

1 Supplementary material

2 **Appendix 1.** List of identified pollen and spore taxa from core MD03-2622. Taxa are grouped according
 3 to ecological preferences. Littoral species marked with an asterisk (*) belong to mangroves; species with
 4 two asterisks (**) belonging to evergreen forest are typical from gallery and riverine inundated forests. The
 5 last column lists the photosynthetic pathway assigned to each taxa to calculate the C₄/C₃ ratio.

Vegetation group FAMILY	<i>Genus/Species</i>	Life form	Photosynthetic pathway
Salt marsh vegetation (inferred)			
AMARANTHACEAE	<i>Gomphrena</i>	herb	C ₄
CHENOPOD/AMARANT.	various species	herb	C ₄
CYPERACEAE	various species	herb	C ₄
EUPHORBIACEAE	<i>Chamaesyce</i>	herb	C ₄
POACEAE	gen. indet. (30 μm)	herb	C ₄
POLYGONACEAE	<i>Polygonum punctatum</i>	herb	C ₃
Littoral vegetation (incl. Mangroves, *)			
AIZOACEAE	<i>Sesuvium</i>	herb	C ₄
CONVOLVULACEAE	<i>Ipomoea</i>	herb	C ₃
EUPHORBIACEAE	<i>Phyllanthus cf. epiphyllanthus</i>	herb	C ₃
FABACEAE	<i>Crotalaria</i>	herb	C ₃
MALPIGHIACEAE	<i>Stigmaphyllon</i> (*)	liana	C ₃
PTERIDACEAE	<i>Acrostichum</i> (*)	fern	
RHIZOPHORACEAE	<i>Rhizophora</i> (*)	tree	C ₃
POLYPODIACEAE	<i>Polypodium</i> (*)	fern	
THELYPTERIDACEAE	<i>Thelypteris/ Blechnum mangrove</i>	fern	
Xerophytic scrub			
AGAVACEAE	gen. indet.	shrub, herb	CAM
AMARANTHACEAE	<i>Alternanthera</i>	herb	C ₄
ASTERACEAE	<i>Ambrosia</i>	herb	C ₃
	<i>Trixis</i>	herb	C ₃
	various species	herb, shrub	C ₃
		herb,	CAM
BROMELIACEAE	various species	epiphyte	
CACTACEAE	<i>Selenicereus</i>	shrub, herb	CAM
CAESALPINIACEAE	<i>Caesalpinia</i>	tree, shrub	C ₃
COMMELINACEAE	gen. indet.	herb	C ₃
CONVOLVULACEAE	<i>Merremia</i>	vine	C ₃
EUPHORBIACEAE	<i>Euphorbia</i>	herb, shrub	C ₄
MALVACEAE	<i>Sida</i>	herb	C ₃
MIMOSACEAE	<i>Acacia</i>	tree, shrub	C ₃
RUBIACEAE	<i>Randia</i>	tree	C ₃
SAPINDACEAE	<i>Serjania</i>	liana	C ₃
SOLANACEAE	<i>Solanum</i>	herb, shrub	C ₃
Savanna			
DILLENIACEAE	<i>Curatella</i>	shrub, tree	C ₃
EUPHORBIACEAE	<i>Euphorbia</i>	herb	C ₄
FABACEAE	<i>Aeschynomene</i>	herb	C ₃
FLACOURTIACEAE	<i>Casearia</i>	shrub, tree	C ₃
LABIATAE	<i>Hyptis</i>	herb	C ₃
MALPIGHIACEAE	<i>Byrsonima</i>	shrub, tree	C ₃
OCHNACEAE	gen. indet.	herb, shrub	C ₃
POACEAE	gen. indet. (37 μm)	herb	C ₄

