

## Supplementary Material

**Tab. S1** – List of species surveyed in an area undergoing ecological restoration for 10 years, implemented by different restoration techniques in an experimental area at the Monteiro Lobato Gas Treatment Unit (UTGCA/Petrobras), Caraguatatuba, São Paulo – Brazil. Legend: DS: Dispersion Syndromes (ZOO = Zoochory, Ane = Anemochory, Aut = Autochory); EG: Ecological Groups (P = Pioneers - pioneers and early secondary, NP = Non-Pioneers - late secondary and climax, WC = without characterization); ROW: row planting; NUC: nucleation; CO: control; Plant.: species originating from seedling planting, Reg.: Species originating from natural regeneration.

Family	Species	DS	EG	ROW		NUC		CO
				Plant.	Reg.	Plant.	Reg.	Reg.
Anacardiaceae	<i>Schinus terebinthifolia</i> Raddi	ZOO	P	11	0	33	0	1
Annonaceae	<i>Annona glabra</i> L.	ZOO	NP	13	9	13	2	0
Arecaceae	<i>Euterpe edulis</i> Mart.	ZOO	NP	1	0	2	0	0
Arecaceae	<i>Syagrus romanzoffiana</i> (Cham.) Glassman	ZOO	P	5	0	10	0	0
Asteraceae	<i>Vernonanthura polyanthes</i> (Sprengel) Vega & Dematteis	ANE	P	0	1	0	0	49
Bignoniaceae	<i>Jacaranda puberula</i> Cham.	ANE	P	8	0	20	0	0
Bignoniaceae	<i>Tabebuia cassinoides</i> (Lam.) DC.	ANE	NP	6	0	3	0	0
Calophyllaceae	<i>Calophyllum brasiliense</i> Cambess.	ZOO	P	20	0	39	0	0
Cannabaceae	<i>Trema micranthum</i> (L.) Blume	ZOO	P	0	4	0	9	0
Erythroxylaceae	<i>Erythroxylum umbu</i> Costa-Lima	ZOO	NP	1	0	1	0	0
Euphorbiaceae	<i>Alchornea glandulosa</i> Poepp. & Endl.	ZOO	P	4	2	4	0	0
Euphorbiaceae	<i>Croton urucurana</i> Baill.	AUT	P	1	1	0	1	3
Fabaceae	<i>Erythrina speciosa</i> Andrews	AUT	P	17	7	32	0	3
Fabaceae	<i>Inga laurina</i> (Sw.) Willd.	ZOO	P	0	0	3	0	0
Fabaceae	<i>Schizolobium parahyba</i> (Vell.) Blake	ANE	P	3	8	3	0	0
Lamiaceae	<i>Aegiphila verticillata</i> Vell.	ZOO	P	0	0	1	1	0
Lauraceae	<i>Ocotea pulchella</i> (Nees & Mart.) Mez	ZOO	P	2	0	4	0	0
Malvaceae	<i>Eriotheca pentaphylla</i> (Vell.) A. Robyns	ANE	P	8	0	14	0	0
Malvaceae	<i>Sida planicaulis</i> Cav.	AUT	P	0	1	0	0	0
Malvaceae	<i>Triumfetta</i> sp.	ZOO	WC	0	1	0	0	0
Melastomataeae	<i>Clidemia hirta</i> (L.) D.Don	AUT	P	0	1	0	2	0
Melastomataeae	<i>Miconia formosa</i> Cogn.	ZOO	NP	0	0	0	1	0
Moraceae	<i>Ficus insipida</i> Willd.	ZOO	P	3	0	6	0	0
Myrtaceae	<i>Blepharocalyx salicifolius</i> (Kunth) O.Berg	ZOO	NP	2	0	0	0	0
Myrtaceae	<i>Eugenia astringens</i> Cambess.	ZOO	NP	10	0	39	0	0
Myrtaceae	<i>Eugenia brasiliensis</i> Lam.	ZOO	NP	5	0	13	0	0
Myrtaceae	<i>Eugenia monosperma</i> Vell.	ZOO	NP	2	0	1	0	0

