

Diversity and Distribution of Ectomycorrhizal Fungi from Amazonian Lowland White-sand Forests in Brazil and French Guiana

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TABLE S1. Description of white-sand forests sites investigated close to Rio Cuieiras, mentioning EM host trees. The low canopy refers to trees <15 m. A *campina* refers to a sclerophyllous vegetation having a low canopy and little humus and a *campinarana* to a moderately sclerophyllous vegetation having a high canopy and accumulating a comparatively thick humus (Anderson 1981).

Country	Site	Plot	Plot number	Latitude	Longitude	Forest and substrate	Canopy	Putative EM trees
Brazil	Rio Cuieiras	BR11	3	S 2°40'43"	W 60°17'50"	<i>Campinarana</i> on white sand	High	<i>Eperua falcata</i> , <i>Coccoloba</i> sp., <i>Nyctaginaceae</i> , <i>Gnetum</i> sp.
	Rio Cuieiras	BR12	4	S 2°38'33"	W 60°18'6"	<i>Campina</i> on white sand	Low	<i>Aldina heterophylla</i> , <i>Coccoloba</i> sp., <i>Nyctaginaceae</i>
	Rio Cuieiras	BR13	5	S 2°35'30"	W 60°19'40"	<i>Campinarana</i> on white sand	High	<i>Aldina heterophylla</i> , <i>Coccoloba</i> sp., <i>Nyctaginaceae</i> , <i>Gnetum</i> sp.
	Canal do Tarumãzinho	Ramal do Pau Rosa	6	S 2°38'11"	W 60°09'30"	<i>Campina</i> on white sand	Low	<i>Coccoloba</i> sp., <i>Nyctaginaceae</i>
French Guiana	Kourou	CSG	7	N 5°13'28"	W 52°50'15"	<i>Campina</i> on white sand	Low	<i>Nyctaginaceae</i> , <i>Coccoloba</i> sp.
	Paracou	white sand	8	N 5°16'43"	W 52°55'30"	<i>Campinarana</i> on white sand	High	<i>Coccoloba</i> sp.
	Amana	PK181	9	N 5°40'23"	W 53°46'49"	<i>Campinarana</i> on white sand	High	<i>Coccoloba</i> sp.
	Mana	Botanic trail	10	N 5°38'24"	W 53°43'20"	<i>Campinarana</i> on white sand	High	<i>Guapira</i> sp.
	Laussat	Guyafor	11	N 5°27'11"	W 53°35'6"	<i>Campinarana</i> on white sand	High	<i>Nyctaginaceae</i> , <i>Coccoloba</i> sp.
	Awala	Kalinawa trail	12	N 5°43'49"	W 53°52'48"	<i>Campina</i> on white sand	Low	<i>Coccoloba</i> sp.

TABLE S2. *Inventories of EM fruiting bodies reporting the occurrence of distinct morphospecies per plot. Nb, number of fruiting bodies observed.*

Site	Plot	Family	Genus	Morphospecies	Nb	Collection date	Voucher
Rio Cuieiras	Pau Rosa	Amanitaceae	<i>Amanita</i>	<i>sp. 1</i>	1	27/04/2012	DLK384
			<i>Amanita</i>	<i>sp. 2</i>	1	27/04/2012	DLK387
			<i>Amanita</i>	<i>sp. 3</i>	1	27/04/2012	DLK390
		Boletaceae	<i>Boletellus</i>	<i>ananas</i>	1	27/04/2012	DLK380
			<i>Boletus</i>	<i>sp.</i>	1	27/04/2012	DLK392
			<i>Tylopilus</i>	<i>sp.</i>	1	27/04/2012	DLK382
			<i>Xerocomus</i>	<i>sp.</i>	1	27/04/2012	DLK381
		Cantharellaceae	<i>Cantharellus</i>	<i>sp.</i>	1	27/04/2012	DLK388
		Cortinariaceae	<i>Cortinarius</i>	<i>sp. 1</i>	1	27/04/2012	DLK383
			<i>Craterellus</i>	<i>sp. 1</i>	1	27/04/2012	DLK389
		Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 14</i>	2	27/04/2012	DLK406
		Russulaceae	<i>Russula</i>	<i>puiggarii</i>	1	27/04/2012	DLK386
			<i>Russula</i>	<i>sp. 1</i>	3	27/04/2012	DLK393
			<i>Russula</i>	<i>sp. 2</i>	1	27/04/2012	DLK385
Rio Cuieiras	BR11	Amanitaceae	<i>Amanita</i>	<i>cf. craseoderma</i>	1	13/08/2014	RB17
			<i>Amanita</i>	<i>sp. 4</i>	1	13/08/2014	RB27
			<i>Amanita</i>	<i>cf. crebresulcata</i>	1	13/08/2014	RB34
		Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 9</i>	5	13/08/2014	RB19
			<i>Coltricia</i>	<i>sp. 1</i>	1	13/08/2014	RB25
			<i>Coltricia</i>	<i>sp. 2</i>	1	13/08/2014	RB37
		Russulaceae	<i>Lactifluus</i>	<i>annulifer</i>	3	13/08/2014	RB32
			<i>Russula</i>	<i>puiggarii</i>	1	13/08/2014	RB26
			<i>Russula</i>	<i>sp. 1</i>	1	13/08/2014	RB36

