505	0.151
	N	9	9	9	9	9	9	9	9	9	9
T82-99	Correlation Coefficient	0.295	1	0.411	0.575	0.331	0.404	0.051	0.059	0.433	0.518
	Sig. (2-tailed)	0.440	.	0.272	0.105	0.385	0.281	0.896	0.880	0.245	0.153
	N	9	9	9	9	9	9	9	9	9	9
T83-99	Correlation Coefficient	0.046	0.411	1	-0.142	-0.128	0.243	0.026	-0.419	0.612	0.522
	Sig. (2-tailed)	0.906	0.272	.	0.716	0.743	0.529	0.948	0.261	0.080	0.149
	N	9	9	9	9	9	9	9	9	9	9
T84-99	Correlation Coefficient	0.496	0.575	-0.142	1	0.889	0.353	0.277	0.760	0.124	0.245
	Sig. (2-tailed)	0.175	0.105	0.716	.	0.001	0.351	0.470	0.018	0.751	0.526
	N	9	9	9	9	9	9	9	9	9	9
T85-99	Correlation Coefficient	0.500	0.331	-0.128	0.889	1	0.416	0.418	0.886	0.309	0.365
	Sig. (2-tailed)	0.170	0.385	0.743	0.001	.	0.265	0.263	0.001	0.418	0.334
	N	9	9	9	9	9	9	9	9	9	9
T86-99	Correlation Coefficient	0.852	0.404	0.243	0.353	0.416	1	0.824	0.357	0.667	0.829
	Sig. (2-tailed)	0.004	0.281	0.529	0.351	0.265	.	0.006	0.345	0.050	0.006
	N	9	9	9	9	9	9	9	9	9	9
T87-99	Correlation Coefficient	0.698	0.051	0.026	0.277	0.418	0.824	1	0.530	0.546	0.575
	Sig. (2-tailed)	0.037	0.896	0.948	0.470	0.263	0.006	.	0.142	0.128	0.105
	N	9	9	9	9	9	9	9	9	9	9
T88-99	Correlation Coefficient	0.435	0.059	-0.419	0.760	0.886	0.357	0.530	1	0.170	0.132
	Sig. (2-tailed)	0.242	0.880	0.261	0.018	0.001	0.345	0.142	.	0.661	0.736
	N	9	9	9	9	9	9	9	9	9	9
T89-99	Correlation Coefficient	0.257	0.433	0.612	0.124	0.309	0.667	0.546	0.170	1	0.878
	Sig. (2-tailed)	0.505	0.245	0.080	0.751	0.418	0.050	0.128	0.661	.	0.002
	N	9	9	9	9	9	9	9	9	9	9
T90-99	Correlation Coefficient	0.520	0.518	0.522	0.245	0.365	0.829	0.575	0.132	0.878	1
	Sig. (2-tailed)	0.151	0.153	0.149	0.526	0.334	0.006	0.105	0.736	0.002	.
	N	9	9	9	9	9	9	9	9	9	9

2.4 Correlation of taxa $\geq 10\%$ abundance

		T81-99	T82-99	T83-99	T84-99	T85-99	T86-99	T87-99	T88-99	T89-99	T90-99
T81-99	Correlation Coefficient	1	0.295	0.046	0.496	0.500	0.852	0.698	0.435	0.257	0.520
	Sig. (2-tailed)	.	0.440	0.906	0.175	0.170	0.004	0.037	0.242	0.505	0.151
	N	9	9	9	9	9	9	9	9	9	9
T82-99	Correlation Coefficient	1	0.667	0.359	0.821	0.800	0.821	0.300	0.103	0.447	0.700
	Sig. (2-tailed)	.	0.219	0.553	0.089	0.104	0.089	0.624	0.870	0.450	0.188
	N	5	5	5	5	5	5	5	5	5	5
T83-99	Correlation Coefficient	0.667	1	0.763	0.763	0.359	0.763	0.205	-0.342	0.574	0.667
	Sig. (2-tailed)	0.219	.	0.133	0.133	0.553	0.133	0.741	0.573	0.312	0.219
	N	5	5	5	5	5	5	5	5	5	5
T84-99	Correlation Coefficient	0.359	0.763	1	0.289	0.051	0.763	0.667	-0.500	0.918	0.821
	Sig. (2-tailed)	0.553	0.133	.	0.637	0.935	0.133	0.219	0.391	0.028	0.089
	N	5	5	5	5	5	5	5	5	5	5
T85-99	Correlation Coefficient	0.821	0.763	0.289	1	0.821	0.526	0.051	0.289	0.229	0.359
	Sig. (2-tailed)	0.089	0.133	0.637	.	0.089	0.362	0.935	0.637	0.710	0.553
	N	5	5	5	5	5	5	5	5	5	5
T86-99	Correlation Coefficient	0.800	0.359	0.051	0.821	1	0.410	0.300	0.667	0.224	0.300
	Sig. (2-tailed)	0.104	0.553	0.935	0.089	.	0.493	0.624	0.219	0.718	0.624
	N	5	5	5	5	5	5	5	5	5	5
T87-99	Correlation Coefficient	0.821	0.763	0.763	0.526	0.410	1	0.564	-0.368	0.803	0.975
	Sig. (2-tailed)	0.089	0.133	0.133	0.362	0.493	.	0.322	0.542	0.102	0.005
	N	5	5	5	5	5	5	5	5	5	5
T88-99	Correlation Coefficient	0.300	0.205	0.667	0.051	0.300	0.564	1	0.051	0.894	0.700
	Sig. (2-tailed)	0.624	0.741	0.219	0.935	0.624	0.322	.	0.935	0.041	0.188
	N	5	5	5	5	5	5	5	5	5	5
T89-99	Correlation Coefficient	0.103	-0.342	-0.500	0.289	0.667	-0.368	0.051	1	-0.287	-0.410
	Sig. (2-tailed)	0.870	0.573	0.391	0.637	0.219	0.542	0.935	.	0.640	0.493
	N	5	5	5	5	5	5	5	5	5	5
T90-99	Correlation Coefficient	0.447	0.574	0.918	0.229	0.224	0.803	0.894	-0.287	1	0.89443
	Sig. (2-tailed)	0.450	0.312	0.028	0.710	0.718	0.102	0.041	0.640	.	0.04052
	N	5	5	5	5	5	5	5	5	5	5

3. Los Fierros, Cerradão

3.1 Correlation of all taxa present

		T111 -01	T112 -01	T113 -01	T114 -01	T115 -01	T116 -01	T117 -01	T118 -01	T119 -01	T120 -01
T111-01	Correlation Coefficient	1	0.210	0.300	0.057	0.175	0.157	0.134	0.237	0.193	0.060
	Sig. (2-tailed)	.	0.035	0.002	0.574	0.080	0.117	0.183	0.017	0.053	0.549
	N	101	101	101	101	101	101	101	101	101	101
T112-01	Correlation Coefficient	0.210	1	0.330	0.256	0.283	0.344	0.348	0.298	0.252	0.184
	Sig. (2-tailed)	0.035	.	0.001	0.010	0.004	0.000	0.000	0.002	0.011	0.065
	N	101	101	101	101	101	101	101	101	101	101
T113-01	Correlation Coefficient	0.300	0.330	1	0.437	0.408	0.344	0.412	0.367	0.397	0.287
	Sig. (2-tailed)	0.002	0.001	.	0.000	0.000	0.000	0.000	0.000	0.000	0.004
	N	101	101	101	101	101	101	101	101	101	101
T114-01	Correlation Coefficient	0.057	0.256	0.437	1	0.532	0.474	0.497	0.373	0.409	0.387
	Sig. (2-tailed)	0.574	0.010	0.000	.	0.000	0.000	0.000	0.000	0.000	0.000
	N	101	101	101	101	101	101	101	101	101	101
T115-01	Correlation Coefficient	0.175	0.283	0.408	0.532	1	0.394	0.488	0.430	0.383	0.390
	Sig. (2-tailed)	0.080	0.004	0.000	0.000	.	0.000	0.000	0.000	0.000	0.000
	N	101	101	101	101	101	101	101	101	101	101
T116-01	Correlation Coefficient	0.157	0.344	0.344	0.474	0.394	1	0.476	0.375	0.368	0.335
	Sig. (2-tailed)	0.117	0.000	0.000	0.000	0.000	.	0.000	0.000	0.000	0.001
	N	101	101	101	101	101	101	101	101	101	101
T117-01	Correlation Coefficient	0.134	0.348	0.412	0.497	0.488	0.476	1	0.513	0.567	0.506
	Sig. (2-tailed)	0.183	0.000	0.000	0.000	0.000	0.000	.	0.000	0.000	0.000
	N	101	101	101	101	101	101	101	101	101	101
T118-01	Correlation Coefficient	0.237	0.298	0.367	0.373	0.430	0.375	0.513	1	0.461	0.415
	Sig. (2-tailed)	0.017	0.002	0.000	0.000	0.000	0.000	0.000	.	0.000	0.000
	N	101	101	101	101	101	101	101	101	101	101
T119-01	Correlation Coefficient	0.193	0.252	0.397	0.409	0.383	0.368	0.567	0.461	1	0.633
	Sig. (2-tailed)	0.053	0.011	0.000	0.000	0.000	0.000	0.000	0.000	.	0.000
	N	101	101	101	101	101	101	101	101	101	101
T120-01	Correlation Coefficient	0.060	0.184	0.287	0.387	0.390	0.335	0.506	0.415	0.633	1
	Sig. (2-tailed)	0.549	0.065	0.004	0.000	0.000	0.001	0.000	0.000	0.000	.
	N	101	101	101	101	101	101	101	101	101	101

3.2 Correlation of taxa $\geq 3\%$ abundance

		T111 -01	T112 -01	T113 -01	T114 -01	T115 -01	T116 -01	T117 -01	T118 -01	T119 -01	T120 -01
T111-01	Correlation Coefficient	1	0.460	0.570	0.150	0.313	0.043	0.286	0.455	0.294	0.293
	Sig. (2-tailed)	.	0.021	0.003	0.475	0.128	0.839	0.165	0.022	0.153	0.156
	N	25	25	25	25	25	25	25	25	25	25
T112-01	Correlation Coefficient	0.460	1	0.211	0.422	0.357	0.153	0.496	0.308	0.356	0.280
	Sig. (2-tailed)	0.021	.	0.311	0.036	0.080	0.464	0.012	0.134	0.080	0.175
	N	25	25	25	25	25	25	25	25	25	25
T113-01	Correlation Coefficient	0.570	0.211	1	0.431	0.493	0.202	0.424	0.405	0.451	0.377
	Sig. (2-tailed)	0.003	0.311	.	0.032	0.012	0.332	0.035	0.045	0.023	0.064
	N	25	25	25	25	25	25	25	25	25	25
T114-01	Correlation Coefficient	0.150	0.422	0.431	1	0.620	0.399	0.538	0.363	0.472	0.406
	Sig. (2-tailed)	0.475	0.036	0.032	.	0.001	0.048	0.006	0.075	0.017	0.044
	N	25	25	25	25	25	25	25	25	25	25
T115-01	Correlation Coefficient	0.313	0.357	0.493	0.620	1	0.275	0.558	0.444	0.518	0.601
	Sig. (2-tailed)	0.128	0.080	0.012	0.001	.	0.183	0.004	0.026	0.008	0.001
	N	25	25	25	25	25	25	25	25	25	25
T116-01	Correlation Coefficient	0.043	0.153	0.202	0.399	0.275	1	0.482	0.557	0.335	0.337
	Sig. (2-tailed)	0.839	0.464	0.332	0.048	0.183	.	0.015	0.004	0.101	0.100
	N	25	25	25	25	25	25	25	25	25	25
T117-01	Correlation Coefficient	0.286	0.496	0.424	0.538	0.558	0.482	1	0.650	0.861	0.725
	Sig. (2-tailed)	0.165	0.012	0.035	0.006	0.004	0.015	.	0.000	0.000	0.000
	N	25	25	25	25	25	25	25	25	25	25
T118-01	Correlation Coefficient	0.455	0.308	0.405	0.363	0.444	0.557	0.650	1	0.711	0.657
	Sig. (2-tailed)	0.022	0.134	0.045	0.075	0.026	0.004	0.000	.	0.000	0.000
	N	25	25	25	25	25	25	25	25	25	25
T119-01	Correlation Coefficient	0.294	0.356	0.451	0.472	0.518	0.335	0.861	0.711	1	0.770
	Sig. (2-tailed)	0.153	0.080	0.023	0.017	0.008	0.101	0.000	0.000	.	0.000
	N	25	25	25	25	25	25	25	25	25	25
T120-01	Correlation Coefficient	0.293	0.280	0.377	0.406	0.601	0.337	0.725	0.657	0.770	1
	Sig. (2-tailed)	0.156	0.175	0.064	0.044	0.001	0.100	0.000	0.000	0.000	.
	N	25	25	25	25	25	25	25	25	25	25

3.3 Correlation of taxa $\geq 5\%$ abundance

		T111 -01	T112 -01	T113 -01	T114 -01	T115 -01	T116 -01	T117 -01	T118 -01	T119 -01	T120 -01
T111-01	Correlation Coefficient	1	0.359	0.707	0.256	0.476	0.089	0.325	0.347	0.226	0.379
	Sig. (2-tailed)	.	0.144	0.001	0.305	0.046	0.727	0.188	0.159	0.367	0.121
	N	18	18	18	18	18	18	18	18	18	18
T112-01	Correlation Coefficient	0.359	1	0.076	0.482	0.573	0.237	0.549	0.248	0.308	0.320
	Sig. (2-tailed)	0.144	.	0.764	0.043	0.013	0.344	0.018	0.320	0.214	0.195
	N	18	18	18	18	18	18	18	18	18	18
T113-01	Correlation Coefficient	0.707	0.076	1	0.249	0.555	0.161	0.198	0.320	0.198	0.338
	Sig. (2-tailed)	0.001	0.764	.	0.319	0.017	0.524	0.431	0.195	0.430	0.170
	N	18	18	18	18	18	18	18	18	18	18
T114-01	Correlation Coefficient	0.256	0.482	0.249	1	0.808	0.291	0.413	0.350	0.282	0.398
	Sig. (2-tailed)	0.305	0.043	0.319	.	0.000	0.242	0.088	0.155	0.257	0.102
	N	18	18	18	18	18	18	18	18	18	18
T115-01	Correlation Coefficient	0.476	0.573	0.555	0.808	1	0.344	0.683	0.547	0.538	0.620
	Sig. (2-tailed)	0.046	0.013	0.017	0.000	.	0.163	0.002	0.019	0.021	0.006
	N	18	18	18	18	18	18	18	18	18	18
T116-01	Correlation Coefficient	0.089	0.237	0.161	0.291	0.344	1	0.357	0.760	0.277	0.353
	Sig. (2-tailed)	0.727	0.344	0.524	0.242	0.163	.	0.146	0.000	0.265	0.151
	N	18	18	18	18	18	18	18	18	18	18
T117-01	Correlation Coefficient	0.325	0.549	0.198	0.413	0.683	0.357	1	0.575	0.819	0.790
	Sig. (2-tailed)	0.188	0.018	0.431	0.088	0.002	0.146	.	0.013	0.000	0.000
	N	18	18	18	18	18	18	18	18	18	18
T118-01	Correlation Coefficient	0.347	0.248	0.320	0.350	0.547	0.760	0.575	1	0.635	0.620
	Sig. (2-tailed)	0.159	0.320	0.195	0.155	0.019	0.000	0.013	.	0.005	0.006
	N	18	18	18	18	18	18	18	18	18	18
T119-01	Correlation Coefficient	0.226	0.308	0.198	0.282	0.538	0.277	0.819	0.635	1	0.802
	Sig. (2-tailed)	0.367	0.214	0.430	0.257	0.021	0.265	0.000	0.005	.	0.000
	N	18	18	18	18	18	18	18	18	18	18
T120-01	Correlation Coefficient	0.379	0.320	0.338	0.398	0.620	0.353	0.790	0.620	0.802	1
	Sig. (2-tailed)	0.121	0.195	0.170	0.102	0.006	0.151	0.000	0.006	0.000	.
	N	18	18	18	18	18	18	18	18	18	18

3.4 Correlation of taxa $\geq 10\%$ abundance

		T111 -01	T112 -01	T113 -01	T114 -01	T115 -01	T116 -01	T117 -01	T118 -01	T119 -01	T120 -01
T111-01	Correlation Coefficient	1	0.638	0.611	0.536	0.466	-0.554	0.271	-0.229	0.277	0.539
	Sig. (2-tailed)	.	0.089	0.108	0.171	0.244	0.154	0.516	0.586	0.506	0.168
	N	8	8	8	8	8	8	8	8	8	8
T112-01	Correlation Coefficient	0.638	1	0.089	0.919	0.910	0.089	0.766	0.281	0.689	0.712
	Sig. (2-tailed)	0.089	.	0.834	0.001	0.002	0.833	0.027	0.501	0.059	0.047
	N	8	8	8	8	8	8	8	8	8	8
T113-01	Correlation Coefficient	0.611	0.089	1	0	0.146	-0.874	-0.180	-0.455	-0.168	0.277
	Sig. (2-tailed)	0.108	0.834	.	1	0.729	0.005	0.670	0.257	0.691	0.506
	N	8	8	8	8	8	8	8	8	8	8
T114-01	Correlation Coefficient	0.536	0.919	0	1	0.785	0.277	0.729	0.458	0.699	0.764
	Sig. (2-tailed)	0.171	0.001	1	.	0.021	0.506	0.040	0.254	0.054	0.027
	N	8	8	8	8	8	8	8	8	8	8
T115-01	Correlation Coefficient	0.466	0.910	0.146	0.785	1	-0.012	0.834	0.380	0.773	0.765
	Sig. (2-tailed)	0.244	0.002	0.729	0.021	.	0.977	0.010	0.353	0.024	0.027
	N	8	8	8	8	8	8	8	8	8	8
T116-01	Correlation Coefficient	-0.554	0.089	-0.874	0.277	-0.012	1	0.229	0.494	0.157	-0.145
	Sig. (2-tailed)	0.154	0.833	0.005	0.506	0.977	.	0.586	0.213	0.711	0.731
	N	8	8	8	8	8	8	8	8	8	8
T117-01	Correlation Coefficient	0.271	0.766	-0.180	0.729	0.834	0.229	1	0.470	0.783	0.770
	Sig. (2-tailed)	0.516	0.027	0.670	0.040	0.010	0.586	.	0.240	0.022	0.026
	N	8	8	8	8	8	8	8	8	8	8
T118-01	Correlation Coefficient	-0.229	0.281	-0.455	0.458	0.380	0.494	0.470	1	0.807	0.527
	Sig. (2-tailed)	0.586	0.501	0.257	0.254	0.353	0.213	0.240	.	0.015	0.179
	N	8	8	8	8	8	8	8	8	8	8
T119-01	Correlation Coefficient	0.277	0.689	-0.168	0.699	0.773	0.157	0.783	0.807	1	0.818
	Sig. (2-tailed)	0.506	0.059	0.691	0.054	0.024	0.711	0.022	0.015	.	0.013
	N	8	8	8	8	8	8	8	8	8	8
T120-01	Correlation Coefficient	0.539	0.712	0.277	0.764	0.765	-0.145	0.770	0.527	0.818	1
	Sig. (2-tailed)	0.168	0.047	0.506	0.027	0.027	0.731	0.026	0.179	0.013	.
	N	8	8	8	8	8	8	8	8	8	8

Appendix IX
Inter-annual variation

1. Acuario 2	122
1.1 T51	122
1.2 T52	123
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Appendix IX

Inter-annual variation

Spearman's rank correlation coefficients calculated for pollen percentage data. Comparing traps collected from the same location in different years. Years indicate year collected from field, i.e. 2000 indicates trap was in the field for the 1999-2000 field season. T "number" indicates trap location (see appendix II)

1. Acuario 2

1.1 T51

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.377	0.317
	Sig. (2-tailed)	.	0.000	0.001
	N	104	104	104
2000	Correlation Coefficient	0.377	1	0.398
	Sig. (2-tailed)	0.000	.	0.000
	N	104	104	104
2001	Correlation Coefficient	0.317	0.398	1
	Sig. (2-tailed)	0.001	0.000	.
	N	104	104	104

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.259	0.375
	Sig. (2-tailed)	.	0.175	0.045
	N	29	29	29
2000	Correlation Coefficient	0.259	1	0.241
	Sig. (2-tailed)	0.175	.	0.209
	N	29	29	29
2001	Correlation Coefficient	0.375	0.241	1
	Sig. (2-tailed)	0.045	0.209	.
	N	29	29	29

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.308	0.476
	Sig. (2-tailed)	.	0.163	0.025
	N	22	22	22
2000	Correlation Coefficient	0.308	1	0.288
	Sig. (2-tailed)	0.163	.	0.194
	N	22	22	22
2001	Correlation Coefficient	0.476	0.288	1
	Sig. (2-tailed)	0.025	0.194	.
	N	22	22	22

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.245	0.452
	Sig. (2-tailed)	.	0.399	0.104
	N	14	14	14
2000	Correlation Coefficient	0.245	1	0.288
	Sig. (2-tailed)	0.399	.	0.318
	N	14	14	14
2001	Correlation Coefficient	0.452	0.288	1
	Sig. (2-tailed)	0.104	0.318	.
	N	14	14	14

1.2 T52

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.274	0.234
	Sig. (2-tailed)	.	0.005	0.017
	N	104	104	104
2000	Correlation Coefficient	0.274	1	0.220
	Sig. (2-tailed)	0.005	.	0.025
	N	104	104	104
2001	Correlation Coefficient	0.234	0.220	1
	Sig. (2-tailed)	0.017	0.025	.
	N	104	104	104

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.075	0.305
	Sig. (2-tailed)	.	0.701	0.107
	N	29	29	29
2000	Correlation Coefficient	0.075	1	0.343
	Sig. (2-tailed)	0.701	.	0.068
	N	29	29	29
2001	Correlation Coefficient	0.305	0.343	1
	Sig. (2-tailed)	0.107	0.068	.
	N	29	29	29

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.091	0.336
	Sig. (2-tailed)	.	0.687	0.126
	N	22	22	22
2000	Correlation Coefficient	0.091	1	0.519
	Sig. (2-tailed)	0.687	.	0.013
	N	22	22	22
2001	Correlation Coefficient	0.336	0.519	1
	Sig. (2-tailed)	0.126	0.013	.
	N	22	22	22

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.097	0.336
	Sig. (2-tailed)	.	0.741	0.241
	N	14	14	14
2000	Correlation Coefficient	0.097	1	0.701
	Sig. (2-tailed)	0.741	.	0.005
	N	14	14	14
2001	Correlation Coefficient	0.336	0.701	1
	Sig. (2-tailed)	0.241	0.005	.
	N	14	14	14

1.3 T54

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.203	0.317
	Sig. (2-tailed)		0.039	0.001
	N	104	104	104
2000	Correlation Coefficient	0.203	1	0.380
	Sig. (2-tailed)	0.039		0.000
	N	104	104	104
2001	Correlation Coefficient	0.317	0.380	1
	Sig. (2-tailed)	0.001	0.000	
	N	104	104	104

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.274	0.397
	Sig. (2-tailed)		0.150	0.033
	N	29	29	29
2000	Correlation Coefficient	0.274	1	0.532
	Sig. (2-tailed)	0.150		0.003
	N	29	29	29
2001	Correlation Coefficient	0.397	0.532	1
	Sig. (2-tailed)	0.033	0.003	
	N	29	29	29

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.238	0.394
	Sig. (2-tailed)		0.287	0.069
	N	22	22	22
2000	Correlation Coefficient	0.238	1	0.733
	Sig. (2-tailed)	0.287		0.000
	N	22	22	22
2001	Correlation Coefficient	0.394	0.733	1
	Sig. (2-tailed)	0.069	0.000	
	N	22	22	22

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.326	0.487
	Sig. (2-tailed)	.	0.255	0.077
	N	14	14	14
2000	Correlation Coefficient	0.326	1	0.803
	Sig. (2-tailed)	0.255	.	0.001
	N	14	14	14
2001	Correlation Coefficient	0.487	0.803	1
	Sig. (2-tailed)	0.077	0.001	.
	N	14	14	14

1.4 T57

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.351	0.300
	Sig. (2-tailed)	.	0.000	0.002
	N	104	104	104
2000	Correlation Coefficient	0.351	1	0.306
	Sig. (2-tailed)	0.000	.	0.002
	N	104	104	104
2001	Correlation Coefficient	0.300	0.306	1
	Sig. (2-tailed)	0.002	0.002	.
	N	104	104	104

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.386	0.366
	Sig. (2-tailed)	.	0.039	0.051
	N	29	29	29
2000	Correlation Coefficient	0.386	1	0.379
	Sig. (2-tailed)	0.039	.	0.043
	N	29	29	29
2001	Correlation Coefficient	0.366	0.379	1
	Sig. (2-tailed)	0.051	0.043	.
	N	29	29	29

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.386	0.366
	Sig. (2-tailed)		0.039	0.051
	N	29	29	29
2000	Correlation Coefficient	0.386	1	0.379
	Sig. (2-tailed)	0.039		0.043
	N	29	29	29
2001	Correlation Coefficient	0.366	0.379	1
	Sig. (2-tailed)	0.051	0.043	
	N	29	29	29

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.522	0.718
	Sig. (2-tailed)		0.056	0.004
	N	14	14	14
2000	Correlation Coefficient	0.522	1	0.636
	Sig. (2-tailed)	0.056		0.015
	N	14	14	14
2001	Correlation Coefficient	0.718	0.636	1
	Sig. (2-tailed)	0.004	0.015	
	N	14	14	14

1.5 T59

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.397	0.529
	Sig. (2-tailed)		0.000	0.000
	N	104	104	104
2000	Correlation Coefficient	0.397	1	0.341
	Sig. (2-tailed)	0.000		0.000
	N	104	104	104
2001	Correlation Coefficient	0.529	0.341	1
	Sig. (2-tailed)	0.000	0.000	
	N	104	104	104

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.486	0.634
	Sig. (2-tailed)	.	0.008	0.000
	N	29	29	29
2000	Correlation Coefficient	0.486	1	0.449
	Sig. (2-tailed)	0.008	.	0.014
	N	29	29	29
2001	Correlation Coefficient	0.634	0.449	1
	Sig. (2-tailed)	0.000	0.014	.
	N	29	29	29

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.502	0.662
	Sig. (2-tailed)	.	0.017	0.001
	N	22	22	22
2000	Correlation Coefficient	0.502	1	0.556
	Sig. (2-tailed)	0.017	.	0.007
	N	22	22	22
2001	Correlation Coefficient	0.662	0.556	1
	Sig. (2-tailed)	0.001	0.007	.
	N	22	22	22

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.633	0.819
	Sig. (2-tailed)	.	0.015	0.000
	N	14	14	14
2000	Correlation Coefficient	0.633	1	0.578
	Sig. (2-tailed)	0.015	.	0.030
	N	14	14	14
2001	Correlation Coefficient	0.819	0.578	1
	Sig. (2-tailed)	0.000	0.030	.
	N	14	14	14

2. Los Fierros 1

2.1 T81

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.347	0.287
	Sig. (2-tailed)	.	0.003	0.015
	N	71	71	71
2000	Correlation Coefficient	0.347	1	0.511
	Sig. (2-tailed)	0.003	.	0.000
	N	71	71	71
2001	Correlation Coefficient	0.287	0.511	1
	Sig. (2-tailed)	0.015	0.000	.
	N	71	71	71

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.443	0.600
	Sig. (2-tailed)	.	0.034	0.002
	N	23	23	23
2000	Correlation Coefficient	0.443	1	0.619
	Sig. (2-tailed)	0.034	.	0.002
	N	23	23	23
2001	Correlation Coefficient	0.600	0.619	1
	Sig. (2-tailed)	0.002	0.002	.
	N	23	23	23

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.391	0.726
	Sig. (2-tailed)	.	0.264	0.017
	N	10	10	10
2000	Correlation Coefficient	0.391	1	0.709
	Sig. (2-tailed)	0.264	.	0.022
	N	10	10	10
2001	Correlation Coefficient	0.726	0.709	1
	Sig. (2-tailed)	0.017	0.022	.
	N	10	10	10

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.521	0.709
	Sig. (2-tailed)	.	0.185	0.049
	N	8	8	8
2000	Correlation Coefficient	0.521	1	0.842
	Sig. (2-tailed)	0.185	.	0.009
	N	8	8	8
2001	Correlation Coefficient	0.709	0.842	1
	Sig. (2-tailed)	0.049	0.009	.
	N	8	8	8

2.2 T84

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.296	0.265
	Sig. (2-tailed)	.	0.012	0.025
	N	71	71	71
2000	Correlation Coefficient	0.296	1	0.546
	Sig. (2-tailed)	0.012	.	0.000
	N	71	71	71
2001	Correlation Coefficient	0.265	0.546	1
	Sig. (2-tailed)	0.025	0.000	.
	N	71	71	71

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.377	0.315
	Sig. (2-tailed)	.	0.076	0.143
	N	23	23	23
2000	Correlation Coefficient	0.377	1	0.679
	Sig. (2-tailed)	0.076	.	0.000
	N	23	23	23
2001	Correlation Coefficient	0.315	0.679	1
	Sig. (2-tailed)	0.143	0.000	.
	N	23	23	23

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.313	0.278
	Sig. (2-tailed)	.	0.378	0.437
	N	10	10	10
2000	Correlation Coefficient	0.313	1	0.821
	Sig. (2-tailed)	0.378	.	0.004
	N	10	10	10
2001	Correlation Coefficient	0.278	0.821	1
	Sig. (2-tailed)	0.437	0.004	.
	N	10	10	10

