Supplement of Biogeosciences, 23, 7787–7806, 2026
https://doi.org/10.5194/bg-23-7787-2026-supplement
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Biogeosciences Open Access EGU

Supplement of

Divergent mercury accumulation dynamics in tropical dry and moist broadleaf forests

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Table S1: Coordinates (WGS84) of the plots where soil, leaf, and litterfall samples were collected, and the locations where Hg passive samplers (MerPAS) were installed in tropical dry broadleaf forest (TDBFs) and tropical moist broadleaf forest (TMBFs). All elevations are given in meters above sea level (m.a.s.l.). Leaves were collected inside of the polygon.

Forest	Plot	Replicate	Latitude	Longitude	Height (m.a.s.l)
Tropical dry broadleaf forest					
	1	A	10.71252466	-85.59676739	169.15
		B	10.71248694	-85.59676161	173.12
		C	10.71240234	-85.59677649	159.21
		D	10.71243004	-85.59667107	156.22
	2	A	10.71258152	-85.59691769	163.64
		B	10.71251008	-85.596962	167.44
		C	10.71252354	-85.5970506	167.04
		D	10.71260875	-85.59701833	170.05
	3	A	10.71537324	-85.59570717	154.18
		B	10.71540624	-85.595777	151.14
		C	10.71533111	-85.5957835	152.11
		D	10.71531591	-85.59570468	156.17
	4	A	10.71521911	-85.59440229	168.02
		B	10.71524503	-85.59446358	164.96
		C	10.71516442	-85.59450698	166.13
		D	10.7151162	-85.59445211	163.57
	5	A	10.70522583	-85.5992388	166.92
		B	10.70509101	-85.59924083	163.13
		C	10.70508778	-85.59916288	171.13
		D	10.70515769	-85.5991376	144.69
	6	A	10.70521116	-85.59968079	164.13
		B	10.70515058	-85.59966208	167.09
		C	10.70511802	-85.59957973	159.15
		D	10.70521573	-85.599573	167.13
Hg passive samplers					
	MerPAS	A	10.714033	-85.595308	166.8
	MerPAS	B	10.712528	-85.596767	173
Tropical Moist Broadleaf Forests					
	1	A	8.70029258	-83.20334646	81.47
		B	8.70021935	-83.20338115	81.98
		C	8.70027682	-83.20331868	84.7
		D	8.70034893	-83.20330475	80.93
	2	A	8.70035703	-83.2029025	82.23
		B	8.70031297	-83.20297243	95.87
		C	8.70026078	-83.20297808	88.72
		D	8.70038554	-83.20282359	87.42
	3	A	8.69954729	-83.2026391	106.47

		B	8.69952592	-83.20258296	101.73
		C	8.69961314	-83.20255888	109.77
		D	8.69963563	-83.2025973	110.71
	4	A	8.69946318	-83.2022143	112.08
		B	8.69945046	-83.20227631	93.22
		C	8.69938351	-83.2022725	107.83
		D	8.69939184	-83.20226475	108.57
	5	A	8.70373187	-83.20464727	125.92
		B	8.70377677	-83.20467384	117.39
		C	8.7037756	-83.20462716	121.61
		D	8.70385008	-83.20478733	89.28
	6	A	8.70369893	-83.20491526	125.63
		B	8.70370299	-83.20483703	117.89
		C	8.70374703	-83.20489947	121.57
		D	8.70374769	-83.20497481	124.73
	Hg passive samplers				
	MerPAS	A	8.701237	-83.202422	73.4
	MerPAS	B	8.700728	-83.20227	79.8

