

**Table S1:** Change in number of occurrences for every species sampled at least 12 times in unlogged forest (= at least once per transect, on average). Data are shown separately for: (A) species decreasing, (B) species unaffected, and (C) species increasing after repeated logging. For each genus, the total number of species sampled is shown in brackets. Occurrences are shown for unlogged (UL) and twice-logged (2L) forest. Asterisks show statistical significance of difference in occurrences between habitats (\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ).

### A) Species Decreasing After Logging

Subfamily	Genus	Species	UL	2L	Wald Chi-Square
<b>Formicinae</b>	<i>Acropyga</i> (2)	<i>nr oceanica</i> Emery, 1900	12	1	6.2*
	<i>Myrmoteras</i> (3)	<i>donisthorpei</i> Wheeler, W.M., 1916	13	5	3.7, (p=0.054)
<b>Myrmicinae</b>	<i>Monomorium</i> (4)	<i>sp1</i>	33	15	9.1**
		<i>sp4</i>	12	3	5.1*
	<i>Oligomyrmex</i> (5)	<i>sp2</i>	62	49	5.5*
		<i>sp3</i>	25	14	4.4*
		<i>sp4</i>	23	10	6.1*
	<i>Pheidole</i> (27)	<i>aristotelis</i> Forel, 1911	31	12	10.6****
		<i>rabo</i> Forel, 1914	46	31	5.3*
		<i>sarawakana</i> Forel, 1911	19	8	5.1*
		<i>tjibodana</i> Forel, 1905	45	29	6.1*
		<i>sp7</i>	52	31	10.3****
		<i>sp8</i>	20	9	4.9*
	<i>Recurvidris</i> (4)	<i>sp10</i>	43	25	7.9**
		<i>browni</i> Wilson, 2003	19	2	10.6****
		<i>sp2</i>	17	2	9.3****
	<i>Strumigenys</i> (19)	<i>sp4</i>	12	1	6.2*
		<i>ignota</i> Bolton, 2000	15	6	4.1*
<i>Vollenhovia</i> (5)	<i>sp1</i>	19	1	9.4**	
<b>Ponerinae</b>	<i>Cryptopone</i> (1)	<i>Sp</i>	16	6	4.8*
	<i>Hypoponera</i> (9)	<i>sp1</i>	47	27	9.5**
		<i>sp3</i>	26	10	8.5**
	<i>Ponera</i> (5)	<i>xenagos</i> Wilson, 1957	35	16	9.8**
		<i>sp3</i>	55	32	12.3****
<i>sp5</i>		12	1	6.2*	
		<b>Total</b>	<b>709</b>	<b>346</b>	

## B) Species Not Significantly Affected By Logging

Subfamily	Genus	Species	UL	2L
<b>Dolichoderinae</b>	<i>Dolichoderus</i> (4)	<i>thoracicus</i> (Smith, F., 1860)	12	6
	<i>Technomyrmex</i> (6)	<i>sp2</i>	12	20
<b>Formicinae</b>	<i>Paratrechina</i> (9)	<i>sp2</i>	67	60
		<i>sp3</i>	19	14
<b>Myrmicinae</b>	<i>Calyptomyrmex</i> (2)	<i>sp1</i>	18	10
	<i>Crematogaster</i> (9)	<i>sp2</i>	15	15
	<i>Eurhopalothrix</i> (3)	<i>jennya</i> Taylor, 1990	26	31
	<i>Lophomyrmex</i> (2)	<i>bedoti</i> Emery, 1893	62	65
	<i>Mayriella</i> (1)	<i>transfuga</i> Baroni Urbani 1977	13	7
	<i>Monomorium</i> (4)	<i>australicum</i> Forel, 1907	20	25
	<i>Pheidole</i> (27)	<i>annexus</i> Eguchi 2001	16	10
		<i>cariniceps</i> Eguchi, 2001	16	9
		<i>sp12</i>	12	10
	<i>Pheidologeton</i> (3)	<i>affinis</i> (Jerdon, 1851)	24	22
	<i>Solenopsis</i> (2)	<i>sp1</i>	24	29
	<i>Strumigenys</i> (19)	<i>fuarda</i> Bolton, 2000	24	30
		<i>sp1</i>	65	57
		<i>sp21</i>	16	15
	<i>Tetramorium</i> (10)	<i>sp1</i>	32	32
		<i>sp2</i>	37	26
		<i>sp3</i>	17	11
<i>Vollenhovia</i> (5)	<i>sp3</i>	12	11	
<b>Ponerinae</b>	<i>Anochetus</i> (3)	<i>graeffei</i> Mayr, 1870	15	12
	<i>Hypoponera</i> (9)	<i>sp5</i>	15	12
		<i>sp7</i>	22	15
<i>Pachycondyla</i> (9)	<i>nr obscurans</i> (Walker 1859)	32	25	
		<b>Total</b>	<b>643</b>	<b>579</b>