	gen. indet. (50 µm)	herb	C ₄
RUBIACEAE	<i>Borreria</i>	herb	C ₃
	gen. indet.	herb, shrub	C ₃
SOLANACEAE	<i>Solanum</i>	herb, shrub	C ₃
(Semi) deciduous dry forest			
ACANTHACEAE	<i>Justicia</i>	shrub, herb	C ₃
ANACARDIACEAE	<i>Anacardium</i>	tree	C ₃
	<i>Astronium</i>	tree	C ₃
	<i>Metopium</i>	tree	C ₃
	<i>Schinus</i>	tree, shrub	C ₃
	<i>Spondias</i>	tree	C ₃
	various species	tree	C ₃
ARALIACEAE	<i>Didymopanax</i>	tree	C ₃
ARECACEAE	<i>Attalea</i>	palm, tree	C ₃
BIGNONIACEAE	<i>Tabebuia</i>	tree	C ₃
		tree, liana,	C ₃
	gen. indet.	vine	
BOMBACACEAE	<i>Bombacopsis</i>	tree	C ₃
	<i>Occhrosia</i>	tree	C ₃
	various species	tree	C ₃
BORAGINACEAE	<i>Borreria</i>	shrub, tree	C ₃
BURSERACEAE	<i>Bursera simaruba</i>	tree	C ₃
	<i>Cordia</i>	tree	C ₃
	<i>Cordia spinecens</i>	tree	C ₃
CAESALPINIACEAE	<i>Cassia</i>	tree	C ₃
	gen. indet.	tree, shrub	C ₃
CLUSIACEAE	gen. indet.	shrub, tree	C ₃
EUPHORBIACEAE	<i>Croton</i>	shrub, tree	C ₃
	<i>Sapium</i>	tree, shrub	C ₃
	<i>Sebastiania</i>	shrub, tree	C ₃
FABACEAE	<i>Copaifera</i>	tree	C ₃
	<i>Erythrina</i>	tree	C ₃
	<i>Lonchocarpus / Swartzia</i>	tree	C ₃
	<i>Machaerium</i>	tree	C ₃
	<i>Monopteryx</i>	tree	C ₃
	<i>Peltogyne</i>	tree	C ₃
	various species	tree, shrub	C ₃
FLACOURTIACEAE	<i>Casearia</i>	tree	C ₃
MALVACEAE	<i>Abutilon</i>	shrub	C ₃
MELIACEAE	<i>Trichilia</i>	tree	C ₃
	gen. indet.	tree	C ₃
MENISPERMACEAE	<i>Cissampelos</i>	liana	C ₃
MYRSINACEAE	<i>Ardisia</i>	shrub, tree	C ₃
PHYTOLAC/PORTULACAC.	gen. indet.	herb	C ₃
RUTACEAE	<i>Esenbeckia</i>	tree	C ₃
	gen. indet.	shrub, tree	C ₃
SAPINDACEAE	<i>Allophylus</i>	shrub, tree	C ₃
SOLANACEAE	<i>Cestrum</i>	shrub, herb	C ₃
STERCULIACEAE	<i>Guazuma</i>	shrub, tree	C ₃
	<i>Byttneria</i>	herb	C ₃
TILIACEAE	gen. indet.	tree, shrub	C ₃
ULMACEAE	<i>Celtis</i>	tree	C ₃
	<i>Trema</i>	shrub, tree	C ₃
Evergreen forest			
(incl. Gallery forest, **)			
ACANTHACEAE	<i>Dicliptera</i>	herb	C ₃
ACANTHACEAE	<i>Trichanthera gigantea (**)</i>	shrub, tree	C ₃
ALISMACEAE	<i>Sagittaria (**)</i>	herb	CAM
ANACARDIACEAE	<i>Campnosperma (**)</i>	tree	C ₃

