

SUPPORTING INFORMATION

Table S1. Ant-dispersed plants detected in longleaf pine sandhill field site

Scientific name	Common name
<i>Piriqueta cistoides</i> (L.) Griseb. <i>subsp. caroliniana</i> (Walter) Arbo	pitted stripeseed
<i>Crotolaria rotundifolia</i> (Walter) Poir	rabbitbells
<i>Cnidoscolus stimulosus</i> (Michx.) Englem & Gray	bullsnettle
<i>Viola sororia</i> Willd.	common blue violet
<i>Stillingia sylvatica</i> L.	queen's delight
<i>Croton argyranthemus</i> Michx.	silver croton
<i>Asemeia violacea</i> (Aubl.) J.F.B. Pastore & J.R. Abbott	showy milkwort

Table S2. Coarse woody debris (CWD) volume measurement

CDW subplot	Volume (cm2)	Decay class	Tree genus
Plot 1	789	3	<i>Quercus</i>
Plot 2	1136	2	<i>Quercus</i>
Plot 3	1381	2	<i>Quercus</i>
Plot 4	1828	2	<i>Quercus</i>
Plot 5	1635	2	<i>Quercus</i>
Plot 6	1188	3	<i>Pinus</i>
Plot 7	138	3	<i>Pinus</i>
Plot 8	136	1	<i>Pinus</i>
Plot 9	770	3.5	<i>Quercus</i>
Plot 10	602	3	<i>Quercus</i>

Total CWD volume was measured pre-burn on 10-July-2017 using the chainsaw method [112] wherein volume of all portions of all logs contained within each subplot was estimated. Volume of each log was quantified by averaging the diameter at each end and midpoint to obtain a measure of radius; length of each log was also measured. Diameter and length of connected branches at least 2 cm in diameter were calculated separately. Decay class was assigned following the decay class designations used by the National Ecological Observatory Network (NEON), modified from the US Forest Service (Table 9 in [113]). Decay class ranges from 1 (freshly fallen wood with intact bark and branches) to 5 (no structure remaining).

Table S3. Species detection (percent found in out of total sample units) by sampling method.

Species name	Seed Trials	Tuna-honey baits	Leaf litter samples	NEON samples
<i>Pheidole dentata</i>	27	70	11	✓
<i>Pheidole bilimeki</i>	24	73	28	✓
<i>Pheidole morrisii</i>	17	39	19	✓
<i>Pheidole metallescens</i>	13	34	19	✓
<i>Solenopsis geminata</i>	13	29	4	✓
<i>Aphaenogaster treatae</i>	6	31	5	✓
<i>Nylanderia arenivaga</i>	4	31	7	✓
<i>Forelius pruinus</i>	3	59	2	✓
<i>Nylanderia parvula</i>	3	47	17	✓
<i>Odontomachus brunneus</i> ^B	3	41	10	✓
<i>Dorymyrmex bossutus</i> ^B	3	25	<1	✓
<i>Trachymyrmex septentrionalis</i> ^B	3	18	8	✓
<i>Aphaenogaster floridana</i> ^B	2	26	4	✓
<i>Dorymyrmex bureni</i>	2	19	2	✓
<i>Pogonomyrmex badius</i>	1	31	<1	✓
<i>Formica pallidefulva</i>	<1	28	<1	✓
<i>Nylanderia wojciki</i> ^B	<1	15	14	✓
<i>Forelius</i> sp A ^B	<1	10	2	
<i>Solenopsis nickersoni</i> ^B	<1	<1	6	✓
<i>Pheidole navigans</i> ^{1, B}	<1	<1	1	
<i>Temnothorax pergandei</i>		21	23	✓
<i>Crematogaster pinicola</i>		19	3	✓
<i>Solenopsis molesta</i> -group spp.		8	75	✓
<i>Monomorium viridum</i>		7	3	✓
<i>Camponotus socius</i>		6	<1	✓
<i>Formica archboldi</i>		6	<1	✓
<i>Pheidole adrianoi</i>		5	3	✓
<i>Temnothorax texanus</i>		5	2	✓
<i>Cyphomyrmex rimosus</i> ¹		3	4	
<i>Cardiocondyla emeryi</i> ¹		2	1	
<i>Solenopsis tennesseensis</i>		<1	24	✓
<i>Cardiocondyla obscurior</i> ¹		<1		
<i>Hypoponera opacior</i>			24	✓
<i>Strumigenys eggersi</i> ¹			12	
<i>Strumigenys membranifera</i> ¹			7	
<i>Strumigenys louisianae</i>			6	✓
<i>Discothyrea testacea</i>			2	
<i>Eurhopalothrix floridana</i>			<1	
<i>Hypoconerina inexorata</i>			<1	