### C) Species Increasing After Logging

Subfamily	Genus	Species	UL	2L	Wald Chi-Square
Myrmicinae	<i>Oligomyrmex</i> (5)	<i>sp1</i>	58	71	5.5*

**Table S2: Occurrences for all species in unlogged (UL) and twice-logged (2L) forest.**

Subfamily	Genus	Species	UL	2L
<b>Cerapachyinae</b>	<i>Cerapachys</i>	<i>dohertyi</i> Emery, 1902	3	1
		<i>hewitti</i> Brown, 1975	2	6
		<i>nr dominulus</i> Wilson, 1959	1	0
		<i>sp1</i>	7	2
		<i>sp2</i>	5	2
		<i>sp5</i>	1	0
		<i>sp6</i>	3	3
		<i>sp7</i>	1	2
		<i>sp8</i>	1	0
		<i>sp10</i>	0	1
		<i>sp13</i>	0	1
		<i>sp14</i>	1	1
<b>Dolichoderinae</b>	<i>Dolichoderus</i>	<i>indrapurensis</i> Forel, 1912	1	0
		<i>pastorulus</i> Dill, 2002	0	1
		<i>thoracicus</i> Smith, F., 1860	12	6
		<i>sp3</i>	0	1
	<i>Loweriella</i>	<i>boltoni</i> Shattuck, 1992	4	4
	<i>Technomyrmex</i>	<i>sp1</i>	4	2
		<i>sp2</i>	12	20
		<i>sp3</i>	2	0
		<i>sp4</i>	1	3
		<i>sp5</i>	5	1
		<i>sp6</i>	2	0

<b>Formicinae</b>	<i>Acropyga</i>	<i>acutiventris</i> Roger, 1862	1	0
		<i>oceanica</i> Emery, 1900	12	1
	<i>Anoplolepis</i>	<i>gracilipes</i> Smith, 1857	0	3
	<i>Camponotus</i>	<i>sp1</i>	2	0
		<i>sp2</i>	1	0
		<i>sp3</i>	2	1
		<i>sp4</i>	0	1
		<i>sp5</i>	0	1
		<i>sp6</i>	2	0
	<i>Myrmoteras</i>	<i>bakeri</i> Wheeler, 1919	8	2
		<i>donisthorpei</i> Wheeler, 1916	13	5
		<i>iriodum</i> Moffett, 1985	1	0
	<i>Paratrechina</i>	<i>longicornis</i> Latreille, 1802	3	4
		<i>sp1</i>	3	5
		<i>sp2</i>	67	60
		<i>sp3</i>	19	14
		<i>sp4</i>	4	1
		<i>sp5</i>	0	1
		<i>sp6</i>	3	0
		<i>sp9</i>	0	1
		<i>sp10</i>	1	0
		<i>Plagiolepis</i>	<i>sp1</i>	0
	<i>Polyrhachis</i>	<i>bellicosa</i> Smith, 1859	1	0
		<i>equina</i> Smith, 1859	1	1
		<i>phalerata</i> Menozzi, 1926	1	1
		<i>sukarmani</i> Kohout, 2007	2	1
		<i>sp5</i>	0	1
<i>Pseudolasius</i>	<i>sp1</i>	9	11	
	<i>sp2</i>	5	5	

