

S1 – Details of literature search methodology on carrion-baited butterfly trapping studies, and summary results table of the search.

We carried out a literature review to assess the prevalence of butterfly studies that include carrion-baited traps in their methodology on the ISI Web of Science database (<http://wok.mimas.ac.uk/>). Search terms focused on tropical butterfly studies, and those that assessed anthropogenic disturbance, habitat loss and habitat change. The timeframe of publishing date was not specified so that papers from all available years would be included. Studies were located using keywords: *tropical*, *Neotropical*, *butterflies*, *Lepidoptera*, *Papilioidea*, *disturbance*, *habitat change*, *habitat loss*, *deforestation*, *regeneration*, and *carrion*. In most cases \* was used in conjunction with the search term to include all variations of the word. Only studies that sampled adult butterflies were included, and studies that focused on a single genus or species were not included. Only three studies were located that included carrion as a bait to sample tropical butterflies in areas of anthropogenic disturbance, one of which was carried out at the same site that this study is located (Whitworth *et al.* 2016b).

Comparison between ...	Survey period	Vertical trap height	Bait type	Study location	Reference
Forest interior patches, forest edges and small forest fragments	Dry season	Understorey only	Fermented banana with sugar cane juice	Atlantic Forest, Brazil	Filgueiras et al., 2016
3 forest areas with different reforestation ages (11, 22 and 54 years)	Hot season	Not stated (understorey presumed)	Fermented banana with sugar cane juice	Atlantic Forest, Brazil	Sant'Anna et al., 2014
Roadside and forest interior	Multi-year, wet and dry season	Understorey and sub-canopy	Fruit	E Ecuador	Whitworth et al., 2015
Intact primary forest, heavily logged forest with and without arboricide treatment (around 43 years ago) and conifer-clearcut (9-19 years old)	Year round survey	Understorey only	Fermented banana	S Uganda	Nyafwono et al., 2014
Primary forest, secondary forest, young planted forest, farmland, clear-cut, 2x wetland control sites	Multi-year but no seasonal information provided	Understorey only	Mashed banana	C Ghana	Sáfián et al., 2011
Range of forest disturbance levels	Wet season	Understorey only	Fermented banana	NE Vietnam	Hayes et al., 2009
Forest vs previously selectively logged forest	Multi-year, multi-season	Understorey and canopy	Fresh and fermenting banana	N Borneo	Dumbrell and Hill 2005
Forest interior vs forest fragments	"most favourable season for frugivorous butterflies"	Understorey only	Fermented banana with sugar cane juice	SE Brazil	Uehara-Prado et al., 2006
Near-secondary forest, secondary forest, agroforestry sites, annual culture sites	Dry season	Understorey only	Fermented banana	SW Cameroon	Bobo et al., 2006
Natural forest vs disturbed forest (forest gardening and small-scale logging)	Wet season	Multi-level	Fermented banana	C Sulawesi, Indonesia	Fermon et al., 2005
Primary forest vs previously selectively logged forest	Multi-year, multi-season	Not stated (understorey presumed)	Fermented banana	N Borneo	Hamer et al., 2003
Logged and unlogged forest	Year round survey (excluding Dec, Jan and May)	Not stated (understorey presumed)	Fermented banana	SW Belize	Lewis, 2001
Primary, degraded, secondary and edge forest	Year round survey	Understorey and canopy	Fermented banana	E Ecuador	DeVries et al., 1997
Primary forest vs	Wet and dry season	Understorey and canopy	Fermented banana with palm wine	W Ghana	Aduse-Poku et al., 2012
Secondary forest fragments in agropasture matrix	Wet season	Mid-storey	Fermented fruit	S Mexico	Marín et al., 2008
Primary, secondary and plantation forest	Wet and dry season, transitional seasons	Understorey and canopy	Fermented banana	NE Brazil	Barlow et al., 2007
Mature forest vs secondary forest	Multi-season	Not stated (understorey presumed)	Fermented fruit	SE Mexico	Vester et al., 2007
Forest vs coffee plantations of differing intensity	Hot season	Understorey and canopy	Fermented banana or plantain	S Mexico	Perfecto et al., 2003
Selectively logged, completely cleared and mosaic forest	Year round survey	Understorey, mid-storey and canopy	Fermented banana and rotten fish	SE Peru	Whitworth et al., 2016
Mostly continuous forest with some agroforestry, limited agriculture, some suburban or commercial agricultural use, mosaic landscape with extensive human presence, industrial use of land, urban landscape	Multi-year, wet and dry season	Not stated (understorey presumed)	Census on transects with baits and traps (excrement, carcasses and rotting fruit as baits)	Atlantic Forest, Brazil	Brown and Freitas, 2000

S2 – Full model selection tables and detailed top-model outputs for both butterfly abundance and species richness.

