Tables

Table 1: Summary of statistical models that analyze the effects of willow genotype, aphid treatment, and distance from ant mounds on the arthropod community, ant-aphid interactions, and plant traits. We report the test statistic and include the degrees of freedom for each test in parentheses. Font type denotes statistical significance (**bold P < 0.05**, *italic P < 0.10*, normal P > 0.10).

Responses	Genotype (G)	E_{aphid}	E_{ant}	$G \times E_{aphid}$	$G \times E_{ant}$	$E_{aphid} \times E_{ant}$	$G \times E_{aphid} \times E_{ant}$
Foliar arthropods							
Total richness[a]	**41.35**$_{(9)}$	0.45$_{(1)}$	1.12$_{(1)}$	7.66$_{(9)}$	7.84$_{(9)}$	1.15$_{(1)}$	6.17$_{(9)}$
Total abundance[a]	**34.86**$_{(9)}$	1.79$_{(1)}$	1.42$_{(1)}$	14.61$_{(9)}$	9.00$_{(9)}$	**8.12**$_{(1)}$	9.18$_{(9)}$
Rarefied richness[b]	0.83$_{(9,138.8)}$	**5.34**$_{(1,139.2)}$	0.46$_{(1,8.2)}$	*1.81*$_{(9,139.7)}$	0.94$_{(9,139.7)}$	0.41$_{(1,140.6)}$	0.70$_{(9,139.4)}$
Community composition[c]	**1.52**$_{(9,176)}$	*2.04*$_{(1,176)}$	1.01$_{(1,9)}$	**1.45**$_{(9,157)}$	0.97$_{(9,157)}$	0.69$_{(1,157)}$	0.93$_{(9,148)}$
Ant-aphid interactions							
A. farinosa abund.[a]	**20.83**$_{(9)}$	-	0.55$_{(1)}$	-	10.25$_{(9)}$	-	-
F. obscuripes abund.[a]	2.42$_{(1*)}$	**9.77**$_{(1)}$	1.68$_{(1)}$	**6.26**$_{(2*)}$	-	-	-
Plant traits							
Height[b]	**15.83**$_{(9,204.2)}$	0.63$_{(1,204.3)}$	0.31$_{(1,9.1)}$	0.93$_{(9,204.5)}$	0.98$_{(9,204.4)}$	0.07$_{(1,204.3)}$	1.62$_{(9,204.7)}$
Shoot count[b]	**65.84**$_{(9)}$	*2.76*$_{(1)}$	0.21$_{(1)}$	12.11$_{(9)}$	8.80$_{(9)}$	**4.20**$_{(1)}$	9.21$_{(9)}$
Shoot length[b]	**7.27**$_{(9,204.2)}$	2.39$_{(1,204.2)}$	0.10$_{(1,9.1)}$	1.05$_{(9,204.5)}$	0.70$_{(9,204.3)}$	1.24$_{(1,204.3)}$	0.56$_{(9,204.6)}$
Leaf trichome density[a]	38.17$_{(9)}$	0.44$_{(1)}$	0.81$_{(1)}$	**23.17**$_{(8)}$	8.41$_{(9)}$	0.84$_{(1)}$	-
log(Leaf water content)[b]	1.33$_{(9,69.6)}$	0.01$_{(1,69.4)}$	1.02$_{(1,7.1)}$	0.48$_{(8,70.4)}$	0.79$_{(9,69.5)}$	0.36$_{(1,70.6)}$	1.02$_{(7,72.0)}$

Notes: [a]Likelihood-ratio test and degrees of freedom calculated using a generalized linear mixed-effect model (error distribution = Poisson, link function = log); [b]*F*-test and Kenward-Roger approximated degrees of freedom calculated using a linear mixed-effect model; [c]*F*-test calculated using redundancy analysis on Hellinger-transformed community data; *indicates that predictor was modeled as a random effect and its significance was determined using a likelihood ratio test.

Table 2: Summary of statistical models that analyze the effects of willow genotype and wind exposure on associated communities, soil characteristics, and plant traits. We report the test statistic and include the degrees of freedom for each test in parentheses. Font type denotes statistical significance (**bold P < 0.05**, *italic P < 0.10*, normal P > 0.10).