Rio Cuieiras	BR12	Inocybaceae	<i>Inocybe</i>	<i>sp. 1</i>	2	14/08/2014	not collected
Rio Cuieiras	BR13	Amanitaceae	<i>Amanita</i>	<i>sp. 5</i>	1	15/08/2014	RB53
		Boletaceae	<i>Tylopilus</i>	<i>cf. rufonigricans</i>	3	15/08/2014	RB54
			<i>Tylopilus</i>	<i>sp. 3</i>	1	15/08/2014	RB80
			<i>Xerocomus</i>	<i>cf. amazonicus</i>	2	15/08/2014	RB55
		Cantharellaceae	<i>Cantharellus</i>	<i>guyanensis</i>	62	15/08/2014	RB52
			<i>Cantharellus</i>	<i>sp. 1</i>	5	15/08/2014	RB76
		Clavulinaceae	<i>Clavulina</i>	<i>amazonensis</i>	3	15/08/2014	RB69
		Cortinariaceae	<i>Cortinarius</i>	<i>sp. 2</i>	1	15/08/2014	RB82
		Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 3</i>	1	15/08/2014	RB44
			<i>Coltricia</i>	<i>sp. 4</i>	4	15/08/2014	RB50
			<i>Coltricia</i>	<i>sp. 5</i>	1	15/08/2014	RB73
			<i>Coltricia</i>	<i>sp. 6</i>	1	15/08/2014	RB78
			<i>Coltricia</i>	<i>sp. 7</i>	1	15/08/2014	RB91
			<i>Coltricia</i>	<i>sp. 8</i>	1	15/08/2014	RB96
			<i>Coltriciella</i>	<i>sp.</i>	1	15/08/2014	RB77
		Inocybaceae	<i>Inocybe</i>	<i>sp. 1</i>	5	15/08/2014	RB81
		Russulaceae	<i>Lactifluus</i>	<i>sp. 4</i>	1	15/08/2014	RB48
			<i>Russula</i>	<i>sp. 1</i>	1	15/08/2014	RB46
			<i>Russula</i>	<i>sp. 2</i>	3	15/08/2014	RB85
			<i>Russula</i>	<i>sp. 4</i>	1	15/08/2014	RB57
			<i>Russula</i>	<i>sp. 5</i>	1	15/08/2014	RB70
			<i>Russula</i>	<i>sp. 3</i>	1	15/08/2014	RB95
Guyane	Amana PK181	Cantharellaceae	<i>Cantharellus</i>	<i>guyanensis</i>	42	15/04/2014	G5095
		Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 10</i>	5	26/07/2014	G5453
		Russulaceae	<i>Russula</i>	<i>sp. 8</i>	1	15/04/2014	G5111
			<i>Lactifluus</i>	<i>sp. 8</i>	1	15/04/2014	G5117
Guyane	Awala Walimapo	Russulaceae	<i>Russula</i>	<i>sp. 7</i>	1	26/07/2014	G5450

			<i>Lactifluus</i>	<i>panuoides</i>	3	16/04/2014	G5133
			<i>Lactifluus</i>	<i>sp. 18</i>	1	16/04/2014	G5140
			<i>Lactifluus</i>	<i>sp. 19</i>	1	16/04/2014	G5144
Guyane	Kourou	Russulaceae	<i>Lactifluus</i>	<i>sp. 1</i>	3	19/06/2014	G5377
			<i>Lactifluus</i>	<i>sp. 2</i>	1	19/06/2014	G5419
			<i>Lactifluus</i>	<i>sp. 3</i>	1	19/06/2014	G5422
Guyane	Laussat	Amanitaceae	<i>Amanita</i>	<i>xerocybe</i>	1	28/07/2014	G5455
Guyane	Mana	Amanitaceae	<i>Amanita</i>	<i>lanivolva</i>	1	29/06/2012	G1872
		Cantharellaceae	<i>Craterellus</i>	<i>sp. 6</i>	3	16/04/2014	G5158
		Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 11</i>	1	29/06/2012	G1877
			<i>Coltricia</i>	<i>sp. 12</i>	2	29/06/2012	G1888
		Russulaceae	<i>Lactifluus</i>	<i>sp. 20</i>	1	16/04/2014	G5173
Guyane	Paracou	Hymenochaetaceae	<i>Coltricia</i>	<i>sp. 13</i>	1	25/06/2012	G4512
		Thelephoraceae	<i>Thelephora</i>	<i>sp.</i>	2	25/06/2012	G1690

