

SUPPLEMENTARY MATERIAL

TABLE S1 Plumericin concentration from leaves of juvenile plants of *Himatanthus tarapotensis* collected in clay soil forests (CS) and white-sand soil forests (WS) during the dry and rainy season of the Amazon

Specimen Number	Habitat	Plumericin concentration (mg/100 g of dry leaves) (mean values \pm standard deviation)			
		Precipitation periods			
		Dry		Rainy	
		May 2014	August 2014	November 2014	January 2015
01	Clay soil forest (CS)	0.30 (\pm 0.01)	10.90 (\pm 0.97)	1.14 (\pm 0.06)	0.94 (\pm 0.03)
02		9.49 (\pm 0.55)	8.73 (\pm 0.34)	21.51 (\pm 1.88)	11.93 (\pm 0.25)
03		4.36 (\pm 0.18)	18.59 (\pm 0.45)	3.71 (\pm 0.13)	2.63 (\pm 0.19)
04		27.73 (\pm 2.05)	64.39 (\pm 1.22)	14.61 (\pm 0.12)	22.82 (\pm 0.85)
05		19.74 (\pm 1.26)	49.54 (\pm 2.80)	46.96 (\pm 2.77)	94.79 (\pm 0.82)
06		14.86 (\pm 0.56)	61.21 (\pm 3.14)	6.25 (\pm 0.10)	21.27 (\pm 1.10)
07		15.81 (\pm 1.13)	34.58 (\pm 1.11)	3.36 (\pm 0.06)	18.81 (\pm 0.86)
08		15.07 (\pm 1.71)	15.87 (\pm 1.66)	11.36 (\pm 0.34)	9.25 (\pm 1.06)
09		14.58 (\pm 0.47)	35.77 (\pm 0.16)	3.41 (\pm 0.23)	18.15 (\pm 1.32)
10		6.48 (\pm 0.20)	11.53 (\pm 0.13)	10.60 (\pm 0.71)	25.60 (\pm 1.11)
11		3.31 (\pm 0.38)	28.80 (\pm 2.51)	11.87 (\pm 0.51)	8.94 (\pm 0.49)
12		45.08 (\pm 2.05)	68.76 (\pm 1.15)	33.80 (\pm 0.89)	80.56 (\pm 2.51)
13	White-sand soil forest (WS)	5.67 (\pm 0.52)	49.63 (\pm 2.34)	1.14 (\pm 0.03)	5.54 (\pm 0.29)
14		3.22 (\pm 0.07)	9.93 (\pm 0.41)	2.56 (\pm 0.17)	31.66 (\pm 1.97)
15		4.15 (\pm 0.40)	7.25 (\pm 0.18)	12.54 (\pm 1.37)	16.21 (\pm 0.46)
16		18.12 (\pm 0.79)	4.46 (\pm 0.18)	2.19 (\pm 0.07)	39.02 (\pm 0.33)
17		9.75 (\pm 0.35)	11.21 (\pm 0.42)	7.48 (\pm 0.69)	32.39 (\pm 0.46)

TABLE S2 Values of 18 physical-chemical variables of superficial soil (0–15 cm depth) of clay soils (CS) and white-sand soils (WS) from the IIAP Biological Station (CE = electric conductivity; P = phosphorus; K = potassium; CEC = cation-exchange capacity; Ca = calcium; Mg = magnesium; Na = sodium; Al = aluminum; H = hydrogen; C = carbon)

