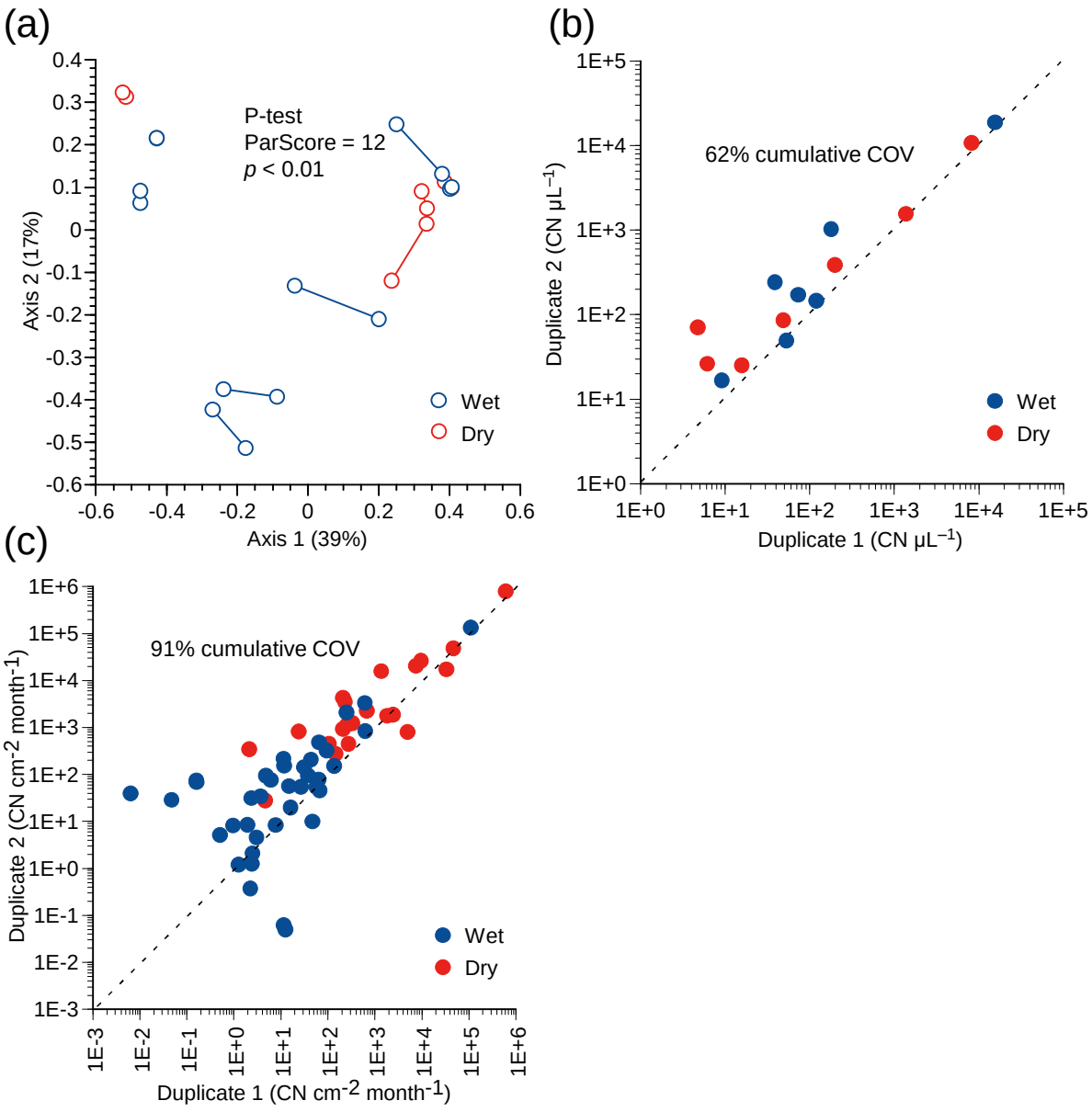

Figure S1: Reproducibility of biologically duplicated measurements of plant DNA. (a) Principal coordinate analysis plot for plant assemblage structures characterized by DNA sequencing. The plot is based on the Bray-Curtis distance based on 97% OTUs. Each sample's duplicates are connected by a line. (b) Concentrations of plant ITS2 copies in 1 µL of DNA extracts quantitated by the universal plant-specific qPCR. For each sample's duplicates, a duplicate with a lower concentration is shown on x-axis as a Duplicate 1, whereas the other duplicate with a higher concentration is shown on y-axis as a Duplicate 2. The dashed line represents 1:1. (c) Genus-level deposition flux densities calculated by multiplying the DNA sequencing-derived relative abundance of each genus by the total plant quantity by the universal plant-specific qPCR. Each data point represents the flux densities for each genus measured on each month. The dashed line represents 1:1.

