

APPENDIX 1

Importance Value Index (IVI) and Forest Value Index (FVI) of tree vegetation with ND  $\geq$  10 cm in the Natural Protected Area "La Martinica", Banderilla, Veracruz

Order	Family	Species	IVI	FVI
Lamiales	Verbenaceae	<i>Lippia myriocephala</i> Schltld. y Cham.	17.2	16.9
Fagales	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	12	12.3
Ericales	Primulaceae	<i>Myrsine coriacea</i> (Sw.) R. Br. ex Roem. y Schult.	11.27	10.74
Saxifragales	Altingiaceae	<i>Liquidambar styraciflua</i> L.	9.14	9.69
Rosales	Cannabaceae	<i>Trema micrantha</i> (L.) Blume	8.24	9.63
Ericales	Clethraceae	<i>Clethra mexicana</i> DC.	7.95	7.63
Fagales	Fagaceae	<i>Quercus xalapensis</i> Bonpl.	5.78	5.88
Fagales	Fagaceae	<i>Quercus germana</i> Schltld. y Cham.	4.404	4.624
Rosales	Rhamnaceae	<i>Rhamnus capreifolia</i> Schltld.	3.8	3.05
Fabales	Fabaceae	<i>Leucaena diversifolia</i> (Schltld.) Benth.	3.41	3.68
Fagales	Fagaceae	<i>Quercus salicifolia</i> Née	2.384	2.948
Fagales	Betulaceae	<i>Ostrya virginiana</i> (Mill.) K. Koch	2.11	1.82
Malpighiales	Euphorbiaceae	<i>Gymnanthes longipes</i> Müll. Arg.	1.751	1.725
Fagales	Fagaceae	<i>Quercus leiophylla</i> A. DC.	1.636	1.574
Lamiales	Verbenaceae	<i>Citharexylum mocinnoi</i> D. Don	1.437	1.189
Fagales	Fagaceae	<i>Quercus corrugata</i> Hook.	1.01	0.98
Fabales	Fabaceae	<i>Vachellia pennatula</i> (Schltld. y Cham.) Seigler y Ebinger	0.851	0.89
Lamiales	Lamiaceae	<i>Cornutia grandifolia</i> (Schltld. y Cham.) Schauer	0.78	0.699
Ericales	Primulaceae	<i>Ardisia compressa</i> Kunth	0.778	0.628
Malvales	Malvaceae	<i>Heliocarpus donnellsmithii</i> Rose	0.644	0.531
Pinales	Pinaceae	<i>Pinus pseudostrobus</i> Brongn.	0.568	0.605
Asparagales	Asparagaceae	<i>Yucca guatemalensis</i> Baker	0.357	0.173
Laurales	Lauraceae	<i>Ocotea effusa</i> (Meisn.) Hemsl.	0.292	0.274
Magnoliales	Magnoliaceae	<i>Magnolia schiedeana</i> Schltld.	0.253	0.2
Ericales	Styracaceae	<i>Styrax glabrescens</i> Benth.	0.238	0.228
Fagales	Fagaceae	<i>Quercus candicans</i> Née	0.221	0.155
Fabales	Fabaceae	<i>Erythrina macrophylla</i> DC.	0.214	0.118
Fagales	Fagaceae	<i>Quercus acutifolia</i> Née	0.199	0.189
Crossosomatales	Staphyleaceae	<i>Turpinia insignis</i> (Kunth) Tul.	0.169	0.181
Fagales	Betulaceae	<i>Alnus acuminata</i> Kunth	0.14	0.15
Ericales	Clethraceae	<i>Clethra macrophylla</i> M. Martens y Galeotti	0.14	0.119
Rosales	Rosaceae	<i>Crataegus mexicana</i> DC.	0.129	0.084
Asterales	Asteraceae	<i>Telanthophora grandifolia</i> (Less.) H. Rob. y Brettell	0.128	0.078
Myrtales	Melastomataceae	<i>Conostegia arborea</i> Steud.	0.126	0.058
Chloranthales	Chloranthaceae	<i>Hedyosmum mexicanum</i> C. Cordem.	0.126	0.134
Fagales	Myricaceae	<i>Morella cerifera</i> (L.) Small	0.114	0.065
Ericales	Symplocaceae	<i>Symplocos limoncillo</i> Bonpl.	0.11	0.105
	<b>24</b>	<b>37</b>	<b>100</b>	<b>100</b>

APPENDIX 2

Species with the highest value of importance (IVI), forest value index (FVI) and exclusive species of the arboreal vegetation with ND  $\geq$  10 cm in four terrain exposures of the Natural Protected Area, “La Martinica”, in the municipality of Banderilla, Veracruz