## Abundance

```
Model selection table
  (Int) bat frs str wek bat:str bat:wek bat:frs df logLik AICc delta weight
a16 1.771 + + + + + + + 16 -1375.54 2784.4 0.00 0.597
a17 1.792 + + + + + + + 18 -1373.88 2785.4 1.03 0.357
a14 1.573 + + + + + + + 14 -1380.39 2789.8 5.40 0.040
a15 2.117 + + + + + + + 13 -1383.43 2793.7 9.34 0.006
a1 1.924 + + + + + + + 11 -1388.47 2799.6 15.18 0.000
a13 1.970 + + + + + + + 13 -1386.98 2800.8 16.44 0.000
a11 2.373 + + + + + + + 9 -1401.00 2820.4 36.04 0.000
a12 2.316 + + + + + + + 10 -1413.08 2846.7 62.29 0.000
a7 2.279 + + + + + + + 8 -1421.67 2859.7 75.29 0.000
a9 2.705 + + + + + + + 6 -1432.27 2876.7 92.35 0.000
a8 2.569 + + + + + + + 7 -1439.93 2894.1 109.73 0.000
a4 3.030 + + + + + + + 5 -1450.39 2910.9 126.53 0.000
a5 2.171 + + + + + + + 6 -1491.74 2995.7 211.29 0.000
a10 1.821 + + + + + + + 6 -1492.02 2996.2 211.85 0.000
a6 2.123 + + + + + + + 4 -1500.12 3008.3 223.94 0.000
a3 2.133 + + + + + + + 5 -1506.25 3022.6 238.25 0.000
a2 2.453 + + + + + + + 3 -1514.03 3034.1 249.73 0.000

Models ranked by AICc(x)
Random terms (all models):
'1 | siteID'

> anova(a16, a17)
Analysis of Deviance Table

Model 1: abund ~ forest + strata + week + bait + bait * forest + bait * week
Model 2: abund ~ forest + strata + week + bait + bait * forest + bait * week + bait * strata
  NoPar LogLik Df Deviance Pr(>Chi)
1   16 -1375.5
2   18 -1373.9  2      3.32   0.1901

> confint(a16)
              2.5 %    97.5 %
(Intercept) 1.44715654 2.0950422
forestMXD   -0.03815666 0.5635523
forestSLR    0.20585581 0.8018025
strataB_mid -1.02629132 -0.6299866
strataC_high -1.68896347 -1.2738039
weekB_Apr_Jun -0.19694837 0.5164785
weekC_Jul_Sep  0.70908006 1.3970274
weekD_Oct_Dec 0.72422460 1.4039009
baitFish     0.45123585 1.2906100
forestMXD:baitFish 0.02565786 0.8495875
forestSLR:baitFish 0.23069207 1.0420780
weekB_Apr_Jun:baitFish -1.19761711 -0.2308061
weekC_Jul_Sep:baitFish -1.23978943 -0.3077482
weekD_Oct_Dec:baitFish -1.32418644 -0.3938699

> summary(a16)
Coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) 1.771     0.165  10.72 < 2e-16 ***
forestMXD   0.263     0.154   1.71  0.08701 .