	<i>Lythraea</i>	tree	C ₃
	<i>Tapirira</i> (**)	tree	C ₃
APOCYNACEAE	<i>Forsteronia</i>	vine	C ₃
ARACEAE	<i>Anthurium</i>	shrub, herb	C ₃
ARALIACEAE	gen. indet.	tree	C ₃
ARECACEAE	various species (**)	palm tree	C ₃
	<i>Socratea</i> (**)	palm tree	C ₃
	<i>Euterpe</i> (**)	palm tree	C ₃
	<i>Mauritia/Mauritiella</i> (**)	palm tree	C ₃
BOMBACACEAE	<i>Ceiba pentandra</i>	tree	C ₃
BURSERACEAE	<i>Protium</i> (**)	tree	C ₃
CAESALPINIACEAE	<i>Mora</i>	tree	C ₃
CLUSIACEAE	<i>Marila</i> (**)	tree, shrub	C ₃
EUPHORBIACEAE	<i>Alchornea</i>	tree	C ₃
	<i>Acalypha</i>	herb, shrub	C ₃
	<i>Chaetocarpus</i> (**)	shrub, tree	C ₃
	<i>Dalechampia</i> (**)	vine	C ₃
	<i>Dolioscarpus</i>	vine	C ₃
	<i>Drypetes</i>	tree	C ₃
	<i>Drypetes</i> (**)	tree	C ₃
	<i>Mabea</i> (**)	tree	C ₃
	<i>Phyllanthus</i>	shrub, herb	C ₃
FABACEAE	<i>Cynometra</i> (**)	tree	C ₃
	<i>Macrobium</i> (**)	tree	C ₃
	<i>Myrocarpus</i>	tree	C ₃
LORANTHACEAE	various species	vine	C ₃
MALPIGHIACEAE	various species	shrub, tree	C ₃
MELAST-COMBRET.	various species (**)	shrub, tree	C ₃
MELIACEAE	<i>Guarea</i> (**)	tree	C ₃
	<i>Cedrela</i>	tree	C ₃
	<i>Svietenia</i>	tree	C ₃
MORAC-URTICA.	various species	tree, shrub	C ₃
MYRTACEAE	various species (**)	tree, shrub	C ₃
PIPERACEAE	<i>Piper</i>	shrub, herb	CAM
POLYGONACEAE	<i>Coccoloba</i>	tree	C ₃
	various species (**)	tree	C ₃
RUBIACEAE	<i>Diodia</i> (**)	herb	C ₃
	<i>Pogonopus</i> (**)	shrub	C ₃
	<i>Simira</i> cf.	shrub, tree	C ₃
	<i>Warczewiczia</i>	shrub	C ₃
	herb, shrub,		C ₃
	gen.indet. (**)	tree	
SAPINDACEAE	<i>Paullinia</i>	vine	C ₃
	<i>Cupania</i>	tree	C ₃
	<i>Exothea</i>	tree	C ₃
SAPOTACEAE	various species (**)	tree	C ₃
SCROPHULARIACEAE		herb, shrub	C ₃
VITACEAE	<i>Cissus</i>	vine	C ₃
XYRIDACEAE	<i>Xyris</i> (**)	herb	C ₃
Montane Cloud forest			
ANNONACEAE	<i>Rollinia</i>	tree	C ₃
AQUIFOLIACEAE	<i>Ilex</i>	tree, shrub	C ₃
ARECACEAE	<i>Ceroxylon</i>	palm, tree	C ₃
BETULACEAE	<i>Alnus</i>	tree	C ₃
CHLORANTHACEAE	<i>Hedyosmum</i>	shrub, herb	C ₃
CYATHEACEAE	<i>Cyathea horrida</i>	tree fern	C ₃
	Cyatheaceae (incl. <i>Alsophila</i>)	tree fern	C ₃
ERICACEAE	gen. indet.	shrub	C ₃
HALORAGACEAE	<i>Myriophyllum</i>	herb	C ₃
JUGLANDACEAE	<i>Juglans</i>	tree	C ₃

LYCOPODIACEAE	<i>Lycopodium</i>	fern	C ₃
MYRICACEAE	<i>Myrica</i>	shub, tree	
MYRSINACEAE	<i>Myrsine</i>	shrub, tree	C ₃
PLANTAGINACEAE	<i>Plantago</i>	herb	C ₃
PODOCARPACEAE	<i>Podocarpus</i>	tree	C ₃
PROTEACEAE	<i>Roupala</i>	tree	C ₃
PTERIDACEAE	<i>Jamesonia</i>	fern	
RUTACEAE	<i>Zanthoxylum</i>	tree,	C ₃
SCHIZAEACEAE	<i>Anemia</i>	fern	
SYMPLOCACEAE	<i>Symplocos</i>	shrub, herb	C ₃
THYMELAEACEAE	<i>Daphnopsis</i>	tree, shrub	C ₃
VERBENACEAE	<i>Aegiphila</i>	shrub, tree	C ₃

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