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.275	0.311
	Sig. (2-tailed)	.	0.510	0.454
	N	8	8	8
2000	Correlation Coefficient	0.275	1	0.804
	Sig. (2-tailed)	0.510	.	0.016
	N	8	8	8
2001	Correlation Coefficient	0.311	0.804	1
	Sig. (2-tailed)	0.454	0.016	.
	N	8	8	8

2.3 T86

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.468	0.572
	Sig. (2-tailed)	.	0.000	0.000
	N	71	71	71
2000	Correlation Coefficient	0.468	1	0.369
	Sig. (2-tailed)	0.000	.	0.002
	N	71	71	71
2001	Correlation Coefficient	0.572	0.369	1
	Sig. (2-tailed)	0.000	0.002	.
	N	71	71	71

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.501	0.441
	Sig. (2-tailed)	.	0.015	0.035
	N	23	23	23
2000	Correlation Coefficient	0.501	1	0.242
	Sig. (2-tailed)	0.015	.	0.267
	N	23	23	23
2001	Correlation Coefficient	0.441	0.242	1
	Sig. (2-tailed)	0.035	0.267	.
	N	23	23	23

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.408	0.285
	Sig. (2-tailed)	.	0.242	0.424
	N	10	10	10
2000	Correlation Coefficient	0.408	1	-0.169
	Sig. (2-tailed)	0.242	.	0.641
	N	10	10	10
2001	Correlation Coefficient	0.285	-0.169	1
	Sig. (2-tailed)	0.424	0.641	.
	N	10	10	10

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.280	0.500
	Sig. (2-tailed)	.	0.501	0.207
	N	8	8	8
2000	Correlation Coefficient	0.280	1	0.037
	Sig. (2-tailed)	0.501	.	0.931
	N	8	8	8
2001	Correlation Coefficient	0.500	0.037	1
	Sig. (2-tailed)	0.207	0.931	.
	N	8	8	8

2.4 T88

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.330	0.415
	Sig. (2-tailed)		0.005	0.000
	N	71	71	71
2000	Correlation Coefficient	0.330	1	0.510
	Sig. (2-tailed)	0.005		0.000
	N	71	71	71
2001	Correlation Coefficient	0.415	0.510	1
	Sig. (2-tailed)	0.000	0.000	
	N	71	71	71

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.404	0.807
	Sig. (2-tailed)		0.056	0.000
	N	23	23	23
2000	Correlation Coefficient	0.404	1	0.609
	Sig. (2-tailed)	0.056		0.002
	N	23	23	23
2001	Correlation Coefficient	0.807	0.609	1
	Sig. (2-tailed)	0.000	0.002	
	N	23	23	23

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.612	0.736
	Sig. (2-tailed)		0.060	0.015
	N	10	10	10
2000	Correlation Coefficient	0.612	1	0.908
	Sig. (2-tailed)	0.060		0.000
	N	10	10	10
2001	Correlation Coefficient	0.736	0.908	1
	Sig. (2-tailed)	0.015	0.000	
	N	10	10	10

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.522	0.582
	Sig. (2-tailed)	.	0.185	0.130
	N	8	8	8
2000	Correlation Coefficient	0.522	1	0.926
	Sig. (2-tailed)	0.185	.	0.001
	N	8	8	8
2001	Correlation Coefficient	0.582	0.926	1
	Sig. (2-tailed)	0.130	0.001	.
	N	8	8	8

2.5 T90

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.453	0.215
	Sig. (2-tailed)	.	0.000	0.071
	N	71	71	71
2000	Correlation Coefficient	0.453	1	0.504
	Sig. (2-tailed)	0.000	.	0.000
	N	71	71	71
2001	Correlation Coefficient	0.215	0.504	1
	Sig. (2-tailed)	0.071	0.000	.
	N	71	71	71

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.590	0.201
	Sig. (2-tailed)	.	0.003	0.358
	N	23	23	23
2000	Correlation Coefficient	0.590	1	0.525
	Sig. (2-tailed)	0.003	.	0.010
	N	23	23	23
2001	Correlation Coefficient	0.201	0.525	1
	Sig. (2-tailed)	0.358	0.010	.
	N	23	23	23

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.730	0.412
	Sig. (2-tailed)		0.016	0.237
	N	10	10	10
2000	Correlation Coefficient	0.730	1	0.668
	Sig. (2-tailed)	0.016		0.035
	N	10	10	10
2001	Correlation Coefficient	0.412	0.668	1
	Sig. (2-tailed)	0.237	0.035	
	N	10	10	10

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.690	0.346
	Sig. (2-tailed)		0.058	0.401
	N	8	8	8
2000	Correlation Coefficient	0.690	1	0.673
	Sig. (2-tailed)	0.058		0.068
	N	8	8	8
2001	Correlation Coefficient	0.346	0.673	1
	Sig. (2-tailed)	0.401	0.068	
	N	8	8	8

3. Los Fierros, Cerradão

3.1 T111

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.357	0.348
	Sig. (2-tailed)		0.000	0.000
	N	130	130	130
2000	Correlation Coefficient	0.357	1	0.366
	Sig. (2-tailed)	0.000		0.000
	N	130	130	130
2001	Correlation Coefficient	0.348	0.366	1
	Sig. (2-tailed)	0.000	0.000	
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.436	0.569
	Sig. (2-tailed)	.	0.006	0.000
	N	38	38	38
2000	Correlation Coefficient	0.436	1	0.632
	Sig. (2-tailed)	0.006	.	0.000
	N	38	38	38
2001	Correlation Coefficient	0.569	0.632	1
	Sig. (2-tailed)	0.000	0.000	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.324	0.562
	Sig. (2-tailed)	.	0.081	0.001
	N	30	30	30
2000	Correlation Coefficient	0.324	1	0.632
	Sig. (2-tailed)	0.081	.	0.000
	N	30	30	30
2001	Correlation Coefficient	0.562	0.632	1
	Sig. (2-tailed)	0.001	0.000	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.292	0.577
	Sig. (2-tailed)	.	0.333	0.039
	N	13	13	13
2000	Correlation Coefficient	0.292	1	0.710
	Sig. (2-tailed)	0.333	.	0.007
	N	13	13	13
2001	Correlation Coefficient	0.577	0.710	1
	Sig. (2-tailed)	0.039	0.007	.
	N	13	13	13

3.2 T112

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	130	130	130
2000	Correlation Coefficient	.	1	0.249
	Sig. (2-tailed)	.	.	0.004
	N	130	130	130
2001	Correlation Coefficient	.	0.249	1
	Sig. (2-tailed)	.	0.004	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	38	38	38
2000	Correlation Coefficient	.	1	0.352
	Sig. (2-tailed)	.	.	0.030
	N	38	38	38
2001	Correlation Coefficient	.	0.352	1
	Sig. (2-tailed)	.	0.030	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	30	30	30
2000	Correlation Coefficient	.	1	0.236
	Sig. (2-tailed)	.	.	0.209
	N	30	30	30
2001	Correlation Coefficient	.	0.236	1
	Sig. (2-tailed)	.	0.209	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	13	13	13
2000	Correlation Coefficient	.	1	0.667
	Sig. (2-tailed)	.	.	0.013
	N	13	13	13
2001	Correlation Coefficient	.	0.667	1
	Sig. (2-tailed)	.	0.013	.
	N	13	13	13

3.3 T113

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.454	0.156
	Sig. (2-tailed)	.	0.000	0.076
	N	130	130	130
2000	Correlation Coefficient	0.454	1	0.290
	Sig. (2-tailed)	0.000	.	0.001
	N	130	130	130
2001	Correlation Coefficient	0.156	0.290	1
	Sig. (2-tailed)	0.076	0.001	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.471	0.092
	Sig. (2-tailed)	.	0.003	0.585
	N	38	38	38
2000	Correlation Coefficient	0.471	1	0.190
	Sig. (2-tailed)	0.003	.	0.253
	N	38	38	38
2001	Correlation Coefficient	0.092	0.190	1
	Sig. (2-tailed)	0.585	0.253	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.461	0.060
	Sig. (2-tailed)	.	0.010	0.751
	N	30	30	30
2000	Correlation Coefficient	0.461	1	0.147
	Sig. (2-tailed)	0.010	.	0.439
	N	30	30	30
2001	Correlation Coefficient	0.060	0.147	1
	Sig. (2-tailed)	0.751	0.439	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.614	0.165
	Sig. (2-tailed)	.	0.026	0.590
	N	13	13	13
2000	Correlation Coefficient	0.614	1	-0.180
	Sig. (2-tailed)	0.026	.	0.557
	N	13	13	13
2001	Correlation Coefficient	0.165	-0.180	1
	Sig. (2-tailed)	0.590	0.557	.
	N	13	13	13

3.4 T115

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	130	130	130
2000	Correlation Coefficient	.	1	0.364
	Sig. (2-tailed)	.	.	0.000
	N	130	130	130
2001	Correlation Coefficient	.	0.364	1
	Sig. (2-tailed)	.	0.000	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	38	38	38
2000	Correlation Coefficient	.	1	0.191
	Sig. (2-tailed)	.	.	0.251
	N	38	38	38
2001	Correlation Coefficient	.	0.191	1
	Sig. (2-tailed)	.	0.251	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	30	30	30
2000	Correlation Coefficient	.	1	0.249
	Sig. (2-tailed)	.	.	0.185
	N	30	30	30
2001	Correlation Coefficient	.	0.249	1
	Sig. (2-tailed)	.	0.185	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	13	13	13
2000	Correlation Coefficient	.	1	0.114
	Sig. (2-tailed)	.	.	0.710
	N	13	13	13
2001	Correlation Coefficient	.	0.114	1
	Sig. (2-tailed)	.	0.710	.
	N	13	13	13

3.5 T116

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1.		0.371
	Sig. (2-tailed)	.	.	0.000
	N	130	130	130
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	130	130	130
2001	Correlation Coefficient	0.371.		1
	Sig. (2-tailed)	0.000.	.	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1.		0.237
	Sig. (2-tailed)	.	.	0.153
	N	38	38	38
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	38	38	38
2001	Correlation Coefficient	0.237.		1
	Sig. (2-tailed)	0.153.	.	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1.		0.276
	Sig. (2-tailed)	.	.	0.139
	N	30	30	30
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	30	30	30
2001	Correlation Coefficient	0.276.		1
	Sig. (2-tailed)	0.139.	.	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1		0.189
	Sig. (2-tailed)			0.537
	N	13	13	13
2000	Correlation Coefficient			
	Sig. (2-tailed)			
	N	13	13	13
2001	Correlation Coefficient	0.189		1
	Sig. (2-tailed)	0.537		
	N	13	13	13

3.6 T117

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1		0.400
	Sig. (2-tailed)			0.000
	N	130	130	130
2000	Correlation Coefficient			
	Sig. (2-tailed)			
	N	130	130	130
2001	Correlation Coefficient	0.400		1
	Sig. (2-tailed)	0.000		
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1		0.456
	Sig. (2-tailed)			0.004
	N	38	38	38
2000	Correlation Coefficient			
	Sig. (2-tailed)			
	N	38	38	38
2001	Correlation Coefficient	0.456		1
	Sig. (2-tailed)	0.004		
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1		0.504
	Sig. (2-tailed)	.	.	0.005
	N	30	30	30
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	30	30	30
2001	Correlation Coefficient	0.504	.	1
	Sig. (2-tailed)	0.005	.	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1		0.597
	Sig. (2-tailed)	.	.	0.031
	N	13	13	13
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	13	13	13
2001	Correlation Coefficient	0.597	.	1
	Sig. (2-tailed)	0.031	.	.
	N	13	13	13

3.7 T118

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1	0.337	0.371
	Sig. (2-tailed)	.	0.000	0.000
	N	130	130	130
2000	Correlation Coefficient	0.337	1	0.361
	Sig. (2-tailed)	0.000	.	0.000
	N	130	130	130
2001	Correlation Coefficient	0.371	0.361	1
	Sig. (2-tailed)	0.000	0.000	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.491	0.389
	Sig. (2-tailed)	.	0.002	0.016
	N	38	38	38
2000	Correlation Coefficient	0.491	1	0.479
	Sig. (2-tailed)	0.002	.	0.002
	N	38	38	38
2001	Correlation Coefficient	0.389	0.479	1
	Sig. (2-tailed)	0.016	0.002	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.486	0.352
	Sig. (2-tailed)	.	0.007	0.056
	N	30	30	30
2000	Correlation Coefficient	0.486	1	0.377
	Sig. (2-tailed)	0.007	.	0.040
	N	30	30	30
2001	Correlation Coefficient	0.352	0.377	1
	Sig. (2-tailed)	0.056	0.040	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1	0.324	0.199
	Sig. (2-tailed)	.	0.280	0.514
	N	13	13	13
2000	Correlation Coefficient	0.324	1	0.203
	Sig. (2-tailed)	0.280	.	0.505
	N	13	13	13
2001	Correlation Coefficient	0.199	0.203	1
	Sig. (2-tailed)	0.514	0.505	.
	N	13	13	13

3.8 T119

All taxa present

		1999	2000	2001
1999	Correlation Coefficient	1.		0.457
	Sig. (2-tailed)	.	.	0.000
	N	130	130	130
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	130	130	130
2001	Correlation Coefficient	0.457	.	1
	Sig. (2-tailed)	0.000	.	.
	N	130	130	130

Taxa >3% abundance

		1999	2000	2001
1999	Correlation Coefficient	1.		0.588
	Sig. (2-tailed)	.	.	0.000
	N	38	38	38
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	38	38	38
2001	Correlation Coefficient	0.588	.	1
	Sig. (2-tailed)	0.000	.	.
	N	38	38	38

Taxa >5% abundance

		1999	2000	2001
1999	Correlation Coefficient	1.		0.503
	Sig. (2-tailed)	.	.	0.005
	N	30	30	30
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	30	30	30
2001	Correlation Coefficient	0.503	.	1
	Sig. (2-tailed)	0.005	.	.
	N	30	30	30

Taxa >10% abundance

		1999	2000	2001
1999	Correlation Coefficient	1.		0.531
	Sig. (2-tailed)	.	.	0.062
	N	13	13	13
2000	Correlation Coefficient	.	.	.
	Sig. (2-tailed)	.	.	.
	N	13	13	13
2001	Correlation Coefficient	0.531.		1
	Sig. (2-tailed)	0.062.	.	.
	N	13	13	13

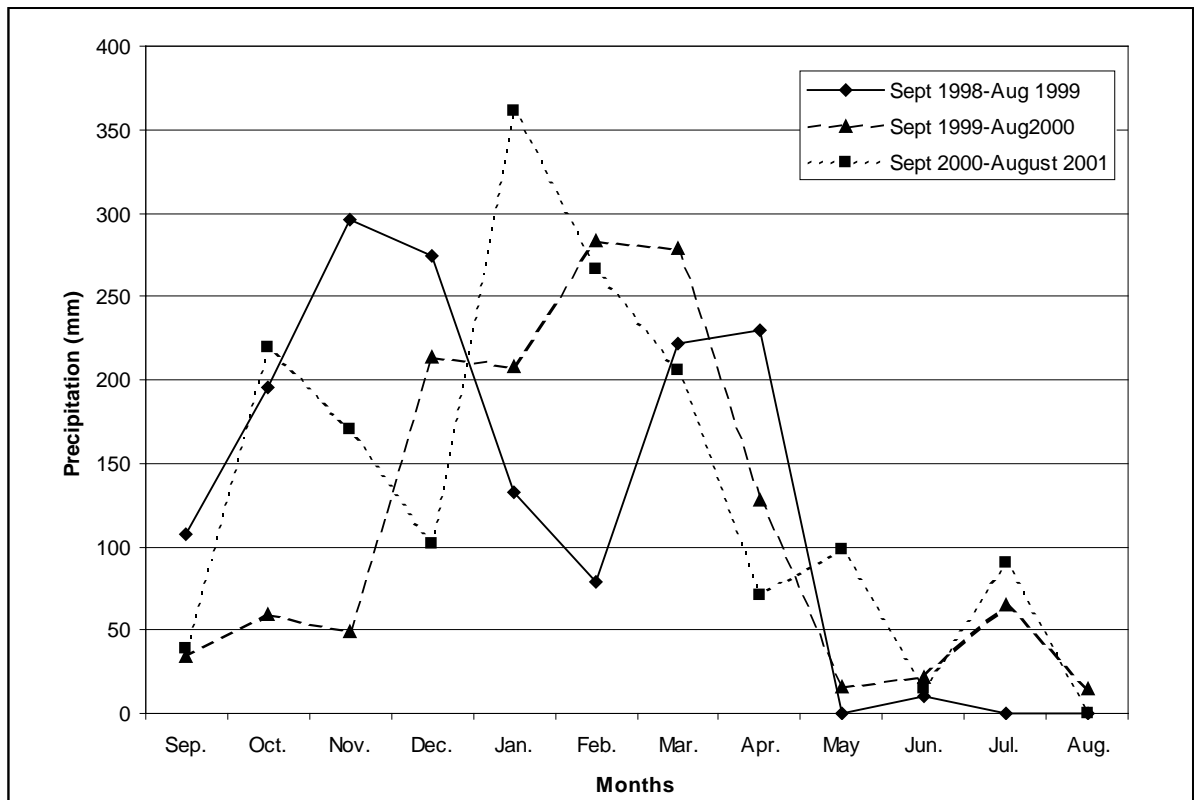
Appendix X

Precipitation data

Appendix X

Precipitation data

Precipitation data from El Refugio in Noel Kempff Mercado National Park, Bolivia
(approximate location $14^{\circ} 43'S$ $61^{\circ} 03' W$). Data courtesy of L. Emmonds, *pers. comm.*
(2003).



Appendix XI

Intra-plot cluster analysis

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Appendix XI

Intra-plot cluster analysis

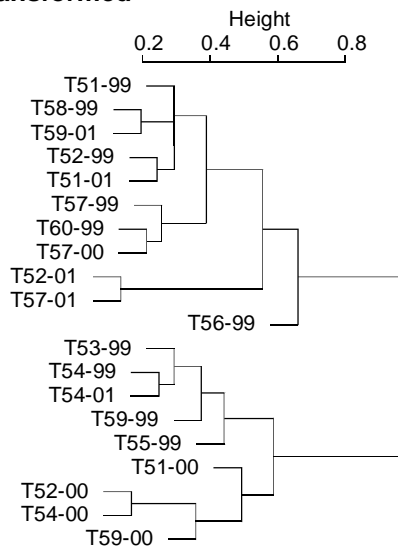
The divisive hierarchical clustering in S-Plus 6.1 was used, dissimilarity was measured using Euclidian distance (similar results were found with other methods of cluster analysis). Cluster analysis was performed on taxa occurring at $\geq 3\%$ in at least one sample in the plot.

1. Acuario 2

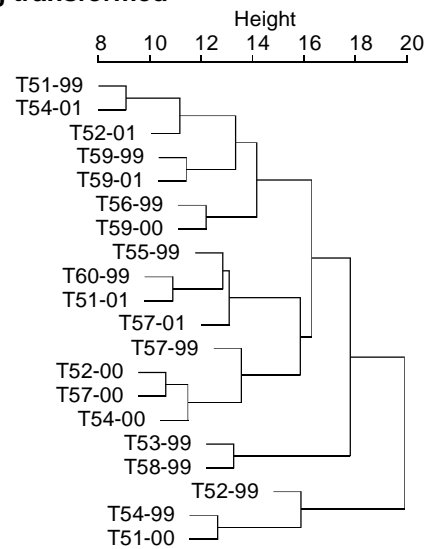
n=32

1.1 Pollen percentage data

a) Untransformed



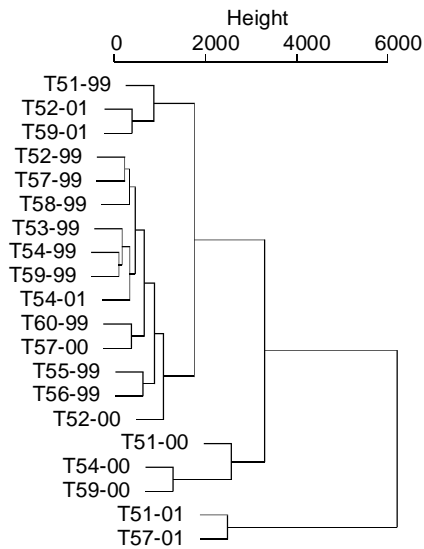
b) Log transformed



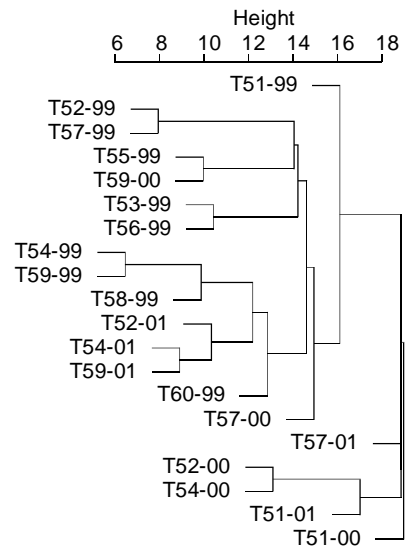
Continued over...

1.2 Pollen accumulation rate data

a) Untransformed influx data



b) Log transformed influx data

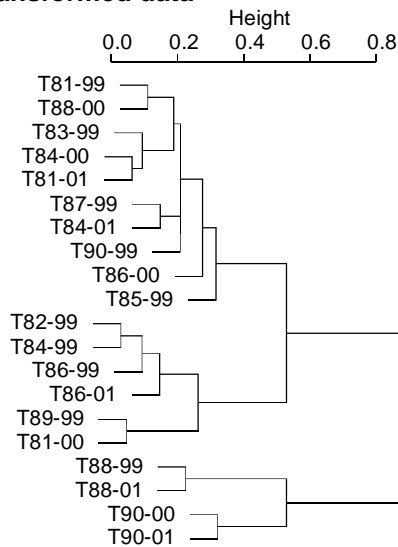


2. Los Fierros 1

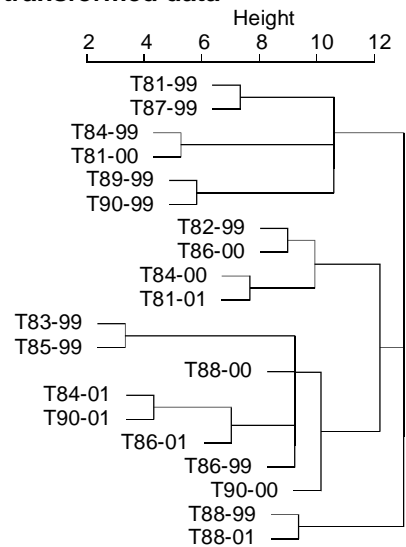
All data n=16, excluding Moraceae n=12.

2.1 Pollen percentage data

a) Untransformed data

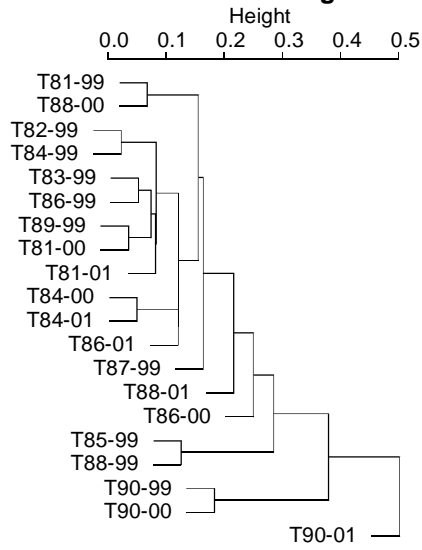


b) Log transformed data

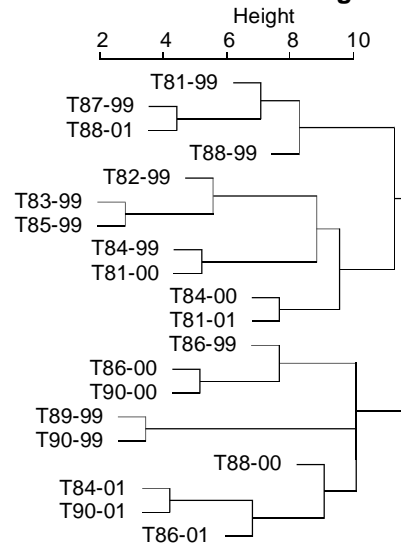


Continued over...

c) Untransformed data excluding Moraceae



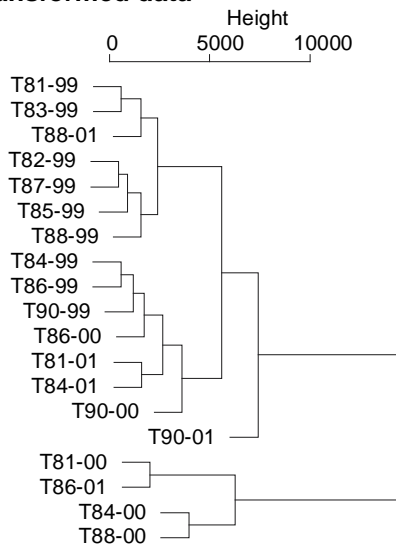
d) Log transformed data excluding Moraceae



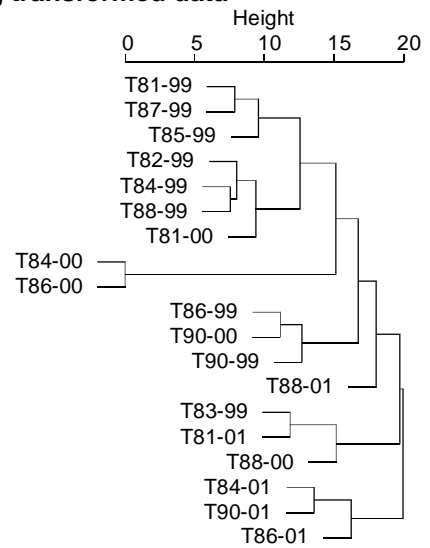
2.2 Pollen accumulation rate data

Excluding sample T89-99.

a) Untransformed data

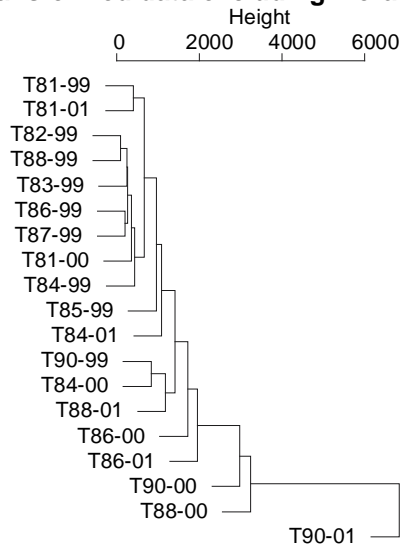


b) Log transformed data

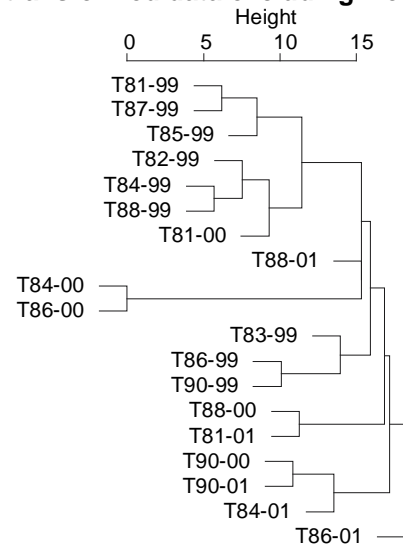


Continued over...

c) Untransformed data excluding Moraceae



d) Log transformed data excluding Moraceae

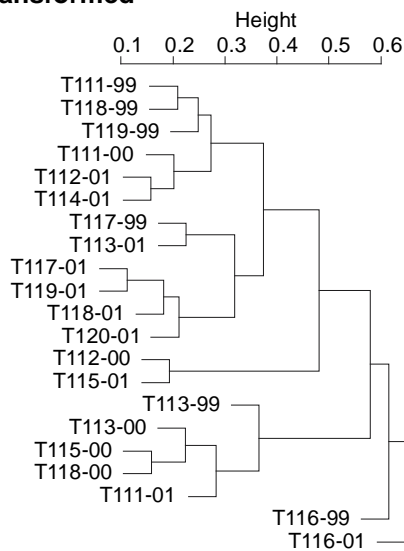


3. Los Fierros, Cerradão

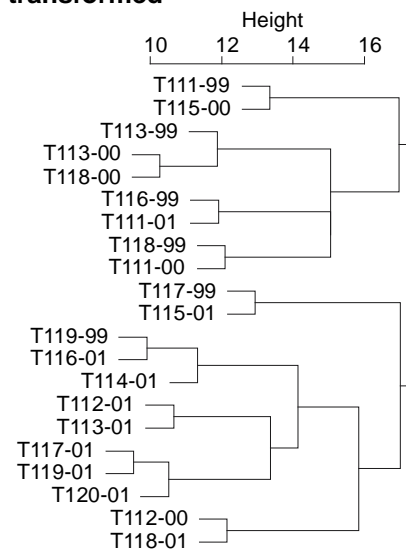
n = 38

3.1 Percentage data

a) Untransformed

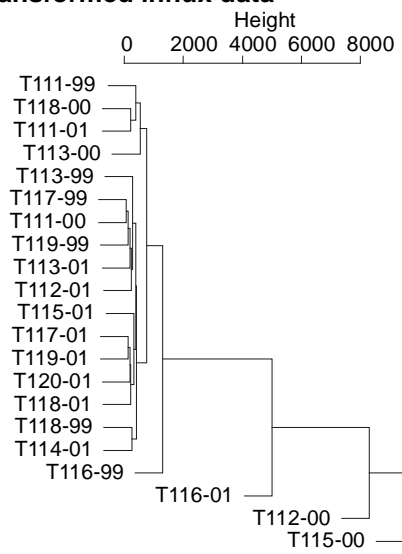


b) Log transformed

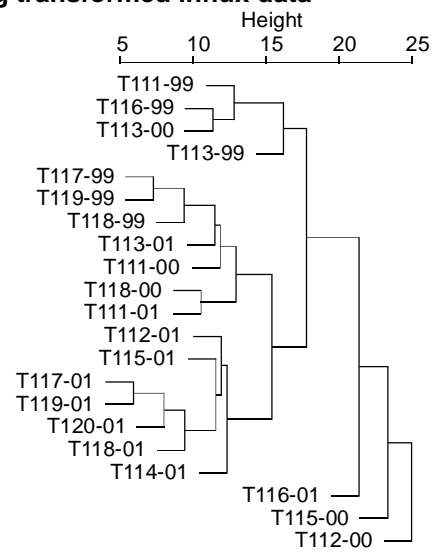


3.2 Pollen accumulation rate data

a) Untransformed influx data



b) Log transformed influx data



Appendix XII

Principal components analysis, characterization of ecosystems

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Appendix XII

Principal components analysis, characterization of ecosystems

Data from which the principal components are derived are those of taxa occurring in the corresponding plot at $\geq 3\%$ in at least one sample. The analyses was performed on various sub sets of the data collected from each ecosystem.