forestSLR   0.504     0.152   3.31  0.00092 ***
strataB_mid -0.828    0.101  -8.19  2.6e-16 ***
strataC_high -1.481    0.106 -13.99 < 2e-16 ***
weekB_Apr_Jun 0.160     0.182   0.88  0.38004
weekC_Jul_Sep  1.053     0.176   6.00  2.0e-09 ***
weekD_Oct_Dec 1.064     0.173   6.14  8.4e-10 ***
baitFish     0.871     0.214   4.07  4.8e-05 ***
forestMXD:baitFish 0.438     0.210   2.08  0.03734 *
forestSLR:baitFish 0.636     0.207   3.07  0.00211 **
weekB_Apr_Jun:baitFish -0.714    0.247  -2.90  0.00378 **
weekC_Jul_Sep:baitFish -0.774    0.238  -3.25  0.00114 **
weekD_Oct_Dec:baitFish -0.859    0.237  -3.62  0.00030 ***

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Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Number of observations: total=432, siteID=18
```

## Species Richness

```
Model selection table
  (Int) bat frs str wek bat:str bat:wek bat:frs df logLik AICc delta weight
a16 1.450 + + + + + + + 16 -1180.31 2393.9 0.00 0.671
a14 1.303 + + + + + + + 14 -1183.88 2396.8 2.84 0.162
a17 1.472 + + + + + + + 18 -1179.58 2396.8 2.89 0.158
a15 1.737 + + + + + + + 13 -1188.10 2403.1 9.14 0.007
a1 1.593 + + + + + + + 11 -1191.88 2406.4 12.46 0.001
a13 1.622 + + + + + + + 13 -1191.23 2409.3 15.40 0.000
a11 1.989 + + + + + + + 9 -1205.80 2430.0 36.10 0.000
a7 1.754 + + + + + + + 8 -1221.46 2459.3 65.33 0.000
a12 1.962 + + + + + + + 10 -1225.56 2471.6 77.71 0.000
a9 2.140 + + + + + + + 6 -1234.52 2481.2 87.31 0.000
a8 2.069 + + + + + + + 7 -1249.30 2512.9 118.93 0.000
a4 2.471 + + + + + + + 5 -1261.71 2533.6 139.63 0.000
a10 1.335 + + + + + + + 6 -1292.35 2596.9 202.97 0.000
