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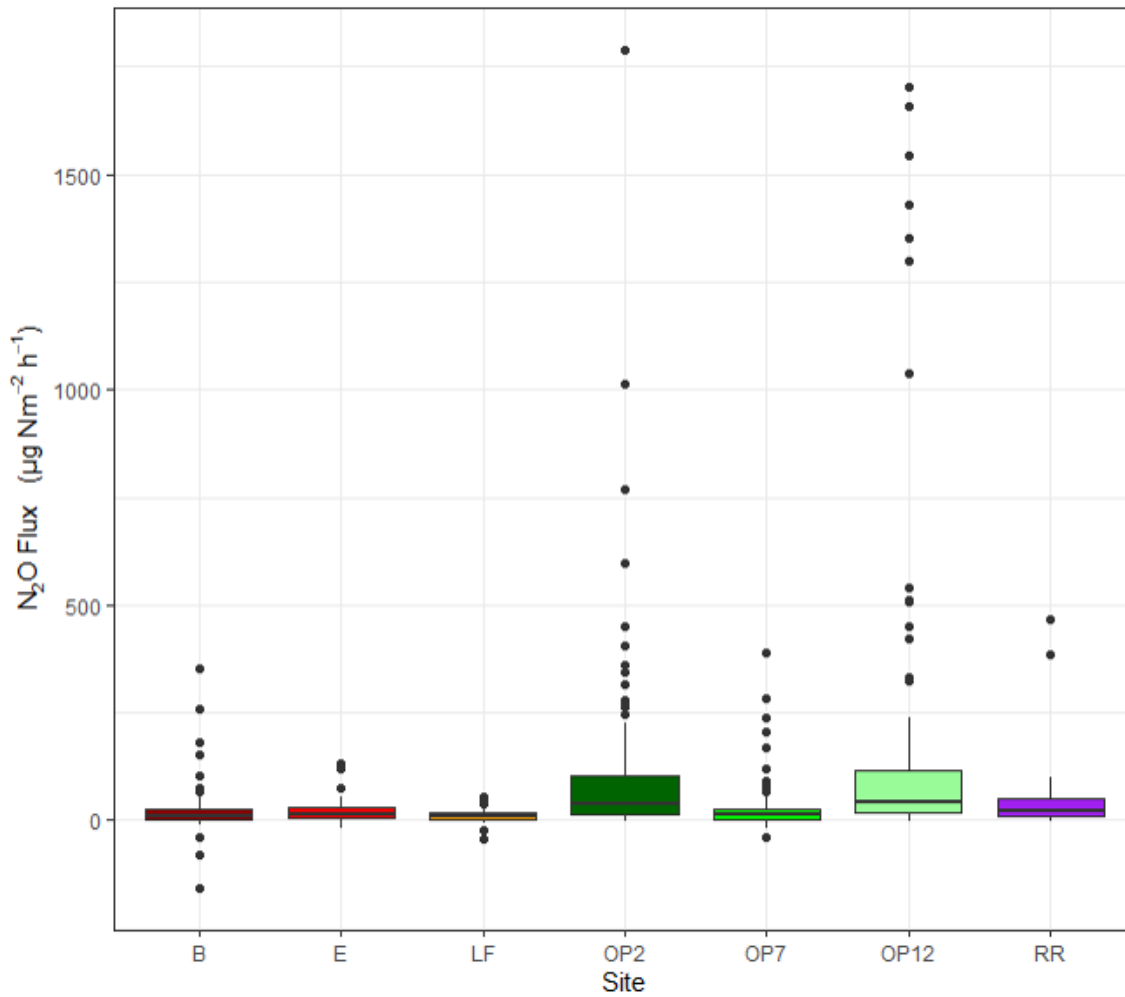
*Supplement of*