PC = principal component

% variance explained = cumulative percentage of variance explained by that number of principal components.

1. Acuario 2

1.1 1998-1999 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 22	PC 2 40	PC 3 55	PC 4 67	PC 5 78	PC 6 88	PC 7 94	PC 8 98	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	0.000	0.324	0.164	0.101	0.000	-0.250	0.000	0.273	0.000	0.146
2	Moraceae/Urticaceae (pore 2)	-0.244	0.241	-0.202	0.000	-0.101	0.000	0.198	0.000	0.000	-0.153
3	Moraceae/Urticaceae (pore 3)	0.277	0.163	0.000	0.000	-0.290	0.000	0.212	0.000	0.000	0.000
5	Melastomataceae/Combretaceae	0.241	0.000	0.261	0.000	-0.232	-0.154	0.000	-0.110	0.242	0.152
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.257	0.170	0.000	-0.254	-0.192	0.102	-0.120	0.000	0.181	0.250
8	<i>Celtis</i>	0.000	0.000	-0.280	-0.302	-0.260	0.000	0.000	0.156	0.262	-0.414
10	<i>Piper</i>	0.105	0.170	-0.237	0.215	-0.224	-0.272	0.000	0.000	0.000	0.430
11	<i>Cecropia</i>	0.000	0.301	-0.256	0.000	0.141	0.000	0.000	0.312	0.000	0.139
16	Type 16	0.000	0.000	-0.309	0.000	0.211	-0.239	0.000	-0.334	0.378	-0.117
20	Myrtaceae undiff.	0.230	0.177	0.000	0.167	0.185	0.000	0.305	-0.251	0.000	0.000
21	<i>Trema</i>	-0.301	0.226	0.000	0.119	0.000	0.000	0.179	0.000	0.145	0.000
24	Pteropsidia (trilete) undiff. (type 1)	0.000	-0.221	-0.164	0.133	0.270	0.000	0.251	0.339	0.203	0.000
25	Polypodiaceae undiff.	-0.242	0.000	0.135	-0.205	0.000	-0.327	0.108	0.148	0.150	0.000
35	Poaceae	-0.276	-0.170	0.000	-0.275	0.000	-0.128	-0.105	0.000	-0.154	0.123
46	Asteraceae (Asteroide/Cardue) undiff.	-0.298	-0.117	0.000	0.000	0.196	-0.222	0.000	-0.224	0.000	0.000
50	Type 50	0.115	0.000	0.000	-0.305	0.190	-0.275	0.364	0.000	0.000	0.000
68	<i>Acacia</i>	0.141	0.000	0.268	-0.105	0.294	0.194	0.000	0.167	0.324	0.000
72	<i>Anadenanthera</i>	0.000	-0.224	0.172	0.336	0.000	0.000	0.256	0.107	0.000	-0.214
77	<i>Apuleia leocarpa</i>	0.000	-0.165	-0.143	0.000	0.369	-0.232	-0.280	0.000	-0.228	0.000
79	Bromeliaceae undiff.	-0.283	0.239	-0.137	0.152	0.000	0.000	0.000	0.000	0.000	-0.168
95	Type 95	-0.332	0.000	0.148	0.000	0.000	0.000	0.159	-0.281	0.136	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	-0.231	0.000	-0.323	0.000	0.000	0.213	0.000	0.182	-0.122	-0.127
99	Type 99	0.000	-0.173	0.000	0.269	-0.337	-0.145	0.169	-0.141	-0.240	0.000

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Pollen ID No.	Taxa	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
		100	100	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	-0.248	0.000	0.212	0.000	0.000	-0.333	0.000	0.000	0.000
2	Moraceae/Urticaceae (pore 2)	0.337	-0.136	0.121	0.262	0.144	0.000	-0.547	0.285	0.000
3	Moraceae/Urticaceae (pore 3)	0.185	0.621	0.000	-0.272	-0.159	0.000	0.118	0.000	0.000
5	Melastomataceae/Combretaceae	0.000	0.212	0.187	0.373	0.173	-0.172	-0.125	-0.101	-0.173
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	-0.134	0.230	-0.280	-0.530	0.000	0.000	0.145	0.176
8	<i>Celtis</i>	-0.153	0.000	-0.255	0.000	-0.186	-0.155	-0.126	-0.262	0.000
10	<i>Piper</i>	-0.209	0.000	-0.184	-0.146	0.198	0.517	-0.180	0.000	0.126
11	<i>Cecropia</i>	0.000	0.000	0.000	0.180	-0.303	0.000	0.226	0.000	-0.446
16	Type 16	0.000	0.116	0.132	0.000	0.000	0.130	0.000	0.154	-0.153
20	Myrtaceae undiff.	0.000	-0.236	0.000	0.000	-0.270	0.000	0.000	-0.155	-0.183
21	<i>Trema</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.157	-0.375	-0.167
24	Pteropsidia (trilete) undiff. (type 1)	-0.206	0.000	0.273	-0.116	0.110	-0.203	0.163	-0.165	0.145
25	Polypodiaceae undiff.	-0.117	0.156	-0.194	0.000	0.000	0.000	0.000	0.250	0.000
35	Poaceae	0.286	0.000	0.000	0.000	0.000	0.226	-0.132	-0.530	0.126
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.124	-0.538	0.000	0.000	-0.217	0.169	0.175	0.000
50	Type 50	0.137	0.000	0.160	0.185	0.123	0.000	0.142	0.000	0.393
68	<i>Acacia</i>	0.000	0.000	-0.115	-0.393	0.000	0.000	-0.426	-0.165	0.000
72	<i>Anadenanthera</i>	0.000	0.140	0.197	0.000	-0.205	0.399	0.000	0.000	0.000
77	<i>Apuleia leocarpa</i>	0.000	0.355	0.121	0.000	-0.323	0.000	-0.401	0.000	0.000
79	Bromeliaceae undiff.	0.121	0.354	0.000	-0.209	0.216	0.000	0.000	-0.169	-0.170
95	Type 95	0.000	0.000	0.214	0.000	0.000	0.000	0.000	0.000	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	-0.338	0.112	0.000	0.000	0.164	0.115	0.000	0.148	0.000
99	Type 99	-0.276	0.000	0.000	0.000	-0.201	0.000	-0.187	-0.269	0.000

Pollen ID No.	Taxa	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27	PC 28
		100	100	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.235	0.240	0.226	0.000	0.000	0.407	0.000	0.214	-0.244
2	Moraceae/Urticaceae (pore 2)	-0.210	-0.179	0.000	0.000	0.160	0.107	0.000	0.000	0.000
3	Moraceae/Urticaceae (pore 3)	0.000	-0.331	0.000	0.158	0.163	0.000	0.000	0.000	0.000
5	Melastomataceae/Combretaceae	0.129	-0.242	-0.222	-0.357	0.000	-0.108	0.000	-0.257	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	0.000	-0.218	0.000	0.000	-0.129	-0.262	0.000
8	<i>Celtis</i>	0.000	0.276	0.000	0.000	0.000	0.000	0.000	-0.226	0.000
10	<i>Piper</i>	-0.105	0.000	0.000	0.000	0.138	0.000	0.000	0.000	0.000
11	<i>Cecropia</i>	-0.233	-0.132	-0.372	0.000	-0.127	0.000	0.000	0.170	0.000
16	Type 16	0.000	0.000	0.000	0.000	0.124	0.000	-0.192	0.154	-0.536
20	Myrtaceae undiff.	0.305	0.000	0.168	0.189	-0.161	0.206	0.341	-0.317	0.150
21	<i>Trema</i>	0.000	0.144	0.234	0.000	0.375	-0.429	0.312	0.157	0.000
24	Pteropsidia (trilete) undiff. (type 1)	-0.128	-0.266	0.000	0.190	0.271	0.000	-0.195	-0.304	0.000
25	Polypodiaceae undiff.	0.172	0.000	-0.330	0.521	-0.130	-0.271	0.130	0.000	0.111
35	Poaceae	0.316	-0.259	-0.131	0.000	0.000	0.235	0.000	0.110	-0.130
46	Asteraceae (Asteroide/Cardue) undiff.	-0.167	-0.142	-0.110	-0.308	0.196	0.291	0.136	-0.132	0.000
50	Type 50	-0.378	0.140	0.000	-0.191	-0.335	0.000	0.125	0.000	0.000
68	<i>Acacia</i>	-0.230	-0.112	-0.157	-0.144	-0.133	0.106	0.204	0.223	0.000
72	<i>Anadenanthera</i>	0.000	0.373	-0.407	-0.181	0.122	0.108	0.000	0.000	0.000
77	<i>Apuleia leocarpa</i>	0.000	0.000	0.258	0.000	0.000	-0.261	0.000	0.000	0.217
79	Bromeliaceae undiff.	0.000	0.146	0.000	0.000	-0.389	0.174	-0.383	0.000	0.334
95	Type 95	0.000	-0.188	0.000	0.000	-0.120	0.000	0.000	0.186	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.224	-0.257	0.000	-0.270	-0.301	-0.153	0.389	-0.182	-0.186
99	Type 99	-0.359	-0.111	0.000	0.165	-0.282	0.000	-0.121	0.000	-0.257

Pollen ID No.	Taxa	PC 29
		100
1	<i>Didymopanax</i>	0.000
2	Moraceae/Urticaceae (pore 2)	0.000
3	Moraceae/Urticaceae (pore 3)	-0.127
5	Melastomataceae/Combretaceae	0.101
6	Palmae (type 1) cf. <i>Euterpe</i>	0.215
8	<i>Celtis</i>	-0.290
10	<i>Piper</i>	-0.137
11	<i>Cecropia</i>	-0.124
16	Type 16	0.195
20	Myrtaceae undiff.	0.000
21	<i>Trema</i>	0.134
24	Pteropsidia (trilete) undiff. (type 1)	0.000
25	Polypodiaceae undiff.	0.134
35	Poaceae	0.107
46	Asteraceae (Asteroide/Cardue) undiff.	0.000
50	Type 50	0.000
68	<i>Acacia</i>	0.000
72	<i>Anadenanthera</i>	0.000
77	<i>Apuleia leocarpa</i>	0.000
79	Bromeliaceae undiff.	0.000
95	Type 95	-0.749
98	Palmae (type 2) cf. <i>Attalea</i>	0.000
99	Type 99	0.222

Pollen ID No.	Taxa	% of variance explained									
		PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10
104	Type 104	0.117	-0.106	0.000	0.306	-0.131	-0.362	0.000	0.255	0.000	-0.120
108	Pteropsidia (trilete) undiff. (type 2)	0.000	-0.239	-0.308	0.000	-0.168	0.000	0.257	0.000	0.150	0.000
117	Type 117	0.000	-0.264	-0.251	-0.133	0.000	0.246	0.226	0.000	-0.138	0.495
118	Type 118	0.000	0.000	0.193	-0.296	0.000	-0.154	0.372	0.145	-0.366	-0.130
142	<i>Dilodendron</i>	0.000	0.239	0.000	0.257	0.194	0.313	0.210	0.000	0.000	0.193
316	<i>Serjana</i>	0.115	0.311	-0.185	0.000	0.000	0.000	-0.121	-0.371	-0.324	-0.140

Pollen ID No.	Taxa	% of variance explained								
		PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
104	Type 104	0.481	-0.198	0.000	-0.360	0.000	-0.228	0.000	0.000	0.174
108	Pteropsidia (trilete) undiff. (type 2)	-0.117	0.000	0.000	0.000	-0.159	0.000	0.000	0.000	0.109
117	Type 117	0.127	0.000	0.000	-0.192	0.144	-0.277	-0.169	0.000	-0.307
118	Type 118	0.000	-0.160	0.000	-0.209	0.000	0.115	0.000	0.000	-0.293
142	<i>Dilodendron</i>	0.000	0.120	-0.384	0.215	-0.171	-0.101	0.000	-0.119	0.319
316	<i>Serjana</i>	-0.214	0.000	0.148	-0.184	0.101	-0.209	0.000	-0.159	0.264

Pollen ID No.	Taxa	% of variance explained								
		PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27	PC 28
104	Type 104	0.142	0.000	0.000	-0.155	-0.135	-0.246	0.000	0.000	-0.111
108	Pteropsidia (trilete) undiff. (type 2)	0.126	-0.105	0.000	-0.180	0.000	0.000	0.000	0.555	0.476
117	Type 117	0.000	0.352	-0.145	0.000	0.000	0.000	0.000	0.000	0.000
118	Type 118	0.201	-0.102	0.000	-0.259	0.137	-0.198	-0.361	0.000	0.000
142	<i>Dilodendron</i>	0.209	0.000	0.000	0.000	0.000	-0.264	-0.332	0.000	-0.192
316	<i>Serjana</i>	0.000	0.000	-0.480	0.000	0.215	0.000	0.000	0.000	0.000

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		PC 29
Pollen ID No.	Taxa	% of variance explained
104	Type 104	0.000
108	Pteropsidia (trilete) undiff. (type 2)	0.213
117	Type 117	0.000
118	Type 118	0.000
142	<i>Dilodendron</i>	0.000
316	<i>Serjana</i>	0.000

1.2 1999-2000 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 33	PC 2 59	PC 3 85	PC 4 100	PC 5 100	PC 6 100	PC 7 100	PC 8 100	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	0.000	0.370	0.000	0.000	0.000	0.000	0.198	0.246	-0.276	0.245
2	Moraceae/Urticaceae (pore 2)	0.187	0.226	-0.226	0.000	0.000	0.110	-0.108	0.266	-0.232	-0.139
3	Moraceae/Urticaceae (pore 3)	0.000	-0.168	-0.257	-0.305	0.000	0.000	0.000	-0.250	0.000	0.000
5	Melastomataceae/Combretaceae	-0.295	0.185	0.000	0.000	0.000	0.000	-0.118	-0.461	-0.131	0.150
6	Palmae (type 1) cf. <i>Euterpe</i>	0.104	-0.192	-0.310	0.000	-0.146	0.153	0.000	0.000	0.000	0.177
8	<i>Celtis</i>	0.000	0.000	-0.323	0.213	0.000	0.359	-0.252	0.000	0.000	-0.163
10	<i>Piper</i>	0.320	-0.117	0.000	0.000	-0.130	0.000	0.000	-0.424	-0.244	0.298
11	<i>Cecropia</i>	-0.121	0.220	-0.278	0.000	0.000	-0.279	0.000	0.102	0.111	-0.107
16	Type 16	-0.131	0.000	0.000	-0.469	0.000	-0.121	0.195	0.000	0.000	0.154
20	Myrtaceae undiff.	0.000	0.356	0.000	-0.121	0.000	0.000	-0.147	0.000	-0.199	0.000
21	<i>Trema</i>	0.000	0.275	0.248	0.000	0.000	0.329	-0.342	-0.211	0.318	-0.251
24	Pteropsidia (trilete) undiff. (type 1)	0.181	0.290	0.000	0.152	0.257	0.000	-0.137	0.000	0.314	0.483
25	Polypodiaceae undiff.	-0.179	-0.193	0.167	0.270	-0.123	0.214	0.452	0.149	0.310	0.000
27	<i>Ferdinandusa elliptica</i>	0.143	0.000	0.317	-0.191	0.000	0.000	0.000	0.000	0.160	0.199
35	Poaceae	0.000	0.338	0.167	0.000	0.000	-0.129	0.416	0.000	0.000	-0.261
46	Asteraceae (Asteroide/Cardue) undiff.	0.337	0.000	0.000	0.000	-0.330	0.000	0.000	0.000	0.201	0.233
72	<i>Anadenanthera</i>	-0.122	0.000	0.355	0.000	0.000	0.000	0.000	0.000	-0.464	0.000
77	<i>Apuleia leocarpa</i>	0.000	0.323	-0.116	0.189	0.000	0.332	0.336	-0.400	0.000	0.149
79	Bromeliaceae undiff.	-0.179	-0.193	0.167	0.270	0.146	0.146	0.000	0.000	-0.340	0.142
98	Palmae (type 2) cf. <i>Attalea</i>	-0.301	0.125	-0.133	0.000	-0.295	0.000	-0.105	0.162	0.000	0.212
99	Type 99	0.285	0.000	0.209	0.000	0.000	0.108	0.000	0.183	0.000	0.118
104	Type 104	-0.255	-0.164	0.187	0.000	0.000	0.000	-0.359	0.000	0.000	0.000
108	Pteropsidia (trilete) undiff. (type 2)	0.285	0.000	0.209	0.000	-0.293	0.000	0.000	0.000	-0.184	-0.362

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Pollen ID No.	Taxa	% of variance explained								
		PC 11 100	PC 12 100	PC 13 100	PC 14 100	PC 15 100	PC 16 100	PC 17 100	PC 18 100	PC 19 100
1	<i>Didymopanax</i>	-0.405	0.297	0.171	0.340	0.000	0.000	-0.264	-0.195	0.281
2	Moraceae/Urticaceae (pore 2)	0.386	-0.176	-0.252	0.000	0.000	0.000	-0.157	-0.326	0.000
3	Moraceae/Urticaceae (pore 3)	0.110	-0.102	-0.199	0.602	0.206	0.000	0.156	0.000	0.302
5	Melastomataceae/Combretaceae	0.402	0.000	0.397	0.000	0.000	0.000	-0.262	-0.289	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.157	0.113	-0.142	0.430	0.204	-0.220	0.000	-0.379
8	<i>Celtis</i>	0.000	0.000	0.315	0.177	-0.115	0.229	0.512	-0.157	-0.113
10	<i>Piper</i>	-0.230	-0.161	-0.271	-0.220	-0.281	-0.159	0.000	-0.336	0.000
11	<i>Cecropia</i>	-0.152	-0.110	-0.440	0.000	0.165	0.000	0.000	-0.156	-0.311
16	Type 16	0.000	0.000	0.000	0.233	-0.255	0.000	0.177	0.000	-0.535
20	Myrtaceae undiff.	-0.232	-0.595	0.187	0.000	0.207	0.254	0.000	0.249	0.114
21	<i>Trema</i>	-0.157	0.000	-0.199	0.186	0.000	0.000	-0.310	-0.103	0.000
24	Pteropsidia (trilete) undiff. (type 1)	0.133	0.000	0.000	0.174	-0.103	0.000	0.187	0.000	-0.128
25	Polypodiaceae undiff.	0.000	-0.429	0.000	0.106	0.000	0.128	0.000	-0.342	0.000
27	<i>Ferdinandusa elliptica</i>	0.000	0.000	-0.117	-0.130	0.432	0.405	0.239	-0.246	0.166
35	Poaceae	0.259	0.325	0.000	0.000	0.000	0.000	0.156	-0.138	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.249	0.000	0.000	0.291	0.000	0.000	-0.346	0.274	-0.110
72	<i>Anadenanthera</i>	0.125	-0.150	-0.123	0.153	0.000	0.000	0.122	0.187	-0.235
77	<i>Apuleia leocarpa</i>	0.000	0.000	-0.261	-0.105	0.108	0.000	0.000	0.390	-0.112
79	Bromeliaceae undiff.	0.161	0.121	-0.313	0.258	0.106	0.315	0.000	0.000	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.223	0.108	-0.170	-0.140	-0.215	0.128	0.186	0.176	0.331
99	Type 99	0.109	0.000	0.000	0.000	0.318	-0.551	0.172	0.000	0.000
104	Type 104	-0.266	0.237	0.000	0.000	0.000	0.000	0.000	-0.103	0.000
108	Pteropsidia (trilete) undiff. (type 2)	0.000	0.000	0.000	0.108	0.000	0.000	0.000	0.000	0.000

Pollen ID No.	Taxa	% of variance explained						
		PC 20 100	PC 21 100	PC 22 100	PC 23 100	PC 24 100	PC 25 100	PC 26 100
1	<i>Didymopanax</i>	0.000	0.000	-0.169	0.000	0.000	0.000	0.000
2	Moraceae/Urticaceae (pore 2)	0.000	-0.164	-0.186	0.212	0.359	0.000	-0.231
3	Moraceae/Urticaceae (pore 3)	-0.192	0.138	0.174	0.000	0.122	-0.222	0.000
5	Melastomataceae/Combretaceae	-0.178	0.000	0.000	0.000	-0.228	0.000	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.410	0.212	0.199	0.000	-0.105	-0.103
8	<i>Celtis</i>	0.110	0.000	-0.193	-0.198	-0.114	0.000	0.000
10	<i>Piper</i>	0.205	0.130	0.000	0.000	0.000	0.134	0.000
11	<i>Cecropia</i>	-0.119	0.000	0.000	-0.332	-0.471	0.000	0.000
16	Type 16	0.233	-0.201	-0.125	0.321	0.000	0.000	0.000
20	Myrtaceae undiff.	0.235	0.000	0.237	0.000	0.000	-0.104	-0.119
21	<i>Trema</i>	0.293	0.288	0.000	0.151	0.000	0.000	0.000
24	Pteropsidia (trilete) undiff. (type 1)	-0.294	0.000	0.387	0.127	0.000	0.210	0.000
25	Polypodiaceae undiff.	0.000	0.000	0.000	0.000	-0.140	-0.160	-0.230
27	<i>Ferdinandusa elliptica</i>	0.000	0.000	-0.445	0.000	0.108	0.134	0.000
35	Poaceae	0.296	0.126	0.334	-0.302	0.143	0.000	-0.209
46	Asteraceae (Asteroide/Cardue) undiff.	0.179	-0.135	-0.212	-0.372	0.000	0.153	-0.220
72	<i>Anadenanthera</i>	-0.175	0.543	-0.250	-0.180	0.000	0.000	0.000
77	<i>Apuleia leocarpa</i>	-0.199	-0.207	-0.169	0.000	0.000	-0.193	0.000
79	Bromeliaceae undiff.	0.288	-0.353	0.249	0.000	-0.145	0.000	0.153
98	Palmae (type 2) cf. <i>Attalea</i>	0.252	0.228	0.000	0.288	-0.287	0.000	-0.240
99	Type 99	0.178	-0.129	0.000	0.000	-0.320	-0.443	0.000
104	Type 104	-0.155	-0.211	0.106	-0.145	0.166	-0.146	-0.648
108	Pteropsidia (trilete) undiff. (type 2)	-0.243	0.000	0.000	0.406	-0.350	0.396	-0.242

Pollen ID No.	Taxa	% of variance explained									
		PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10
		33	59	85	100	100	100	100	100	100	100
118	Type 118	-0.131	0.000	0.000	-0.469	-0.319	0.548	0.000	0.246	0.000	0.000
151	Type 151	-0.212	0.101	0.000	0.376	-0.614	-0.260	0.000	0.000	0.000	0.000
316	<i>Serjana</i>	0.285	0.000	0.209	0.000	-0.233	-0.155	0.000	0.000	0.000	0.000

Pollen ID No.	Taxa	% of variance explained								
		PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
		100	100	100	100	100	100	100	100	100
118	Type 118	0.000	0.000	0.000	-0.156	0.000	0.000	0.000	0.000	0.000
151	Type 151	0.000	0.000	0.000	0.000	0.161	-0.161	0.164	-0.107	-0.119
316	<i>Serjana</i>	0.000	0.149	0.000	0.000	-0.335	0.408	0.000	0.000	0.000

Pollen ID No.	Taxa	% of variance explained						
		PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26
		100	100	100	100	100	100	100
118	Type 118	-0.187	0.000	0.205	-0.263	0.000	0.199	0.243
151	Type 151	0.000	0.000	0.000	0.000	0.369	0.116	0.261
316	<i>Serjana</i>	-0.272	0.000	0.124	0.000	0.000	-0.558	0.225

1.3 2000-2001 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 37	PC 2 72	PC 3 88	PC 4 100	PC 5 100	PC 6 100	PC 7 100	PC 8 100	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	-0.154	0.000	-0.449	0.000	0.141	-0.132	0.000	-0.146	0.000	0.000
2	Moraceae/Urticaceae (pore 2)	-0.260	-0.132	0.221	-0.191	0.000	0.000	0.000	0.219	-0.257	0.203
3	Moraceae/Urticaceae (pore 3)	0.131	-0.136	0.426	0.000	0.000	-0.129	0.112	0.000	-0.101	0.000
5	Melastomataceae/Combretaceae	0.304	0.000	0.000	-0.213	0.000	0.000	0.160	-0.115	-0.438	-0.293
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.108	-0.291	0.000	-0.282	0.000	0.171	0.000	-0.274	0.000	0.000
8	<i>Celtis</i>	0.131	-0.136	0.426	0.000	0.000	0.000	0.000	0.000	0.161	0.000
10	<i>Piper</i>	-0.271	0.187	0.000	-0.159	0.164	0.000	-0.310	0.000	0.325	-0.249
11	<i>Cecropia</i>	-0.233	0.000	0.000	-0.403	0.000	-0.184	0.000	0.000	0.115	0.000
20	Myrtaceae undiff.	-0.154	-0.280	0.000	-0.243	-0.251	0.000	0.000	-0.204	0.000	-0.237
21	<i>Trema</i>	-0.238	0.000	0.330	-0.110	0.000	-0.173	0.000	0.000	0.000	0.188
24	Pteropsidia (trilete) undiff. (type 1)	0.198	-0.206	0.275	-0.125	-0.115	-0.135	-0.135	0.000	0.241	-0.255
25	Polypodiaceae undiff.	0.127	-0.134	-0.276	-0.396	0.000	0.170	0.000	0.000	0.000	0.119
35	Poaceae	0.000	-0.347	0.000	0.000	0.000	-0.179	0.000	0.000	0.000	0.412
46	Asteraceae (Asteroide/Cardue) undiff.	0.273	0.206	0.000	0.000	0.000	0.171	0.196	0.000	0.501	0.410
68	<i>Acacia</i>	0.000	0.330	0.000	-0.189	0.000	-0.446	-0.374	-0.252	-0.118	0.385
72	<i>Anadenanthera</i>	-0.209	0.214	0.214	0.181	0.153	0.350	0.000	-0.597	-0.161	0.000
77	<i>Apuleia leocarpa</i>	-0.329	-0.100	0.000	0.000	0.175	0.000	-0.295	0.000	0.166	0.000
79	Bromeliaceae undiff.	0.265	-0.173	-0.130	0.192	0.000	0.000	-0.151	-0.509	0.256	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.000	-0.341	0.000	0.000	0.675	-0.303	0.243	0.000	0.000	0.000
104	Type 104	0.000	0.330	0.000	-0.189	0.338	0.183	0.416	0.000	0.171	0.000
142	<i>Dilodendron</i>	-0.329	-0.100	0.000	0.000	-0.457	0.000	0.499	-0.237	0.000	0.162
162	Type 162	-0.226	-0.152	0.000	0.362	0.000	0.309	0.000	0.161	0.000	0.000
316	<i>Serjania</i>	0.204	-0.213	0.000	-0.320	0.000	0.420	-0.198	0.000	-0.273	0.281