Physico-chemical variables	Sampling sites						
	White-Sand Soil		Clay Soil				
	01	02	03	04	05	06	07
Sand / %	87	89	41	63	49	51	53
Silt / %	5	5	41	27	35	37	31
Clay / %	8	6	18	10	16	12	16
pH (1:1)	4.60	4.19	4.10	4.24	4.31	4.15	3.83
CE (1:1) / dS m ⁻¹	0.08	0.07	0.06	0.04	0.07	0.07	0.06
Organic matter / %	0.84	0.77	3.94	1.68	3.20	2.09	3.13
P / ppm	1.2	2.6	1.4	1.7	2.8	1.9	2.7
K / ppm	96	69	44	68	39	27	45
CEC / meq 100 g	4.80	3.52	17.28	7.68	13.44	9.12	11.52
Exchangeable Cations / meq 100 g	Ca ²⁺	0.33	0.47	0.76	0.42	1.55	1.57
	Mg ²⁺	0.23	0.23	0.38	0.32	0.50	0.30
	K ⁺	0.11	0.10	0.17	0.14	0.23	0.15
	Na ⁺	0.09	0.07	0.09	0.09	0.05	0.09
	Al ³⁺ + H ⁺	0.50	0.10	4.90	1.70	2.60	1.30
Sum of cations	1.26	0.97	6.30	2.66	4.93	3.41	5.03
Sum of bases	0.76	0.87	1.40	0.96	2.33	2.11	1.03
Saturation of bases / %	16	25	8	13	17	23	9
C / %	0.49	1.81	0.45	2.28	1.85	1.21	1.81

TABLE S3 Student *t*-test for comparison of physical-chemical parameters of superficial soil (0–15 cm depth) from clay soil forests (CS) and white-sand soil forests (WS) of the study area

Soil parameters	Total	CS	WS	<i>p</i> ^a
	Mean ± SD	Mean ± SD	Mean ± SD	
Sand percentage	61.9 ± 19.0	51.4 ± 7.9	88 ± 1.4	<0.001
Clay percentage	12.3 ± 4.5	14.4 ± 3.3	7 ± 1.4	<0.001
pH	4.2 ± 0.2	4.1 ± 0.2	4.4 ± 0.3	0.245
Organic matter percentage	2.2 ± 1.2	2.8 ± 0.9	0.8 ± 0.1	<0.001
Phosphorous ppm	2.1 ± 0.7	2.1 ± 0.6	1.9 ± 0.9	<0.001
Potassium ppm	55.4 ± 23.5	44.6 ± 19.9	82.5 ± 19.1	<0.001
Carbon percentage	1.4 ± 0.7	1.5 ± 0.7	1.2 ± 0.9	0.014
^a t test <i>p</i> -value				

TABLE S4 Height (cm) of individual plants of *Himatanthus tarapotensis*, per month of evaluation (Apr = April; May = May; Jun = June; Jul = July; Aug = August; Sep = September; Oct = October; Nov = November; Dec = December; Jan = January; Feb = February; Mar = March)

Plants Specimen Code	Months												Total
	2014						2015						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
01	243.6			247.5				251					253
02	242			277.4				312					360
03	160.9			163				163					172
04	276			277.3				302					302
05	303			306				306					310
06	150			154.5				183					196
07	247			260				271					288
08	175			201				231					238
09	97			102				124					127
10	417			460				510					550
11	288			288				294					297
12	135			135				135					135
13	245.5			253				253					257
14	175			192				208					252
15	105			111				122					130
16	122			122				122					122
17	146.5			146.5				152					156

TABLE S5 Abundance (number of individuals) of the insect herbivore *Isognathus leachii*, per individual plants of *Himatanthus tarapotensis* and month of evaluation (Apr = April; May = May; Jun = June; Jul = July; Aug = August; Sep = September; Oct = October; Nov = November; Dec = December; Jan = January; Feb = February; Mar = March)

Plants Specimen Code	Months												Total
	2014						2015						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
01	0	9	1	4	4	2	9	1	7	1	0	5	43
02	0	3	0	3	1	2	1	0	13	6	0	0	29
03	0	3	0	1	0	0	2	0	2	6	0	2	16
04	0	5	0	2	2	3	2	1	5	6	0	0	26
05	6	1	0	0	6	26	9	0	0	0	0	0	48
06	0	2	0	0	0	3	10	0	0	0	0	2	17
07	0	0	0	0	5	7	7	8	11	4	0	0	42
08	0	0	0	4	2	1	6	7	2	1	0	0	23
09	0	1	1	0	0	0	1	0	2	1	0	0	6
10	0	2	0	1	0	0	2	0	0	0	0	0	5
11	0	0	0	0	1	3	1	0	0	1	0	0	6
12	0	1	0	1	7	2	0	1	0	1	0	0	13
13	0	1	1	3	15	1	0	0	1	1	0	0	23
14	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	3	1	0	0	4
16	0	0	0	1	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	1	6	0	0	7