Terrain exposure	Family	Species	IVI	FVI	Exclusive species
Zenith	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	17.75	18.2	
	Verbenaceae	<i>Lippia myriocephala</i> Schltdl. & Cham.	14.64	15.9	<i>Crataegus mexicana</i> DC., <i>Hedyosmum mexicanum</i> C.
	Primulaceae	<i>Myrsine coriacea</i> (Sw.) R. Br. ex Roem. & Schult.	11.62	10.5	Cordem., <i>Symplocos limoncillo</i> Bonpl., <i>Turpinia insignis</i> (Kunth) Tul., <i>Yucca guatemalensis</i> Baker.
	Clethraceae	<i>Clethra mexicana</i> DC.	9.352	9.4	
	Fagaceae	<i>Quercus xalapensis</i> Bonpl.	7.745	7.84	
	12 remaining	16 remaining species	38.88	38.2	5
East	Verbenaceae	<i>Lippia myriocephala</i> Schltdl. & Cham.	25.36	25	
	Primulaceae	<i>Myrsine coriacea</i> (Sw.) R. Br. ex Roem. & Schult.	15.61	14.6	<i>Alnus acuminata</i> Kunth, <i>Erythrina</i> <i>macrophylla</i> DC., <i>Heliocarpus donnellsmithii</i> Rose, <i>Quercus candicans</i> Née.
	Cannabaceae	<i>Trema micrantha</i> (L.) Blume	12.16	15.5	
	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	11.96	12.1	
	Altingiaceae	<i>Liquidambar styraciflua</i> L.	8.14	8.28	
	6 remaining	11 remaining species	26.77	24.4	4
North	Altingiaceae	<i>Liquidambar styraciflua</i> L.	18.37	20.2	<i>Ardisia compressa</i> Kunth, <i>Citharexylum mocinoi</i> D. Don, <i>Clethra macrophylla</i> M. Martens & Galeotti, <i>Conostegia arborea</i> Steud., <i>Magnolia schiedeana</i> Schltdl., <i>Ocotea effusa</i> (Meisn.) Hemsl., <i>Quercus acutifolia</i> Née, <i>Telanthophora grandifolia</i> (Less.) H. Rob. & Brettell.
	Clethraceae	<i>Clethra mexicana</i> DC.	11.71	11.3	
	Fagaceae	<i>Quercus germana</i> Schltdl. & Cham.	9.23	10.3	
	Verbenaceae	<i>Lippia myriocephala</i> Schltdl. & Cham.	8.872	8.54	
	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	8.63	8.3	
	10 remaining	19 remaining species	43.19	41.5	8
South	Verbenaceae	<i>Lippia myriocephala</i> Schltdl. & Cham.	21.11	19.4	
	Primulaceae	<i>Myrsine coriacea</i> (Sw.) R. Br. ex Roem. & Schult.	15.39	15.6	
	Cannabaceae	<i>Trema micrantha</i> (L.) Blume	11.42	11.4	<i>Morella cerifera</i> (L.) Small, <i>Styrax glabrescens</i> Benth.
	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	10.04	11.2	
	Clethraceae	<i>Clethra mexicana</i> DC.	9.445	8.79	
	7 remaining	11 remaining species	32.59	33.5	2

APPENDIX 3

Species with higher importance value (IVI), forest value (IVF) and exclusive species of arboreal vegetation with ND  $\geq$  10 cm in two canopy conditions of the Natural Protected Area "La Martinica", in the municipality of Banderilla, Veracruz

Canopy condition	Family	Species	IVI	FVI	Exclusive species
Open	Verbenaceae	<i>Lippia myriocephala</i> Schltld. & Cham.	22.9	22.9	
	Primulaceae	<i>Myrsine coriacea</i> (Sw.) R. Br. ex Roem. & Schult.	14.36	14	<i>Alnus acuminata</i> Kunth, <i>Crataegus mexicana</i> DC., <i>Hedyosmum mexicanum</i> C. Cordem., <i>Heliocarpus donnellsmithii</i> Rose, <i>Morella cerifera</i> (L.) Small, <i>Pinus pseudostrobus</i> Brongn., <i>Vachellia pennatula</i> (Schltld. & Cham.) Seigler & Ebinger, <i>Yucca guatemalensis</i> Baker.
	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	12.22	12.5	
	Clethraceae	<i>Clethra mexicana</i> DC.	10.74	10.8	
	Altingiaceae	<i>Liquidambar styraciflua</i> L.	9.233	9.27	
	11 remaining	17 remaining species	30.55	30.5	8
Closed	Verbenaceae	<i>Lippia myriocephala</i> Schltld. & Cham.	11.84	11.3	<i>Ardisia compressa</i> Kunth, <i>Citharexylum mocinnoi</i> D. Don, <i>Clethra macrophylla</i> M. Martens & Galeotti, <i>Conostegia arborea</i> Steud., <i>Erythrina macrophylla</i> DC., <i>Gymnanthes longipes</i> Müll. Arg., <i>Magnolia schiedeana</i> Schltld., <i>Ocotea effusa</i> (Meisn.) Hemsl., <i>Quercus acutifolia</i> Née, <i>Quercus candicans</i> Née, <i>Quercus salicifolia</i> Née, <i>Styrax glabrescens</i> Benth., <i>Symplocos limoncillo</i> Bonpl., <i>Telanthophora grandifolia</i> (Less.) H. Rob. & Brettell, <i>Turpinia insignis</i> (Kunth) Tul.
	Betulaceae	<i>Carpinus tropicalis</i> (Donn. Sm.) Lundell	11.72	12.1	
	Cannabaceae	<i>Trema micrantha</i> (L.) Blume	9.738	11.2	
	Fagaceae	<i>Quercus xalapensis</i> Bonpl.	9.404	9.65	
	Altingiaceae	<i>Liquidambar styraciflua</i> L.	9.051	10.1	
	14 remaining	24 remaining species	48.24	45.7	15

APPENDIX 4

Statistical results of generalized linear model for tree density, with a 4 x 2 factorial design considering canopy condition and terrain exposure

<b>Condition</b>	<b><math>t_{24}</math></b>	<b>P</b>
E Exposure	-1.48	0.157
N Exposure	-1.52	0.145
S Exposure	-0.82	0.420
C Canopy	-0.78	0.445
E Exposure/C Canopy	1.08	0.294
N Exposure/C Canopy	-0.08	0.935
S Exposure/C Canopy	-0.03	0.975