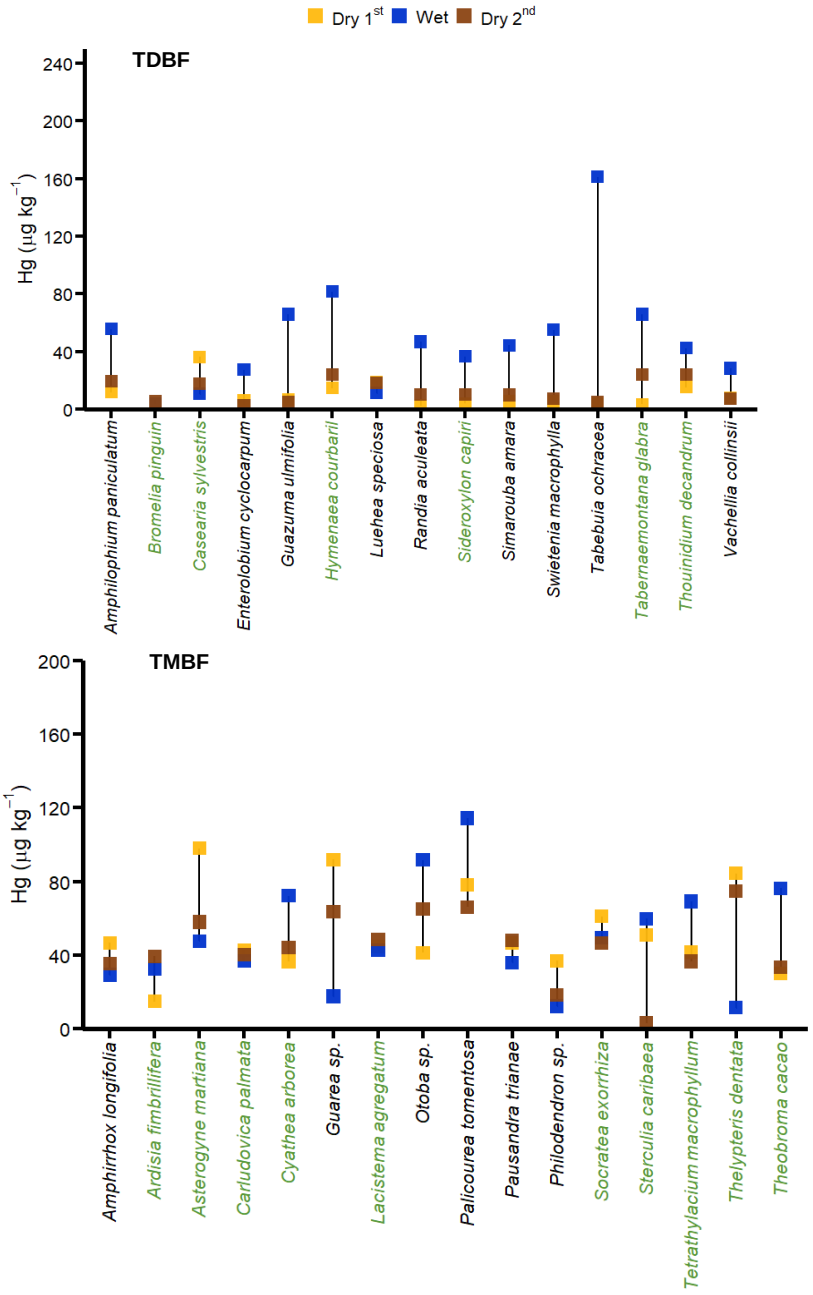


Figure S1: Variability of Hg concentration in leaves in individual measurements during different sampling campaigns in the dry and wet seasons in tropical dry broadleaf forest (TDBF) and tropical moist broadleaf forest (TMBF). Black connectors were used to connect the individual measurements. Evergreen species in both forests were colored green. Yellow, blue, and brown squares correspond to SC1, SC2 and SC3 (respectively).

Table S2. Tree identification, canopy cover, and field observations in evergreen trees from the tropical dry broadleaf forest during the second dry-season sampling campaign.