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Pollen ID No.	Taxa	% of variance explained								
		PC 11 100	PC 12 100	PC 13 100	PC 14 100	PC 15 100	PC 16 100	PC 17 100	PC 18 100	PC 19 100
1	<i>Didymopanax</i>	0.000	-0.162	0.000	0.000	0.000	0.246	0.544	-0.330	-0.299
2	Moraceae/Urticaceae (pore 2)	-0.649	-0.252	0.164	0.162	-0.200	0.178	0.000	0.149	0.000
3	Moraceae/Urticaceae (pore 3)	0.000	0.113	-0.450	0.000	-0.312	-0.150	0.000	-0.212	-0.549
5	Melastomataceae/Combretaceae	0.000	-0.172	-0.102	0.000	0.112	0.353	-0.153	0.000	0.185
6	Palmae (type 1) cf. <i>Euterpe</i>	0.183	-0.195	0.120	0.414	-0.172	-0.352	0.155	-0.273	0.272
8	<i>Celtis</i>	0.000	0.000	0.593	0.000	0.361	0.164	0.000	0.000	-0.194
10	<i>Piper</i>	0.000	-0.262	-0.308	-0.169	0.277	0.000	0.000	0.121	-0.180
11	<i>Cecropia</i>	0.000	0.540	0.167	-0.317	-0.353	0.000	-0.150	-0.160	0.000
20	Myrtaceae undiff.	0.305	0.000	-0.161	0.169	-0.192	0.471	0.000	0.388	0.000
21	<i>Trema</i>	0.000	0.286	-0.266	0.156	0.407	0.236	0.244	-0.348	0.280
24	Pteropsidia (trilete) undiff. (type 1)	-0.177	-0.137	0.116	-0.320	0.000	-0.128	0.307	-0.180	0.000
25	Polypodiaceae undiff.	0.000	0.158	0.147	0.195	0.257	0.000	-0.199	-0.157	-0.509
35	Poaceae	0.207	-0.352	0.000	-0.371	-0.115	0.288	-0.316	-0.315	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.000	0.000	0.000	-0.192	0.243	0.327	0.205	0.000
68	<i>Acacia</i>	0.196	0.000	0.107	0.245	0.000	0.000	0.000	0.119	-0.114
72	<i>Anadenanthera</i>	0.000	0.165	0.186	-0.235	-0.138	0.000	0.000	0.000	-0.159
77	<i>Apuleia leocarpa</i>	0.000	0.000	-0.104	0.000	0.000	0.146	0.000	0.000	0.000
79	Bromeliaceae undiff.	-0.501	0.199	-0.176	0.210	0.000	0.000	-0.229	0.000	0.146
98	Palmae (type 2) cf. <i>Attalea</i>	0.000	0.159	0.000	0.000	0.000	-0.148	0.000	0.362	0.000
104	Type 104	0.000	-0.231	0.000	0.000	0.000	0.000	-0.327	-0.222	0.000
142	<i>Dilodendron</i>	-0.182	-0.156	0.000	-0.210	0.249	-0.259	0.000	0.139	0.000
162	Type 162	0.136	0.150	0.000	0.164	0.000	0.000	-0.139	-0.138	0.000
316	<i>Serjania</i>	0.000	0.125	-0.194	-0.295	0.232	-0.128	0.156	0.000	0.000

Pollen ID No.	Taxa	PC 20	PC 21	PC 22	PC 23
		100	100	100	100
1	<i>Didymopanax</i>	-0.231	0.146	0.121	0.000
2	Moraceae/Urticaceae (pore 2)	0.000	0.101	0.000	0.000
3	Moraceae/Urticaceae (pore 3)	-0.167	0.000	0.000	0.000
5	Melastomataceae/Combretaceae	-0.112	0.000	-0.465	-0.210
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.109	0.000	-0.280	0.175
8	<i>Celtis</i>	-0.381	0.000	0.000	0.151
10	<i>Piper</i>	0.000	0.439	-0.158	0.134
11	<i>Cecropia</i>	-0.259	0.181	0.000	0.000
20	Myrtaceae undiff.	0.000	0.000	0.302	0.000
21	<i>Trema</i>	0.245	0.000	0.000	0.121
24	Pteropsidia (trilete) undiff. (type 1)	0.352	0.000	0.105	-0.442
25	Polypodiaceae undiff.	0.365	0.000	-0.213	0.000
35	Poaceae	0.000	0.000	0.000	0.178
46	Asteraceae (Asteroide/Cardue) undiff.	-0.141	0.000	-0.315	0.000
68	<i>Acacia</i>	0.000	0.000	0.000	-0.326
72	<i>Anadenanthera</i>	0.278	-0.110	-0.166	0.000
77	<i>Apuleia leocarpa</i>	-0.303	-0.702	-0.155	-0.257
79	Bromeliaceae undiff.	-0.124	0.102	0.102	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.157	0.000	0.000	-0.145
104	Type 104	0.000	0.000	0.465	-0.204
142	<i>Dilodendron</i>	-0.168	0.000	-0.117	-0.145
162	Type 162	0.000	0.427	-0.120	-0.586
316	<i>Serjana</i>	-0.300	0.000	0.290	-0.101

1.4 All field seasons data

Pollen ID No.	% of variance explained Taxa	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
		16	28	39	49	57	65	71	77	81
1	<i>Didymopanax</i>	-0.281	0.224	0.000	0.000	0.000	-0.263	0.000	0.000	0.000
2	Moraceae/Urticaceae (pore 2)	-0.340	-0.148	0.136	0.000	0.000	-0.127	0.167	0.000	0.141
3	Moraceae/Urticaceae (pore 3)	0.140	-0.203	0.000	0.247	0.178	0.000	0.000	0.170	0.263
5	Melastomataceae/Combretaceae	-0.152	0.119	-0.258	-0.184	0.000	0.000	-0.339	-0.125	0.131
6	Palmae (type 1) cf. <i>Euterpe</i>	0.216	0.000	0.312	0.122	0.176	-0.153	0.119	0.166	0.105
8	<i>Celtis</i>	-0.142	-0.385	0.000	0.000	0.000	0.000	0.000	-0.235	0.150
10	<i>Piper</i>	0.000	0.000	0.000	0.297	-0.286	-0.241	0.337	0.000	0.111
11	<i>Cecropia</i>	-0.312	0.000	0.000	0.160	0.000	-0.208	0.223	-0.124	0.000
16	Type 16	-0.151	-0.234	-0.182	0.000	0.181	0.000	-0.106	0.405	0.000
20	Myrtaceae undiff.	-0.248	0.000	0.139	0.195	0.000	-0.107	-0.304	0.000	-0.258
21	<i>Trema</i>	-0.320	0.000	0.000	-0.133	-0.101	0.000	0.197	0.149	-0.130
24	Pteropsidia (trilete) undiff. (type 1)	0.000	-0.154	0.219	-0.104	-0.183	0.000	-0.202	-0.109	-0.270
25	Polypodiaceae undiff.	0.153	0.000	0.109	-0.297	0.200	-0.239	0.153	0.000	-0.308
27	<i>Ferdinandusa elliptica</i>	-0.196	-0.252	-0.127	-0.118	-0.236	0.000	0.000	0.150	0.000
35	Poaceae	-0.201	-0.156	0.269	-0.254	0.000	0.000	-0.180	0.000	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.106	0.000	-0.185	-0.357	-0.199	-0.180	0.000	0.210
68	<i>Acacia</i>	0.117	0.222	-0.284	0.149	0.000	0.000	0.000	0.000	-0.276
72	<i>Anadenanthera</i>	-0.103	0.273	0.000	0.000	-0.291	0.326	0.000	0.123	0.000
77	<i>Apuleia leocarpa</i>	-0.233	0.135	0.243	0.216	0.000	0.183	0.000	0.000	-0.229
79	Bromeliaceae undiff.	0.000	0.128	0.181	-0.283	0.131	-0.174	0.000	0.000	0.144
98	Palmae (type 2) cf. <i>Attalea</i>	-0.152	0.000	0.297	0.000	0.274	0.196	0.000	0.000	0.177
108	Pteropsidia (trilete) undiff. (type 2)	0.102	-0.345	0.000	0.000	-0.333	0.117	0.000	0.000	-0.131
142	<i>Dilodendron</i>	-0.133	0.212	0.199	0.328	0.000	0.000	0.000	0.159	0.000
316	<i>Serjania</i>	0.000	0.000	0.115	0.000	-0.136	-0.415	-0.363	0.000	0.000

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Pollen ID No.	% of variance explained Taxa	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
		16	28	39	49	57	65	71	77	81
50	Type 50	0.120	-0.104	0.000	0.119	0.151	-0.151	-0.136	0.000	-0.505
95	Type 95	0.000	0.101	0.177	-0.344	0.000	0.000	0.221	0.324	-0.124
99	Type 99	0.126	-0.128	0.000	-0.136	-0.369	0.000	0.223	0.189	0.000
104	Type 104	0.000	0.000	-0.376	0.000	0.000	0.113	0.271	0.000	0.000
117	Type 117	0.157	-0.243	0.115	0.000	0.000	0.406	0.000	0.000	0.000
118	Type 118	-0.168	-0.175	-0.228	0.000	0.205	0.000	0.000	0.455	0.000
151	Type 151	-0.214	0.000	0.000	-0.201	0.137	0.101	0.129	-0.452	-0.151
162	Type 162	-0.141	0.250	0.187	0.153	0.000	0.174	-0.183	0.124	0.173

Pollen ID No.	% of variance explained Taxa	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18
		85	88	91	93	95	97	98	99	100
1	<i>Didymopanax</i>	-0.142	0.000	0.143	-0.167	0.000	-0.250	0.368	0.456	-0.176
5	Melastomataceae/Combretaceae	0.000	0.000	0.237	-0.330	0.000	0.336	0.000	0.000	0.000
8	<i>Celtis</i>	-0.237	0.124	0.000	0.000	0.240	0.000	-0.172	0.000	0.000
11	<i>Cecropia</i>	0.169	0.000	-0.262	-0.139	-0.184	0.000	0.000	0.105	0.214
27	<i>Ferdinandusa elliptica</i>	0.000	0.000	-0.135	0.497	0.000	0.000	-0.183	0.139	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	-0.150	0.000	-0.391	-0.280	0.000	0.000	0.000	-0.120	0.215
68	<i>Acacia</i>	0.000	0.407	-0.237	0.000	0.000	0.000	-0.129	0.000	-0.292
72	<i>Anadenanthera</i>	0.000	0.113	0.000	-0.143	0.146	0.000	-0.160	0.196	0.402
77	<i>Apuleia leocarpa</i>	-0.132	-0.166	0.000	0.000	-0.242	0.000	-0.137	-0.300	0.000
79	Bromeliaceae undiff.	0.451	-0.144	0.000	0.000	0.373	-0.187	0.000	-0.117	-0.124
142	<i>Dilodendron</i>	0.290	0.116	0.000	0.195	0.213	0.000	0.000	0.125	0.221

Pollen ID No.	% of variance explained Taxa	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18
		85	88	91	93	95	97	98	99	100
2	Moraceae/Urticaceae (pore 2)	-0.113	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.219
3	Moraceae/Urticaceae (pore 3)	0.000	0.248	0.379	-0.122	0.232	0.000	-0.156	0.000	0.113
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.102	0.000	0.000	-0.226	0.263	-0.296	0.000	0.000
10	<i>Piper</i>	0.000	-0.206	0.000	-0.270	0.000	0.000	0.000	-0.105	-0.141
16	Type 16	0.141	0.000	-0.151	-0.142	0.000	-0.110	0.000	-0.336	0.000
20	Myrtaceae undiff.	0.144	0.000	0.307	0.000	0.000	0.108	0.000	-0.155	0.121
21	<i>Trema</i>	0.000	0.278	0.000	0.000	0.198	0.273	-0.138	0.000	-0.526
24	Pteropsidia (trilete) undiff. (type 1)	0.184	0.346	0.000	-0.232	0.000	-0.525	-0.305	0.000	0.000
25	Polypodiaceae undiff.	0.000	-0.189	0.000	0.000	0.000	0.164	-0.242	0.326	0.145
35	Poaceae	-0.272	-0.149	-0.107	0.000	-0.167	0.000	-0.239	0.000	0.000
50	Type 50	-0.230	-0.149	0.000	-0.249	0.469	0.000	0.117	0.000	0.127
95	Type 95	-0.145	0.215	0.000	0.000	0.000	0.106	0.208	-0.349	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.270	0.000	-0.130	-0.206	0.000	0.000	0.000	0.194	0.000
99	Type 99	0.000	0.000	0.437	0.000	-0.164	0.000	0.175	0.000	0.000
104	Type 104	0.277	-0.251	0.000	-0.251	0.000	0.000	-0.361	0.000	0.000
108	Pteropsidia (trilete) undiff. (type 2)	0.105	-0.161	0.000	0.000	0.000	0.000	0.000	0.169	-0.191
117	Type 117	0.103	0.000	-0.239	-0.150	0.000	0.393	0.257	0.207	0.000
118	Type 118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.163	0.000
151	Type 151	0.000	0.000	0.226	0.161	0.156	0.119	0.000	-0.177	0.182
162	Type 162	-0.166	-0.310	0.000	0.000	0.363	0.000	-0.261	0.000	-0.189
316	<i>Serjania</i>	0.330	0.000	0.000	0.000	0.000	0.315	0.000	0.000	0.000

Pollen ID No.	% of variance explained Taxa	PC 19	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27
		100	100	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.000	0.000	0.000	0.134	0.000	0.000	-0.204	0.307	-0.232
2	Moraceae/Urticaceae (pore 2)	0.000	0.000	0.399	-0.157	0.000	-0.169	0.000	0.000	0.000
3	Moraceae/Urticaceae (pore 3)	0.149	-0.137	-0.187	-0.254	0.000	0.000	0.000	-0.119	-0.338
5	Melastomataceae/Combretaceae	-0.210	0.107	0.000	0.000	0.364	0.000	0.219	0.000	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.158	0.000	-0.104	0.552	0.128	0.146	0.000	0.172	-0.131
8	<i>Celtis</i>	-0.233	-0.129	0.000	0.000	0.000	-0.122	-0.374	0.238	0.368
10	<i>Piper</i>	0.000	0.421	-0.174	0.000	0.000	0.168	-0.150	-0.339	0.000
11	<i>Cecropia</i>	0.000	-0.383	0.285	0.136	0.103	0.141	0.220	-0.207	0.000
16	Type 16	-0.245	-0.101	0.000	0.000	-0.190	0.000	-0.214	0.000	-0.426
20	Myrtaceae undiff.	-0.252	0.000	0.000	0.132	-0.205	-0.108	0.000	-0.215	0.297
21	<i>Trema</i>	0.214	-0.103	-0.171	0.000	-0.261	0.000	0.266	0.000	0.000
24	Pteropsidia (trilete) undiff. (type 1)	0.000	0.213	0.144	0.000	0.000	0.150	0.152	0.122	0.000
25	Polypodiaceae undiff.	-0.249	0.000	0.000	-0.505	-0.139	0.000	0.000	0.000	0.000
27	<i>Ferdinandusa elliptica</i>	0.000	0.000	-0.233	0.129	0.108	0.106	0.000	0.230	0.000
35	Poaceae	0.121	0.202	0.000	0.000	0.113	-0.340	-0.209	-0.445	-0.270
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.000	-0.288	-0.129	0.000	0.000	0.000	0.000	0.000
68	<i>Acacia</i>	0.000	0.000	0.115	-0.119	0.218	0.000	-0.448	-0.125	0.000
72	<i>Anadenanthera</i>	0.000	-0.306	-0.142	0.113	0.000	0.000	-0.316	-0.194	0.000
77	<i>Apuleia leocarpa</i>	0.194	-0.255	-0.282	-0.284	0.347	0.000	0.000	0.291	0.000
79	Bromeliaceae undiff.	0.000	-0.211	0.000	0.102	0.394	-0.192	-0.102	-0.146	0.000
98	Palmae (type 2) cf. <i>Attalea</i>	0.148	0.000	-0.240	0.000	-0.199	0.202	-0.152	0.000	0.132
108	Pteropsidia (trilete) undiff. (type 2)	-0.403	-0.253	0.000	0.000	0.180	0.000	0.125	0.000	-0.116
142	<i>Dilodendron</i>	-0.160	0.346	0.000	-0.158	0.162	-0.235	0.000	0.136	0.000
316	<i>Serjana</i>	0.300	0.000	0.112	-0.137	0.000	0.157	-0.291	0.147	0.000

Pollen ID No.	% of variance explained Taxa	PC 19	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27
		100	100	100	100	100	100	100	100	100
50	Type 50	0.295	0.000	0.000	0.207	0.000	0.000	0.000	0.000	0.000
95	Type 95	-0.165	0.000	0.118	0.000	0.000	0.101	0.000	0.000	0.000
99	Type 99	0.267	-0.109	0.209	0.000	0.148	0.000	-0.156	0.000	0.000
104	Type 104	0.139	0.203	0.129	0.157	0.000	-0.227	0.000	0.271	0.000
117	Type 117	0.105	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
118	Type 118	0.155	0.135	0.000	0.000	0.379	0.276	0.000	0.000	0.429
151	Type 151	0.000	0.154	-0.141	0.000	0.110	0.491	0.000	-0.105	-0.251
162	Type 162	0.000	0.000	0.432	0.000	0.000	0.380	0.000	0.000	0.000

Pollen ID No.	% of variance explained Taxa	PC 28	PC 29	PC 30	PC 31	PC 32
		100	100	100	100	100
1	<i>Didymopanax</i>	0.000	0.000	0.157	0.182	0.000
5	Melastomataceae/Combretaceae	0.130	-0.105	-0.326	0.000	-0.127
8	<i>Celtis</i>	0.272	-0.225	0.000	0.000	0.000
11	<i>Cecropia</i>	0.394	0.000	0.000	0.000	0.000
27	<i>Ferdinandusa elliptica</i>	0.193	0.283	-0.346	0.130	-0.123
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.176	0.226	-0.291	0.290
68	<i>Acacia</i>	0.000	0.274	0.000	-0.139	0.000
72	<i>Anadenanthera</i>	0.000	-0.248	-0.131	0.201	0.000
77	<i>Apuleia leocarpa</i>	0.000	0.000	0.000	0.161	0.000
79	Bromeliaceae undiff.	0.000	0.139	0.000	0.128	0.186
142	<i>Dilodendron</i>	0.170	-0.272	0.114	-0.312	0.000

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Pollen ID No.	% of variance explained Taxa	PC 28	PC 29	PC 30	PC 31	PC 32
		100	100	100	100	100
2	Moraceae/Urticaceae (pore 2)	-0.556	0.149	-0.202	0.000	0.000
3	Moraceae/Urticaceae (pore 3)	0.137	0.240	0.160	0.107	-0.102
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.169	0.000	0.000	0.000	0.175
10	<i>Piper</i>	0.000	0.000	-0.225	0.219	0.000
16	Type 16	0.000	-0.155	-0.169	0.000	0.240
20	Myrtaceae undiff.	0.000	0.450	0.000	0.000	0.143
21	<i>Trema</i>	0.000	-0.166	0.000	0.000	0.158
24	Pteropsidia (trilete) undiff. (type 1)	0.000	0.000	0.000	0.118	0.000
25	Polypodiaceae undiff.	0.000	0.000	0.000	0.000	0.178
35	Poaceae	0.000	0.000	0.176	0.000	0.000
50	Type 50	0.000	0.000	-0.226	-0.167	-0.137
95	Type 95	0.278	0.000	0.179	0.147	-0.448
98	Palmae (type 2) cf. <i>Attalea</i>	0.000	0.226	-0.208	-0.348	-0.331
99	Type 99	0.125	0.000	-0.197	-0.395	0.247
104	Type 104	0.000	0.235	0.290	0.000	-0.106
108	Pteropsidia (trilete) undiff. (type 2)	-0.310	0.000	0.296	-0.172	-0.275
117	Type 117	0.224	0.124	0.000	0.397	0.296
118	Type 118	-0.190	-0.140	0.251	0.000	0.000
151	Type 151	-0.110	0.000	0.167	0.000	0.167
162	Type 162	0.000	0.170	0.000	0.000	0.000
316	<i>Serjania</i>	0.000	-0.256	0.156	0.118	-0.213

2. Los Fierros 1

2.1 1998-1999 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 30	PC 2 51	PC 3 66	PC 4 76	PC 5 86	PC 6 94	PC 7 97	PC 8 100	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	-0.414	-0.116	0.125	0.000	0.168	0.000	-0.319	-0.585	0.375	0.000
2	Moraceae/Urticaceae (2 pore)	0.297	-0.450	0.000	0.000	0.104	0.000	0.000	-0.195	0.114	-0.311
3	Moraceae/Urticaceae (3 pore)	0.000	0.393	-0.244	0.000	-0.210	0.516	-0.128	-0.398	-0.272	0.000
4	Moraceae/Urticaceae (4 pore)	0.421	0.000	0.000	-0.156	0.000	-0.333	-0.425	0.000	-0.325	0.165
5	Melastomataceae/Combretaceae	-0.204	0.000	0.103	-0.364	-0.625	-0.211	0.000	-0.188	-0.212	-0.273
6	Palmae (type 1) cf. <i>Euterpe</i>	0.270	0.310	-0.253	-0.249	0.286	0.118	0.294	-0.230	0.243	0.000
8	<i>Celtis</i>	0.338	0.314	-0.187	0.108	0.137	-0.307	0.132	-0.161	0.000	-0.214
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.174	0.177	0.262	-0.634	-0.102	0.000	0.000	0.141	0.484	0.000
11	<i>Cecropia</i>	0.295	0.000	0.156	0.326	-0.451	0.361	0.000	0.152	0.323	0.246
12	Moraceae/Urticaceae (5 pore)	0.341	-0.157	0.225	-0.174	0.207	0.352	-0.425	-0.167	-0.158	0.150
15	Type 15	0.000	-0.417	-0.360	-0.185	0.000	0.344	0.000	0.218	0.000	-0.516
21	<i>Trema</i>	0.262	0.000	0.456	0.346	-0.182	0.000	0.143	-0.304	0.000	-0.383
53	<i>Hyeronima</i>	-0.127	0.000	0.535	-0.177	0.285	0.285	0.417	0.000	-0.416	0.000
58	Type 58	0.122	-0.439	-0.204	-0.208	-0.214	0.000	0.457	-0.367	-0.113	0.491

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Pollen ID No.	Taxa	% of variance explained			
		PC 11	PC 12	PC 13	PC 14
1	<i>Didymopanax</i>	0.127	-0.370	0.000	0.149
2	Moraceae/Urticaceae (2 pore)	0.000	0.147	-0.643	0.314
3	Moraceae/Urticaceae (3 pore)	0.350	0.202	-0.234	0.000
4	Moraceae/Urticaceae (4 pore)	0.332	-0.441	-0.179	-0.171
5	Melastomataceae/Combretaceae	-0.449	-0.103	0.000	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.302	-0.322	-0.137	-0.435
8	<i>Celtis</i>	0.000	0.000	0.422	0.588
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.339	0.250	0.000	0.157
11	<i>Cecropia</i>	-0.147	-0.417	0.000	0.241
12	Moraceae/Urticaceae (5 pore)	-0.452	0.242	0.303	0.000
15	Type 15	0.192	-0.269	0.318	0.000
21	<i>Trema</i>	0.203	0.148	0.229	-0.426
53	<i>Hyeronima</i>	0.000	-0.304	0.000	0.201
58	Type 58	0.146	0.000	0.192	0.000

2.2 1999-2000 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10
		44	67	85	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.291	-0.320	0.000	0.159	0.182	0.135	-0.236	-0.636	0.222	0.273
2	Moraceae/Urticaceae (2 pore)	0.368	-0.122	-0.104	0.123	0.183	0.000	0.301	0.395	-0.268	0.000
3	Moraceae/Urticaceae (3 pore)	-0.248	0.231	0.385	0.000	-0.185	-0.105	-0.117	0.000	0.311	0.220
4	Moraceae/Urticaceae (4 pore)	0.000	-0.411	0.314	-0.244	0.000	-0.236	0.000	0.137	0.167	0.000
5	Melastomataceae/Combretaceae	0.323	0.231	0.000	-0.242	0.000	-0.626	-0.305	-0.106	-0.111	0.108
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.347	0.000	0.247	-0.120	0.215	0.175	0.196	-0.361	-0.151	-0.313
8	<i>Celtis</i>	0.000	0.356	-0.354	0.309	-0.143	0.197	0.000	0.000	0.294	0.415
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.314	-0.129	0.301	0.151	0.000	0.000	0.323	0.000	-0.254	0.398
11	<i>Cecropia</i>	0.273	0.000	0.277	-0.351	0.000	0.616	-0.479	0.264	-0.133	0.000
12	Moraceae/Urticaceae (5 pore)	0.177	-0.262	-0.387	-0.258	-0.416	0.000	-0.128	0.000	0.000	-0.274
15	Type 15	0.000	0.182	-0.308	-0.526	0.000	0.136	0.248	-0.342	-0.332	0.334
21	<i>Trema</i>	0.307	0.162	0.000	0.363	0.000	0.000	-0.143	-0.237	-0.110	-0.431
53	<i>Hyeronima</i>	0.207	0.436	0.000	-0.147	0.606	-0.138	0.000	0.000	0.148	-0.115
69	Type 69	0.354	0.000	0.000	-0.271	0.000	0.159	0.477	0.000	0.608	-0.190
74	Type 74	0.157	0.357	0.366	0.107	-0.529	0.000	0.213	-0.140	-0.184	0.000

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Pollen ID No.	Taxa	% of variance explained				
		PC 11	PC 12	PC 13	PC 14	PC 15
		100	100	100	100	100
1	<i>Didymopanax</i>	-0.188	-0.172	0.000	0.271	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	-0.180	-0.409	0.511	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.403	-0.407	0.354	0.250
4	Moraceae/Urticaceae (4 pore)	0.204	-0.436	-0.291	-0.389	0.304
5	Melastomataceae/Combretaceae	0.194	0.000	-0.110	0.000	-0.452
6	Palmae (type 1) cf. <i>Euterpe</i>	0.533	-0.139	-0.153	0.287	-0.156
8	<i>Celtis</i>	0.462	-0.312	-0.130	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.403	0.463	0.217	-0.125	0.000
11	<i>Cecropia</i>	0.000	0.000	0.000	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	0.341	0.162	0.135	0.309	0.392
15	Type 15	-0.210	0.000	-0.270	-0.167	0.167
21	<i>Trema</i>	0.000	0.204	-0.509	-0.378	0.150
53	<i>Hyeronima</i>	0.000	0.000	0.258	0.000	0.502
69	Type 69	0.000	0.106	0.000	0.000	-0.331
74	Type 74	-0.180	-0.410	0.253	0.113	0.182

2.3 2000-2001 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10
		43	75	91	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.000	-0.419	-0.231	0.000	-0.169	0.000	-0.350	-0.153	0.262	0.314
2	Moraceae/Urticaceae (2 pore)	-0.285	0.000	-0.321	-0.407	0.288	0.000	-0.121	-0.122	0.000	0.305
3	Moraceae/Urticaceae (3 pore)	0.337	0.000	-0.119	-0.417	0.000	0.000	-0.277	0.311	0.000	-0.545
4	Moraceae/Urticaceae (4 pore)	-0.146	-0.418	0.104	0.000	-0.449	0.349	-0.275	0.101	-0.249	0.000
5	Melastomataceae/Combretaceae	0.000	0.000	0.609	0.000	0.274	0.368	0.000	0.000	0.172	0.144
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.180	0.294	-0.393	0.000	-0.122	0.721	0.000	0.000	0.190	-0.100
8	<i>Celtis</i>	0.333	-0.226	0.000	-0.134	0.000	0.000	0.197	0.000	0.707	-0.165
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.329	0.000	-0.182	0.394	0.311	0.000	-0.439	-0.332	-0.245	-0.206
11	<i>Cecropia</i>	0.310	-0.233	0.000	-0.300	0.000	-0.100	0.000	-0.394	-0.168	0.000
12	Moraceae/Urticaceae (5 pore)	0.365	0.000	-0.158	0.194	0.215	0.000	0.000	0.695	0.000	0.421
15	Type 15	-0.341	0.000	0.000	0.413	0.000	-0.249	0.000	0.000	0.289	-0.329
53	<i>Hyeronima</i>	0.125	-0.362	0.188	0.378	0.000	0.277	0.000	0.000	0.000	0.000
58	Type 58	-0.290	0.000	0.403	-0.166	0.139	0.000	-0.491	0.183	0.185	-0.165
69	Type 69	0.192	0.394	0.102	0.000	-0.644	-0.197	0.000	0.000	0.000	0.107
74	Type 74	0.192	0.394	0.102	0.000	0.000	0.000	-0.447	-0.201	0.295	0.278

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Pollen ID No.	Taxa	% of variance explained				
		PC 11	PC 12	PC 13	PC 14	PC 15
1	<i>Didymopanax</i>	0.599	0.102	0.000	0.189	0.000
2	Moraceae/Urticaceae (2 pore)	-0.320	0.287	0.000	-0.182	-0.466
3	Moraceae/Urticaceae (3 pore)	0.277	0.268	0.227	-0.126	0.000
4	Moraceae/Urticaceae (4 pore)	-0.433	0.000	0.227	0.215	0.159
5	Melastomataceae/Combretaceae	0.176	0.174	0.251	0.383	-0.249
6	Palmae (type 1) cf. <i>Euterpe</i>	0.139	-0.333	0.000	0.000	0.000
8	<i>Celtis</i>	-0.385	0.000	-0.200	0.189	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.209	0.000	-0.215	0.270	-0.143
11	<i>Cecropia</i>	0.000	-0.656	0.322	0.000	-0.154
12	Moraceae/Urticaceae (5 pore)	0.000	-0.234	0.000	0.000	-0.119
15	Type 15	0.000	-0.120	0.599	0.114	-0.211
53	<i>Hyeronima</i>	0.000	0.103	0.000	-0.678	-0.302
58	Type 58	0.000	-0.413	-0.406	0.000	-0.120
69	Type 69	0.000	0.000	-0.103	0.000	-0.551
74	Type 74	-0.109	0.000	0.296	-0.347	0.411