Table S3. Continued

Species name	Seed trials	Tuna-honey baits	Leaf litter samples	NEON samples
<i>Pheidole crassicornis</i>			<1	
<i>Pheidole littoralis</i>			<1	
<i>Pseudomyrmex pallidus</i>			<1	
<i>Solenopsis picta</i>			<1	✓
<i>Solenopsis tonsa</i>			<1	✓
<i>Strumigenys margaritae</i> ¹			<1	
<i>Camponotus floridanus</i>				✓
<i>Crematogaster ashmeadi</i>				✓
<i>Neivamyrmex carolinensis</i> ^N				✓
<i>Neivamyrmex opacithorax</i> ^N				✓
<i>Neivamyrmex texanus</i> ^N				✓
<i>Nylanderia phantasma</i> ^N				✓
TOTAL	20	32	44	36

^B Denotes seed removal is a newly recorded behavior for this species. ¹ Denotes species that are introduced to Florida. ^N Denotes a nocturnal species. All the species collected in this study were detected by leaf litter sampling (excluding *Cardiocondyla obscurior*). A subset of those species recruited to tuna-honey baits, and a further subset of the species removed plant seeds. Percentages were rounded to the nearest integer. Nearly half (~44.4%) of species detected retrieved seeds. An additional six species were detected in National Ecological Observatory Network (NEON) pitfall traps but not by the methods of this study. NEON pitfalls and our samples showed 58.8% similarity. *Brachymyrmex patagonicus*, *Paratrechina longicornis*, *Pheidole obscurithorax*, *Tapinoma megacephalum*, and *Wasmannia auropunctata* were found in <1% of leaf litter samples and due to urban pest status, they are probable accidental bycatch from greenhouse extraction and were thus removed from the overall species checklist.



Figure S1. Corroborative National Ecological Observatory Network (NEON) sampling locations. Diagram of Ordway Swisher Biological Station, showing location of this study's research site and the sites of ants identified from NEON samples. NEON sites are labelled according to NEON practices.