<b>Myrmicinae</b>	<i>Acanthomyrmex</i>	<i>ferox</i> Emery, 1893	6	1
		<i>basispinosus</i> Moffett, 1986	11	11
	<i>Aphaenogaster</i>	<i>sp1</i>	0	3
	<i>Calyptomyrmex</i>	<i>nr beccarii</i> Emery, 1887	1	1
		<i>sp1</i>	18	10
	<i>Cardiocondyla</i>	<i>sp1</i>	4	2
		<i>nr tjibodana</i> Karavaiev, 1935	0	1
	<i>Crematogaster</i>	<i>coriaria</i> Mayr, 1872	2	1
		<i>modigliani</i> Emery, 1900	2	2
		<i>sp1</i>	4	3
		<i>sp2</i>	15	15
		<i>sp4</i>	6	1
		<i>sp5</i>	6	1
		<i>sp6</i>	3	2
		<i>sp8</i>	0	1
		<i>sp9</i>	0	2
		<i>Dacetinops</i>	<i>concinus</i> Taylor, 1965	5
	<i>Eurhopalothrix</i>	<i>coronata</i> Taylor, 1990	1	3
		<i>dubia</i> Taylor, 1990	4	10
		<i>jennya</i> Taylor, 1990	26	31
	<i>Lophomyrmex</i>	<i>bedoti</i> Emery, 1893	62	65
		<i>longicornis</i> Rigato, 1994	10	7
	<i>Lordomyrma</i>	<i>reticulata</i> Lucky & Samat, 2008	6	6
		<i>sp1</i>	1	5
	<i>Mayriella</i>	<i>transfuga</i> Baroni Urbani, 1977	13	7
	<i>Meranoplus</i>	<i>malaysianus</i> Schoedl, 1998	0	2
	<i>Monomorium*</i>	<i>australicum</i> Forel, 1907	20	25
		<i>sp1</i>	33	15
		<i>sp4</i>	12	3
		<i>sp5</i>	5	6

<b>Myrmicinae (contd.)</b>	<i>Myrmecina</i>	<i>sp1</i>	10	5
		<i>sp2</i>	4	3
		<i>sp3</i>	3	4
		<i>sp4</i>	0	1
		<i>sp5</i>	1	0
	<i>Myrmicaria</i>	<i>carinata</i> Smith, 1857	3	1
		<i>sp2</i>	2	0
	<i>Oligomyrmex</i>	<i>sp1</i>	58	71
		<i>sp2</i>	62	49
		<i>sp3</i>	25	14
		<i>sp4</i>	23	10
		<i>sp6</i>	0	1
	<i>Pheidole</i>	<i>angulicolis</i> Eguchi, 2001	1	5
		<i>annexus</i> Eguchi, 2001	16	10
		<i>aristotelis</i> Forel, 1911	31	12
		<i>cariniceps</i> Eguchi, 2001	16	9
		<i>gombakensis</i> Eguchi, 2001	3	9
		<i>quadrensis</i> Forel, 1900	1	1
		<i>rabo</i> Forel, 1913	46	31
		<i>sabahna</i> Eguchi, 2000	0	4
		<i>sauberi</i> Forel, 1905	0	8
		<i>sarawakana</i> Forel, 1911	19	8
		<i>spinicornis</i> Eguchi, 2001	1	3
		<i>tjibodana</i> Forel, 1905	45	29
		<i>sp4</i>	6	2
		<i>sp7</i>	52	31
		<i>sp8</i>	20	9
	<i>sp9</i>	6	3	
	<i>sp10</i>	43	25	
	<i>sp12</i>	12	10	
<i>sp14</i>	5	4		
<i>sp15</i>	4	6		