2.4 All field seasons data

Pollen ID No.	% of variance explained Taxa	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
		18	34	49	59	68	75	81	86	90
1	<i>Didymopanax</i>	-0.141	-0.103	-0.421	-0.210	-0.382	0.000	0.000	-0.230	0.163
2	Moraceae/Urticaceae (2 pore)	-0.489	0.000	0.000	0.000	0.192	0.319	0.000	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.375	0.000	0.266	0.310	-0.111	-0.245	-0.213	0.000	0.000
4	Moraceae/Urticaceae (4 pore)	-0.410	0.000	0.259	0.122	-0.275	-0.215	0.198	0.000	-0.102
5	Melastomataceae/Combretaceae	0.103	0.122	-0.341	0.396	0.277	-0.253	0.262	0.115	0.210
6	Palmae (type 1) cf. <i>Euterpe</i>	0.145	0.000	0.517	0.000	0.000	0.000	0.000	0.000	0.617
8	<i>Celtis</i>	0.000	0.298	0.374	-0.160	0.000	0.145	0.183	0.492	-0.308
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.263	0.351	0.000	0.000	-0.103	-0.411	0.298	-0.155	0.366
11	<i>Cecropia</i>	-0.196	0.253	0.000	0.543	0.000	0.000	-0.297	-0.173	-0.278
12	Moraceae/Urticaceae (5 pore)	-0.359	0.246	0.000	0.000	0.000	0.000	-0.506	-0.185	0.134
15	Type 15	-0.192	-0.383	0.000	0.000	0.386	-0.193	-0.419	0.115	0.150
21	<i>Trema</i>	0.000	0.165	-0.181	0.476	0.000	0.585	0.134	0.000	0.203
53	<i>Hyeronima</i>	0.000	0.291	-0.295	0.000	-0.117	-0.237	-0.287	0.629	0.000
58	Type 58	-0.315	-0.321	0.000	0.168	0.338	-0.222	0.271	0.203	0.000
69	Type 69	0.000	0.375	-0.141	-0.282	0.386	0.125	0.000	0.000	0.206
74	Type 74	0.103	0.355	0.000	-0.129	0.460	-0.135	0.114	-0.370	-0.296

Pollen ID No.	% of variance explained Taxa	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16
		93	98	99	99	100	100	100
1	<i>Didymopanax</i>	0.367	0.112	0.514	0.000	0.151	-0.122	-0.260
2	Moraceae/Urticaceae (2 pore)	0.371	0.000	0.000	0.000	0.000	0.000	0.671
3	Moraceae/Urticaceae (3 pore)	0.393	0.000	0.210	-0.319	0.144	0.430	0.223
4	Moraceae/Urticaceae (4 pore)	-0.157	0.320	-0.257	-0.187	0.580	0.000	0.000
5	Melastomataceae/Combretaceae	-0.318	0.286	0.323	0.125	0.000	-0.174	0.305
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	0.000	0.000	0.000	-0.530	-0.150
8	<i>Celtis</i>	0.000	0.150	0.486	0.259	0.000	0.114	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	-0.232	-0.138	0.318	-0.244	0.364	0.000
11	<i>Cecropia</i>	0.308	0.140	0.000	0.241	-0.290	-0.334	-0.163
12	Moraceae/Urticaceae (5 pore)	-0.496	0.000	0.365	-0.282	-0.122	0.114	0.000
15	Type 15	0.000	0.000	0.000	0.477	0.340	0.177	-0.183
21	<i>Trema</i>	0.000	-0.258	0.000	0.000	0.255	0.299	-0.274
53	<i>Hyeronima</i>	0.170	-0.307	-0.154	-0.187	0.144	-0.217	0.000
58	Type 58	0.115	0.000	0.125	-0.487	-0.328	0.000	-0.323
69	Type 69	0.190	0.597	-0.238	-0.171	0.000	0.131	-0.214
74	Type 74	0.000	-0.406	0.149	-0.103	0.374	-0.153	0.000

3. Los Fierros, Cerradão

3.1 1998-1999 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 30	PC 2 56	PC 3 75	PC 4 90	PC 5 100	PC 6 100	PC 7 100	PC 8 100	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	0.000	0.302	0.000	0.183	-0.122	0.000	0.000	0.000	0.326	0.144
2	Moraceae/Urticaceae (2 pore)	0.238	0.000	0.127	0.228	-0.169	0.000	0.251	0.000	-0.234	0.193
3	Moraceae/Urticaceae (3 pore)	-0.135	0.239	0.000	-0.155	-0.274	0.000	0.000	-0.113	0.000	0.235
4	Moraceae/Urticaceae 4 pore	0.115	0.167	-0.156	0.000	0.388	0.000	-0.146	-0.171	-0.126	0.000
5	Melastomataceae/Combretaceae	-0.145	0.240	0.000	-0.236	0.000	0.294	-0.309	0.000	0.251	0.254
6	Palmae (type 1) cf. <i>Euterpe</i>	-0.237	0.175	0.114	0.150	0.000	0.000	0.000	0.339	0.245	-0.123
8	<i>Celtis</i>	0.000	0.188	0.230	-0.256	0.128	0.000	-0.202	-0.153	-0.224	0.281
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.256	-0.170	0.000	-0.129	-0.120	0.000	0.000	0.000	0.174	-0.136
11	<i>Cecropia</i>	0.000	0.327	0.000	0.000	0.000	0.121	0.182	0.276	-0.214	0.000
12	Moraceae/Urticaceae (5 pore)	0.000	0.220	0.288	0.000	0.000	0.212	0.000	0.141	-0.154	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	-0.189	0.217	-0.151	0.162	0.000	0.000	0.107	0.000	-0.168	-0.109
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.248	0.196	0.000	0.000	0.166	0.000	0.177	0.170	0.205	0.000
20	Myrtaceae undiff.	0.000	0.129	0.263	-0.268	0.157	0.165	0.000	0.000	0.000	-0.180
35	Poaceae	0.000	0.123	-0.341	0.127	-0.137	0.178	-0.106	0.000	0.000	0.000
45	Type 45	0.219	-0.145	0.166	0.177	-0.113	0.000	-0.149	-0.143	0.358	-0.136
46	Asteraceae (Asteroide/Cardue) undiff.	-0.192	0.000	0.155	-0.312	0.000	0.000	0.382	0.105	0.000	-0.155
50	Type 50	-0.130	0.225	0.000	0.000	-0.337	0.000	0.000	-0.102	0.185	0.000
63	Pteropsidia (monolete) undiff.	0.251	0.000	0.000	-0.244	0.157	0.117	0.000	-0.158	0.000	-0.207
89	<i>Mimosa</i>	-0.186	0.000	0.213	0.202	0.222	0.000	0.158	-0.189	0.000	0.000
93	Type 93	0.219	0.000	0.204	0.000	-0.271	0.000	0.000	0.000	0.000	0.000
151	Type 151	-0.220	0.106	0.234	0.104	0.131	0.000	-0.190	0.181	-0.205	-0.147
154	Type 154	0.219	0.000	0.204	0.000	-0.271	-0.230	0.151	0.000	0.000	0.150
162	Type 162	0.131	0.226	-0.256	0.000	0.000	0.166	0.148	0.000	0.000	-0.387

Pollen ID No.	Taxa	% of variance explained								
		PC 11 100	PC 12 100	PC 13 100	PC 14 100	PC 15 100	PC 16 100	PC 17 100	PC 18 100	PC 19 100
1	<i>Didymopanax</i>	0.510	-0.384	0.000	-0.114	0.153	0.000	0.250	-0.185	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	0.000	0.000	-0.567	-0.312	-0.148	0.000	0.101	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.222	0.119	-0.141	-0.123	0.353	-0.137	0.000	0.407
4	Moraceae/Urticaceae 4 pore	0.000	-0.123	0.000	-0.129	-0.215	0.000	0.000	-0.210	0.000
5	Melastomataceae/Combretaceae	-0.314	0.000	0.000	-0.178	-0.184	0.000	0.000	-0.193	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.127	0.000	0.000	-0.211	0.000	0.387	0.183	0.000
8	<i>Celtis</i>	0.000	0.101	-0.286	0.000	0.000	-0.432	0.399	0.215	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.122	0.147	-0.130	-0.169	0.000	-0.265	0.000	0.000	0.304
11	<i>Cecropia</i>	0.000	0.142	0.000	0.221	0.267	0.120	0.000	0.293	0.000
12	Moraceae/Urticaceae (5 pore)	0.000	-0.353	0.383	0.285	-0.116	-0.204	-0.231	0.000	0.398
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.180	0.478	0.479	-0.142	0.144	-0.143	0.214	0.000	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.177	-0.138	-0.200	0.111	-0.217	-0.200	-0.163	0.000
20	Myrtaceae undiff.	0.118	0.168	0.000	0.000	-0.230	0.106	-0.167	0.000	-0.448
35	Poaceae	-0.260	0.000	0.179	0.000	0.151	0.000	0.000	0.000	0.000
45	Type 45	-0.248	0.190	0.205	0.206	0.125	-0.138	0.121	0.000	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	-0.102	0.000	0.000	0.134	0.107	0.113	-0.301	0.134
50	Type 50	0.125	-0.198	0.000	0.000	0.112	-0.237	-0.301	0.339	-0.350
63	Pteropsidia (monolete) undiff.	0.000	-0.122	0.382	-0.308	0.217	-0.111	0.000	0.000	0.000
89	<i>Mimosa</i>	-0.216	-0.224	0.150	0.000	-0.292	0.000	0.000	0.255	0.000
93	Type 93	-0.157	0.000	0.000	0.000	0.000	0.137	0.177	-0.179	-0.142
151	Type 151	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.415	0.000
154	Type 154	-0.151	0.102	0.108	0.222	-0.183	-0.234	0.000	-0.304	-0.156
162	Type 162	-0.184	0.000	-0.325	0.000	-0.151	-0.197	0.000	0.000	0.154

Pollen ID No.	Taxa	% of variance explained								
		PC 20 100	PC 21 100	PC 22 100	PC 23 100	PC 24 100	PC 25 100	PC 26 100	PC 27 100	PC 28 100
1	<i>Didymopanax</i>	-0.120	0.181	-0.144	0.000	0.000	0.000	-0.297	0.000	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	0.000	0.249	0.000	0.000	-0.165	-0.135	-0.189	-0.155
3	Moraceae/Urticaceae (3 pore)	0.000	0.246	0.000	-0.196	-0.288	0.000	0.000	0.248	0.000
4	Moraceae/Urticaceae 4 pore	0.204	-0.115	0.178	0.432	-0.241	0.000	0.000	0.420	-0.113
5	Melastomataceae/Combretaceae	0.121	-0.283	-0.208	0.000	0.198	0.000	0.000	-0.204	-0.151
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	0.378	0.000	0.000	0.000	0.341	-0.157	0.000
8	<i>Celtis</i>	0.000	0.150	0.135	-0.183	0.000	0.000	0.000	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.270	-0.182	-0.142	0.328	0.000	0.348	0.000	0.000	0.230
11	<i>Cecropia</i>	-0.188	0.000	-0.203	0.246	-0.222	0.000	0.000	0.000	-0.433
12	Moraceae/Urticaceae (5 pore)	0.157	-0.151	0.000	0.000	0.000	0.103	0.000	-0.122	0.248
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.173	-0.162	-0.204	-0.106	0.202	0.000	-0.172	0.101	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.196	0.473	-0.114	0.100	0.157	0.291	0.200	0.000	0.157
20	Myrtaceae undiff.	-0.213	0.000	0.000	0.000	-0.160	0.000	-0.421	-0.209	0.203
35	Poaceae	-0.425	0.207	0.450	0.107	0.180	0.000	-0.145	0.167	0.196
45	Type 45	0.225	0.224	0.000	0.190	0.000	-0.102	-0.286	-0.105	-0.267
46	Asteraceae (Asteroide/Cardue) undiff.	0.138	0.000	0.256	0.000	0.000	0.179	-0.207	0.000	-0.288
50	Type 50	0.176	0.000	0.147	0.000	0.000	0.000	0.267	0.144	-0.185
63	Pteropsidia (monolete) undiff.	-0.292	0.000	0.000	-0.307	-0.328	0.000	0.293	-0.143	0.000
89	<i>Mimosa</i>	-0.201	0.213	-0.246	-0.156	0.203	0.304	-0.123	0.216	-0.260
93	Type 93	0.000	-0.229	0.173	-0.145	-0.185	0.558	0.000	0.000	0.000
151	Type 151	-0.204	0.182	0.000	0.000	0.214	0.000	0.224	0.000	-0.260
154	Type 154	-0.343	-0.120	-0.237	0.125	0.000	-0.162	0.148	0.263	0.000
162	Type 162	0.000	-0.216	0.000	-0.364	0.000	-0.182	-0.161	0.000	0.000

Pollen ID No.	Taxa	% of variance explained			
		PC 29 100	PC 30 100	PC 31 100	PC 32 100
1	<i>Didymopanax</i>	0.000	0.000	0.000	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	-0.160	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.133	0.225	0.000	0.000
4	Moraceae/Urticaceae 4 pore	0.110	0.000	0.000	-0.143
5	Melastomataceae/Combretaceae	0.000	-0.284	0.000	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	0.181	-0.278
8	<i>Celtis</i>	0.000	0.000	0.000	0.195
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.163	0.000	-0.319	0.000
11	<i>Cecropia</i>	0.000	-0.109	0.000	-0.183
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.000	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.000	0.000	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.000	0.238	-0.107
20	Myrtaceae undiff.	0.138	0.192	0.000	0.000
35	Poaceae	0.000	-0.244	0.000	0.000
45	Type 45	0.117	0.000	-0.299	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.339	-0.223	0.189	0.191
50	Type 50	0.169	0.196	0.000	0.143
63	Pteropsidia (monolete) undiff.	0.000	-0.155	0.000	0.000
89	<i>Mimosa</i>	0.000	0.000	0.000	-0.177
93	Type 93	-0.439	0.193	0.000	0.000
151	Type 151	0.000	0.198	-0.449	0.192
154	Type 154	0.219	0.000	0.196	0.000
162	Type 162	0.132	0.287	0.000	-0.244

Pollen ID No.	Taxa	% of variance explained									
		PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10
		30	56	75	90	100	100	100	100	100	100
176	Type 176	-0.251	0.125	0.160	0.145	0.000	0.239	0.318	-0.536	0.000	0.237
178	Type 178	-0.220	0.106	0.234	0.104	0.131	-0.257	0.000	0.144	0.000	0.000
179	<i>Borreria</i>	-0.247	0.000	0.000	0.270	0.000	0.000	0.000	0.107	-0.232	0.000
182	Type 182	-0.103	-0.203	-0.209	-0.152	-0.241	-0.151	-0.234	0.000	-0.348	0.156
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	-0.295	0.000	0.186	0.175	0.476	0.000	0.353	0.137	0.377
185	Type 185	0.000	0.186	-0.334	0.000	0.000	0.000	0.301	0.000	0.000	0.000
187	Type 187	0.000	-0.109	0.000	-0.408	-0.103	0.102	0.360	0.222	0.000	0.000
195	<i>Solanum</i>	0.237	0.198	0.000	0.000	0.201	-0.437	0.000	0.000	0.000	0.246
197	Type 197	0.219	0.000	0.204	0.000	-0.271	0.302	0.000	-0.110	-0.234	-0.251

Pollen ID No.	Taxa	% of variance explained								
		PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
		100	100	100	100	100	100	100	100	100
176	Type 176	0.000	0.000	0.000	0.108	0.206	0.000	0.000	-0.232	0.000
178	Type 178	-0.443	-0.182	0.000	-0.344	0.383	0.000	0.000	0.114	0.000
179	<i>Borreria</i>	-0.116	0.000	-0.152	0.000	0.000	0.000	0.000	-0.102	-0.266
182	Type 182	0.000	-0.145	0.143	0.000	0.000	-0.163	0.000	0.000	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	0.000	0.000	0.000	0.209	0.000	0.000	0.000	0.000
185	Type 185	-0.216	-0.168	0.000	0.000	-0.200	0.000	0.269	0.000	0.000
187	Type 187	0.000	-0.170	0.165	0.000	0.000	0.000	0.206	0.000	-0.159
195	<i>Solanum</i>	0.000	0.000	0.000	0.000	0.120	0.202	0.000	0.000	0.000
197	Type 197	0.000	-0.107	0.000	-0.115	0.000	0.398	0.321	0.115	0.000

Pollen ID No.	Taxa	% of variance explained								
		PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27	PC 28
		100	100	100	100	100	100	100	100	100
176	Type 176	0.000	0.000	0.162	0.110	0.000	-0.138	0.148	-0.264	0.000
178	Type 178	0.000	-0.142	-0.110	0.195	-0.134	-0.245	-0.184	0.000	0.185
179	<i>Borreria</i>	0.284	0.172	-0.178	-0.237	-0.418	0.135	0.000	0.000	0.159
182	Type 182	0.000	0.162	0.000	0.000	0.000	0.142	0.000	-0.313	-0.146
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	-0.182	0.000	-0.102	0.000	0.000	0.000	0.141	0.000
185	Type 185	0.000	0.000	0.000	0.133	0.000	0.000	0.107	-0.353	0.000
187	Type 187	0.133	0.183	0.000	0.000	0.000	-0.254	0.000	0.187	0.209
195	<i>Solanum</i>	0.000	-0.158	0.000	-0.145	0.253	0.112	0.000	-0.161	0.185
197	Type 197	0.000	0.000	-0.158	0.205	0.297	0.000	0.155	0.000	0.144

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Pollen ID No.	Taxa	% of variance explained			
		PC 29	PC 30	PC 31	PC 32
		100	100	100	100
176	Type 176	0.000	0.000	0.000	-0.270
178	Type 178	0.000	0.135	0.000	0.000
179	<i>Borreria</i>	0.251	-0.349	-0.199	0.000
182	Type 182	0.207	0.403	0.173	-0.308
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.302	0.293	0.000	0.121
185	Type 185	0.000	0.203	-0.111	0.549
187	Type 187	-0.257	0.000	-0.369	-0.283
195	<i>Solanum</i>	0.371	0.000	-0.404	-0.203
197	Type 197	0.280	0.000	0.000	0.000

3.2 1999-2000 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 37	PC 2 66	PC 3 91	PC 4 100	PC 5 100	PC 6 100	PC 7 100	PC 8 100	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	-0.218	0.257	0.209	0.000	0.000	0.158	-0.107	0.000	-0.349	0.000
2	Moraceae/Urticaceae (2 pore)	0.281	0.208	0.144	0.000	0.314	0.000	0.000	0.584	0.114	-0.135
3	Moraceae/Urticaceae (3 pore)	0.000	0.355	-0.186	0.000	0.000	-0.129	0.224	0.177	-0.287	0.000
5	Melastomataceae/Combretaceae	0.310	0.000	0.215	0.000	0.422	0.000	0.288	-0.462	-0.351	0.000
8	<i>Celtis</i>	-0.288	0.216	0.119	0.000	-0.133	-0.284	0.000	0.133	-0.113	-0.341
12	Moraceae/Urticaceae (5 pore)	-0.268	-0.268	0.000	0.000	0.286	0.000	-0.128	0.209	0.105	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.179	0.000	-0.140	0.561	0.153	0.000	-0.105	0.214	0.121	0.000
15	Type 15	0.000	-0.355	0.204	0.000	0.000	0.000	-0.254	0.000	0.184	0.000
20	Myrtaceae undiff.	0.291	0.000	0.226	-0.205	-0.258	0.000	-0.641	0.000	-0.369	0.203
46	Asteraceae (Asteroide/Cardue) undiff.	-0.136	-0.357	0.115	0.000	0.134	0.000	-0.132	0.000	-0.143	-0.349
50	Type 50	-0.180	0.000	-0.262	0.439	0.144	0.000	-0.351	-0.121	-0.140	0.000
63	Pteropsidia (monolete) undiff.	0.246	0.000	-0.283	-0.224	0.000	0.000	-0.218	-0.274	0.121	-0.530
93	Type 93	0.000	0.266	0.326	0.000	0.101	0.202	0.000	0.000	0.350	0.000
151	Type 151	-0.288	0.216	0.119	0.000	0.000	0.000	-0.132	0.000	0.000	-0.488
176	Type 176	0.132	0.000	0.346	0.356	0.148	-0.279	0.000	0.000	0.000	0.000
179	<i>Borreria</i>	0.276	0.234	-0.119	0.000	0.134	-0.250	-0.198	0.000	-0.100	0.000
182	Type 182	-0.328	0.000	-0.181	0.000	0.000	0.000	0.000	0.000	-0.273	0.145
185	Type 185	-0.251	0.242	0.172	0.000	0.284	0.523	-0.144	-0.113	0.000	0.113
195	<i>Solanum</i>	0.172	0.000	-0.383	0.000	0.112	0.532	0.000	0.123	-0.184	-0.184
197	Type 197	0.000	-0.355	0.204	0.000	0.000	0.264	0.264	0.387	-0.376	-0.201
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	-0.112	-0.150	-0.247	-0.475	0.576	-0.197	0.000	0.000	0.000	0.221

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Pollen ID No.	Taxa	% of variance explained								
		PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
1	<i>Didymopanax</i>	0.104	-0.240	0.188	-0.223	0.129	0.000	-0.152	0.000	-0.270
2	Moraceae/Urticaceae (2 pore)	0.000	-0.426	-0.178	0.000	-0.289	0.000	-0.124	-0.125	0.000
3	Moraceae/Urticaceae (3 pore)	-0.274	0.110	-0.193	-0.336	0.178	0.338	-0.100	0.000	-0.358
5	Melastomataceae/Combretaceae	-0.214	0.000	0.000	0.000	-0.268	-0.221	0.113	0.164	0.000
8	<i>Celtis</i>	0.338	0.000	0.000	-0.101	0.000	-0.257	0.620	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	-0.284	-0.196	0.000	-0.234	0.203	0.000	0.000	0.671	0.133
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.396	0.296	-0.442	-0.125	-0.246	0.000	0.000	0.000
15	Type 15	0.000	0.000	0.000	0.000	0.000	0.169	0.000	0.000	-0.704
20	Myrtaceae undiff.	-0.172	0.135	0.000	0.000	-0.104	0.000	0.145	0.000	0.135
46	Asteraceae (Asteroide/Cardue) undiff.	0.115	0.000	-0.139	0.000	0.293	-0.223	-0.284	-0.246	-0.123
50	Type 50	-0.268	-0.147	-0.470	0.141	0.000	0.000	0.208	-0.321	0.000
63	Pteropsidia (monolete) undiff.	0.173	0.000	-0.222	-0.377	-0.147	0.232	-0.135	0.143	0.000
93	Type 93	-0.112	0.516	-0.435	0.155	0.000	0.000	0.000	0.191	-0.171
151	Type 151	-0.436	0.160	0.443	0.276	-0.163	0.187	-0.163	0.000	0.000
176	Type 176	0.351	0.000	0.000	0.000	0.104	0.655	0.000	0.000	0.164
179	<i>Borreria</i>	0.000	0.105	0.000	0.337	0.567	-0.241	-0.224	0.109	0.000
182	Type 182	0.330	0.157	-0.143	0.234	-0.476	0.000	-0.406	0.340	0.000
185	Type 185	0.231	0.000	0.000	-0.157	0.110	0.000	0.000	-0.127	0.249
195	<i>Solanum</i>	0.132	0.000	0.168	0.317	0.102	0.142	0.306	0.227	-0.242
197	Type 197	0.000	0.247	-0.232	0.000	0.000	0.000	0.000	-0.106	0.177
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.307	0.136	0.000	0.000	0.105	0.181	-0.228	0.000

Pollen ID No.	Taxa	% of variance explained	
		PC 20 100	PC 21 100
1	<i>Didymopanax</i>	0.455	-0.435
2	Moraceae/Urticaceae (2 pore)	0.000	0.115
3	Moraceae/Urticaceae (3 pore)	-0.188	0.279
5	Melastomataceae/Combretaceae	-0.152	0.000
8	<i>Celtis</i>	-0.145	0.000
12	Moraceae/Urticaceae (5 pore)	0.000	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.000
15	Type 15	-0.392	-0.185
20	Myrtaceae undiff.	0.000	0.205
46	Asteraceae (Asteroide/Cardue) undiff.	0.235	0.509
50	Type 50	0.000	-0.169
63	Pteropsidia (monolete) undiff.	0.000	-0.196
93	Type 93	0.273	0.000
151	Type 151	0.000	0.000
176	Type 176	0.124	0.000
179	<i>Borreria</i>	-0.291	-0.255
182	Type 182	-0.115	0.000
185	Type 185	-0.492	0.159
195	<i>Solanum</i>	0.143	0.184
197	Type 197	-0.164	-0.407
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.127	0.000

3.3 2000-2001 field season data

Pollen ID No.	Taxa	% of variance explained									
		PC 1 24	PC 2 40	PC 3 54	PC 4 66	PC 5 76	PC 6 84	PC 7 91	PC 8 97	PC 9 100	PC 10 100
1	<i>Didymopanax</i>	0.000	0.000	0.196	-0.154	0.243	0.184	-0.240	-0.400	0.000	0.000
2	Moraceae/Urticaceae (2 pore)	0.153	0.000	-0.166	0.000	-0.175	0.147	0.425	-0.235	-0.152	-0.178
3	Moraceae/Urticaceae (3 pore)	-0.140	0.302	0.146	0.164	0.000	0.281	0.000	0.000	0.000	0.000
4	Moraceae/Urticaceae 4 pore	0.148	0.000	0.000	0.350	0.000	0.373	0.000	-0.107	0.000	0.000
5	Melastomataceae/Combretaceae	0.215	-0.123	0.186	-0.158	0.309	0.000	0.000	0.000	0.000	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.142	-0.332	0.126	0.000	-0.187	-0.252	-0.201	0.192	-0.273
8	<i>Celtis</i>	0.283	0.000	-0.186	0.000	-0.114	0.213	-0.153	0.000	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.226	0.000	-0.225	0.000	0.308	0.102	0.124	0.000	0.159	0.102
11	<i>Cecropia</i>	0.000	0.244	-0.251	0.000	0.000	0.358	-0.168	0.141	0.000	0.145
12	Moraceae/Urticaceae (5 pore)	0.144	0.243	0.000	-0.372	0.000	0.000	0.000	0.000	0.000	-0.153
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	-0.300	0.000	0.000	-0.244	0.107	-0.293	0.183	0.000	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.256	0.000	0.258	0.000	0.000	0.210	0.000	0.156	-0.150	0.129
15	Type 15	0.113	0.000	0.352	0.000	0.000	0.000	-0.184	-0.315	0.147	-0.117
20	Myrtaceae undiff.	0.151	-0.214	-0.146	0.209	0.000	-0.181	-0.326	0.000	0.148	0.000
35	Poaceae	0.277	0.000	0.000	0.000	-0.111	0.364	0.000	0.000	0.109	-0.107
46	Asteraceae (Asteroide/Cardue) undiff.	-0.101	-0.221	-0.138	0.000	0.198	0.120	0.000	-0.362	-0.432	-0.121
50	Type 50	-0.222	0.000	-0.130	0.000	0.000	0.114	-0.293	-0.303	-0.355	0.164
58	Type 58	0.000	0.150	0.000	0.310	0.242	-0.113	-0.328	0.000	-0.108	0.000
63	Pteropsidia (monolete) undiff.	0.175	0.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.137
151	Type 151	-0.210	0.000	0.000	0.000	0.244	0.352	0.000	0.187	0.219	-0.146
154	Type 154	0.144	0.243	0.000	-0.372	0.000	0.000	0.000	0.000	0.000	0.000
162	Type 162	-0.182	0.000	0.105	0.138	-0.286	0.000	0.250	-0.170	0.423	0.279
176	Type 176	0.130	0.000	-0.221	-0.261	0.260	0.000	0.181	0.227	0.000	0.124

Pollen ID No.	Taxa	% of variance explained								
		PC 11 100	PC 12 100	PC 13 100	PC 14 100	PC 15 100	PC 16 100	PC 17 100	PC 18 100	PC 19 100
1	<i>Didymopanax</i>	0.000	0.000	-0.232	0.000	0.000	0.000	-0.177	0.000	0.244
2	Moraceae/Urticaceae (2 pore)	0.000	-0.100	0.201	0.138	0.000	0.108	0.443	0.000	0.184
3	Moraceae/Urticaceae (3 pore)	0.000	0.158	-0.190	0.186	0.000	-0.186	0.000	0.000	0.151
4	Moraceae/Urticaceae 4 pore	0.000	0.000	-0.187	0.000	0.214	0.173	0.000	-0.425	0.000
5	Melastomataceae/Combretaceae	0.000	-0.173	0.000	0.200	0.118	0.165	0.000	-0.118	-0.357
6	Palmae (type 1) cf. <i>Euterpe</i>	0.103	0.000	0.000	0.000	0.164	0.137	0.110	0.000	0.000
8	<i>Celtis</i>	-0.138	0.000	0.000	0.000	-0.152	-0.140	-0.127	0.336	-0.262
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.411	0.327	0.000	-0.402	-0.275	0.000	0.000	0.000	0.157
11	<i>Cecropia</i>	0.215	-0.356	-0.334	-0.101	0.000	0.000	0.290	0.000	-0.161
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	-0.145	0.305	0.000	-0.201	0.000	-0.206	0.167
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.000	0.201	0.000	-0.331	-0.136	0.000	-0.228	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.104	0.000	0.000	-0.135	-0.360	0.000	0.176	-0.140	0.000
15	Type 15	0.178	0.321	0.000	-0.169	0.000	0.000	0.418	0.000	-0.417
20	Myrtaceae undiff.	0.190	0.000	0.000	0.000	0.158	-0.115	0.000	-0.265	0.221
35	Poaceae	-0.144	0.494	0.000	0.123	0.000	0.103	-0.271	0.173	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	-0.232	-0.128	0.000	-0.156	0.000	-0.286	0.000	-0.249
50	Type 50	0.000	0.000	0.242	-0.107	0.233	-0.319	0.000	0.000	0.000
58	Type 58	0.000	0.000	0.000	0.255	-0.305	0.000	0.000	0.395	0.191
63	Pteropsidia (monolete) undiff.	0.103	0.000	0.254	0.000	0.000	-0.422	-0.249	-0.281	-0.247
151	Type 151	-0.211	0.000	0.220	0.000	0.331	-0.227	0.106	0.000	0.000
154	Type 154	0.000	0.000	0.000	0.000	0.000	-0.206	0.000	0.000	0.000
162	Type 162	0.326	-0.116	0.000	0.287	0.000	-0.172	-0.286	0.137	-0.218
176	Type 176	0.000	0.000	-0.107	-0.155	0.119	0.000	0.000	0.000	0.000