Family	Species	DS	EG	ROW		NUC		CO
				Plant.	Reg.	Plant.	Reg.	Reg.
Myrtaceae	<i>Eugenia neoglomerata</i> Sobral	ZOO	NP	3	0	4	0	0
Myrtaceae	<i>Myrcia bicarinata</i> (O.Berg) D.Legrand	ZOO	NP	1	0	1	0	0
Myrtaceae	<i>Myrcia ilheosensis</i> Kiaersk.	ZOO	NP	1	0	2	0	0
Myrtaceae	<i>Myrcia multiflora</i> (Lam.) DC.	ZOO	NP	2	0	2	0	0
Myrtaceae	<i>Psidium cattleyanum</i> Sabine	ZOO	P	0	0	1	0	0
Myrtaceae	<i>Psidium guajava</i> L.	ZOO	P	0	0	0	1	0
Nyctaginaceae	<i>Guapira opposita</i> (Vell.) Reitz	ZOO	NP	0	0	1	0	0
Piperaceae	<i>Piper arboreum</i> Aubl.	ZOO	P	0	4	0	3	1
Piperaceae	<i>Piper gaudichaudianum</i> Kunth	ZOO	P	0	1	0	1	2
Piperaceae	<i>Piper umbellatum</i> L.	ZOO	P	0	1	0	0	2
Polygonaceae	<i>Triplaris americana</i> L.	ANE	P	0	0	0	2	0
Primulaceae	<i>Myrsine coriacea</i> (Sw.) R.Br. ex Roem. & Schult.	ZOO	P	5	1	13	0	0
Primulaceae	<i>Myrsine guianensis</i> (Aubl.) Kuntze	ZOO	P	1	1	1	0	0
Primulaceae	<i>Myrsine umbellata</i> Mart.	ZOO	P	0	0	1	0	0
Primulaceae	<i>Myrsine venosa</i> A.DC.	ZOO	P	2	0	1	0	0
Salicaceae	<i>Casearia sylvestris</i> Sw.	ZOO	P	0	2	0	2	1
Sapindaceae	<i>Cupania oblongifolia</i> Mart.	ZOO	P	1	0	0	0	0
Solanaceae	<i>Acnistus arborescens</i> (L.) Schlttdl.	ZOO	P	0	43	0	18	19
Solanaceae	<i>Cestrum axillare</i> Vell.	ZOO	P	0	9	0	6	2
Solanaceae	<i>Cestrum intermedium</i> Sendtn.	ZOO	P	0	3	0	4	2
Solanaceae	<i>Solanum cinnamomeum</i> Sendtn.	ZOO	P	2	0	2	0	0
Urticaceae	<i>Boehmeria caudata</i> Sw.	ZOO	P	0	9	0	6	1
Urticaceae	<i>Cecropia pachystachya</i> Trécul	ZOO	P	1	28	2	43	6
Verbenaceae	<i>Citharexylon myrianthum</i> Cham.	ZOO	P	14	0	35	1	1
<b>Total</b>	-	-	-	<b>155</b>	<b>137</b>	<b>307</b>	<b>103</b>	<b>93</b>

**Tab. S2** – List of species planted in 2012 through the techniques of row planting and nucleation, and mortality ratio of each species after 10 years of implementation of the experiment (ongoing). Legend: N ROW: number of individuals of each species planted in the row; N NUC: number of individuals of each species planted in nucleation; Mort. ROW (%): mortality rate of each species in row planting; Mort. NUC (%): mortality rate of each species in nucleation; NP: species not planted in ROW or NUC.