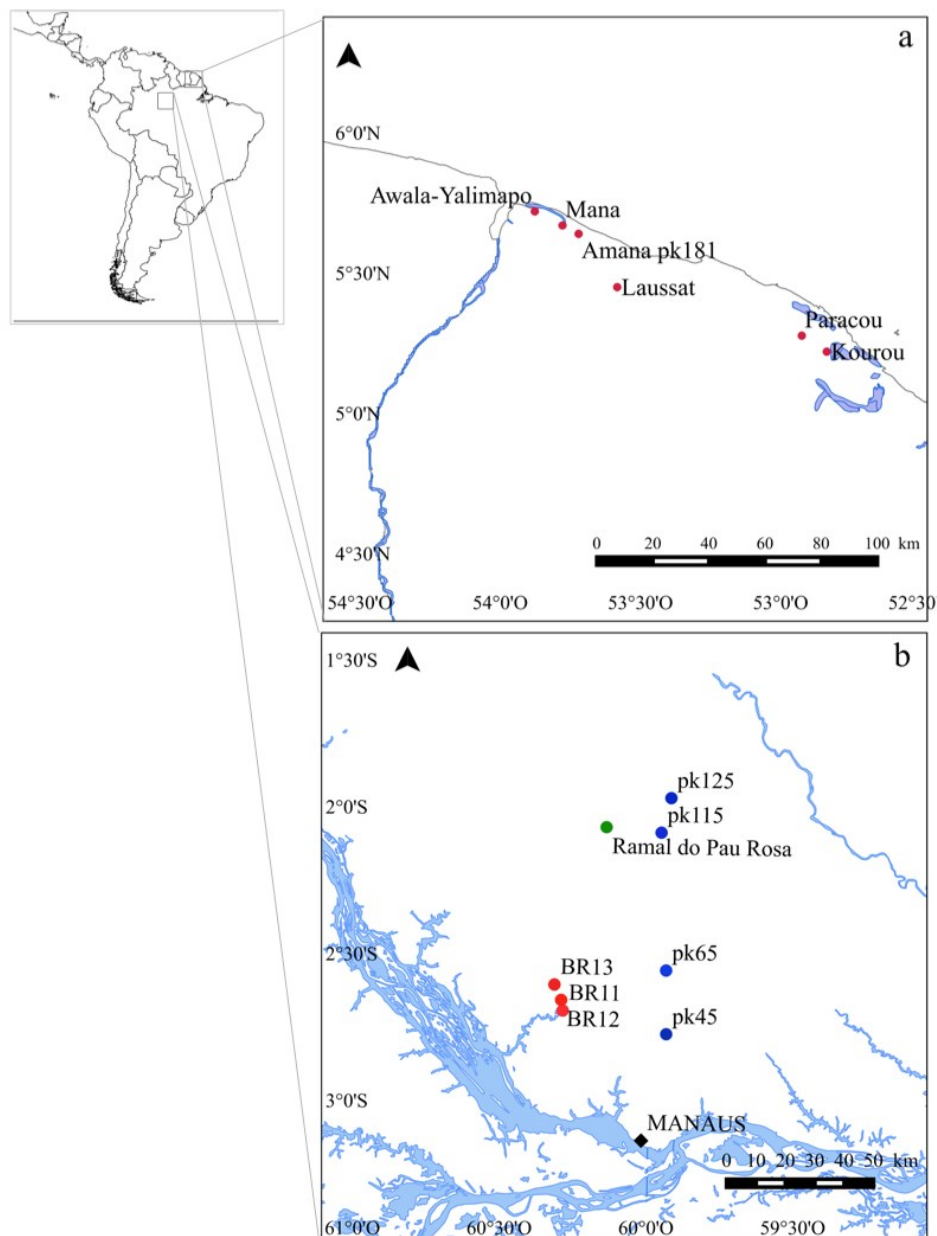


FIGURE S1. Maps reporting Singer study site and sites investigated in this study around Manaus in Brazil (A – blue dots Singer sites in 1979 and 1986, green dot site sampled in 2012, red dots sites sampled in 2014) and sampling sites in French Guiana (B).