Pollen ID No.	Taxa	% of variance explained									
		PC 20 100	PC 21 100	PC 22 100	PC 23 100	PC 24 100	PC 25 100	PC 26 100	PC 27 100	PC 28 100	
1	<i>Didymopanax</i>	-0.249	-0.203	-0.307	0.379	0.000	0.130	0.215	0.000	0.000	
2	Moraceae/Urticaceae (2 pore)	-0.236	-0.166	-0.111	0.251	-0.186	0.000	-0.177	0.000	-0.201	
3	Moraceae/Urticaceae (3 pore)	0.387	-0.283	0.000	0.000	0.000	0.305	-0.317	0.358	0.000	
4	Moraceae/Urticaceae 4 pore	0.105	0.328	-0.135	-0.285	-0.261	0.000	0.000	0.000	-0.230	
5	Melastomataceae/Combretaceae	0.000	-0.208	-0.172	0.000	0.213	-0.352	-0.437	0.111	-0.174	
6	Palmae (type 1) cf. <i>Euterpe</i>	0.189	-0.332	-0.199	-0.116	0.000	0.000	-0.118	-0.358	0.365	
8	<i>Celtis</i>	0.000	-0.255	-0.196	-0.139	0.000	0.000	0.261	0.349	-0.193	
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	0.000	0.000	0.000	0.000	-0.253	-0.184	0.000	0.000	
11	<i>Cecropia</i>	-0.276	0.000	0.184	0.136	0.311	0.000	0.000	0.000	0.000	
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.117	-0.308	0.000	-0.184	0.000	-0.111	-0.180	
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	-0.133	0.111	0.000	0.000	0.000	0.351	-0.445	-0.185	0.000	
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.225	-0.356	0.000	0.000	-0.102	-0.178	0.267	-0.349	0.127	
15	Type 15	0.000	0.149	0.171	0.000	-0.218	0.125	0.000	0.109	0.000	
20	Myrtaceae undiff.	0.000	-0.363	0.436	0.000	-0.135	0.000	0.000	0.242	-0.167	
35	Poaceae	-0.205	0.000	0.184	0.000	0.145	-0.141	-0.212	-0.116	0.216	
46	Asteraceae (Asteroide/Cardue) undiff.	0.143	0.000	0.426	0.000	-0.149	0.123	-0.132	0.000	0.000	
50	Type 50	-0.118	0.000	-0.253	-0.283	0.141	-0.160	0.000	0.000	-0.173	
58	Type 58	-0.132	0.165	0.000	0.000	-0.376	-0.265	-0.145	0.000	0.000	
63	Pteropsidia (monolete) undiff.	0.000	0.182	-0.130	0.438	-0.117	-0.131	0.000	0.000	0.193	
151	Type 151	0.000	-0.169	0.233	0.000	-0.204	-0.128	0.000	-0.219	0.000	
154	Type 154	0.000	0.000	0.111	0.000	0.000	0.176	0.115	0.000	-0.203	
162	Type 162	-0.134	-0.121	0.000	-0.116	-0.157	0.000	0.000	-0.124	-0.139	
176	Type 176	-0.238	0.000	-0.251	-0.165	-0.474	0.297	-0.153	0.102	0.143	

Pollen ID No.	Taxa	% of variance explained		
		PC 29 100	PC 30 100	PC 31 100
1	<i>Didymopanax</i>	0.000	-0.134	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.000	0.000
4	Moraceae/Urticaceae 4 pore	0.132	0.000	0.000
5	Melastomataceae/Combretaceae	0.000	0.120	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.133	0.000	-0.162
8	<i>Celtis</i>	0.250	-0.274	-0.173
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.240	-0.128	0.000
11	<i>Cecropia</i>	0.000	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	-0.262	-0.459	-0.169
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.211	-0.164	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	-0.176	0.225	0.000
15	Type 15	-0.125	0.000	0.000
20	Myrtaceae undiff.	-0.185	0.000	0.000
35	Poaceae	-0.158	0.260	-0.130
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.000	0.000
50	Type 50	-0.202	0.205	0.000
58	Type 58	0.000	0.000	0.146
63	Pteropsidia (monolete) undiff.	0.000	0.000	0.000
151	Type 151	0.165	-0.209	0.291
154	Type 154	0.533	0.533	0.000
162	Type 162	0.000	0.000	0.000
176	Type 176	-0.303	0.120	0.000

Pollen ID No.	Taxa	% of variance explained									
		PC 1 24	PC 2 40	PC 3 54	PC 4 66	PC 5 76	PC 6 84	PC 7 91	PC 8 97	PC 9 100	PC 10 100
179	<i>Borreria</i>	-0.332	0.108	-0.121	0.000	0.000	0.000	-0.126	0.000	0.132	0.334
185	Type 185	0.000	0.000	0.000	0.339	0.209	-0.203	0.198	-0.240	0.249	-0.169
195	<i>Solanum</i>	-0.281	0.000	0.000	0.179	0.000	-0.109	0.000	0.301	-0.228	-0.221
197	Type 197	-0.312	0.000	0.000	0.000	0.000	0.196	-0.136	0.125	0.187	-0.561
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000	-0.101	0.214	0.480	0.000	0.000	0.000	0.000	0.000
224	Type 224	0.000	0.000	0.428	0.142	0.133	0.000	0.000	0.000	-0.155	0.000
231	Type 231	0.185	0.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.245
239	Type 239	0.000	-0.358	-0.238	0.000	0.000	0.000	0.000	0.000	0.173	0.159

Pollen ID No.	Taxa	% of variance explained								
		PC 11 100	PC 12 100	PC 13 100	PC 14 100	PC 15 100	PC 16 100	PC 17 100	PC 18 100	PC 19 100
179	<i>Borreria</i>	-0.494	0.133	0.127	0.127	-0.218	0.000	0.189	-0.221	-0.201
185	Type 185	-0.394	0.000	-0.131	-0.316	-0.210	-0.361	0.000	0.000	0.000
195	<i>Solanum</i>	0.000	0.387	-0.398	0.154	0.000	0.000	0.000	-0.154	-0.257
197	Type 197	0.000	-0.151	0.165	0.000	-0.181	0.113	-0.106	0.000	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.193	0.158	0.425	0.357	0.000	0.000	0.122	0.000	-0.122
224	Type 224	0.136	0.000	0.000	0.000	0.294	-0.120	0.000	0.135	0.100
231	Type 231	-0.159	0.000	0.163	-0.238	0.000	0.272	-0.139	0.153	0.000
239	Type 239	0.000	0.000	-0.119	0.169	0.109	-0.315	0.152	0.224	0.000

197

Pollen ID No.	Taxa	% of variance explained								
		PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27	PC 28
179	<i>Borreria</i>	100	100	100	100	100	100	100	100	100
185	Type 185	0.000	0.000	0.106	0.105	-0.166	-0.117	0.000	0.000	0.000
195	<i>Solanum</i>	-0.141	0.000	0.000	-0.120	0.254	0.000	-0.123	0.000	0.000
197	Type 197	-0.238	-0.154	-0.116	0.000	0.000	0.000	0.000	-0.240	-0.255
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.147	0.000	-0.113	0.000	0.000	0.000	0.000	0.000	-0.290
224	Type 224	0.000	0.000	0.000	-0.150	0.256	0.350	0.247	0.000	0.000
231	Type 231	-0.151	0.000	0.000	0.000	0.000	0.000	0.000	-0.141	0.000
239	Type 239	0.000	-0.146	0.125	0.132	0.000	0.226	-0.144	-0.353	-0.445
		0.456	0.230	0.000	0.366	0.000	0.000	0.000	-0.208	-0.196

Pollen ID No.	Taxa	% of variance explained		
		PC 29	PC 30	PC 31
179	<i>Borreria</i>	100	100	100
185	Type 185	0.000	0.108	-0.389
195	<i>Solanum</i>	0.000	0.000	0.000
197	Type 197	0.000	0.000	0.129
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	-0.305	0.252	-0.197
224	Type 224	0.000	0.000	0.000
231	Type 231	0.184	0.000	-0.701
239	Type 239	0.000	-0.145	0.146
		0.000	0.000	0.000

3.4 All field seasons data

Pollen ID No.	Taxa	% of variance explained								
		PC 1 16	PC 2 26	PC 3 36	PC 4 45	PC 5 53	PC 6 60	PC 7 66	PC 8 72	PC 9 77
1	<i>Didymopanax</i>	0.000	-0.278	0.151	0.251	0.130	-0.138	0.000	-0.132	0.000
2	Moraceae/Urticaceae (2 pore)	0.223	0.137	0.156	0.000	-0.121	-0.118	0.000	0.000	-0.219
3	Moraceae/Urticaceae (3 pore)	0.000	-0.227	0.170	0.000	0.307	0.206	-0.114	0.000	0.000
4	Moraceae/Urticaceae (4 pore)	0.234	0.000	-0.147	-0.142	0.000	0.130	0.000	0.125	-0.114
5	Melastomataceae/Combretaceae	0.000	-0.290	0.000	0.000	-0.198	0.000	0.000	0.000	0.186
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	-0.130	0.174	-0.257	0.124	-0.228	0.180	0.000
8	<i>Celtis</i>	0.000	-0.195	0.160	0.102	-0.186	0.150	0.000	-0.375	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.347	0.000	0.000	0.000	0.000	0.135	0.175	0.000	0.000
11	<i>Cecropia</i>	0.000	-0.203	0.240	0.100	0.000	0.369	0.000	0.000	-0.125
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.219	0.141	-0.175	0.170	0.183	0.000	0.266
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	-0.130	-0.169	0.346	0.000	0.000	-0.235	0.000	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.361	0.000	0.000	0.101	0.000	0.000	0.000	-0.105	0.000
15	Type 15	0.229	0.000	-0.158	0.000	0.000	-0.199	0.000	0.000	0.363
20	Myrtaceae undiff.	0.000	0.000	0.000	0.000	-0.342	0.000	-0.137	0.000	-0.235
35	Poaceae	0.201	0.000	-0.164	0.204	0.000	0.000	0.000	-0.270	0.000
45	Type 45	0.000	0.336	0.265	0.000	0.000	-0.185	0.000	0.000	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	-0.121	0.000	-0.221	0.107	-0.108	0.125	0.382	0.000	0.117
50	Type 50	-0.182	0.000	0.000	0.371	0.000	0.218	0.000	0.000	0.000
58	Type 58	0.000	-0.283	0.199	-0.271	0.000	-0.148	-0.101	0.000	0.000
63	Pteropsidia (monolete) undiff.	0.128	0.158	0.150	-0.277	0.000	0.290	-0.253	0.000	0.000
89	<i>Mimosa</i>	-0.245	-0.129	0.150	0.000	-0.159	-0.277	-0.161	0.000	0.000
179	<i>Borreria</i>	-0.269	0.000	0.000	0.176	0.000	0.000	-0.295	0.226	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	0.308	0.000	-0.123	0.000	-0.310	0.000	-0.107	0.000
195	<i>Solanum</i>	0.218	0.000	0.000	0.000	0.130	0.165	0.000	0.328	-0.246
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000	0.000	-0.285	0.000	0.173	0.302	0.149	0.000

Pollen ID No.	Taxa	% of variance explained								
		PC 1 16	PC 2 26	PC 3 36	PC 4 45	PC 5 53	PC 6 60	PC 7 66	PC 8 72	PC 9 77
93	Type 93	0.000	-0.119	0.400	0.000	0.000	-0.159	0.000	0.000	-0.148
151	Type 151	-0.161	-0.266	0.105	0.000	0.174	0.000	0.259	0.000	0.000
154	Type 154	0.000	0.159	0.366	0.000	-0.159	0.000	0.116	0.000	0.156
162	Type 162	0.175	0.000	0.000	0.226	0.302	0.000	-0.151	0.000	-0.147
176	Type 176	-0.101	-0.208	0.000	0.000	-0.349	0.000	0.000	0.188	0.000
178	Type 178	-0.175	-0.110	0.000	0.209	-0.178	0.000	-0.170	0.000	0.186
182	Type 182	-0.213	0.145	-0.101	0.000	0.162	0.110	0.000	-0.429	0.000
185	Type 185	0.000	-0.257	0.000	-0.104	0.182	0.000	0.000	-0.185	-0.210
187	Type 187	-0.134	0.000	-0.101	0.000	0.000	0.234	0.000	-0.372	0.106
197	Type 197	0.000	0.145	0.222	0.192	0.000	0.000	0.272	0.250	0.117
224	Type 224	0.164	0.000	0.000	0.000	0.258	-0.227	0.000	0.000	0.342
231	Type 231	0.186	0.000	0.000	-0.189	0.000	0.160	-0.221	0.000	0.308
239	Type 239	0.109	-0.116	-0.213	0.000	-0.218	0.000	0.218	0.000	-0.340

Pollen ID No.	Taxa	% of variance explained								
		PC 10 82	PC 11 85	PC 12 88	PC 13 91	PC 14 93	PC 15 95	PC 16 97	PC 17 98	PC 18 99
1	<i>Didymopanax</i>	0.000	0.000	0.146	-0.167	-0.214	0.145	-0.205	0.000	-0.276
8	<i>Celtis</i>	0.000	-0.273	-0.149	0.213	0.000	0.000	0.000	0.000	0.134
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	0.125	0.000	0.000	0.000	0.000	0.000	0.195	0.000
11	<i>Cecropia</i>	0.000	0.000	0.000	0.000	0.328	0.110	0.000	0.118	-0.112
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	-0.140	-0.140	0.000	0.000	0.000	-0.141	0.312	-0.125
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.000	0.234	0.263	-0.161	0.000	0.000	0.000	-0.378
179	<i>Borreria</i>	-0.121	0.000	0.000	-0.107	-0.202	0.162	0.000	0.147	0.000

Pollen ID No.	% of variance explained Taxa	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18
		82	85	88	91	93	95	97	98	99
2	Moraceae/Urticaceae (2 pore)	-0.211	0.114	0.000	0.207	-0.307	0.104	0.381	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.000	-0.222	0.000	-0.224	0.170	0.223	-0.161	0.105
4	Moraceae/Urticaceae (4 pore)	0.000	-0.316	0.294	0.000	0.148	0.308	0.252	0.107	-0.138
5	Melastomataceae/Combretaceae	0.324	0.197	0.000	-0.263	-0.148	0.000	0.105	0.362	-0.144
6	Palmae (type 1) cf. Euterpe	-0.137	0.147	0.322	0.230	0.000	0.000	-0.316	0.000	0.239
12	Moraceae/Urticaceae (5 pore)	-0.179	-0.172	0.000	-0.315	0.164	-0.384	0.000	-0.168	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.181	0.000	-0.242	-0.223	0.000	0.209	0.000	-0.125	0.000
15	Type 15	0.000	0.000	0.178	0.000	0.000	0.000	0.119	-0.333	0.000
20	Myrtaceae undiff.	0.333	-0.228	0.276	-0.193	0.000	0.000	0.000	0.000	0.191
35	Poaceae	-0.304	0.114	0.000	-0.207	0.151	0.196	0.171	0.173	0.000
45	Type 45	0.000	0.000	0.000	-0.168	-0.134	0.106	-0.103	0.164	0.000
50	Type 50	0.000	0.000	0.124	0.000	-0.254	0.113	-0.179	-0.152	-0.261
58	Type 58	0.000	0.000	0.277	0.000	0.000	0.135	-0.245	-0.161	0.000
63	Pteropsidia (monolete) undiff.	0.000	-0.102	0.000	0.000	-0.102	0.103	0.000	0.171	-0.184
89	<i>Mimosa</i>	-0.121	-0.234	0.000	0.140	0.000	0.000	0.000	0.000	-0.134
93	Type 93	0.162	0.127	0.152	0.000	0.000	0.000	0.159	0.000	0.000
151	Type 151	-0.176	0.000	-0.165	0.141	0.222	0.159	0.000	0.199	0.159
154	Type 154	0.000	0.166	0.000	-0.151	-0.240	0.000	0.000	0.000	0.000
162	Type 162	0.000	0.000	0.256	0.139	0.000	-0.272	0.282	0.213	0.131
176	Type 176	0.000	0.383	-0.159	0.000	0.113	-0.161	0.000	0.185	0.000
178	Type 178	-0.138	-0.430	0.000	0.000	-0.217	-0.127	0.160	0.182	0.165
182	Type 182	0.000	0.116	0.000	-0.249	0.000	0.000	0.000	0.000	0.143
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	-0.182	-0.122	0.000	0.000	0.149	0.105	-0.266	0.178	-0.229
195	<i>Solanum</i>	0.184	-0.141	-0.150	0.000	0.000	-0.211	-0.298	0.000	-0.164
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	-0.209	-0.187	0.000	-0.324	-0.260	0.118	0.000	0.000	0.200

Pollen ID No.	Taxa	% of variance explained								
		PC 10 82	PC 11 85	PC 12 88	PC 13 91	PC 14 93	PC 15 95	PC 16 97	PC 17 98	PC 18 99
185	Type 185	-0.176	0.000	0.291	-0.176	-0.166	-0.453	0.000	0.000	0.000
187	Type 187	0.338	0.000	0.000	0.268	0.000	0.000	0.000	0.284	0.000
197	Type 197	0.171	0.000	0.260	0.000	0.178	0.241	0.000	0.176	0.297
224	Type 224	0.142	-0.157	0.000	0.000	-0.164	0.000	-0.117	0.196	0.189
231	Type 231	-0.298	0.115	0.000	0.147	0.000	0.145	-0.193	0.000	0.106
239	Type 239	0.000	0.101	-0.148	0.101	-0.236	0.104	-0.169	0.000	0.264

Pollen ID No.	Taxa	% of variance explained								
		PC 19 100	PC 20 100	PC 21 100	PC 22 100	PC 23 100	PC 24 100	PC 25 100	PC 26 100	PC 27 100
1	<i>Didymopanax</i>	0.322	0.000	0.000	0.104	0.000	0.000	0.000	0.290	0.000
2	Moraceae/Urticaceae (2 pore)	-0.258	0.199	0.000	0.186	0.000	0.000	0.000	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.273	0.000	0.000	0.112	0.108	-0.146	-0.157	0.000
5	Melastomataceae/Combretaceae	0.000	0.136	0.104	0.000	0.000	0.171	0.000	0.000	0.106
8	<i>Celtis</i>	0.000	0.000	-0.124	-0.129	-0.149	0.000	0.000	0.161	0.154
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	0.335	0.000	0.000	0.000	0.000	0.103	0.402	-0.356
11	<i>Cecropia</i>	-0.126	0.114	0.000	0.000	-0.109	-0.123	-0.216	-0.135	0.361
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	-0.170	0.162	0.207	-0.158	-0.245	0.000	0.000	0.000	-0.241
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	-0.148	-0.327	-0.175	0.161	-0.161	-0.268	0.000	-0.387
46	Asteraceae (Asteroide/Cardue) undiff.	-0.207	-0.131	0.000	0.000	-0.258	0.000	0.000	0.000	0.000
89	<i>Mimosa</i>	0.000	0.000	0.000	0.282	0.000	0.000	0.000	0.000	0.000
179	<i>Borreria</i>	0.124	-0.282	-0.202	0.138	0.000	0.000	-0.147	-0.163	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	0.221	0.000	-0.242	0.117	0.000	0.000	-0.255	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000	-0.181	-0.204	-0.272	-0.176	0.000	-0.121	-0.107

Pollen ID No.	% of variance explained Taxa	PC 19	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27
		100	100	100	100	100	100	100	100	100
4	Moraceae/Urticaceae (4 pore)	0.000	0.000	0.287	0.000	0.195	0.135	-0.234	-0.145	-0.105
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.357	-0.240	0.000	0.134	0.000	-0.223	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.000	0.000	0.000	0.343	-0.142	0.000	-0.218
15	Type 15	0.274	0.369	0.000	0.000	-0.177	-0.338	0.103	-0.136	0.000
20	Myrtaceae undiff.	0.000	0.000	-0.130	0.000	0.000	0.000	0.170	0.116	-0.108
35	Poaceae	-0.228	-0.103	-0.130	0.173	0.000	0.000	0.447	0.000	0.000
45	Type 45	-0.129	0.266	0.000	0.000	-0.375	0.197	-0.131	0.000	0.230
50	Type 50	-0.181	0.000	0.197	-0.250	0.144	0.000	0.290	-0.135	-0.134
58	Type 58	-0.157	-0.117	-0.167	0.128	-0.178	0.123	0.155	-0.285	-0.194
63	Pteropsidia (monolete) undiff.	0.152	0.132	0.000	-0.162	-0.135	0.000	0.300	0.138	0.000
93	Type 93	0.000	0.000	0.178	-0.119	0.000	-0.276	-0.186	0.238	-0.245
151	Type 151	0.104	0.223	0.000	0.000	0.000	0.000	0.157	-0.105	-0.129
154	Type 154	0.192	0.000	0.000	0.105	0.148	0.000	0.121	-0.370	0.000
162	Type 162	0.234	0.000	0.000	-0.208	-0.450	0.170	0.000	0.000	-0.192
176	Type 176	-0.176	0.000	0.000	-0.215	-0.183	-0.116	0.000	-0.173	0.000
178	Type 178	0.000	0.000	0.125	0.000	0.000	-0.433	0.000	0.000	0.000
182	Type 182	-0.133	0.000	0.000	0.276	-0.137	-0.314	-0.255	0.000	0.000
185	Type 185	0.000	0.178	0.201	-0.133	0.237	-0.140	0.108	-0.128	0.185
187	Type 187	0.127	0.000	0.000	0.137	0.000	0.000	0.000	-0.274	-0.126
195	<i>Solanum</i>	0.000	0.000	0.152	0.492	-0.143	-0.197	0.174	0.000	-0.128
197	Type 197	0.000	-0.121	0.156	-0.134	0.128	-0.180	0.134	0.000	0.166
224	Type 224	-0.446	0.000	0.000	0.000	0.000	0.192	0.000	0.000	0.000
231	Type 231	0.000	-0.183	0.499	0.000	-0.145	0.000	0.000	0.115	-0.190
239	Type 239	0.268	0.000	0.259	0.000	0.000	0.113	0.000	-0.113	0.000

Pollen ID No.	% of variance explained Taxa	PC 28	PC 29	PC 30	PC 31	PC 32	PC 33	PC 34	PC 35	PC 36
		100	100	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.000	-0.196	0.000	-0.119	0.000	0.000	0.188	0.288	0.186
2	Moraceae/Urticaceae (2 pore)	0.207	-0.100	0.000	0.200	0.000	0.000	-0.272	0.297	0.000
3	Moraceae/Urticaceae (3 pore)	0.143	0.000	-0.154	0.000	0.000	0.340	0.406	-0.151	-0.115
4	Moraceae/Urticaceae (4 pore)	-0.309	0.000	0.000	-0.110	0.000	0.150	0.000	0.166	0.131
5	Melastomataceae/Combretaceae	0.218	0.000	0.173	0.182	-0.222	0.204	-0.307	-0.146	0.000
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	0.101	0.000	-0.220	0.000	0.112	0.000	0.144
8	<i>Celtis</i>	-0.286	0.243	0.000	0.329	0.000	0.304	-0.196	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.225	0.000	0.000	0.000	0.359	0.000	0.000	-0.209	-0.184
11	<i>Cecropia</i>	0.000	0.000	0.276	-0.134	0.205	-0.298	0.000	0.000	-0.190
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.000	0.102	-0.185	-0.103	0.000	0.149	-0.165
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	-0.245	0.000	0.301	0.131	-0.245	0.000	0.000	0.183
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.000	-0.268	0.000	0.000	0.000	0.000	-0.184	-0.294
15	Type 15	0.000	0.260	0.000	0.000	0.000	0.000	0.000	0.000	-0.248
20	Myrtaceae undiff.	0.421	0.212	0.000	0.000	0.300	0.000	0.205	0.178	0.000
35	Poaceae	0.000	0.103	0.000	0.000	-0.197	0.000	0.211	-0.247	0.000
45	Type 45	0.000	0.129	-0.367	-0.271	0.000	0.000	0.000	-0.209	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.178	0.000	0.000	0.220	0.120	0.000	0.300	-0.144	0.102
50	Type 50	0.000	0.156	0.107	-0.216	-0.155	0.000	-0.243	0.000	-0.225
58	Type 58	0.000	-0.352	-0.106	0.000	0.000	0.000	-0.195	0.000	0.000
63	Pteropsidia (monolete) undiff.	-0.102	-0.199	-0.114	0.126	-0.212	-0.283	0.228	0.252	-0.122
89	<i>Mimosa</i>	-0.135	0.000	0.000	0.183	0.000	0.000	0.192	-0.239	-0.315
179	<i>Borreria</i>	-0.127	0.428	-0.185	0.291	0.000	-0.134	0.000	0.104	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.175	0.000	0.302	0.141	0.000	0.194	0.126	0.000	0.000
195	<i>Solanum</i>	0.000	0.148	0.000	0.000	-0.109	0.202	0.000	0.000	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000	0.240	0.000	-0.188	0.000	0.000	-0.117	0.000

Pollen ID No.	% of variance explained Taxa	PC 28	PC 29	PC 30	PC 31	PC 32	PC 33	PC 34	PC 35	PC 36
		100	100	100	100	100	100	100	100	100
93	Type 93	0.000	0.229	0.207	0.000	-0.350	-0.180	0.178	0.000	0.147
151	Type 151	0.340	0.141	0.000	0.000	-0.114	-0.217	0.000	0.190	0.245
154	Type 154	-0.199	0.000	0.208	0.000	0.385	0.000	0.122	-0.139	0.234
162	Type 162	0.000	0.000	0.230	0.000	0.000	0.125	0.000	0.000	0.000
176	Type 176	-0.207	0.154	-0.175	-0.178	0.000	0.229	0.178	0.341	0.000
178	Type 178	0.000	-0.204	0.000	-0.293	0.000	0.000	-0.106	0.000	0.104
182	Type 182	0.000	0.000	0.000	0.000	0.000	0.223	0.000	0.277	-0.160
185	Type 185	0.000	0.000	-0.277	0.226	0.000	-0.146	0.000	0.000	0.000
187	Type 187	0.000	0.000	0.000	0.000	-0.135	-0.178	0.000	0.000	0.159
197	Type 197	0.000	-0.211	-0.160	0.329	0.000	0.191	0.000	0.000	-0.204
224	Type 224	-0.204	0.169	0.301	0.000	0.147	-0.155	0.167	0.211	-0.150
231	Type 231	0.278	0.207	0.000	0.000	0.167	0.000	0.000	-0.120	0.000
239	Type 239	0.000	0.000	0.000	-0.123	-0.126	-0.181	0.159	0.000	-0.391

Pollen ID No.	% of variance explained Taxa	PC 37	PC 38
		100	100
1	<i>Didymopanax</i>	-0.276	0.109
8	<i>Celtis</i>	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	-0.176
11	<i>Cecropia</i>	-0.114	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.192	-0.139
179	<i>Borreria</i>	0.000	-0.226

Pollen ID No.	% of variance explained Taxa	PC 37	PC 38
		100	100
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	-0.195	-0.274
2	Moraceae/Urticaceae (2 pore)	-0.175	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.000
4	Moraceae/Urticaceae (4 pore)	0.144	0.000
5	Melastomataceae/Combretaceae	0.141	0.000
6	Palmae (type 1) cf. Euterpe	0.000	0.134
12	Moraceae/Urticaceae (5 pore)	-0.173	-0.201
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.000
15	Type 15	0.000	0.000
20	Myrtaceae undiff.	0.000	0.000
35	Poaceae	0.000	-0.156
45	Type 45	0.000	0.000
50	Type 50	0.000	0.157
58	Type 58	0.000	-0.318
63	Pteropsidia (monolete) undiff.	0.236	-0.102
89	<i>Mimosa</i>	0.000	0.517
93	Type 93	0.000	-0.179
151	Type 151	0.318	0.113
154	Type 154	0.269	0.000
162	Type 162	0.000	0.000
176	Type 176	0.000	0.112
178	Type 178	0.000	-0.280
182	Type 182	0.363	0.000
195	<i>Solanum</i>	0.000	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	-0.204	0.264

Pollen ID No.	Taxa	PC 37	PC 38
		100	100
185	Type 185	0.000	0.000
187	Type 187	-0.490	0.000
197	Type 197	-0.108	0.000
224	Type 224	0.000	0.000
231	Type 231	0.000	0.000
239	Type 239	0.000	-0.214