a6 1.650 + + + + + + + 4 -1303.15 2614.4 220.46 0.000
a5 1.869 + + + + + + + 6 -1303.92 2620.0 226.11 0.000
a3 1.657 + + + + + + + 5 -1312.57 2635.3 241.35 0.000
a2 1.981 + + + + + + + 3 -1322.74 2651.5 257.61 0.000

Models ranked by AICc(x)
Random terms (all models):
'1 | siteID'
```

```
> anova(a16,a14)
```

```
Analysis of Deviance Table
```

```
Model 1: rich ~ forest + strata + week + bait + bait * week
Model 2: rich ~ forest + strata + week + bait + bait * forest + bait * week
  NoPar LogLik Df Deviance Pr(>Chi)
1    14 -1183.9
2    16 -1180.3  2     7.14  0.02816 *
---
```

```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
> confint(a16)
```

	2.5 %	97.5 %
(Intercept)	1.17302831	1.7268749
forestMxD	0.03000665	0.5439484
forestSLR	0.23546075	0.7405043
strataB_mid	-0.81990664	-0.5001738
strataC_high	-1.39760056	-1.0555398
weekB_Apr_Jun	-0.28623030	0.3279440
weekC_Jul_Sep	0.42883846	1.0078902
weekD_Oct_Dec	0.48200560	1.0525511
baitFish	0.50382874	1.2069854
forestMxD:baitFish	-0.09380904	0.5923351
forestSLR:baitFish	0.12234042	0.7947649
weekB_Apr_Jun:baitFish	-1.00636630	-0.1929812
weekC_Jul_Sep:baitFish	-1.10201250	-0.3310411
weekD_Oct_Dec:baitFish	-0.98224254	-0.2204437

```
> summary(a16)
```

```
Coefficients:
```

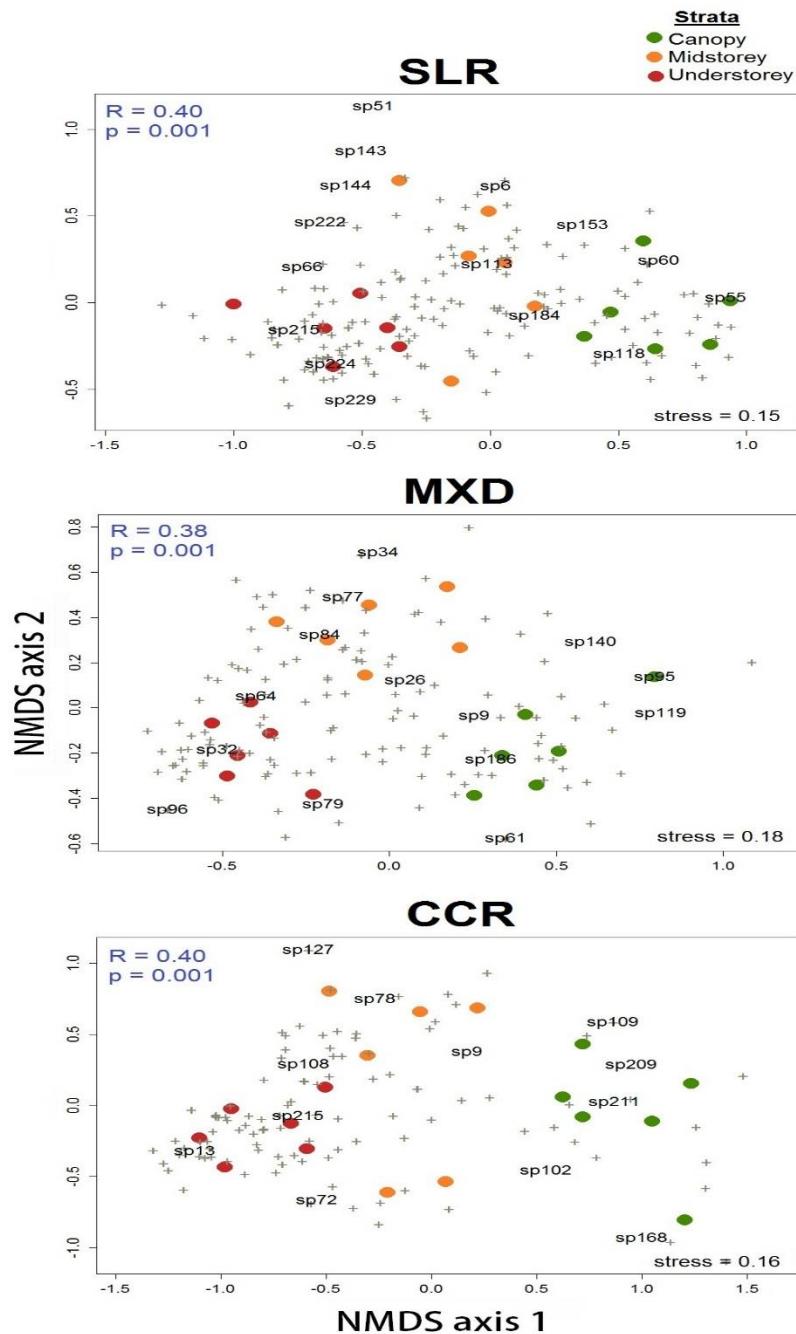
	Estimate	Std. Error	z value	Pr(> z )
(Intercept)	1.4500	0.1413	10.26	< 2e-16 ***
forestMxD	0.2870	0.1311	2.19	0.02861 *
forestSLR	0.4880	0.1288	3.79	0.00015 ***
strataB_mid	-0.6600	0.0816	-8.09	5.9e-16 ***
strataC_high	-1.2266	0.0873	-14.06	< 2e-16 ***
weekB_Apr_Jun	0.0209	0.1567	0.13	0.89410
weekC_Jul_Sep	0.7184	0.1477	4.86	1.2e-06 ***