Tree ID	Species	Canopy coverage (%)	Visual leaf-age class / field observation
H_1_61	*Tabernaemontana glabra*	0	No leaves
H_1_62	*Casearia sylvestris*	100	Mature
H_1_63	*Tabernaemontana glabra*	0	No leaves
H_2_11	*Casearia sylvestris*	50	Young
H_2_13	*Hymenaea courbaril*	100	Mature
H_2_14	*Sideroxylon capiri*	80	Mature
H_2_17	*Casearia sylvestris*	100	Mature
H_2_20	*Casearia sylvestris*	100	Mature
H_2_66	*Casearia sylvestris*	100	Mature
H_2_69	*Casearia praecox*	10	Young
H_3_26	*Tabernaemontana glabra*	10	Young
H_3_27	*Casearia sylvestris*	100	Mature
H_3_71	*Tabernaemontana glabra*	90	Young
H_3_72	*Tabernaemontana glabra*	30	Young
H_4_31	*Tabernaemontana glabra*	10	Young
H_4_34	*Tabernaemontana glabra*	5	Young
H_4_36	*Tabernaemontana glabra*	50	Young
H_4_37	*Tabernaemontana glabra*	40	Young
H_4_78	*Tabernaemontana glabra*	0	No leaves
H_4_79	*Tabernaemontana glabra*	10	Young
H_5_41	*Thouinidium decandrum*	100	Mature
H_5_43	*Hymenaea courbaril*	100	Mature
H_5_44	*Cupania guatemalensis*	100	Mature
H_5_46	*Casearia sylvestris*	100	Mature
H_5_50	*Hymenaea courbaril*	100	Mature
H_5_82	*Hymenaea courbaril*	100	Mature
H_5_83	*Hymenaea courbaril*	100	Mature
H_6_52	*Casearia sylvestris*	100	Mature
H_6_57	*Piscidia carthagenensis*	100	Mature
H_6_58	*Casearia sylvestris*	100	Mature
H_6_60	*Cupania guatemalensis*	100	Mature