3.5 All field season's data, excluding T113-99, T113-01 and T116-01

Pollen ID No.	Taxa	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
		17	31	42	52	61	69	75	81	86
1	<i>Didymopanax</i>	0.121	0.275	-0.285	-0.177	0.000	-0.214	0.000	-0.285	0.000
5	Melastomataceae/Combretaceae	0.000	-0.187	-0.129	0.000	0.000	0.000	-0.161	0.000	0.000
8	<i>Celtis</i>	0.146	0.000	-0.212	-0.194	-0.369	0.192	0.334	0.000	-0.183
9	<i>Alchornea (type 1) cf. glandulosa/grandis</i>	-0.401	-0.161	0.000	0.000	0.161	-0.151	0.127	0.000	0.000
11	<i>Cecropia</i>	0.000	0.000	0.000	-0.168	0.000	0.000	0.000	0.000	0.159
13	<i>Machaerium/Dalbergia/Byrsonima (type 1)</i>	0.000	0.304	-0.286	0.287	0.000	0.272	-0.286	0.211	0.000
14	<i>Alchornea (type 2) cf. schomburgkii/triplinervia</i>	0.393	0.143	0.000	0.000	-0.103	0.000	0.000	0.000	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	-0.180	-0.119	0.000	0.334	-0.267	-0.192	0.377	-0.244	0.000
89	<i>Mimosa</i>	-0.172	0.000	-0.243	-0.227	-0.135	0.000	0.000	0.000	0.000
179	<i>Borreria</i>	-0.312	0.150	0.000	0.000	0.181	0.000	-0.169	0.000	0.202
183	Leguminoseae (Mimosoideae) undiff. 8 polyad	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
201	<i>Machaerium/Dalbergia/Byrsonima (type 2)</i>	0.000	-0.344	0.000	0.000	0.192	-0.155	0.142	0.000	0.000

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Pollen ID No.	Taxa	% of variance explained								
		PC 1 17	PC 2 31	PC 3 42	PC 4 52	PC 5 61	PC 6 69	PC 7 75	PC 8 81	PC 9 86
2	Moraceae/Urticaceae (2 pore)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	0.000	0.000	-0.183	0.214	0.000	0.000	0.000	-0.188
4	Moraceae/Urticaceae (4 pore)	0.307	-0.217	0.000	0.243	0.189	-0.135	0.217	0.000	0.000
6	Palmae (type 1) cf. Euterpe	0.000	0.000	0.000	0.215	-0.159	0.000	0.000	-0.194	0.497
12	Moraceae/Urticaceae (5 pore)	0.000	0.000	0.231	-0.160	-0.358	0.000	0.000	0.000	0.305
15	Type 15	0.286	0.000	0.000	0.216	-0.165	-0.195	-0.219	-0.258	-0.123
20	Myrtaceae undiff.	0.000	-0.171	0.000	0.000	0.000	0.360	0.293	0.196	0.000
35	Poaceae	0.000	0.000	0.000	0.120	0.000	0.000	0.000	-0.145	0.000
45	Type 45	0.000	0.000	0.117	-0.110	0.000	0.000	0.115	0.000	0.000
50	Type 50	-0.275	0.374	0.105	0.000	0.000	0.159	0.229	-0.215	0.000
58	Type 58	0.000	-0.117	-0.173	-0.247	0.000	0.000	0.000	0.000	0.000
63	Pteropsidia (monolete) undiff.	0.147	-0.159	0.351	-0.245	0.137	0.277	0.000	-0.196	0.000
93	Type 93	0.000	0.000	0.000	-0.316	0.000	0.000	0.135	0.135	0.000
151	Type 151	-0.109	0.000	-0.234	-0.119	0.000	-0.406	0.000	0.000	-0.134
154	Type 154	0.000	0.000	0.220	-0.224	-0.185	0.000	0.000	0.000	0.000
162	Type 162	0.000	0.399	0.000	0.000	0.281	0.000	0.116	0.000	0.226
176	Type 176	-0.144	-0.274	-0.158	0.000	-0.285	-0.114	-0.242	0.178	0.311
178	Type 178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
182	Type 182	-0.147	0.000	0.000	0.000	0.000	0.216	0.000	-0.280	-0.199
185	Type 185	0.154	0.000	-0.388	-0.164	0.291	0.000	0.249	-0.186	0.361
195	<i>Solanum</i>	0.178	0.000	0.204	0.000	0.188	0.000	0.106	0.394	0.141

Pollen ID No.	% of variance explained Taxa	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9
		17	31	42	52	61	69	75	81	86
187	Type 187	0.000	0.000	0.000	0.000	0.000	0.000	0.101	-0.104	-0.193
197	Type 197	0.000	0.213	0.290	0.000	0.000	-0.427	0.104	0.115	0.000
224	Type 224	0.144	0.000	0.000	0.000	0.000	-0.122	-0.141	-0.108	-0.217
231	Type 231	0.146	-0.104	0.000	-0.148	0.000	0.000	-0.232	-0.355	0.000
239	Type 239	0.000	0.000	-0.196	0.222	-0.115	0.000	0.159	0.191	0.000

Pollen ID No.	% of variance explained Taxa	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18
		90	93	95	97	98	100	100	100	100
1	<i>Didymopanax</i>	0.000	0.141	0.000	0.254	0.000	-0.202	0.000	0.000	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	0.000	0.000	0.215	0.000	0.000	-0.146	0.000	-0.106
3	Moraceae/Urticaceae (3 pore)	0.000	0.176	0.000	0.107	0.000	0.000	-0.296	0.000	0.115
4	Moraceae/Urticaceae (4 pore)	-0.333	0.181	-0.186	0.000	0.000	-0.167	0.000	0.140	0.178
5	Melastomataceae/Combretaceae	0.000	0.000	-0.324	0.000	0.164	0.000	-0.403	0.140	0.000
6	<i>Palmae (type 1) cf. Euterpe</i>	0.000	0.000	0.445	-0.101	0.000	0.249	-0.291	0.000	0.229
8	<i>Celtis</i>	0.000	0.168	0.000	-0.166	-0.270	0.000	0.000	-0.293	0.162
9	<i>Alchornea (type 1) cf. glandulosa/grandis</i>	0.140	0.000	-0.107	-0.120	0.000	0.000	-0.363	0.000	0.000
11	<i>Cecropia</i>	0.000	0.000	-0.105	-0.224	0.293	-0.116	0.000	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	-0.246	0.000	-0.416	0.000	-0.118	0.000	0.000	0.000	-0.105
13	<i>Machaerium/Dalbergia/Byrsonima (type 1)</i>	-0.120	0.141	-0.175	0.000	0.190	0.000	0.000	0.135	0.149
14	<i>Alchornea (type 2) cf. schomburgkii/triplinervia</i>	0.209	0.161	-0.164	0.000	0.000	0.171	0.000	0.144	0.000
15	Type 15	-0.297	-0.188	0.136	0.000	0.000	-0.285	-0.306	-0.228	0.000
20	Myrtaceae undiff.	-0.457	-0.102	0.000	0.000	0.000	0.156	0.000	0.104	0.000
35	Poaceae	0.000	0.000	-0.225	0.102	0.000	0.000	0.116	0.000	-0.127
45	Type 45	0.000	0.000	0.000	0.236	0.000	0.157	-0.223	0.000	-0.288
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.138	0.000	-0.125	0.185	-0.104	0.000	0.230	0.000
50	Type 50	0.000	0.254	0.000	0.139	0.334	0.000	-0.117	-0.301	0.000
58	Type 58	-0.140	0.000	0.331	0.000	0.258	0.000	0.176	0.000	0.000

Pollen ID No.	Taxa	% of variance explained								
		PC 10 90	PC 11 93	PC 12 95	PC 13 97	PC 14 98	PC 15 100	PC 16 100	PC 17 100	PC 18 100
63	Pteropsidia (monolete) undiff.	0.000	0.214	0.000	0.000	0.000	-0.125	-0.249	0.000	-0.205
89	<i>Mimosa</i>	-0.290	0.208	0.000	0.000	-0.166	0.000	0.000	0.114	0.000
93	Type 93	-0.112	-0.205	0.000	0.172	0.193	-0.147	0.000	0.000	0.000
151	Type 151	0.000	0.205	0.000	-0.206	-0.156	0.166	-0.120	0.156	0.000
154	Type 154	0.000	-0.114	0.000	0.324	0.000	0.000	-0.209	0.256	0.488
162	Type 162	0.000	-0.264	0.000	-0.254	-0.357	0.000	-0.106	-0.206	0.000
176	Type 176	0.222	0.000	-0.155	0.000	0.226	0.000	0.000	-0.329	0.000
178	Type 178	-0.112	0.191	0.000	0.000	-0.163	0.146	0.000	0.000	-0.104
179	<i>Borreria</i>	-0.131	0.232	0.000	0.196	-0.170	0.000	0.136	0.000	0.000
182	Type 182	0.123	-0.320	-0.206	0.000	0.000	0.225	0.158	0.000	0.359
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.115	0.000
185	Type 185	0.000	-0.177	0.000	0.000	0.126	0.134	0.000	0.104	-0.111
187	Type 187	0.000	-0.105	0.000	-0.190	0.000	0.000	0.000	0.000	0.000
195	<i>Solanum</i>	0.150	0.286	0.000	-0.200	0.195	0.000	0.000	0.000	0.186
197	Type 197	-0.151	-0.192	0.000	0.000	0.131	0.316	0.000	0.108	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.208	-0.135	0.387	0.000	0.248	0.000	-0.395	0.297
224	Type 224	-0.109	0.119	0.000	0.000	0.187	0.536	-0.103	-0.260	-0.197
231	Type 231	0.134	0.101	0.214	0.000	0.000	0.000	0.225	0.259	0.000
239	Type 239	0.333	0.000	0.145	0.323	-0.248	0.000	0.000	0.000	-0.267

Pollen ID No.	% of variance explained Taxa	PC 19	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27
		100	100	100	100	100	100	100	100	100
1	<i>Didymopanax</i>	0.000	-0.101	-0.188	0.000	0.000	0.000	0.000	-0.119	-0.229
2	Moraceae/Urticaceae (2 pore)	-0.118	0.000	-0.154	0.000	0.238	0.000	0.000	0.268	0.498
3	Moraceae/Urticaceae (3 pore)	0.000	0.000	0.000	0.000	0.123	-0.187	-0.141	-0.236	0.000
4	Moraceae/Urticaceae (4 pore)	-0.160	0.000	-0.179	0.000	0.000	0.360	0.000	0.000	0.000
5	Melastomataceae/Combretaceae	0.223	0.000	0.000	0.000	0.101	0.000	0.000	0.000	-0.101
6	Palmae (type 1) cf. <i>Euterpe</i>	0.000	0.000	-0.179	0.000	-0.230	-0.145	0.000	0.131	-0.144
8	<i>Celtis</i>	0.000	-0.326	-0.111	0.000	0.000	0.000	0.236	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	-0.161	0.000	0.000	0.000	0.000	-0.113	0.244	-0.184	0.000
11	<i>Cecropia</i>	0.145	-0.122	0.156	0.000	0.000	0.187	0.000	0.262	0.000
12	Moraceae/Urticaceae (5 pore)	-0.168	0.000	0.209	-0.141	0.123	-0.296	-0.100	0.126	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.116	0.000	-0.104	0.000	0.000	0.000	0.000	0.000	0.000
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	-0.214	0.177	-0.135	0.000	0.000	-0.158	0.000	-0.381	0.000
15	Type 15	-0.160	0.000	0.165	0.000	0.138	0.000	0.117	0.000	0.137
20	Myrtaceae undiff.	0.000	0.111	0.000	0.000	0.110	0.000	0.000	-0.271	0.000
35	Poaceae	0.000	0.000	0.000	0.144	-0.443	0.000	0.000	0.000	0.190
45	Type 45	0.000	0.000	-0.345	0.317	0.190	0.179	0.137	0.373	-0.157
46	Asteraceae (Asteroide/Cardue) undiff.	0.340	-0.204	0.000	0.108	0.146	-0.124	-0.256	0.000	0.000
50	Type 50	0.000	0.427	0.175	0.000	0.000	0.146	0.000	0.000	0.000
63	Pteropsidia (monolete) undiff.	-0.118	0.000	0.000	0.145	-0.230	0.000	-0.344	0.000	0.000
89	<i>Mimosa</i>	0.000	0.132	0.000	0.000	0.000	0.195	-0.204	0.134	0.000
179	<i>Borreria</i>	0.000	-0.480	0.000	0.000	0.000	0.000	0.000	-0.119	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	0.000	0.000	-0.142	0.000	-0.190	-0.101	-0.333	0.000	0.606
195	<i>Solanum</i>	0.000	-0.198	0.000	-0.186	0.221	0.000	0.000	0.000	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.221	0.159	0.000	0.000	0.000	-0.164	0.000	0.000	0.000

Pollen ID No.	Taxa	PC 19	PC 20	PC 21	PC 22	PC 23	PC 24	PC 25	PC 26	PC 27
		100	100	100	100	100	100	100	100	100
58	Type 58	-0.211	0.000	0.126	0.346	0.155	0.000	-0.249	0.000	0.000
93	Type 93	0.203	0.000	-0.231	-0.599	-0.242	-0.123	-0.116	0.000	0.000
151	Type 151	0.000	0.300	0.102	0.000	-0.113	0.000	0.000	0.293	0.152
154	Type 154	0.172	0.000	0.397	0.111	0.000	0.206	0.000	0.000	0.101
162	Type 162	0.345	0.000	-0.119	0.115	0.227	0.000	-0.300	0.000	0.000
176	Type 176	0.000	0.000	-0.157	0.127	0.138	0.280	-0.144	-0.245	0.000
178	Type 178	-0.143	0.000	-0.105	-0.172	0.113	0.315	0.000	-0.221	0.167
182	Type 182	-0.370	0.000	-0.160	-0.205	0.233	0.000	-0.223	0.180	0.000
185	Type 185	0.000	0.000	0.219	0.000	0.000	0.000	0.194	0.000	0.152
187	Type 187	0.000	0.107	0.000	0.000	-0.238	0.418	0.000	0.000	0.000
197	Type 197	-0.106	0.000	-0.142	0.000	-0.108	0.000	0.000	-0.215	0.000
224	Type 224	0.151	-0.226	0.248	-0.137	0.110	0.107	-0.150	0.000	0.000
231	Type 231	0.280	0.250	-0.197	-0.231	0.300	0.109	0.118	0.000	0.166
239	Type 239	-0.156	0.000	0.270	-0.225	0.000	0.166	-0.375	0.000	-0.137

Pollen ID No.	Taxa	PC 28	PC 29	PC 30	PC 31	PC 32	PC 33	PC 34	PC 35	PC 36
		100	100	100	100	100	100	100	100	100
8	<i>Celtis</i>	0.000	-0.260	0.000	0.000	0.115	0.000	0.000	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.000	-0.196	-0.249	-0.236	-0.111	0.250	0.000	0.230	-0.353
11	<i>Cecropia</i>	0.000	0.000	0.000	0.427	-0.134	0.519	0.000	-0.216	-0.138
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.231	-0.150	-0.167	-0.316	0.000	0.000	-0.298	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.245	0.000	0.000	0.000	-0.126	0.000	0.000	0.000
179	<i>Borreria</i>	0.000	0.000	0.000	0.000	0.000	-0.263	0.159	-0.379	0.000

Pollen ID No.	Taxa	% of variance explained								
		PC 28 100	PC 29 100	PC 30 100	PC 31 100	PC 32 100	PC 33 100	PC 34 100	PC 35 100	PC 36 100
1	<i>Didymopanax</i>	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000
2	Moraceae/Urticaceae (2 pore)	0.310	0.000	0.449	-0.291	-0.172	0.203	0.000	-0.101	0.000
3	Moraceae/Urticaceae (3 pore)	0.347	0.000	0.000	0.360	0.265	0.000	-0.443	-0.156	0.000
4	Moraceae/Urticaceae (4 pore)	0.000	-0.231	0.000	-0.149	0.221	0.000	-0.170	0.000	0.127
5	Melastomataceae/Combretaceae	0.000	-0.306	0.000	0.140	-0.305	-0.228	0.244	0.000	0.405
6	Palmae (type 1) cf. Euterpe	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.149
12	Moraceae/Urticaceae (5 pore)	0.000	-0.197	0.000	0.000	0.000	0.000	-0.232	0.000	-0.147
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	-0.181	-0.115	0.113	0.000	0.000	0.000	-0.104	0.151	-0.463
15	Type 15	0.000	0.181	-0.115	0.158	0.000	-0.106	0.174	-0.138	-0.223
20	Myrtaceae undiff.	0.121	0.000	0.000	0.000	0.182	0.240	0.357	-0.160	0.000
35	Poaceae	0.611	0.000	-0.178	0.000	0.000	0.000	0.000	0.294	0.000
45	Type 45	0.000	0.174	-0.401	0.000	0.000	-0.151	0.000	0.000	-0.103
50	Type 50	0.000	-0.123	0.000	0.000	0.000	-0.134	0.000	0.000	0.127
58	Type 58	0.000	-0.207	-0.111	0.000	-0.355	-0.131	-0.128	0.174	0.000
63	Pteropsidia (monolete) undiff.	-0.131	0.115	0.262	0.000	0.000	0.000	0.203	0.105	-0.242
89	<i>Mimosa</i>	0.201	0.169	0.000	-0.130	-0.228	0.000	0.166	0.000	-0.115
93	Type 93	0.000	0.142	0.000	0.000	0.000	-0.106	-0.106	0.000	0.000
151	Type 151	0.000	0.128	0.000	0.000	0.265	0.000	0.192	0.000	0.000
154	Type 154	-0.134	0.104	-0.102	-0.185	0.000	0.000	0.000	0.107	0.000
162	Type 162	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
176	Type 176	0.000	0.000	0.000	0.000	0.264	0.000	0.000	-0.122	0.000
178	Type 178	-0.198	0.307	0.000	0.331	-0.240	0.102	-0.218	0.400	0.165
182	Type 182	0.000	0.147	0.000	0.103	0.107	0.000	0.170	0.000	0.000
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	-0.309	-0.184	-0.454	0.000	0.000	0.000	0.000	0.000	0.187
195	<i>Solanum</i>	0.192	0.000	-0.153	0.000	0.000	-0.255	0.243	0.136	0.000
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000	0.000	0.182	-0.240	0.000	0.000	0.000	-0.179

Pollen ID No.	% of variance explained Taxa	PC 28	PC 29	PC 30	PC 31	PC 32	PC 33	PC 34	PC 35	PC 36
		100	100	100	100	100	100	100	100	100
185	Type 185	-0.210	0.123	0.140	0.000	0.121	-0.286	-0.133	0.000	0.000
187	Type 187	0.118	-0.135	0.000	0.000	-0.183	-0.180	-0.173	-0.418	-0.239
197	Type 197	0.000	-0.276	0.293	0.274	0.000	-0.105	0.152	0.000	-0.116
224	Type 224	0.000	0.000	0.000	-0.313	0.154	0.216	0.000	0.000	0.000
231	Type 231	0.000	-0.202	-0.113	0.000	0.149	0.000	0.120	0.106	-0.204
239	Type 239	0.000	-0.202	0.000	0.167	0.000	0.000	0.000	0.000	-0.114

Pollen ID No.	% of variance explained Taxa	PC 37	PC 38
		100	100
1	<i>Didymopanax</i>	-0.506	0.000
2	Moraceae/Urticaceae (2 pore)	0.000	0.000
3	Moraceae/Urticaceae (3 pore)	0.000	-0.157
5	Melastomataceae/Combretaceae	0.000	0.000
8	<i>Celtis</i>	0.181	0.000
9	<i>Alchornea</i> (type 1) <i>cf. glandulosa/grandis</i>	0.000	0.000
11	<i>Cecropia</i>	0.216	0.000
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	0.000	0.000
14	<i>Alchornea</i> (type 2) <i>cf. schomburgkii/triplinervia</i>	0.246	0.000
46	Asteraceae (Asteroide/Cardue) undiff.	0.000	0.000
89	<i>Mimosa</i>	0.101	-0.569
179	<i>Borreria</i>	0.191	0.187
183	Fabaceae (Mimosoideae) undiff. (8 polyad)	-0.122	-0.200
201	<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	0.000	0.000

Pollen ID No.	% of variance explained Taxa	PC 37	PC 38
		100	100
4	Moraceae/Urticaceae (4 pore)	0.192	0.000
6	Palmae (type 1) cf. Euterpe	0.000	0.000
12	Moraceae/Urticaceae (5 pore)	-0.202	0.000
15	Type 15	0.000	0.000
20	Myrtaceae undiff.	-0.112	0.175
35	Poaceae	0.000	0.000
45	Type 45	0.000	0.000
50	Type 50	0.164	0.000
58	Type 58	0.000	0.337
63	Pteropsidia (monolete) undiff.	0.000	0.000
93	Type 93	0.000	0.237
151	Type 151	0.000	0.412
154	Type 154	0.000	0.000
162	Type 162	0.103	0.123
176	Type 176	0.000	0.000
178	Type 178	-0.188	0.166
182	Type 182	0.000	0.000
185	Type 185	0.000	-0.229
187	Type 187	-0.465	0.000
195	<i>Solanum</i>	-0.313	0.000
197	Type 197	0.126	-0.225
224	Type 224	0.000	0.000
231	Type 231	0.000	0.000
239	Type 239	0.000	0.000

Appendix XIII

Selection criteria for major and minor taxa

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Appendix XIII

Selection criteria for major and minor taxa

The selection of the taxa to fall into the major and minor taxa categories was based upon each taxon's importance in these criteria: i) >3% abundance in the pollen from any one trap sample in the plot, ii) spatial variance, iii) temporal variance, iv) statistical importance, v) significance in the vegetation of the plot, and vi) significance in the vegetation of the ecosystem. Letters indicate the following: C = consistent, D = dominant, I = important, L = locally present, LC = locally consistent, LD = locally dominant, P = present, Y = yes.

1. Acuario 2

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Asteraceae (Asteroide/Cardue) undiff.	Y		C	Y		
Bignoniaceae undiff. (type 1)					P	I
Bromeliaceae undiff.	Y	C		Y		
Flacortiaceae					P	
Gentianaceae						
Fab. (Mim.) cf. <i>Samanea tubulosa</i>					P	
Fab. (Mim.) undiff. (4 polyad)						
cf Loganiaceae						
Malpighiaceae undiff.						
Malpighiaceae cf. <i>dicella</i>					P	
Melastomataceae/Combretaceae	Y		C		I	I
Moraceae/Urticaceae (2 pore)	Y	LD C	LD C	Y	P	
Moraceae/Urticaceae (3 pore)	Y	C	L		P	
Moraceae/Urticaceae (4 pore)					P	
Moraceae/Urticaceae (5 pore)					P	
Myrtaceae undiff.	Y	C		Y	P	
Palmae (type 1) cf. <i>Euterpe</i>	Y	C	L	Y	I	
Palmae (type 2) cf. <i>Attalea</i>	Y	LD C	C		I	
Poaceae	Y	C	C			
Polypodiaceae undiff.	Y	C	L			
Pteropsidia (monolete) undiff.						
Pteropsidia (trilete) undiff. (type 1)	Y	C				
Pteropsidia (trilete) undiff. (type 2)	Y					
Pteropsidia (trilete) undiff. (type 3)						
Pteropsidia (trilete) undiff. (type 4)						
Tiliaceae cf. <i>Luehea</i>					P	
<i>Acacia</i>	Y					

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
<i>Acalypha</i> (3 pore)						
<i>Alchornea</i> (type 1)						
<i>Alnus</i>						
<i>Amburana</i>					P	I
<i>Anadenanthera</i>	Y	LD	LD	Y	I	I
<i>Apuleia leocarpa</i>	Y				P	
<i>Astronium</i> cf. <i>urundava</i>					P	
<i>Caesalpinia</i> (type 1)					I	
<i>Caesalpinia</i> (type 2)					I	
<i>Cecropia</i>	Y	C	C	Y		
<i>Celtis</i>	Y		Y	Y		
<i>Chorisia</i>					I	
<i>Cordia</i>					I	
<i>Dalechampsia</i>						
<i>Didymopanax</i>	Y	C	C		P	
<i>Dilodendron</i>	Y			Y	P	
<i>Enterlobium</i>						
<i>Ferdinandusa elliptica</i>	Y					
<i>Heliocarpus</i>						
<i>Hyeronima</i>						
<i>Hymeneae</i>					P	
<i>Lippia</i>					P	
<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)					P	
<i>Mandevilla</i>						
<i>Mimosa</i>						
<i>Piper</i>	Y	C		Y		
<i>Podocarpus</i>						
<i>Rhamnidium</i>					P	
<i>Sapium</i>						
<i>Sebastiana</i>					P	
<i>Serjana</i>	Y			Y	P	
<i>Spondias mombin</i>					P	
<i>Sterculia</i>					I	
<i>Swetenia</i>						
<i>Tabebuia</i> cf. <i>roseo-alba</i>					I	
<i>Thevetia</i>						
<i>Trema</i>	Y		L			
<i>Zanthoxylum</i>					P	
Type 16	Y			Y		
Type 32						
Type 42						
Type 50	Y					
Type 60						
Type 83						
Type 94						
Type 95	Y	L		Y		
Type 96						
Type 99	Y					
Type 100						
Type 101						
Type 104	Y		L			
Type 105						
Type 109						
Type 110						
Type 111						

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Type 112						
Type 114						
Type 117	Y			Y		
Type 118	Y			Y		
Type 120						
Type 121						
Type 123						
Type 124						
Type 125						
Type 127						
Type 128						
Type 133						
Type 135						
Type 140						
Type 143						
Type 144						
Type 145						
Type 147						
Type 149						
Type 151	Y					
Type 152						
Type 153						
Type 154						
Type 156						
Type 162	Y					
Type 168						
Type 170						
Type 172						
Type 173						

2. Los Fierros 1

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Asteraceae (Asteroide/Cardue) undiff.						
Bromeliaceae undiff.						
Malpighiaceae undiff.					P	
Melastomataceae/Combretaceae	Y	C	C	Y	I	
Moraceae/Urticaeae (2 pore)	Y	D	D	Y	I	I
Moraceae/Urticaeae (3 pore)	Y	C	C	Y	I	I
Moraceae/Urticaeae (4 pore)	Y	C	C	Y	I	I
Moraceae/Urticaeae (5 pore)	Y	C	C	Y	I	I
Myrtaceae undiff.					P	
Palmae (type 1) cf. <i>Euterpe</i>	Y	C	C	Y	I	I
Poaceae						
Polypodiaceae undiff.						
Pteropsidia (monolete) undiff.						
Pteropsidia (trilete) undiff. (type 1)						
<i>Acacia</i>					P	
<i>Acalypha</i> (3 pore)						
<i>Alchornea</i> (type 1)	Y	C	C	Y		
<i>Alchornea</i> (type 2)						

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
<i>Alnus</i>						
<i>Anadenanthera</i>						
<i>Anthodon/Banisteriopsis</i>					P	
<i>Anthurium</i>						
<i>Apuleia leocarpa</i>					P	I
<i>Aspidosperma cf. cruenta</i>					P	
<i>Cecropia</i>	Y	C	C	Y	P	
<i>Celtis</i>	Y	C	C			
<i>Connerus</i>					P	
<i>Crepidosperrum</i> type					P	
<i>Cupania</i>					P	
<i>Cuphea</i>						
<i>Didymopanax</i>	Y	C	C		P	
<i>Ferdinandusa elliptica</i>						
<i>Hyeronima</i>	Y	L	L		I	
<i>Inga ignoides</i>					P	
<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)					P	
<i>Mimosa</i>						
<i>Piper</i>					P	
<i>Podocarpus</i>						
<i>Sloanea</i>					I	
<i>Tapirira/Hirtella</i>					P	
<i>Thevetia</i>						
<i>Trema</i>	Y	C	C			
Type 15	Y					
Type 16						
Type 17						
Type 18						
Type 19						
Type 22						
Type 23						
Type 26						
Type 30						
Type 31						
Type 32						
Type 33						
Type 34						
Type 37						
Type 39						
Type 40						
Type 42						
Type 44						
Type 45						
Type 49						
Type 50						
Type 52						
Type 54						
Type 55						
Type 57						
Type 58	Y			Y		
Type 60						
Type 61						
Type 62						
Type 64						
Type 66						

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Type 69	Y			Y		
Type 70						
Type 74	Y			Y		
Type 75						
Type 80						
Type 81						
Type 83						
Type 84						
Type 85						
Type 86						
Type 87						
Type 91						
Type 92						
Type 93						

3. Los Fierros, Cerradão

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Apocynaceae undiff.					Y	
Asteraceae (Asteroide/Cardue) undiff.	Y		LC	Y	Y	
Bombacaceae cf. <i>Eriotheca</i>					Y	
Bromeliaceae undiff.						
Cyperaceae					Y	
Flacortiaceae					Y	
cf. Fab. (Ceas.) <i>Bauhinia</i>						
Fab. (Mim.) undiff. (8 polyad)	Y					
Fab. (Mim.) cf. <i>Samanea tubulosa</i>						
cf. Lythraceae <i>Cuphea</i>						
Malpighiaceae undiff.						
Malpighiaceae cf. <i>Dicella</i>						
Melastomataceae/Combretaceae	Y	C	C		Y	
Moraceae/Urticaceae (2 pore)	Y	LD	LD			
Moraceae/Urticaceae (3 pore)	Y	LD	C			
Moraceae/Urticaceae (4 pore)	Y	C		Y		
Moraceae/Urticaceae (5 pore)	Y			Y		
Myrtaceae undiff.	Y	LD	LD		Y	
Palmae (type 1) cf. <i>Euterpe</i>	Y	C	C			
Palmae (type 2) cf. <i>Attalea</i>						
Poaceae	Y	LD	LD		Y	
Poaceae cf. <i>Zea</i>						
Polypodiaceae undiff.						
Pteropsidia (monolete) undiff.	Y			Y		
Pteropsidia (trilete) undiff. (type 1)						
Pteropsidia (trilete) undiff. (type 2)						
Pteropsidia (trilete) undiff. (type 3)						
Pteropsidia (trilete) undiff. (type 4)						
Sapindaceae cf. <i>Cupania</i>						
Sapindaceae undiff. (type 1)	Y					
<i>Acacia</i>						
<i>Acalypha</i> (3 pore)						
<i>Alchornea</i> (type 1)	Y			Y		

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
<i>Alchornea</i> (type 2)	Y	C		Y		
<i>Alibertia/Amaioua</i>					Y	
<i>Alnus</i>						
<i>Alternanthera</i>						
<i>Anadenanthera</i>						
<i>Apuleia leocarpa</i>						
<i>Astronium</i> cf. <i>urundava</i>						
<i>Borreria</i>	Y			Y		
<i>Cecropia</i>	Y	C	C			
<i>Celtis</i>	Y	C	C	Y		
<i>Chorisia</i>						
<i>Connerus</i>						
<i>Cordia</i>						
<i>Crepidospermum</i> type						
<i>Crotalaria</i>					Y	
<i>Curatella americana</i>						
<i>Davillia</i>					Y	
<i>Didymopanax</i>	Y	C	LC		Y	
<i>Galactia</i>					Y	
<i>Heliocarpus</i>						
<i>Lafoensia</i>					Y	
<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	Y			Y	Y	Y
<i>Machaerium/Dalbergia/Byrsonima</i> (type 2)	Y			Y	Y	Y
<i>Matayba</i>					Y	
<i>Mimosa</i>	Y				Y	
<i>Ormosia</i>					Y	
<i>Piper</i>	Y					
<i>Podocarpus</i>						
<i>Polygala</i>						
<i>Sapium</i>						
<i>Sebastiana</i>						
<i>Sloanea</i>						
<i>Solanum</i>	Y	LD	LD			
<i>Trema</i>						
<i>Zanthoxylum</i>						
Type 15	Y	C				
Type 22						
Type 37						
Type 42						
Type 45	Y					
Type 49						
Type 50	Y			Y		
Type 58	Y					
Type 60						
Type 62						
Type 66						
Type 84						
Type 93	Y			Y		
Type 94						
Type 96						
Type 101						
Type 143						
Type 151	Y		LC	Y		
Type 154	Y					

Pollen taxa present	>3%	Intra-plot	Inter-annual	Statistically	Plot vegetation	Ecosystem vegetation
Type 162	Y	C		Y		
Type 170						
Type 173						
Type 176	Y		LD			
Type 177						
Type 178	Y					
Type 180						
Type 181						
Type 182	Y					
Type 185	Y			Y		
Type 187	Y					
Type 189						
Type 190						
Type 192						
Type 197	Y			Y		
Type 198						
Type 200						
Type 203						
Type 204						
Type 207						
Type 208						
Type 211						
Type 213						
Type 216						
Type 217						
Type 218						
Type 219						
Type 220						
Type 221						
Type 222						
Type 223						
Type 224	Y					
Type 225						
Type 227						
Type 228						
Type 229						
Type 230						
Type 231	Y					
Type 232						
Type 235						
Type 238						
Type 239	Y					
Type 240						
Type 241						
Type 245						
Type 246						
Type 247						
Type 249						
Type 250						
Type 251						
Type 254						
Type 255						
Type 256						

Appendix XIV
Pollen-vegetation data

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3. Los Fierros, Cerradão	229

Appendix XIV

Pollen-vegetation data

Vegetation data is derived from vegetation data supplied by T.J. Killeen *pers. comm.* (2002) and corresponds to the vegetation study plots from which the modern pollen rain was collected. Details tabulated over...