weekD_Oct_Dec	0.7673	0.1456	5.27	1.4e-07 ***
baitfish	0.8554	0.1794	4.77	1.9e-06 ***
forestMxD:baitFish	0.2493	0.1750	1.42	0.15444
forestSLR:baitFish	0.4586	0.1715	2.67	0.00751 **
weekB_Apr_Jun:baitFish	-0.5997	0.2075	-2.89	0.00385 **
weekC_Jul_Sep:baitFish	-0.7165	0.1967	-3.64	0.00027 ***
weekD_Oct_Dec:baitFish	-0.6013	0.1943	-3.09	0.00197 **

```
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```

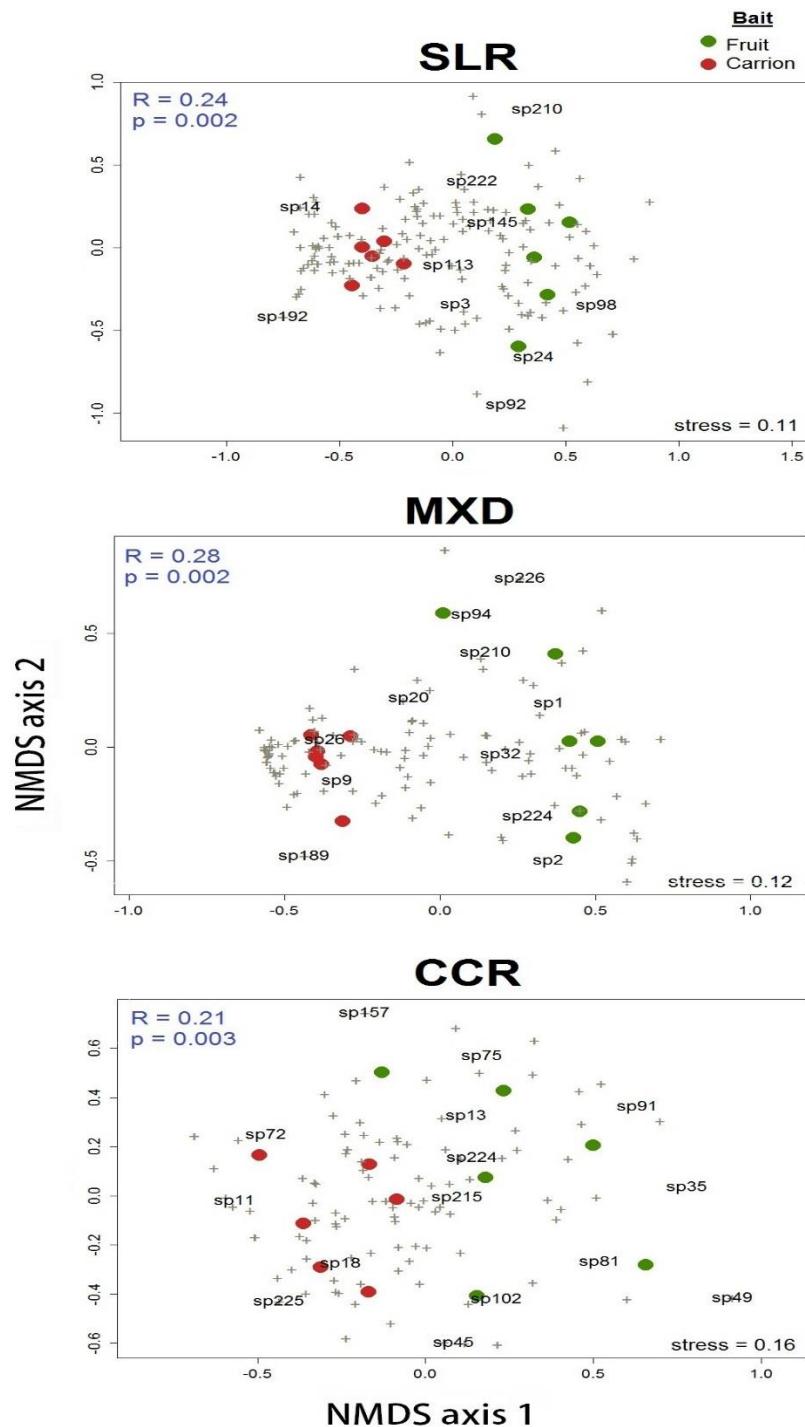
```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Number of observations: total=432, siteID=18
```

S3 - NMDS plots and associated PERMANOVA test statistics showing community differences between different vertical strata (baits combined; red points = understorey, 1-2m above ground; orange site points = midstorey, 6-10m above ground; green site points = canopy, >16m above ground). Different plots represent forests with different disturbance histories (CCR = secondary growth forest following clearance, SLR = degraded forest following selective logging and MXD = mixed disturbance regenerating forest). Point labels represent species codes, with priority for those most abundant where points overlap (see S6 for ID codes related to species).



S4 - NMDS plots and associated PERMANOVA test statistics showing that carrion (red points) and fruit baits (green points) have distinct communities across forests with different disturbance histories (CCR = secondary growth forest following clearance, SLR = degraded forest following selective logging and MXD = mixed disturbance regenerating forest). Point labels represent species codes, with priority for those most abundant where points overlap (see S6 for ID codes related to species).