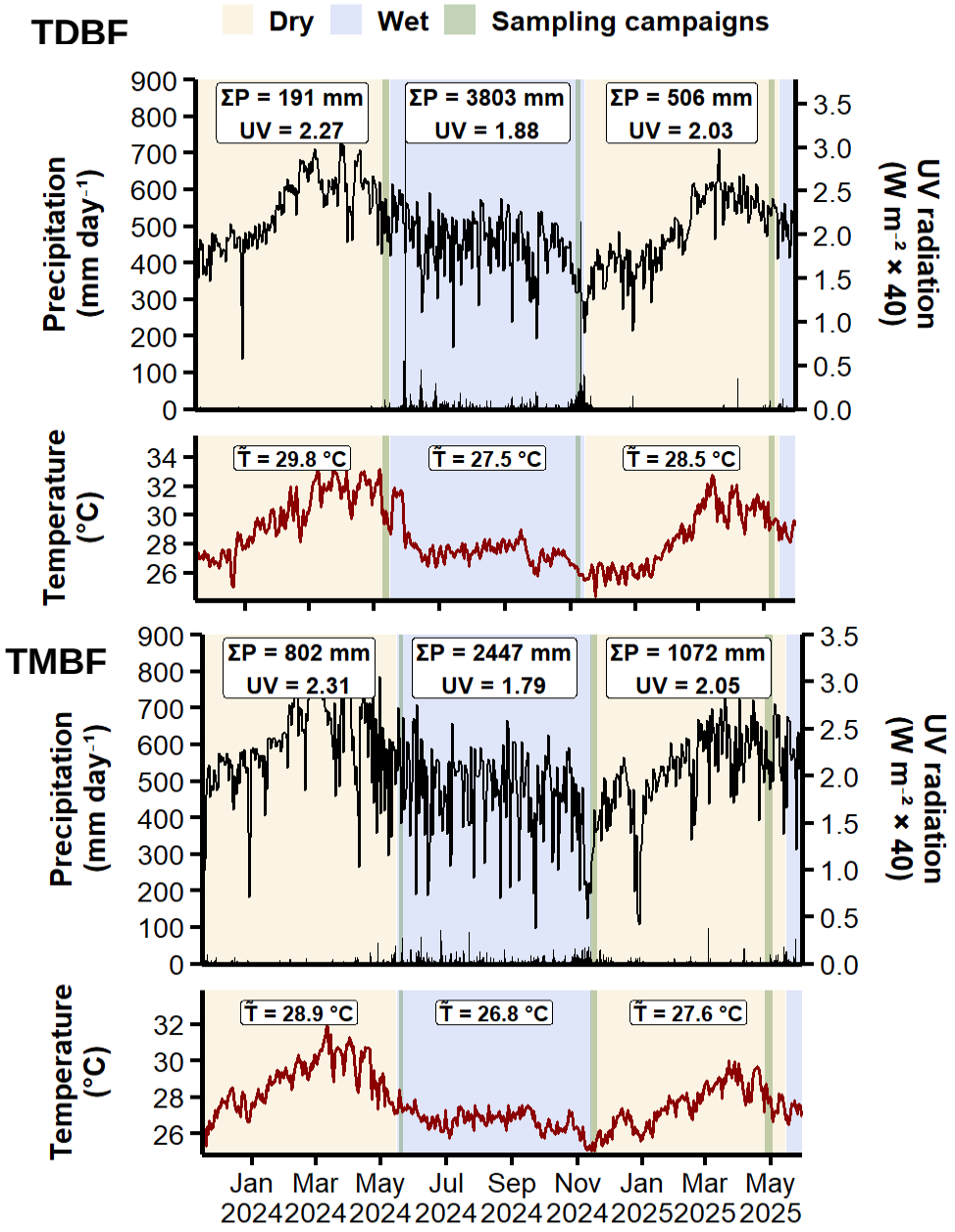


Figure S2: Daily precipitation (black bars), UV radiation (black continuous line), and earth skin temperature (red continuous line) in the tropical dry broadleaf forest (TDBF) and the tropical moist broadleaf forest (TMBF) during the study period. Blue and yellow shading indicate the wet and dry seasons, respectively, while green shading shows the three sampling campaigns. Cumulative precipitation (ΣP) and mean UV radiation are reported for each seasonal period. Data were obtained from the NASA POWER project using the coordinates of the first plot at each forest site. Data from NASA POWER are available at *https://power.larc.nasa.gov/data-access-viewer/*