<b>Myrmicinae (contd.)</b>	<i>Pheidole (contd.)</i>	<i>sp18</i>	1	0
		<i>sp19</i>	0	1
		<i>sp22</i>	1	0
		<i>sp25</i>	0	1
		<i>sp26</i>	1	1
		<i>sp27</i>	0	3
		<i>sp28</i>	0	1
	<i>Pheidologeton</i>	<i>affinis</i> Jerdon, 1851	24	22
		<i>pygmaeus</i> Emery, 1887	9	4
		<i>sp1</i>	1	0
	<i>Pristomyrmex</i>	<i>rigidus</i> Wang, 2003	6	4
	<i>Proatta</i>	<i>butтели</i> Forel, 1912	6	5
	<i>Pyramica</i>	<i>mitis</i> Brown, 2000	8	5
		<i>sp2</i>	6	14
		<i>sp3</i>	1	2
		<i>sp5</i>	3	1
		<i>sp7</i>	1	2
		<i>sp8</i>	0	1
	<i>Recurvidris</i>	<i>browni</i> Bolton, 1992	19	2
		<i>sp2</i>	17	2
		<i>sp3</i>	4	2
		<i>sp4</i>	12	1
	<i>Rhoptromyrmex</i>	<i>sp1</i>	1	3
	<i>Solenopsis</i>	<i>sp1</i>	24	29
		<i>sp2</i>	4	2
	<i>Strumigenys</i>	<i>amasara</i> Bolton, 2000	6	8
		<i>fuarda</i> Bolton, 2000	24	30
		<i>ignota</i> Bolton, 2000	15	6
		<i>inhonesta</i> Bolton, 2000	1	0
		<i>kraepelini</i> Forel, 1905	3	0
		<i>lebratyx</i> Bolton, 2000	4	2

<b>Myrmicinae (contd.)</b>	<i>Strumigenys (contd.)</i>	<i>prosopis</i> Bolton, 2000	1	1
		<i>rhadina</i> Bolton, 2000	0	1
		<i>rotogenys</i> Bolton, 2000	5	2
		<i>nr doriae</i> Emery, 1887	4	1
		<i>sp1</i>	65	57
		<i>sp2</i>	10	21
		<i>sp6</i>	3	0
		<i>sp7</i>	3	1
		<i>sp9</i>	1	1
		<i>sp10</i>	11	12
		<i>sp12</i>	4	7
		<i>sp21</i>	16	15
		<i>sp24</i>	0	1
	<i>Tetramorium</i>	<i>insolens</i> Smith, 1861	6	7
		<i>noratum</i> Bolton, 1977	3	7
		<i>sp1</i>	32	32
		<i>sp2</i>	37	26
		<i>sp3</i>	17	11
		<i>sp4</i>	1	5
		<i>sp6</i>	1	0
		<i>sp7</i>	11	9
		<i>sp10</i>	1	0
		<i>sp11</i>	0	1
		<i>Vollenhovia</i>	<i>sp1</i>	19
	<i>sp2</i>		1	3
	<i>sp3</i>		12	11
	<i>sp4</i>		2	2
	<i>sp5</i>		1	5

<b>Ponerinae</b>	<i>Anochetus</i>	<i>graeffei</i> Mayr, 1870	15	12
		<i>incultus</i> Brown, 1978	1	1
		<i>sp2</i>	4	5
	<i>Cryptopone</i>	<i>sp1</i>	16	6
	<i>Diacamma</i>	<i>intricatum</i> Smith, 1857	4	1
		<i>rugosum</i> Le Guillou, 1842	2	0
	<i>Discothyrea</i>	<i>sp1</i>	8	3
		<i>sp2</i>	8	7
	<i>Emeryopone</i>	<i>buttelreepeni</i> Forel, 1912	0	1
	<i>Gnamptogenys</i>	<i>binghamii</i> Forel, 1900	2	3
		<i>costata</i> Emery, 1889	0	4
		<i>cribrata</i> Emery, 1900	7	10
		<i>leiolabia</i> Lattke, 2004	1	4
		<i>posteropsis</i> Gregg, 1951	1	1
		<i>sp1</i>	2	5
	<i>Hypoponera</i>	<i>sp1</i>	47	27
		<i>sp2</i>	10	4
		<i>sp3</i>	26	10
		<i>sp4</i>	1	1
		<i>sp5</i>	22	15
		<i>sp6</i>	2	3
		<i>sp7</i>	27	33
		<i>sp8</i>	3	2
		<i>sp10</i>	2	2
	<i>Leptogenys</i>	<i>mutabilis</i> Smith, 1861	4	1
		<i>sp3</i>	0	1
		<i>sp5</i>	4	3
		<i>sp6</i>	1	0
		<i>sp7</i>	3	3
		<i>sp8</i>	1	0
		<i>sp9</i>	1	2
<i>Myopias</i>	<i>nr tenuis</i> Emery, 1900	1	6	
<i>Mystrium</i>	<i>camillae</i> Emery, 1887	7	3	
<i>Odontomachus</i>	<i>rixosus</i> Smith, 1857	5	6	