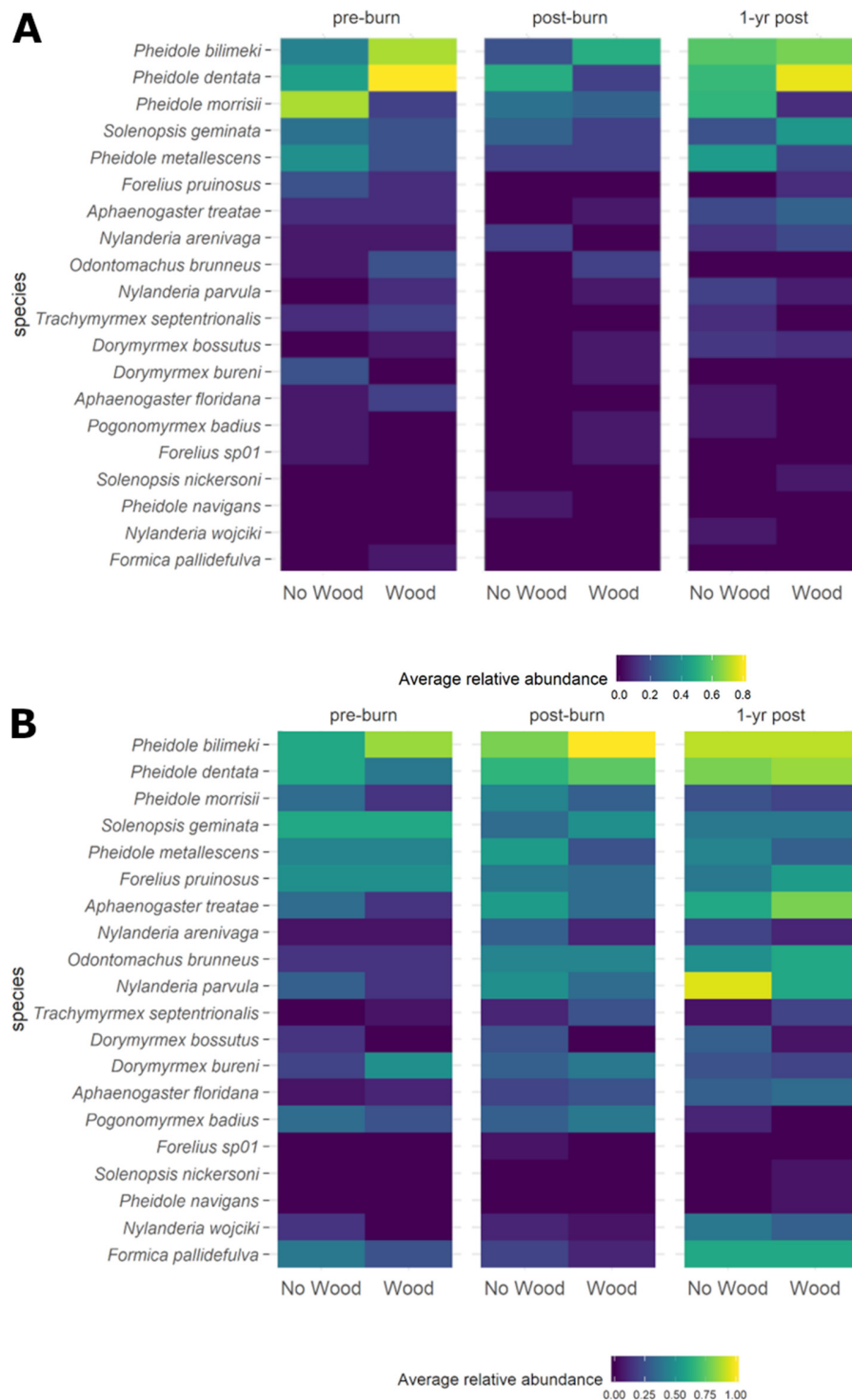


Figure S2. Average proportion of plots per sampling day in which a species was detected, by wood (coarse woody debris) presence and absence and sampling period. Species are listed in descending order according to the percent of seeds they removed over the study. A) Seed trials detection frequency. B) Tuna-honey baits detection frequency of seed-removing ants.