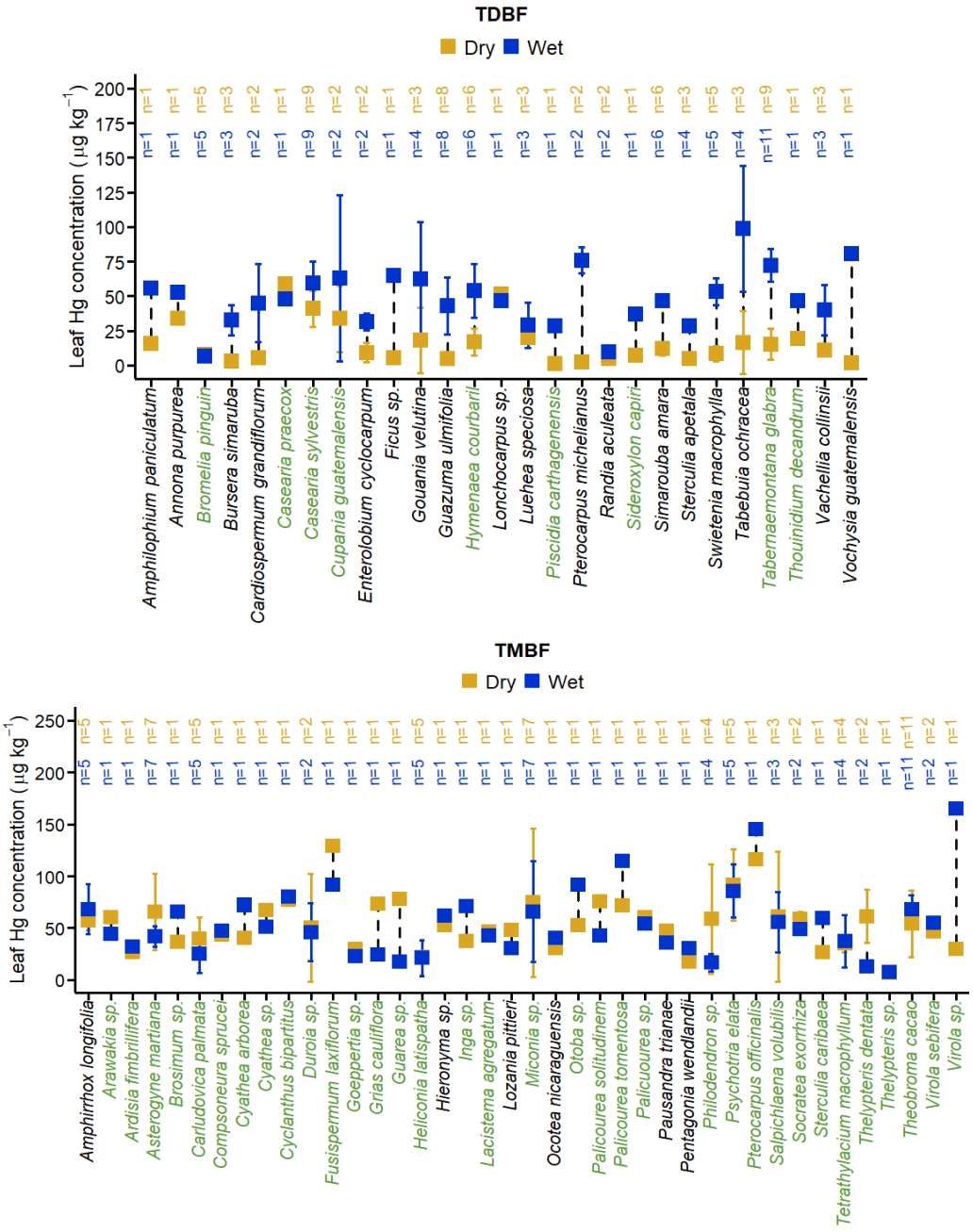


Figure S3: Mean values (± standard deviation) of Hg concentration in leaves from different species in the tropical dry broadleaf forest (TDBF) and the tropical moist broadleaf forest (TMBF) during dry and wet seasons. Species names written in green indicate evergreen species, while names in black indicate deciduous species. Plants identified only to the genus level, which could be either deciduous or evergreen, were considered evergreen in our study if developed green leaves were found during all three sampling seasons. Trimmed black lines connect values between dry and wet seasons.