Responses	Genotype (G)	E_{wind}	E_{year}	$G \times E_{wind}$	$G \times E_{year}$	$E_{wind} \times E_{year}$	$G \times E_{wind} \times E_{year}$
Foliar arthropods							
Richness[a]	**28.01**$_{(9)}$	**10.33**$_{(1)}$	**13.55**$_{(1)}$	3.74$_{(9)}$	9.85$_{(9)}$	0.92$_{(1)}$	7.04$_{(9)}$
Abundance[a]	**25.25**$_{(9)}$	**5.48**$_{(1)}$	**6.72**$_{(1)}$	7.33$_{(9)}$	8.22$_{(9)}$	1.65$_{(1)}$	11.85$_{(9)}$
Rarefied richness[b]	**1.96**$_{(9,71.1)}$	**22.82**$_{(1,7.8)}$	1.13$_{(1,82.7)}$	0.66$_{(9,80.9)}$	-	0.67$_{(1,81.9)}$	-
Community composition$_{2012}$	0.96$_{(9,51)}$	1.26$_{(1,7)}$		0.91$_{(9,42)}$			
Community composition$_{2013}$	1.17$_{(9,68)}$	**5.70**$_{(1,9)}$		0.69$_{(6,62)}$			
Root-associated Mycorrhiza							
Richness$_{2013}$[b]	1.28$_{(9,95.0)}$	1.01$_{(1,8.8)}$	-	1.23$_{(9,95.8)}$	-	-	-
Abundance$_{2013}$[b]	0.80$_{(9,95.5)}$	0.36$_{(1,8.7)}$	-	1.03$_{(9,96.4)}$	-	-	-
Rarefied richness$_{2013}$[b]	0.87$_{(9,95.1)}$	0.88$_{(1,8.8)}$	-	0.93$_{(9,95.9)}$	-	-	-
Community composition$_{2013}$	**1.01**$_{(9,117)}$	1.18$_{(1,9)}$	-	0.87$_{(9,108)}$	-	-	-
Root-associated Bacteria					-	-	-
Richness$_{2013}$[b]	1.35$_{(9,100.8)}$	*4.53*$_{(1,7.9)}$	-	0.87$_{(9,101.5)}$	-	-	-
Abundance$_{2013}$[b]	1.39$_{(9,102.3)}$	2.00$_{(1,8.0)}$	-	0.64$_{(9,103.2)}$	-	-	-
Rarefied richness$_{2013}$[b]	1.48$_{(9,99.9)}$	**6.03**$_{(1,7.8)}$	-	1.35$_{(9,100.5)}$	-	-	-
Community composition$_{2013}$	0.93$_{(9,120)}$	*1.38*$_{(1,9)}$	-	0.87$_{(9,111)}$	-	-	-
Soil characteristics							
Total N[b]	-	*5.08*$_{(1,9)}$	-	-	-	-	-
Soil moisture[b]	-	*3.52*$_{(1,9)}$	-	-	-	-	-
Percent organic matter[b]	-	0.68$_{(1,8.4)}$	-	-	-	-	-
Nutrient PC1[b]	-	1.31$_{(1,9)}$	-	-	-	-	-
Plant traits							
Height[b]	**9.13**$_{(9,145.3)}$	**29.10**$_{(1,9.0)}$	**210.09**$_{(1,156.3)}$	0.71$_{(9,147.9)}$	0.80$_{(9,157.8)}$	**16.69**$_{(1,158.4)}$	*1.84*$_{(9,160.9)}$
Shoot count[a]	**47.42**$_{(9)}$	**9.91**$_{(1)}$	**5.68**$_{(1)}$	10.70$_{(9)}$	**18.26**$_{(9)}$	**12.53**$_{(1)}$	5.76$_{(9)}$
Shoot length[b]	**4.97**$_{(9,144.2)}$	**10.44**$_{(1,9.0)}$	**75.36**$_{(1,158.5)}$	0.84$_{(9,146.9)}$	1.61$_{(9,160.1)}$	0.05$_{(1,160.7)}$	0.70$_{(9,163.2)}$
Leaf water content[b]	**4.90**$_{(9,129.0)}$	0.97$_{(1,8.7)}$	*2.93*$_{(1,139.7)}$	0.47$_{(9,132.0)}$	**2.80**$_{(9,141.6)}$	2.03$_{(1,141.5)}$	1.56$_{(9,144.1)}$

Leaf trichome density$_{2012}$[b]	**67.31**$_{(9)}$	0.02$_{(1)}$	-	10.45$_{(9)}$	-	-	-
SLA$_{2013}$[b]	**4.21**$_{(9,122.5)}$	0.34$_{(1,8.9)}$	-	1.19$_{(9,123.4)}$	-	-	-
Leaf C:N$_{2013}$[b]	**4.88**$_{(9,70.48)}$	1.54$_{(1,7.8)}$	-	1.31$_{(9,71.6)}$	-	-	-
Root C:N$_{2013}$[b]	0.85$_{(9,107.0)}$	0.31$_{(1,8.7)}$	-	0.33$_{(9,107.5)}$	-	-	-

Notes: [a]Likelihood-ratio test and degrees of freedom calculated using a generalized linear mixed-effect model (error distribution = Poisson, link function = log); [b]*F*-test and Kenward-Roger approximated degrees of freedom calculated using a linear mixed-effect model; [c]*F*-test calculated using redundancy analysis on Hellinger-transformed community data; *indicates that predictor was modeled as a random effect and its significance was determined using a likelihood ratio test.

Table 3: Redundancy analyses of foliar arthropods and root-associated ectomycorrhiza and bacteria. We report F-statistics and degrees of freedom in parenthesis. Font type denotes statistical significance (**bold P < 0.05**, *italic P < 0.10*, normal P > 0.10).

Community composition	**E_{wind}**	**Trait PC1**	**Trait PC2**	**Root C:N**	**Soil PC1**	**Soil PC2**
Arthropods	0.83$_{(1,9)}$	**12.05**$_{(1,76)}$	0.65$_{(1,76)}$	-	-	-
Mycorrhiza	-	-	-	1.17$_{(1,115)}$	1.89$_{(1,8)}$	0.85$_{(1,8)}$
Bacteria	-	-	-	*1.31*$_{(1,116)}$	1.90$_{(1,8)}$	0.81$_{(1,8)}$