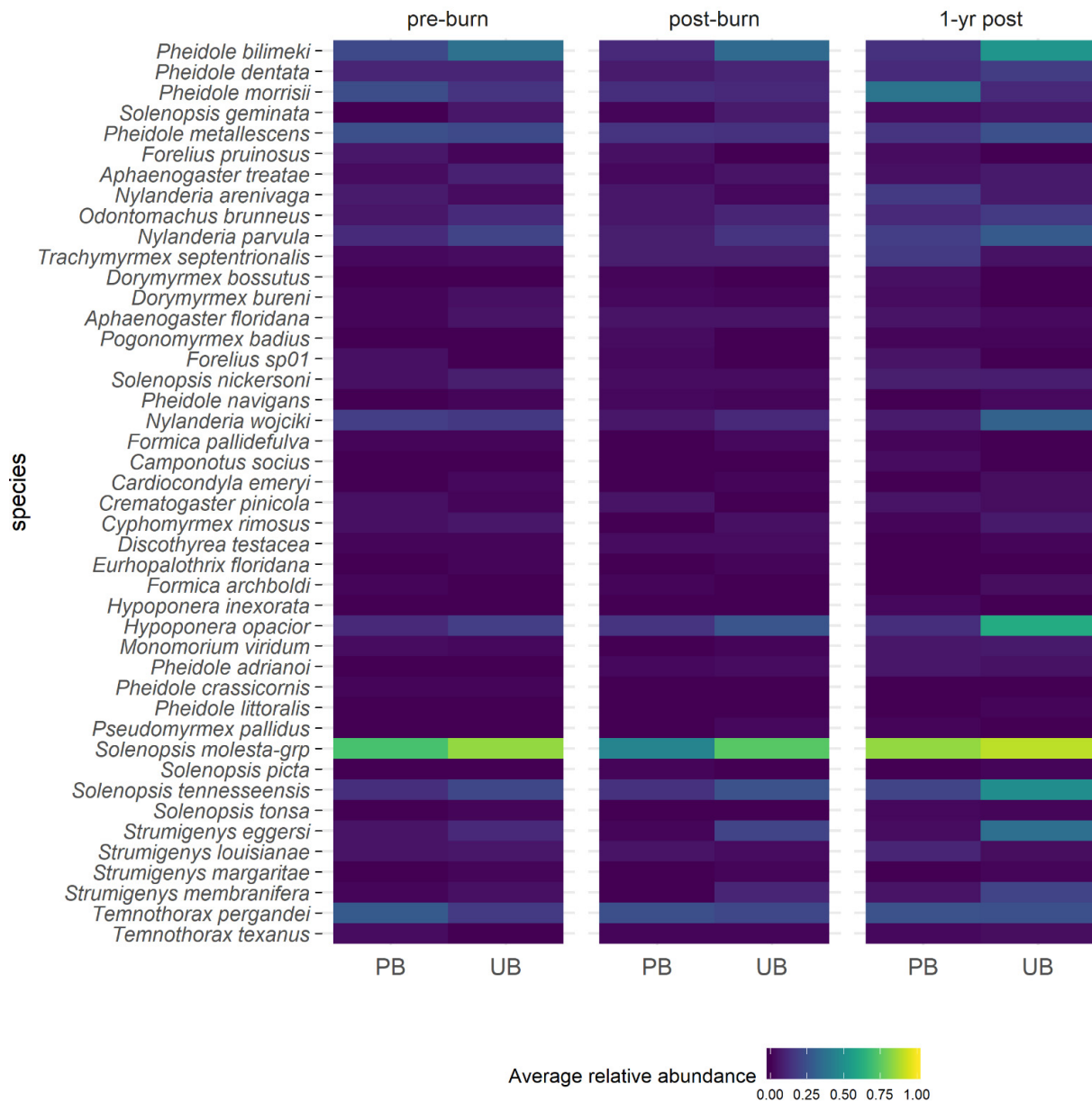


Figure S3. Litter ant detection frequency. Average proportion of samples per transect in which a species was detected, by burn treatment (PB = “Prescribed Burn”, UB = “Unburned”) and sampling period. Seed-removed species are listed first, in descending order according to the percent of seeds they removed (*Pheidole bilimeki* to *Formica pallidefulva*); remaining species are listed in alphabetical order.

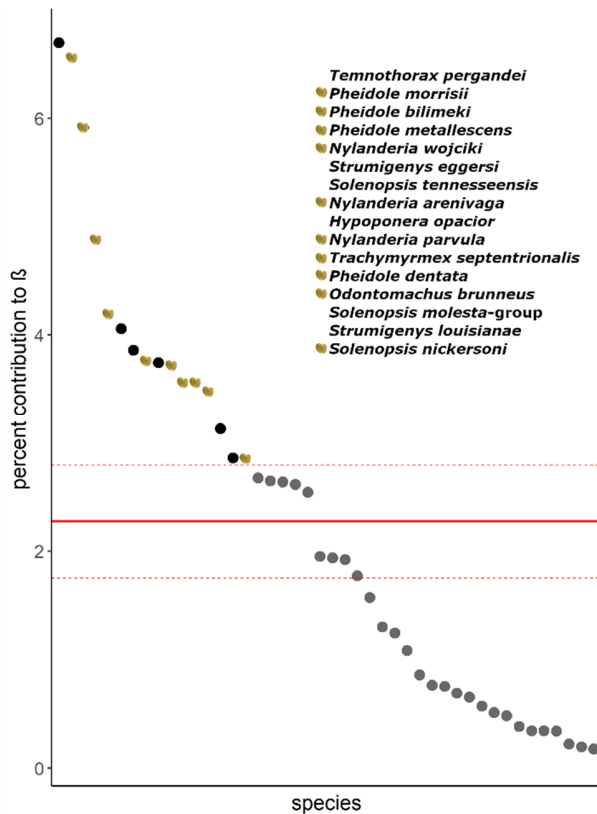


Figure S4. Species contribution to beta diversity in leaf litter samples. Species above the top-most red-dotted line contribute significantly more to beta diversity than the mean and are listed in descending order. Seed icons denote seed-removers. These seed-removers account for 42.7% beta diversity in leaf litter samples. Seed icons are modified from Tschinkel and Domínguez [75] licensed under CC-BY-4.0.