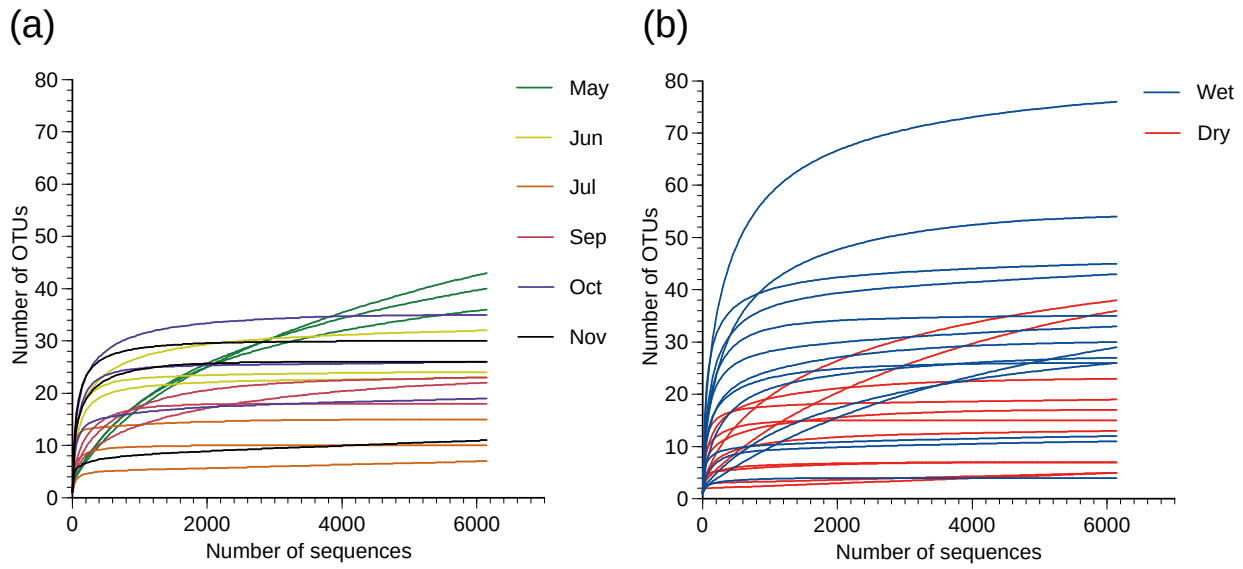

Figure S2: Rarefaction curves for (a) air and (b) deposition samples based on ITS2 OTUs at a 97% sequence similarity. From each library, 6,142 sequence reads were sub-sampled.

Table S1: Numbers of high-quality sequence reads by Illumina MiSeq.

Sampler	Start day (yymmdd)	End day (yymmdd)	Sample type	Duplicate	Sample ID	Number of sequences
Air	150501	150531	d_a > 11 μm	-	5A0	28639
			d_a = 7–11 μm	-	5A1	27778
			d_a = 4.7–7 μm	-	5A2	24016
	150601	150630	d_a > 11 μm	-	6A0	43454
			d_a = 7–11 μm	-	6A1	30864
			d_a = 4.7–7 μm	-	6A2	29057
	150701	150731	d_a > 11 μm	-	7A0	25374
			d_a = 7–11 μm	-	7A1	32956
			d_a = 4.7–7 μm	-	7A2	18488
	150901	150930	d_a > 11 μm	-	9A0	35501
			d_a = 7–11 μm	-	9A1	22661
			d_a = 4.7–7 μm	-	9A2	39328
	151001	151031	d_a > 11 μm	-	10A0	29804
			d_a = 7–11 μm	-	10A1	28968
			d_a = 4.7–7 μm	-	10A2	25516
	151101	151130	d_a > 11 μm	-	11A0	43077
			d_a = 7–11 μm	-	11A1	37625
			d_a = 4.7–7 μm	-	11A2	28968
Deposition	150501	150531	dry	1	5D1	29432
			dry	2	5D2	32471
			wet	1	5W1	35669
			wet	2	5W2	31101
	150601	150630	dry	1	6D1	n.a.
			dry	2	6D2	7257
			wet	1	6W1	32175
			wet	2	6W2	26727
	150701	150731	dry	1	7D1	n.a.
			dry	2	7D2	7705
			wet	1	7W1	60128
			wet	2	7W2	20287
	150801	150831	dry	1	8D1	7259
			dry	2	8D2	32662
			wet	1	8W1	42041
			wet	2	8W2	33913
	150901	150930	dry	1	9D1	32896
			dry	2	9D2	38884
			wet	1	9W1	6825
			wet	2	9W2	27449
	151001	151031	dry	1	10D1	18549
			dry	2	10D2	32208
			wet	1	10W1	26494
			wet	2	10W2	24686
	151101	151130	dry	1	11D1	n.a.
			dry	2	11D2	45380
			wet	1	11W1	29514
			wet	2	11W2	27786

Symbol: -, duplicate not available.
Abbreviation: n.a., not PCR-amplifiable for sequencing.

Table S2: Alpha diversity measures of plant assemblages in air and deposition samples collected in Seoul in South Korea [a].