Species	N ROW	N NUC	Mort. ROW (%)	Mort. NUC (%)
<i>Aegiphila verticillata</i> Vell.	17	29	100.00	96.55
<i>Alchornea glandulosa</i> Poepp. & Endl.	12	41	66.67	90.24
<i>Annona glabra</i> L.	15	17	13.33	23.53
<i>Annona sylvatica</i> A.St.-Hil.	1	NP	100.00	NP
<i>Blepharocalyx salicifolius</i> (Kunth) O.Berg	3	4	33.33	100.00
<i>Cabralea canjerana</i> (Vell.) Mart.	9	25	100.00	100.00
<i>Calophyllum brasiliense</i> Cambess.	27	62	25.93	37.10
<i>Calypttranthes concinna</i> DC.	1	1	100.00	100.00
<i>Cecropia pachystachya</i> Trécul	1	6	0.00	66.67
<i>Citharexylum myrianthum</i> Cham.	15	40	6.67	12.50
<i>Croton urucurana</i> Baill.	1	NP	0.00	NP
<i>Cupania oblongifolia</i> Mart.	2	NP	50.00	NP
<i>Eriotheca pentaphylla</i> (Vell.) A.Robyns	25	59	68.00	76.27
<i>Erythrina speciosa</i> Andrews	21	45	19.05	28.89
<i>Erythroxylum argentinum</i> O.E.Schulz	1	NP	100.00	NP
<i>Erythroxylum umbu</i> Costa-Lima	2	6	50.00	83.33
<i>Eugenia astringens</i> Cambess.	21	87	52.38	55.17
<i>Eugenia brasiliensis</i> Lam.	7	20	28.57	35.00
<i>Eugenia monosperma</i> Vell.	4	2	50.00	50.00
<i>Eugenia neoglomerata</i> Sobral	5	19	40.00	78.95
<i>Euterpe edulis</i> Mart.	19	51	94.74	96.08
<i>Ficus insipida</i> Willd.	4	8	0.00	25.00
<i>Guapira opposita</i> (Vell.) Reitz	1	3	100.00	66.67
<i>Inga laurina</i> (Sw.) Willd.	NP	6	NP	50.00
<i>Inga marginata</i> Willd.	2	7	100.00	100.00
<i>Jacaranda puberula</i> Cham.	17	31	52.94	35.48
<i>Matayba guianensis</i> Aubl.	2	3	100.00	100.00
<i>Myrcia bicarinata</i> (O.Berg) D.Legrand	6	18	83.33	94.44
<i>Myrcia ilheosensis</i> Kiaersk.	8	16	87.50	87.50
<i>Myrcia multiflora</i> (Lam.) DC.	13	26	84.62	92.31
<i>Myrsine coriacea</i> (Sw.) R.Br. ex Roem. & Schult.	23	53	78.26	75.47

<b>Species</b>	<b>N ROW</b>	<b>N NUC</b>	<b>Mort. ROW (%)</b>	<b>Mort. NUC (%)</b>
<i>Myrsine guianensis</i> (Aubl.) Kuntze	3	3	66.67	66.67
<i>Myrsine umbellata</i> Mart.	1	2	100.00	50.00
<i>Myrsine venosa</i> A.DC.	6	6	66.67	83.33
<i>Nectandra</i> sp.	NP	2	NP	100.00
<i>Ocotea pulchella</i> (Nees & Mart.) Mez	17	33	88.24	87.88
<i>Pouteria</i> sp.	13	26	100.00	100.00
<i>Psidium cattleianum</i> Sabine	2	7	100.00	85.71
<i>Schinus terebinthifolia</i> Raddi	24	59	54.17	44.07
<i>Schizolobium parahyba</i> (Vell.) Blake	4	5	25.00	40.00
<i>Solanum cinnamomeum</i> Sendtn.	15	14	86.67	85.71
<i>Syagrus romanzoffiana</i> (Cham.) Glassman	15	36	66.67	72.22
<i>Tabebuia cassinoides</i> (Lam.) DC.	22	20	72.73	85.00
<i>Ternstroemia brasiliensis</i> Cambess.	9	23	100.00	100.00
<i>Virola bicuhyba</i> (Schott ex Spreng.) Warb.	10	30	100.00	100.00
<b>Total</b>	<b>426</b>	<b>951</b>	<b>63.38</b>	<b>67.72</b>

**Fig. S1** - Experimental area at the Monteiro Lobato Gas Treatment Unit (UTGCA/Petrobras) in Caraguatatuba, São Paulo – Brazil. (Photo: Frederico Machado).



**Fig. S2** - Experimental area at the Monteiro Lobato Gas Treatment Unit (UTGCA/Petrobras) in Caraguatatuba, São Paulo – Brazil. (Photo: Frederico Machado).