## **Comparison of greenhouse gas fluxes from tropical forests and oil palm plantations on mineral soil**

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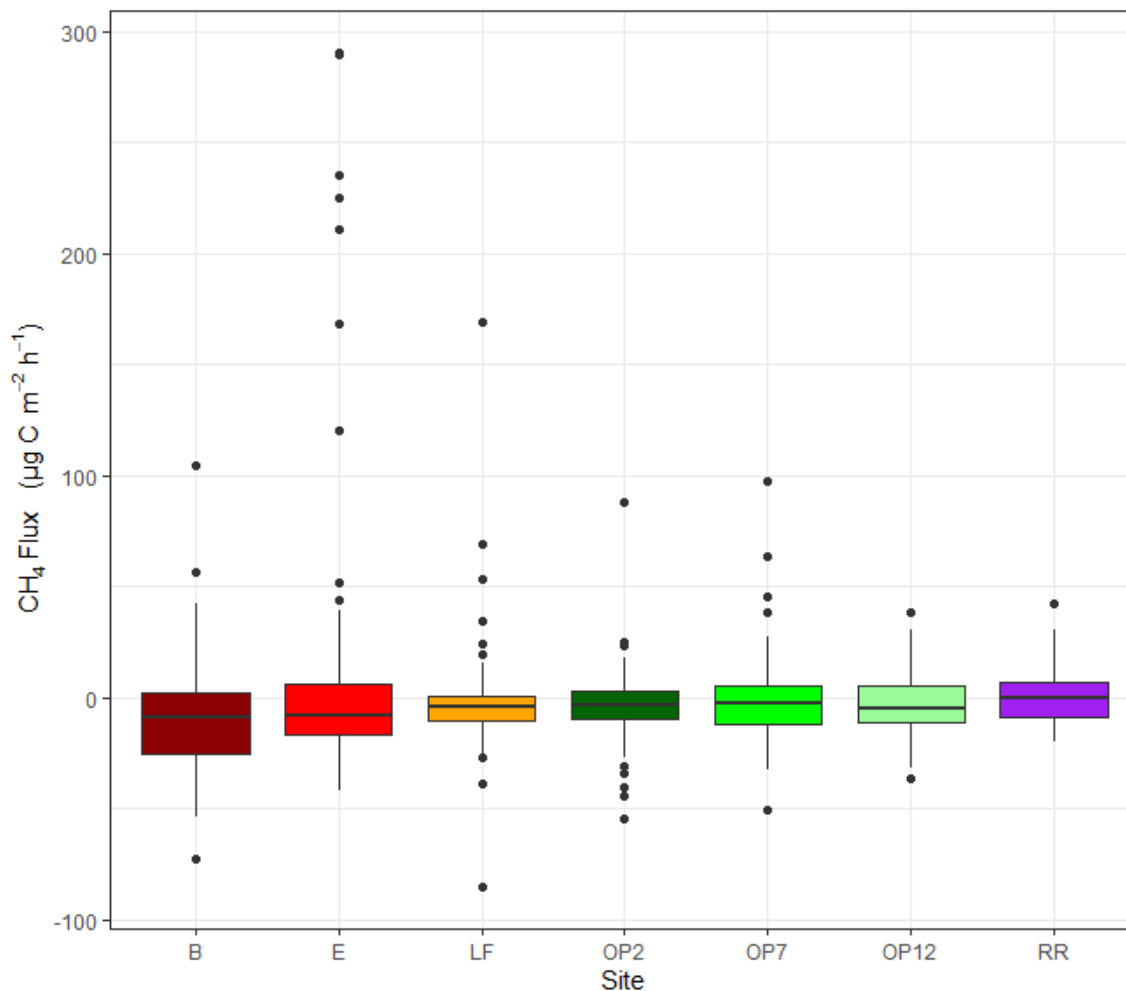
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16 **Figure S1.** Nitrous oxide (N<sub>2</sub>O-N) fluxes in µg m<sup>-2</sup> h<sup>-1</sup> from January 2015 - November 2016, every two  
 17 months (B, E, LF = logged forests, OP2, OP7, OP12 = oil palm plantations, RR = riparian reserve). The  
 18 ends of the box are the upper and lower quartiles, so the box spans the interquartile range. The median is  
 19 marked by a horizontal line inside the box. The whiskers are the two lines outside the box that extend to  
 20 the highest and lowest observations with outliers marked with an asterisk (\*).

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23 **Figure S2.** Methane (CH<sub>4</sub>-C) fluxes in µg m<sup>-2</sup> h<sup>-1</sup> from January 2015 - November 2016, every two months