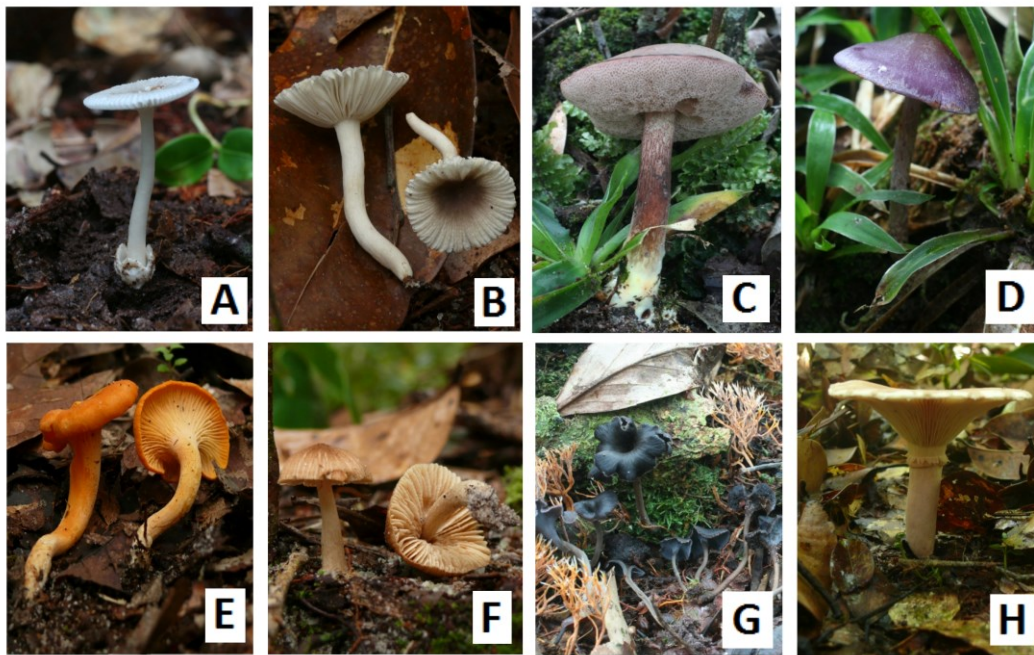


FIGURE S2. Ectomycorrhizal specimens from the Rio Cuieiras site. A. *Amanita* sp. (DLK387) B. *Russula* sp. (RB36) C. *Tylopilus* sp. (DLK382) D. *Cortinarius* sp. (DLK383) E. *Cantharellus guyanensis* (RB52) F. *Inocybe* sp. (RB 81) G. *Craterellus* sp. (DLK389) H. *Lactifluus annulifer* (RB32).

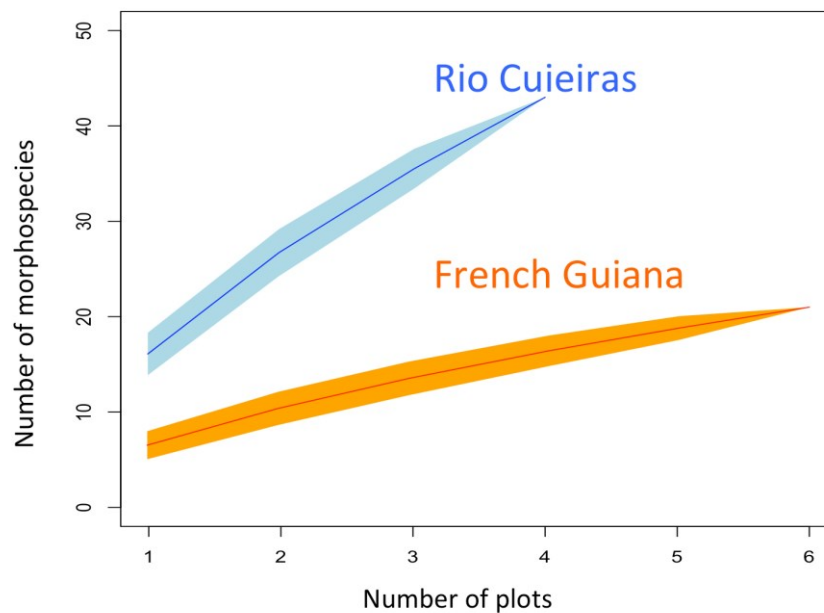


FIGURE S3. Species accumulation curves for Rio Cuieiras (blue) and French Guiana (orange) showing the accumulation of morphospecies per plot.