1. Acuario 2

ID No.	Pollen taxa	VEGETATION DATA				POLLEN DATA					
		BIOMASS %	Biomass	No. individuals	%individuals	Percentage			PAR		
						lowest	mean	highest	lowest	mean	highest
1	<i>Didymopanax</i>	57	0.06	1	0.20	0.0	1.8	13.6	0.00	41.65	167.09
2 3 4 12	Moraceae/Urticaceae undiff.	176	0.18	3	0.59	2.0	18.6	68.5	29.00	218.92	3172.99
5	Melastomataceae/Combretaceae	3482	3.52	29	5.66	0.0	0.4	6.1	0.00	3.35	159.95
6 98	Palmae undiff.	13168	13.32	29	5.66	0.0	6.5	50.0	0.00	85.97	1104.62
13	<i>Machaerium/Dalbergia/Byrsonima</i> (type 1)	1539	1.56	18	3.52	0.0	0.0	1.0	0.00	0.00	3.98
20	Myrtaceae undiff.	907	0.92	4	0.78	0.0	0.8	3.7	0.00	6.73	129.96
72	<i>Anadenanthera</i>	14144	14.30	36	7.03	0.0	24.7	74.0	0.00	325.03	5495.27
77	<i>Apuleia leocarpa</i>	705	0.71	3	0.59	0.0	0.0	0.7	0.00	0.00	1410.95
103 157	<i>Caesalpinia</i> undiff.	18245	18.45	60	11.72	0.0	0.0	1.0	0.00	0.00	92.19
113	<i>Lippia</i>	-	-	1	0.20	0.0	0.0	0.7	0.00	0.00	7.97
115	<i>Astronium</i> cf. <i>urundava</i>	251	0.25	1	0.20	0.0	0.0	1.0	0.00	0.00	74.26
116	<i>Sebastiania</i>	622	0.63	7	1.37	0.0	0.0	1.5	0.00	0.00	27.36
130	<i>Zanthoxylum</i>	-	-	1	0.20	0.0	0.0	1.7	0.00	0.00	27.36
134	<i>Rhamnidium</i>	1266	1.28	10	1.95	0.0	0.0	1.6	0.00	0.00	19.92
136	Leguminosae (Mimosoideae) cf. <i>Samanea tubulosa</i>	65	0.07	1	0.20	0.0	0.0	2.6	0.00	0.00	222.78
138	Tiliaceae cf. <i>Luehea</i>	589	0.60	4	0.78	0.0	0.0	0.6	0.00	0.00	7.97
142	<i>Dilodendron</i>	4458	4.51	9	1.76	0.0	0.0	4.2	0.00	0.00	49.98
146	Bignoniaceae undiff.	229	0.23	19	5.26	0.0	0.0	0.8	0.00	0.00	14.44
148	Malpighiaceae cf. <i>Dicella</i>	-	-	10	1.95	0.0	0.0	1.6	0.00	0.00	11.95
155	<i>Hymeneae</i>	115	0.12	1	0.20	0.0	0.0	1.8	0.00	0.00	41.59
160	Flacortiaceae	2693	2.72	46	8.98	0.0	0.0	0.9	0.00	0.00	74.26
164	<i>Spondias mombin</i>	1969	1.99	8	1.56	0.0	0.0	0.9	0.00	0.00	74.26
165	<i>Chorisia</i>	6700	6.77	9	1.76	0.0	0.0	1.0	0.00	0.00	18.57
166	<i>Sterculia</i>	5867	5.93	11	2.15	0.0	0.0	1.0	0.00	0.00	20.79
167	<i>Amburana</i>	363	0.37	1	0.20	0.0	0.0	1.9	0.00	0.00	37.13

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ID No.	Pollen taxa	VEGETATION DATA				POLLEN DATA					
		BIOMASS %	Biomass	No. individuals	%individuals	Percentage			PAR		
						lowest	mean	highest	lowest	mean	highest
169	<i>Cordia</i>	2265	2.29	17	3.32	0.0	0.0	2.9	0.00	0.00	194.93
257	<i>Tabebuia cf. roseo-alba</i>	5490	5.55	38	7.42	0.0	0.0	0.8	0.00	0.00	47.26
316	<i>Serjana</i>	-	-	3	0.59	0.0	0.0	6.6	0.00	0.00	93.30
	TOTAL	85365	86	361	76						

2. Los Fierros 1

ID No.	Pollen taxa	VEGETATION DATA				POLLEN DATA					
		BIOMASS	%Biomass	No. individuals	%individuals	Percentage			PAR (excluding T99-89)		
						lowest	mean	highest	lowest	mean	highest
1	<i>Didymopanax</i>	8084	2.74	2	0.25	0.00	4.79	8.77	0	202	578
2 3 4 12	Moraceae/Urticaceae type	22635	7.67	127	16.03	31.25	64.29	97.09	2970	5113	14468
5	Melastomataceae/Combretaceae	8236	2.79	67	8.26	0.00	5.17	13.77	0	380	2859
6	Palmae type 1 (cf. <i>Euterpe</i>)	3494	1.18	56	6.91	0.00	3.83	17.19	0	327	1634
7	Malpighiaceae undiff.	-	-	2	0.24	0.00	0.03	0.66	0	0	2
10	<i>Piper</i>	-	-	1	0.12	0.00	0.14	0.93	0	8	37
11	<i>Cecropia</i>	740	0.25	3	0.36	0.00	4.43	15.63	0	335	1485
13	Machaerium/Dalbergia/Byrsonima (type 1)	1664	0.56	8	0.99	0.00	0.26	2.96	0	16	131
20	Myrtaceae undiff.	280	0.09	5	0.62	0.00	0.29	1.25	0	29	260
28	<i>Connerus</i>	-	-	1	0.12	0.00	0.15	1.89	0	7	61
36	<i>Tapirira/Hirtella</i>	593	0.20	1	0.12	0.00	0.09	1.89	0	3	61
38	<i>Aspidosperma</i>	2568	0.87	11	1.36	0.00	0.09	0.94	0	3	31
47	<i>Sloanea</i>	5770	1.95	28	3.45	0.00	0.41	2.34	0	32	223
48	<i>Crepidospermum</i> type	6010	2.04	24	0.49	0.00	0.09	1.82	0	3	52
53	<i>Hyeronima</i>	10131	3.43	20	2.47	0.00	4.15	42.34	0	507	6108
56	<i>Anthodon/Banisteriopsis</i>	-	-	2	0.25	0.00	0.05	0.93	0	2	39
67	<i>Inga ignoides</i>	92	0.03	1	0.12	0.00	0.18	2.59	0	12	173
68	<i>Acacia</i>	-	-	5	0.25	0.00	0.04	0.84	0	5	104
77	<i>Apuleia leocarpa</i>	1937	0.66	1	0.12	0.00	0.13	0.90	0	14	130
318	cf. <i>Cupania</i>	57	0.02	1	0.12	0.00	0.06	0.84	0	6	104
	TOTAL	72292	24	366	43						

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3. Los Fierros, Cerradão

ID No.	Pollen taxa	VEGETATION DATA			POLLEN DATA					
		No. individuals	%individuals	Percentage			PAR			
				lowest	mean	highest	lowest	mean	highest	
1	<i>Didymopanax</i>	3	0.19	0.00	0.01	0.06	0.00	10.87	173.27	
5	Melastomataceae/Combretaceae	55	3.57	0.00	0.02	0.13	0.00	24.46	346.55	
13 201	<i>Machaerium/Dalbergia/Byrsonima</i> type	3	0.19	0.00	0.01	0.09	0.00	8.12	1732.74	
20	Myrtaceae undiff.	22	1.43	0.00	0.01	0.43	0.00	10.83	4505.13	
35	Poaceae	1215	78.84	0.02	0.09	0.38	25.82	99.01	6411.15	
46	Asteraceae (Asteroide/Cardue) undiff.	5	0.32	0.00	0.00	0.12	0.00	0.00	49.51	
89	<i>Mimosa</i>	7	0.45	0.00	0.00	0.06	0.00	0.00	173.27	
160	Flacortiaceae undif.	11	0.71	0.00	0.00	0.01	0.00	0.00	12.68	
199	<i>Davillia</i>	12	0.78	0.00	0.00	0.01	0.00	0.00	11.30	
202	<i>Galactia</i>	1	0.06	0.00	0.00	0.01	0.00	0.00	0.57	
214	Bombacaceae cf. <i>Eriotheca</i>	5	0.32	0.00	0.00	0.01	0.00	0.00	9.81	
215	<i>Matayba</i>	5	0.32	0.00	0.00	0.01	0.00	0.00	11.30	
226	<i>Crotalaria</i>	1	0.06	0.00	0.00	0.01	0.00	0.00	6.12	
233	Cyperaceae undif.	4	0.26	0.00	0.00	0.01	0.00	0.00	12.68	
234	Apocynaceae undiff.	11	0.71	0.00	0.00	0.01	0.00	0.00	7.64	
237	<i>Ormosia</i>	15	0.97	0.00	0.00	0.01	0.00	0.00	86.64	
243	<i>Lafoensia</i>	1	0.06	0.00	0.00	0.01	0.00	0.00	11.30	
248	<i>Alibertia/Amaioua</i>	2	0.13	0.00	0.00	0.01	0.00	0.00	8.00	
	TOTAL	1378	89							

Appendix XV

Principal components analysis, palynological differentiation

1. Trap percentage data	231
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3. Lake surface sample percentage data	232
4. Trap and lake surface sample percentage data	233
5. Trap and lake surface sample percentage data, excluding Poaceae	233

Appendix XV

Principal components analysis, palynological differentiation

Principal components are derived from a covariance analysis of the major taxa from: i) trap percentage data, ii) trap pollen accumulation rate (PAR) data, iii) lake surface sample percentage data, iv) trap and lake surface sample percentage data, and v) trap and lake surface sample percentage data, excluding Poaceae. The details of the first two principal components are given (further components did not have any discernable ecological meaning).

% of variance explained = cumulative percentage of variance explained by components

1. Trap percentage data

Pollen ID No.	Major pollen taxa	% of variance explained	
		PC 1 27	PC 2 44
1	<i>Didymopanax</i>	0.000	-0.145
[2 3 4 12]	Moraceae/Urticaceae	0.339	-0.229
5	Melastomataceae/Combretaceae	0.228	-0.179
6	Palmae (type 1) cf. <i>Euterpe</i>	0.136	0.000
8	<i>Celtis</i>	0.000	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.104	0.000
11	<i>Cecropia</i>	0.219	0.103
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.232
20	Myrtaceae	0.000	0.188
21	<i>Trema</i>	0.000	0.000
24	Pteropsidia (trilete) undiff. (type 1)	-0.140	0.000
35	Poaceae	-0.101	0.701
72	<i>Anadenanthera</i>	-0.784	-0.137
98	Palmae (type 2) cf. <i>Attalea</i>	-0.264	0.000
195	<i>Solanum</i>	0.162	0.504

2. Trap pollen accumulation rate data

Pollen ID No.	% of variance explained Major pollen taxa	PC 1	PC 2
		24	41
1	<i>Didymopanax</i>	0.000	-0.375
[2 3 4 12]	Moraceae/Urticaceae	0.308	-0.235
5	Melastomataceae/Combretaceae	0.367	-0.185
6	Palmae (type 1) cf. <i>Euterpe</i>	0.201	0.000
8	<i>Celtis</i>	0.163	0.000
9	<i>Alchornea</i> (type 1) cf. <i>glandulosa/grandis</i>	0.246	-0.357
11	<i>Cecropia</i>	0.352	-0.296
14	<i>Alchornea</i> (type 2) cf. <i>schomburgkii/triplinervia</i>	0.000	0.248
20	Myrtaceae	0.000	0.000
21	<i>Trema</i>	0.000	-0.357
24	Pteropsidia (trilete) undiff. (type 1)	-0.232	0.000
35	Poaceae	-0.176	0.000
72	<i>Anadenanthera</i>	-0.542	-0.427
98	Palmae (type 2) cf. <i>Attalea</i>	-0.346	-0.248
195	<i>Solanum</i>	0.000	0.329

3. Lake surface sample percentage data

Pollen ID No.	% of variance explained Major pollen taxa	PC 1	PC 2
		69	85
1	<i>Didymopanax</i>	0.145	-0.124
[2 3 4 12]	Moraceae/Urticaceae	0.369	0.186
5	Melastomataceae/Combretaceae	0.271	0.352
[6 98]	Palmae	-0.161	0.602
8	<i>Celtis</i>	0.399	0.000
[9 14]	<i>Alchornea</i>	0.236	-0.138
11	<i>Cecropia</i>	0.430	-0.155
20	Myrtaceae	0.000	-0.303
21	<i>Trema</i>	0.156	0.363
24	Pteropsidia (trilete)	0.135	0.255
35	Poaceae	-0.415	0.161
72	<i>Anadenanthera</i>	-0.309	-0.300
195	<i>Solanum</i>	-0.172	0.101

4. Trap and lake surface sample percentage data

Pollen ID No.	% of variance explained Major pollen taxa	PC 1	PC 2
		28	45
1	Didymopanax	0.000	-0.185
[2 3 4 12]	Moraceae/Urticaceae	0.370	-0.243
5	Melastomataceae/Combretaceae	0.244	-0.186
[6 98]	Palmae	-0.158	0.000
8	Celtis	0.120	0.000
[9 14]	Alchornea	0.211	0.276
11	Cecropia	0.272	0.000
20	Myrtaceae	0.000	0.134
21	Trema	0.000	0.000
24	Pteropsidia (trilete)	0.000	0.000
35	Poaceae	-0.179	0.751
72	Anadenanthera	-0.757	-0.166
195	Solanum	0.166	0.425

5. Trap and lake surface sample percentage data, excluding Poaceae

Pollen ID No.	% of variance explained Major pollen taxa	PC 1	PC 2
		32	46
1	Didymopanax	0.000	0.217
[2 3 4 12]	Moraceae/Urticaceae	0.345	0.262
5	Melastomataceae/Combretaceae	0.228	0.322
[6 98]	Palmae	-0.158	0.618
8	Celtis	0.118	0.000
[9 14]	Alchornea	0.237	-0.236
11	Cecropia	0.276	0.000
20	Myrtaceae	0.000	-0.125
21	Trema	0.000	0.000
24	Pteropsidia (trilete)	0.000	0.000
72	Anadenanthera	-0.778	-0.107
195	Solanum	0.203	-0.552

Appendix XVI
Pollen data from lakes

1. Major taxa	235
2. Minor taxa	235

Appendix XVI

Pollen data from lakes

1. Major taxa

Pollen percentage data

ID	Pollen taxa	Laguna				
		Chaplin	Bella Vista	La Gaiba	Mandioré	Soccóros
1	<i>Didymopanax</i>	4.62	0.65	0.00	0.00	0.00
2 3 4 12	Moraceae/Urticaceae undiff.	39.26	53.59	12.21	8.49	4.49
5	Melastomataceae/Combretaceae	2.31	2.61	1.65	0.94	0.30
6 98	Palmae undiff.	1.15	1.31	1.98	9.75	0.00
9 193	<i>Alchornea</i> undiff.	4.85	1.63	2.31	0.63	0.00
8	<i>Celtis</i>	8.31	6.54	0.99	0.94	0.00
11	<i>Cecropia</i>	8.55	6.86	1.32	0.63	0.00
20	Myrtaceae undiff.	0.00	0.65	0.99	0.31	0.00
21	<i>Trema</i>	1.85	0.00	2.31	0.00	0.30
24	Pteropsidia (trilete) undiff. (type 1)	0.00	0.00	1.32	0.63	0.30
35	Poaceae	4.16	5.88	32.67	51.26	34.43
72	<i>Anadenanthera</i>	0.00	0.00	4.62	2.52	8.98
195	<i>Solanum</i>	0.23	0.00	0.00	0.00	0.00

2. Minor taxa

Presence/absence

ID	Pollen taxa	Laguna				
		Bella Vista	Chaplin	La Gaiba	Mandioré	Soccóros
5	Melastomataceae/Combretaceae	1	1	1	1	1
13 201	<i>Machaerium/Dalbergia/Byrsonima</i> type	1	1			
25	Polypodiaceae undiff.	1	1	1	1	
36	<i>Tapirira/Hirtella</i>		1			
46	Asteraceae (Asteroide/Cardue) undiff.	1	1	1	1	1
63	Pteropsidia (monolete) undiff.			1	1	
68	<i>Acacia</i>	1	1	1	1	1
79	Bromeliaceae undiff.			1	1	
89	<i>Mimosa</i>			1	1	
99	Type 99			1	1	
108	Pteropsidia (trilete) undiff. (type 2)			1	1	1
115	<i>Astronium</i> cf. <i>urundava</i>	1	1			
151	Type 151				1	
183	Fabaceae (Mim.) undiff. (8 polyad)				1	
233	Cyperaceae	1	1	1	1	1
257	<i>Tabebuia</i> cf. <i>roseo-alba</i>				1	

Appendix XVII

Bi-variate correlation of minor taxa

1. All minor taxa	237
2. Minor taxa present in lake samples	237

Appendix XVII

Bivariate correlation of minor taxa

The presence or absence of the minor taxa listed for the plots and lakes (see appendix XVI) were correlated using the Sokal and Sneath Measure 1 (SPSS v11.01).

Plots

LF-1 = Los Fierros 1, AC-2 = Acuario 2, FC-2 = Los Fierros, Cerradão

Lakes

B = Bella Vista, C = Chaplin, G = La Gaiba, M = Mandioré, S = Soccorós

1. All minor taxa

	LF-1	AC-2	FC-2	B	C	G	M	S
LF-1		0.537	0.614	0.838	0.855	0.803	0.766	0.847
AC-2			0.388	0.726	0.705	0.705	0.726	0.694
FC-2				0.705	0.683	0.683	0.705	0.694
B					0.987	0.947	0.932	0.967
C						0.947	0.918	0.967
G							0.974	0.967
M								0.940
S								

2. Minor taxa present in lake samples

	LF-1	AC-2	FC-2	B	C	G	M	S
LF-1		0.462	0.667	0.889	0.947	0.571	0.182	0.889
AC-2			0.333	0.667	0.571	0.667	0.750	0.667
FC-2				0.667	0.571	0.667	0.750	0.667
B					0.947	0.571	0.182	0.889
C						0.462	0.000	0.824
G							0.824	0.750
M								0.462
S								

Appendix XVIII

Taxa diversity

1. Simpsons Index of Diversity (1-D)	239
2. Range of pollen diversity within traps	240
3. Total ecosystem pollen diversity	240
4. Diversity of lake surface samples	240

Appendix XVIII

Taxa diversity

The diversity of the pollen collected at each of the traps was calculated using Simpson's Index of Diversity (1-D) (see below). This method provides a measure of the probability that any two individuals, within a sample, picked at random will be the same (Colinvaux, 1986).

1. Simpsons Index of Diversity (1-D)

$$1-D = \sum (n/N)^2$$

Where, n is the total number of organisms of a particular species

N is the total number of organisms of all species

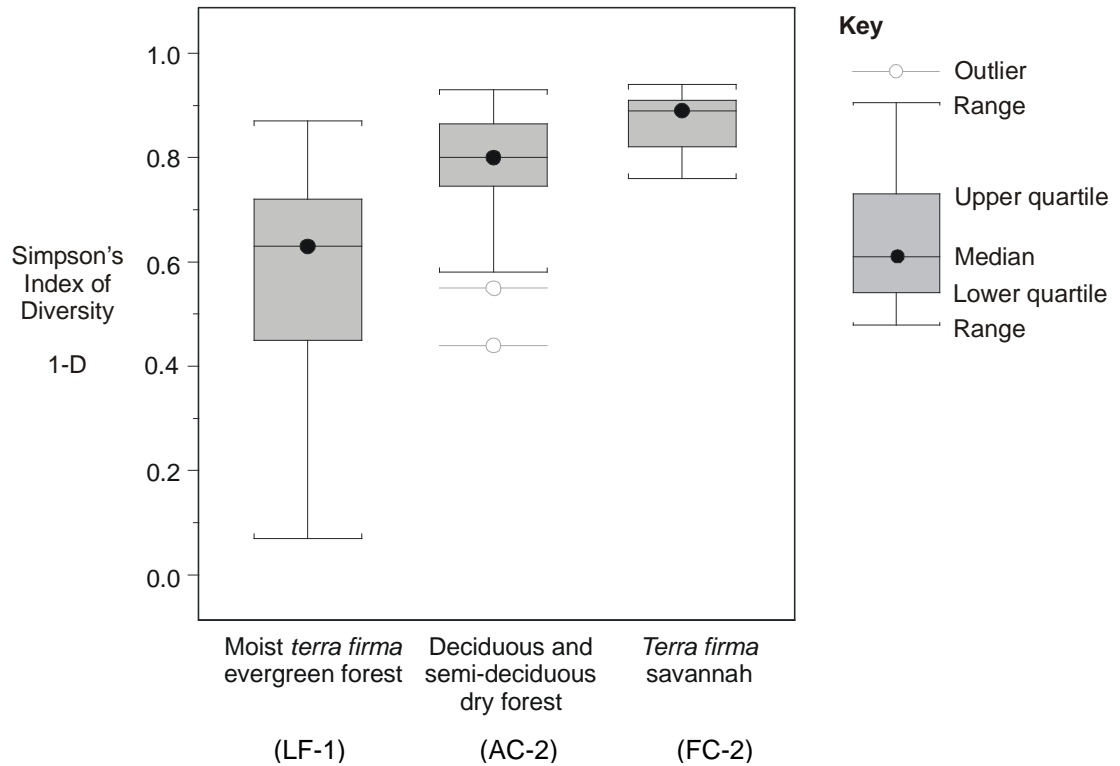
Source: Colinvaux (1986), Offwell Woodland and Wildlife Trust (2003)

The 1-D calculation of diversity was chosen, as opposed to Simpson's Index (D), because the results produced are more intuitively interpretable, i.e. with 1-D higher numbers indicate higher diversity. Calculations were carried out in Microsoft Excel.

Continued over...

2. Range of pollen diversity within traps

Higher values indicate higher diversity.



3. Total ecosystem pollen diversity

From pollen traps

	Moist <i>terra firma</i> evergreen forest	Deciduous and semi-deciduous dry forest	<i>Terra firma</i> savannah
Simpson's 1-D	0.63	0.90	0.94

4. Diversity of lake surface samples

B = Laguna Bella Vista, C = Laguna Chaplin, G = Laguna La Gaiba, M = Laguna Madoiré and S = Laguna Socórrros.

	Moist <i>terra firma</i> evergreen forest		Deciduous and semi-deciduous dry forest		
	B	C	G	M	S
Simpson's 1-D	0.89	0.90	0.85	0.72	0.85

Appendix XIX

Pollen accumulation rates

1. Range of pollen accumulation rates within traps	242
2. Total ecosystem pollen accumulation rates	243
3. Lake surface sample concentrations	243

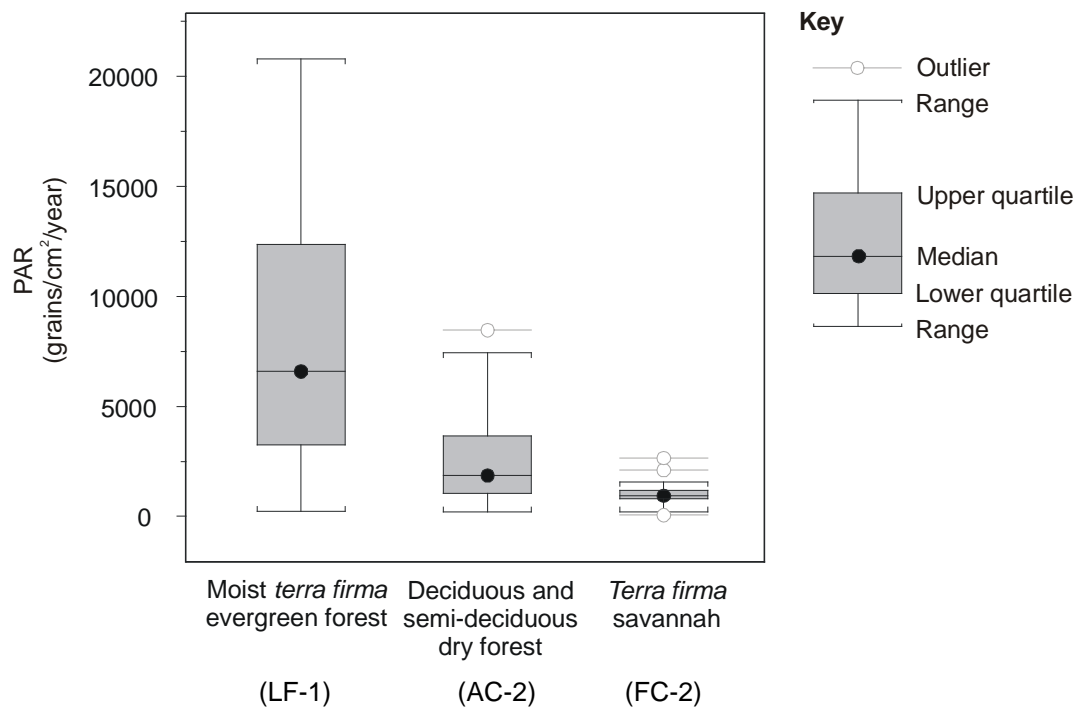
Appendix XIX

Pollen accumulation rates

To ascertain if differences in the quantity of pollen present in the pollen rain from an ecosystem could be used to distinguish it from the other ecosystems, total pollen accumulation rates (PARs) were calculated.

1. Range of pollen accumulation rates within traps

One sample from the moist terra firma evergreen forest and three from the terra firma savannah are not included because high influxes of individual taxa made the accurate calculation of influx rates impossible (see appendix VII).



2. Total ecosystem pollen accumulation rates

One sample from the moist terra firma evergreen forest and three from the terra firma savannah are not included because high influxes of individual taxa made the accurate calculation of influx rates impossible (see appendix VII).

	grains/cm ² /year		
	Moist <i>terra firma</i> evergreen forest	Deciduous and semi-deciduous dry forest	<i>Terra firma</i> savannah
PAR	7,891	2,786	1,047

3. Lake surface sample concentrations

B = Laguna Bella Vista, C = Laguna Chaplin, G = Laguna La Gaiba, M = Laguna Madoiré and S = Laguna Socórros.

	grains/cm ³				
	Moist <i>terra firma</i> evergreen forest		Deciduous and semi-deciduous dry forest		
	B	C	G	M	S
PAR	22,576	36,326	29,612	39,884	46,545