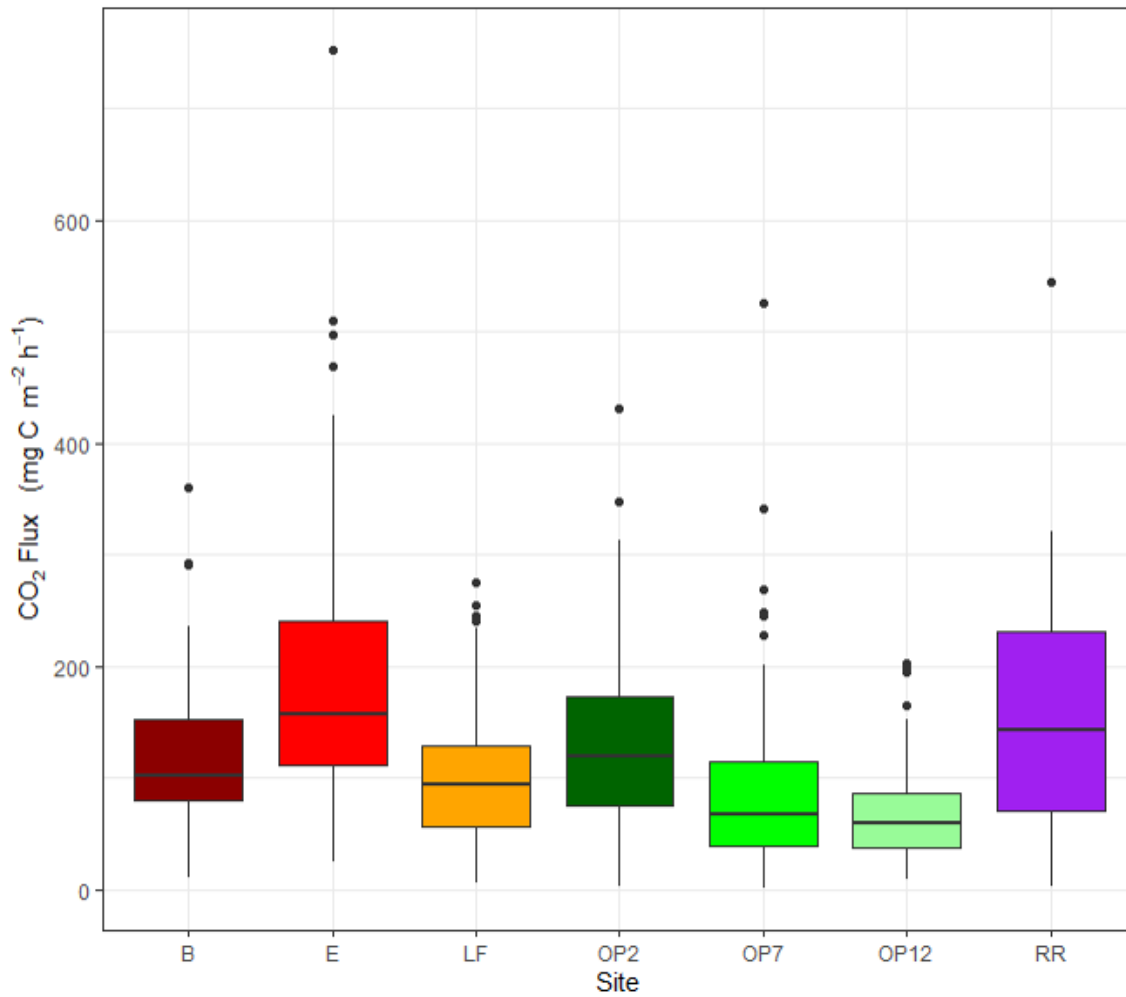
24 (B, E, LF = logged forests, OP2, OP7, OP12 = oil palm plantations, RR = riparian reserve). The ends of

25 the box are the upper and lower quartiles, so the box spans the interquartile range. The median is marked

26 by a horizontal line inside the box. The whiskers are the two lines outside the box that extend to the

27 highest and lowest observations with outliers marked with an asterisk (\*).

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30 **Figure S3.** Soil respiration (CO<sub>2</sub>-C) rates in mg m<sup>-2</sup> h<sup>-1</sup> from January 2015 - November 2016, every two  
 31 months (B, E, LF = logged forests, OP2, OP7, OP12 = oil palm plantations, RR = riparian reserve). The  
 32 ends of the box are the upper and lower quartiles, so the box spans the interquartile range. The median is  
 33 marked by a horizontal line inside the box. The whiskers are the two lines outside the box that extend to  
 34 the highest and lowest observations with outliers marked with an asterisk (\*).

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36 **Table S1.** Relationships between environmental variables and microbial community structure,  
 37 determined by linear fitting of vectors to the NMDS ordination axis scores at sample t2 (see Fig 7).  
 38 Significance of fits is displayed as \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , and \* $p < 0.05$ .

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	Bacteria (16S)				Fungi (ITS)				Eukaryotes (18S)			
	NMDS1	NMDS2	$r^2$	$p$	NMDS1	NMDS2	$r^2$	$p$	NMDS1	NMDS2	$r^2$	$p$
pH	0.95	-0.30	0.85	***	-0.74	0.67	0.67	***	0.76	0.65	0.73	***
Soil Moisture (%)	0.98	0.22	0.17	*	-0.79	0.61	0.02		0.71	0.71	0.17	*
Bulk Density	-0.72	-0.69	0.14	*	0.91	0.42	0.51	***	-0.82	0.58	0.46	***
N %	0.90	0.43	0.15	*	-0.91	-0.42	0.50	***	0.85	-0.53	0.45	***
C %	0.96	0.30	0.09		-0.93	-0.38	0.28	***	0.77	-0.63	0.32	***
Temperature	-0.53	-0.85	0.43	***	0.81	0.58	0.69	***	-0.89	0.46	0.72	***
<b>Land Use (factor centroids)</b>			0.22	***			0.53	***			0.49	***
Forest	0.21	0.07			-0.27	-0.11			0.24	-0.12		
Oil Palm	-0.21	-0.03			0.18	0.06			-0.19	0.05		
Riparian	0.20	-0.22			-0.04	0.25			0.04	0.33		

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