Sample ID	Observed richness	Chao1 estimator	Shannon index	Simpson index
5A0	40	47.8	0.9	0.4
5A1	43	56.9	0.9	0.5
5A2	36	41.1	1.0	0.6
6A0	23	23.0	1.6	0.6
6A1	32	32.5	2.4	0.9
6A2	24	24.0	2.2	0.8
7A0	15	15.0	2.2	0.9
7A1	7	8.0	0.4	0.2
7A2	10	10.0	1.7	0.8
9A0	22	22.6	1.2	0.6
9A1	23	23.0	1.0	0.4
9A2	18	18.0	1.1	0.5
10A0	19	20.0	1.7	0.7
10A1	35	35.0	2.2	0.8
10A2	26	26.0	2.2	0.8
11A0	26	26.0	2.3	0.9
11A1	30	30.0	2.5	0.9
11A2	11	14.0	1.2	0.6
5D1	41	62.4	0.8	0.4
5D2	37	42.1	0.9	0.4
5W1	32	39.8	0.6	0.4
5W2	30	34.0	0.7	0.4
6D1	n.a.	n.a.	n.a.	n.a.
6D2	4	4.0	0.3	0.1
6W1	60	62.0	2.3	0.8
6W2	38	38.0	2.3	0.8
7D1	n.a.	n.a.	n.a.	n.a.
7D2	6	12.0	0.7	0.5
7W1	33	34.0	2.3	0.8
7W2	46	46.3	3.1	0.9
8D1	7	7.0	0.9	0.5
8D2	10	10.0	0.5	0.2
8W1	30	30.6	1.0	0.4
8W2	13	13.0	0.7	0.3
9D1	19	22.0	1.4	0.7
9D2	25	26.0	1.7	0.7
9W1	4	4.0	0.2	0.1
9W2	10	10.0	1.2	0.5
10D1	7	7.0	1.0	0.5
10D2	16	16.0	1.8	0.8
10W1	32	32.2	1.7	0.7
10W2	24	24.0	2.0	0.8
11D1	n.a.	n.a.	n.a.	n.a.
11D2	19	19.0	2.2	0.8
11W1	76	77.3	3.0	0.9
11W2	43	43.0	2.6	0.9

[a] Based on ITS2 OTUs at a 97% sequence similarity. From each library, 6,142 sequence reads are sub-sampled.
Abbreviation: n.a., not PCR-amplifiable for sequence analysis.

Table S3: Modes of pollination of selected plant genera [a].

Class or clade	Genus	Mode of pollination (ref.)
asterids	*Ambrosia*	Anemophilous (Paw U. and Hotton, 1989)
	Artemisia	Anemophilous (Poska et al., 2011)
	Erigeron	Entomophilous (Choi and Jung, 2015)
	Rhododendron	Entomophilous (Stout et al., 2006)
Bryopsida	*Streblotrichum*	n.a.
Klebsormidiophyceae	*Interfilum*	n.a.
Liliopsida	*Dactylis*	Anemophilous (Paw U. and Hotton, 1989)
	Digitaria	Anemophilous (Saunders, 2018)
	Echinochloa	Anemophilous (Saunders, 2018)
	Elymus	n.a.
	Hordeum	Anemophilous (Saunders, 2018)
	Lolium	Anemophilous(Roulston et al., 2000)
	Panicum	Anemophilous (Saunders, 2018)
	Phalaris	Anemophilous (Aboulaich et al., 2009)
	Poa	Anemophilous (Roulston et al., 2000)
	Setaria	Anemophilous (Douglas et al., 1985)
	Triticum	Anemophilous (Dong et al., 2016)
Marchantiopsida	*Marchantia*	n.a.
Pinidae	*Pinus*	Anemophilous (Paw U. and Hotton, 1989)
	Juniperus	Anemophilous (Roulston et al., 2000)
rosids	*Acalypha*	Anemophilous (Renner and Feil, 1993)
	Acer	Anemophilous (Rodríguez et al., 1996)
	Amorpha	Entomophilous (Slagle and Hendrix, 2009)
	Arabidopsis	Self pollinated but rarely entomophilous (Hoffmann et al., 2003)
	Betula	Anemophilous (Paw U. and Hotton, 1989)
	Glycine	Entomophilous (Fujita et al., 1997)
	Humulus	Anemophilous (Small, 1978)
	Juglans	Anemophilous (Paw U. and Hotton, 1989)
	Lupinus	Entomophilous (Wainwright, 1978)
	Maclura	Anemophilous (Regal, 1982)
	Medicago	Entomophilous (Palmer-Jones and Forster, 1965)
	Morus	Anemophilous (Roulston et al., 2000)
	Prunus	Entomophilous (Roulston et al., 2000)
	Pueraria	Entomophilous (Roulston et al., 2000)
	Quercus	Anemophilous (Paw U. and Hotton, 1989)
	Robinia	Entomophilous (Cierjacks et al., 2013)
	Rosa	Entomophilous (Żuraw et al., 2015)
	Ulmus	Anemophilous (Roulston et al., 2000)
Trebouxiophyceae	*Trebouxia*	n.a.
undefined	*Amaranthus*	Anemophilous (Paw U. and Hotton, 1989)
	Chenopodium	Anemophilous (Flacher et al., 2015)

[a] Genera shown in Figures 2 and/or 5 are selected.

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