

Influence of phylogenetic diversity of plant communities on plant-herbivore-natural enemies interactions

Oecologia

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Supplementary material

S1. Map of experimental plots group by blocks



S2. Species and families in high phylogenetic diversity (HPD) and low phylogenetic diversity (LHP) plots.

Species	Family	Treatment
<i>Rollinia jimenezii</i>	Annonaceae	HPD
<i>Tabernaemontana litoralis</i>	Apocynaceae	HPD
<i>Tabernaemontana donnell-smithii</i>	Apocynaceae	HPD
<i>Amphitecna tuxtensis</i>	Bignoniaceae	HPD
<i>Cordia stellifera</i>	Boraginaceae	HPD
<i>Trema micrantha</i>	Cannabaceae	HPD
<i>Capparis baduca</i>	Capparaceae	HPD
<i>Couepia polyandra</i>	Chrysobalanaceae	HPD
<i>Diospyros digyna</i>	Ebenaceae	HPD
<i>Erythroxylum macrophyllum</i>	Erythroxylaceae	HPD
<i>Nectandra ambigua</i>	Lauraceae	HPD
<i>Miconia argentea</i>	Melastomataceae	HPD
<i>Viola guatemalensis</i>	Myristicaceae	HPD
<i>Coccoloba hondurensis</i>	Polygonaceae	HPD
<i>Psychotria limonensis</i>	Rubiaceae	HPD
<i>Pouteria sapota</i>	Sapotaceae	HPD
<i>Cestrum racemosum</i>	Solanaceae	HPD
<i>Vochysia guatemalensis</i>	Vochysiaceae	HPD
<i>Spondias mombin</i>	Anacardiaceae	HPD/LHD
<i>Acacia cornigera</i>	Fabaceae	HPD/LHD
<i>Inga vera</i>	Fabaceae	HPD/LHD
<i>Ceiba pentandra</i>	Malvaceae	HPD/LHD
<i>Ochroma pyramidale</i>	Malvaceae	HPD/LHD
<i>Helicarpus appendiculata</i>	Malvaceae	HPD/LHD
<i>Cedrela odorata</i>	Meliaceae	HPD/LHD
<i>Guarea glabra</i>	Meliaceae	HPD/LHD
<i>Poulsenia armata</i>	Moraceae	HPD/LHD
<i>Eugenia colipensis</i>	Myrtaceae	HPD/LHD
<i>Zanthoxylum limoncellum</i>	Rutaceae	HPD/LHD
<i>Cecropia obtusifolia</i>	Urticaceae	HPD/LHD
<i>Spondias radlkoferi</i>	Anacardiaceae	LHD
<i>Sapium nitidum</i>	Euphorbiaceae	LHD
<i>Croton pyramidalis</i>	Euphorbiaceae	LHD
<i>Omphalea oleifera</i>	Euphorbiaceae	LHD
<i>Tetrorchidium rotundatum</i>	Euphorbiaceae	LHD
<i>Cojoba arborea</i>	Fabaceae	LHD
<i>Hampea nutricia</i>	Malvaceae	LHD
<i>Bernoullia flammea</i>	Malvaceae	LHD
<i>Trichilia havanensis</i>	Meliaceae	LHD
<i>Ficus insipida</i>	Moraceae	LHD
<i>Ficus yoponensis</i>	Moraceae	LHD
<i>Trophis mexicana</i>	Moraceae	LHD
<i>Brosimum alicastrum</i>	Moraceae	LHD
<i>Pseudolmedia oxyphyllaria</i>	Moraceae	LHD
<i>Eugenia acapulcensis</i>	Myrtaceae	LHD
<i>Eugenia aeruginea</i>	Myrtaceae	LHD
<i>Ampelocera hottlei</i>	Ulmaceae	LHD
<i>Urera rzedowskii</i>	Urticaceae	LHD

S3. Taxonomic and ecological characteristics of the study species. The ant denotes myrmecophily.

Focal species	Family		Life history
<i>Vachellia cornigera</i>	Fabaceae	✓	P
<i>Cecropia obtusifolia</i>	Urticaceae	✓	P
<i>Inga vera</i>	Fabaceae	✓	T
<i>Ceiba pentandra</i>	Malvaceae	✗	P
<i>Eugenia colipensis</i>	Myrtaceae	✗	T
<i>Cedrela odorata</i>	Meliaceae	✗	P
<i>Zanthoxylum limoncellum</i>	Rutaceae	✗	T

P: pioneer; T: tolerant

S4. Mixed model results for the growth, defenses, and leaf damage traits, evaluating the effect of treatment, life history and interaction. (*) $p < 0.05$.

	Value	Std. Error	DF	t-value	p-value
<i>Height growth</i>					
Treatment	-0.11	0.12	142	-0.96	0.34
Life history	-0.14	0.13	32	-1.08	0.29
Treatment:Life history	-0.02	0.15	142	-0.15	0.88
<i>Growth of stem diameter</i>					
Treatment	0.03	0.11	139	0.33	0.74
Life history	-0.26	0.13	32	-1.99	0.06
Treatment:Life history	-0.19	0.14	139	-1.30	0.19
<i>Leaf thickness</i>					
Treatment	0.009	0.008	108	1.10	0.27
Life history	-0.03	0.01	31	-1.91	0.07
Treatment:Life history	-0.02	0.01	108	-2.18	0.03*
<i>Specific leaf mass</i>					
Treatment	-0.001	0.0009	97	-1.21	0.23
Life history	-0.003	0.001	25	-2.47	0.02*
Treatment:Life history	0.001	0.001	97	0.77	0.44
<i>Free phenolic acids</i>					
Treatment	0.13	0.16	126	0.83	0.40
Life history	-0.45	0.28	31	-1.59	0.12
Treatment:Life history	-0.43	0.21	126	-2.08	0.04*
<i>Leaf damage</i>					
Treatment	-0.11	0.20	118	-0.56	0.58
Life history	-0.52	0.28	32	-1.90	0.07
Treatment:Life history	0.60	0.27	118	2.20	0.03*

S5. Mixed model results implemented for clay models, assessing treatment, presence/absence of mutualistic interaction with ants, and interaction (*) $p < 0.05$.

	Estimate	Std. Error	t-value	Pr(> z)
Treatment	0.01	0.02	0.78	0.44
Ant interaction	0.13	0.05	2.79	0.005*
Treatment: Ant interaction	-0.12	0.05	-2.21	0.03*