<b>Ponerinae (contd.)</b>	<i>Odontoponera</i>	<i>transversa</i> Smith, 1857	5	1
		<i>sp2</i>	4	3
	<i>Pachycondyla</i>	<i>leeuwenhoeeki</i> Forel, 1886	3	9
		<i>nr. obscurans</i> Walker 1859	32	25
		<i>rubra</i> Smith, 1857	8	3
		<i>tridentata</i> Smith, 1858	1	1
		<i>sp6</i>	0	1
		<i>sp7</i>	2	0
		<i>sp9</i>	1	0
		<i>sp10</i>	0	1
		<i>sp12</i>	1	0
		<i>Ponera</i>	<i>xenagos</i> Wilson, 1957	35
	<i>sp2</i>		1	12
	<i>sp3</i>		55	32
	<i>sp5</i>		12	1
	<i>sp6</i>		9	7
	<i>Prionopelta</i>	<i>kraepelini</i> Forel, 1905	3	2
	<i>Proceratium</i>	<i>nr. stictum</i> Brown, 1958	3	1
		<i>sp2</i>	1	0
<i>sp3</i>		1	1	
<b>Pseudomyrmecinae</b>	<i>Tetraponera</i>	<i>sp1</i>	1	0
		<i>sp2</i>	1	0

\* *Monomorium floricola* excluded from unlogged and twice-logged forest datasets because it contaminated a number of Winkler traps.



**Table S3:** Multiplicative partitioning of species richness in unlogged forest (UL) and twice-logged forest (2L). Results are presented for the overall dataset with All Species (bold; see table 2) and with singletons (1) and singletons + doubletons (1+2) removed. Also presented are comparisons of species richness partitioning within groups of unlogged and twice-logged forest sites with similar spatial arrangements in each type of forest (Group A and Group B, see figure 1).  $\alpha_1$ , average number of species per census point;  $\beta_1$ , species turnover between census points within transects;  $\beta_2$ , turnover between transects within sites;  $\beta_3$ , turnover between sites in each forest;  $\gamma$ , average number of species per site within each forest. In all cases,  $\gamma = \alpha_1 * \beta_1 * \beta_2 * \beta_3$ .

OVERALL DATASET						GROUP A		GROUP B	
All Species		1		1+2		All Species		All Species	
UL	2L	UL	2L	UL	2L	UL	2L	UL	2L
$\alpha_1$	<b>22.73</b> <b>17.80</b>	22.11	17.10	21.70	16.5	22.00	18.62	23.45	16.98
$\beta_1$	<b>3.15</b> <b>3.42</b>	3.05	3.27	2.99	3.16	3.09	3.44	3.23	3.40
$\beta_2$	<b>1.40</b> <b>1.44</b>	1.35	1.39	1.34	1.35	1.42	1.42	1.36	1.47
$\beta_3$	<b>1.96</b> <b>2.24</b>	1.58	1.76	1.46	1.58	1.61	1.75	1.56	1.68
$\gamma$	<b>196</b> <b>196</b>	144	137	127	112	156	159	161	142