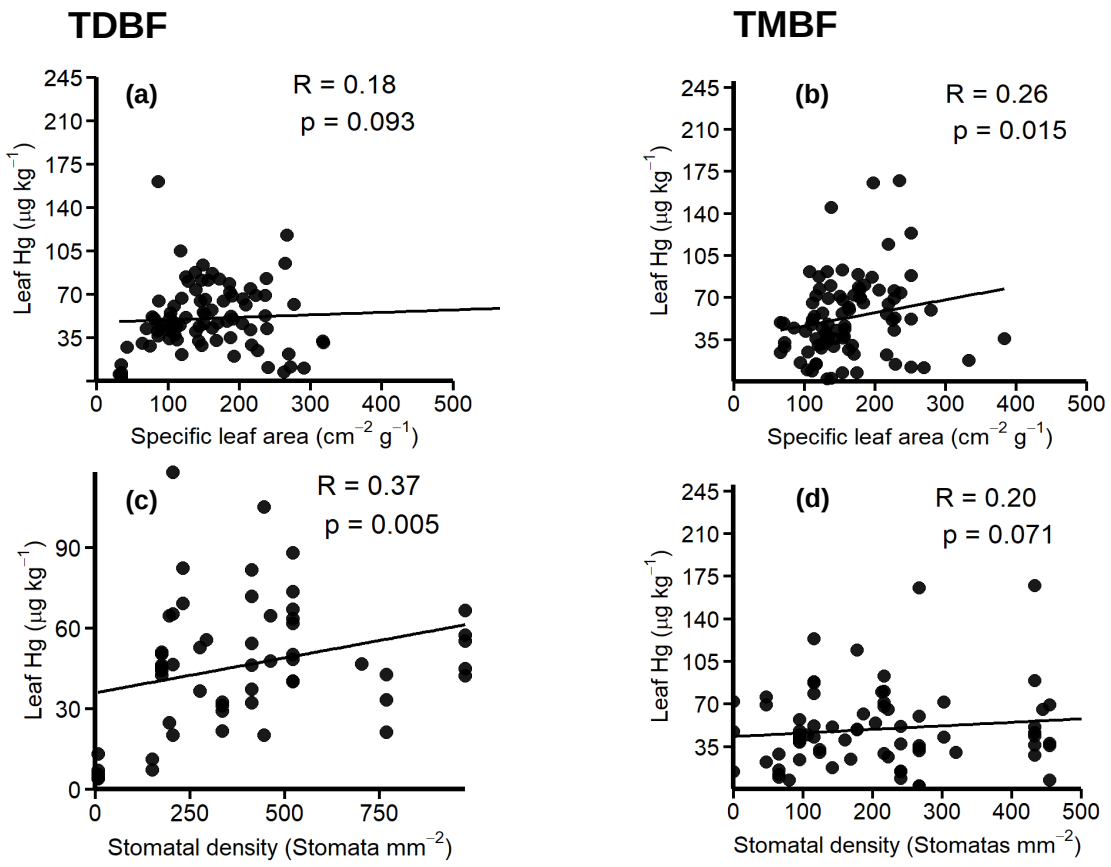


Figure S4: Spearman's rank correlations (R coefficients and *p*-values) between leaf traits and Hg concentrations in the tropical dry broadleaf forest (TDBF; panels a, c) and the tropical moist broadleaf forest (TMBF; panels b, d). Panels (a, b) show correlations between Hg and specific leaf area; and panels (c, d) show correlations between Hg and leaf stomatal density. Specific leaf area and stomatal density were measured during the wet season, when the leaves are fully developed, and correlated with Hg from the same season. Trend lines are included to visualise overall patterns.

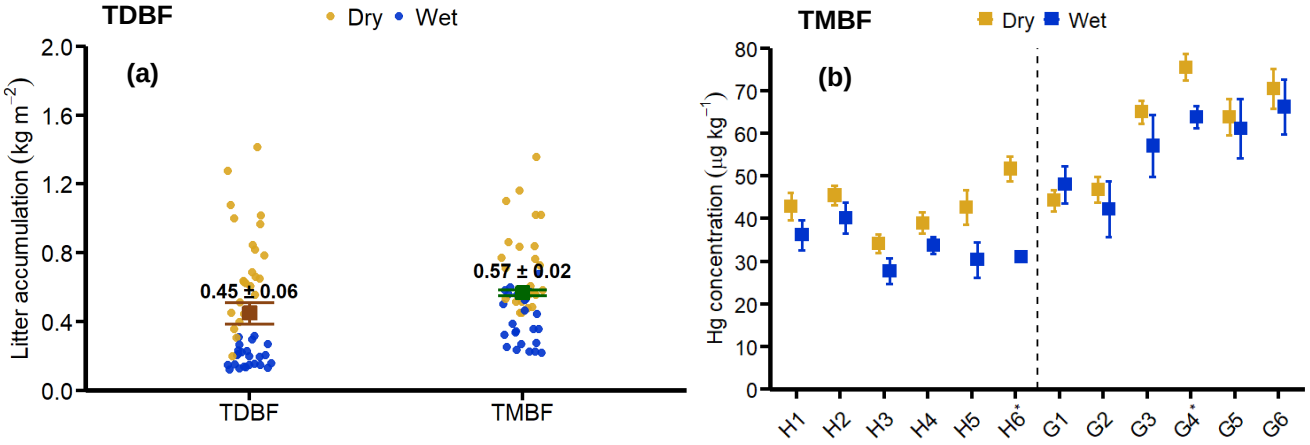


Figure S5: (a) Mean (± standard error) values of litter accumulation in tropical dry broadleaf forest (TDBF) and tropical moist broadleaf forest (TMBF). The data were calculated based on the average of each plot's accumulation during the dry and wet seasons. The standard error bar represents the difference between the sampled plots in each forest (n=6). The dots represent the raw data from the non-grouped individual samples. (b). Mean (± standard error) of Hg concentration from different plots of TDBF (H1–H6), and TMBF (G1–G6), during the dry and wet seasons. (*) on the x-axis indicates statistically significant differences between seasons according to Welch t-test (two samples) ($p < 0.05$).