FIGURE S4: Distribution maps of Amanitaceae (red) and Russulaceae (black) (A), Boletaceae (B), and *Cortinarius* (C) collection sites in Brazil, gathered from herbarium data.

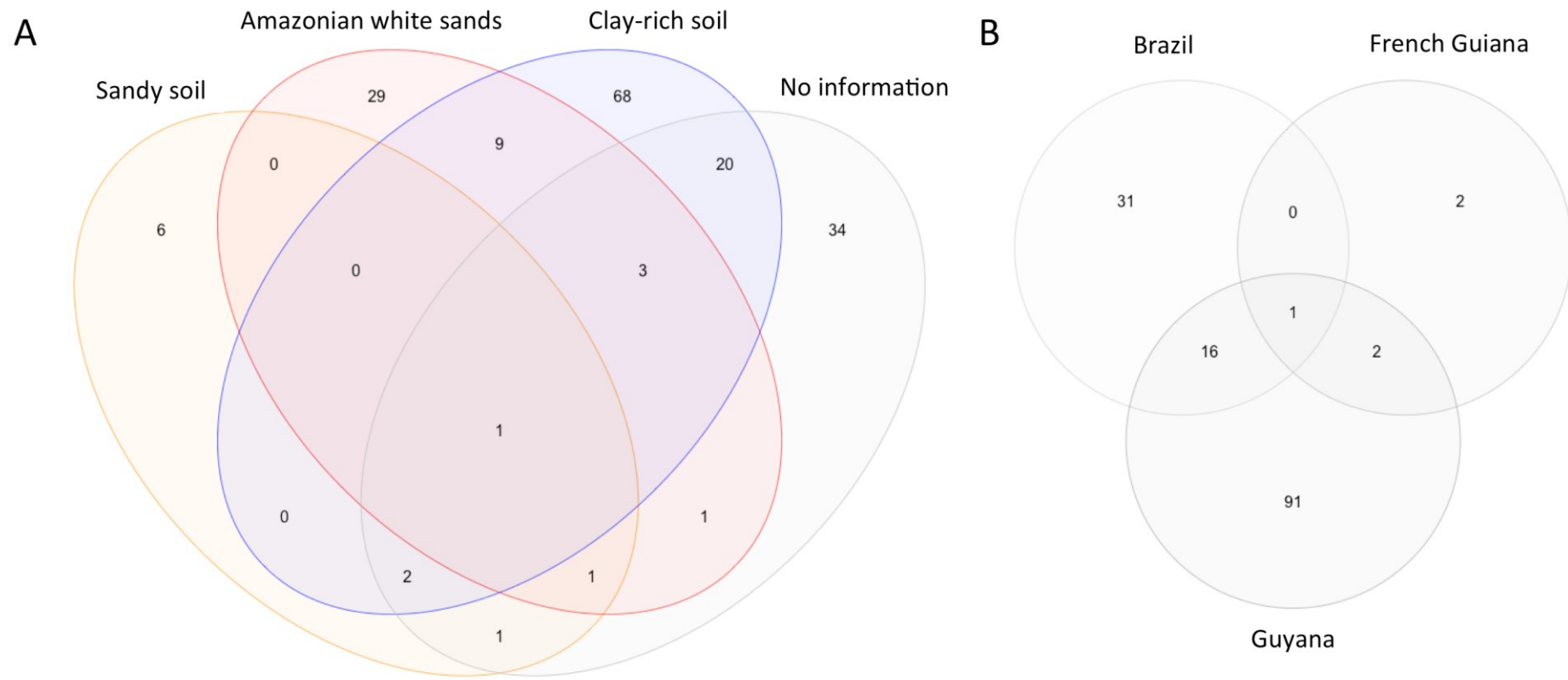


FIGURE S5. Venn Diagram representing the shared species (A) among habitats in Brazil and (B) between white sands in French Guiana, in Brazil, and as a comparison, recorded in the Guyana highlands (data from Henkel *et al.* 2012; list available on <http://tropicalfungi.org/wp-content/uploads/UPDATED-Total-Taxa-List-4-11-13.pdf>). The comparison on species is based only on identified taxa, and morphospecies were not taken into account, which considerably reduce the dataset.