S5 - The total numbers of indicator species identified for each bait type, disturbance area and vertical strata: as suggested by IndVal analysis.

		Number of Indicator Species Identified
Bait	Fruit	9
	Carrion	40
Disturbance History	Degraded by logging (SLR)	3
	Mixed Disturbance (MXD)	0
	Secondary Growth following complete clearance (CCR)	0
	SLR+CCR	1
	SLR+MXD	6
Vertical Strata	Understorey	44
	Midstorey	3
	Canopy	4
	Understorey+Midstorey	15
	Understorey+Canopy	4
	Midstorey+Canopy	6

S6 – Species summary table, showing associated ‘Analysis sp’ code related to NMDS plots. Family, tribe and associations with specific bait, vertical strata and forest type according to IndVal analysis also indicated.

MSP ID code	Identification	Family	Tribe	Analysis sp Code	Bait association	Strata association	Forest association
7	<i>Magneuptychia modesta</i>	Nymphalidae	Satyrini	1		Understorey	
9	<i>Harjesia blanda</i>	Nymphalidae	Satyrini	2		Understorey	
11	<i>Taygetamorpha celia</i>	Nymphalidae	Satyrini	3		Understorey	
12	<i>Erichthodes antonina</i>	Nymphalidae	Satyrini	4		Understorey	
13	<i>Cissia terrestris</i>	Nymphalidae	Satyrini	5			
15	<i>Splendeuptychia itonis</i>	Nymphalidae	Satyrini	6	Fruit		
16	<i>Harjesia obscura</i>	Nymphalidae	Satyrini	7		Understorey	
18	<i>Hamadryas chloe</i>	Nymphalidae	Ageroniini	8		Understorey	SLR
22	<i>Memphis glauce</i>	Nymphalidae	Anaeini	9	Carriion		
23	<i>Memphis sp.</i>	Nymphalidae	Anaeini	10			
24	<i>Memphis offa</i>	Nymphalidae	Anaeini	11	Carriion		
25	<i>Panacea prola</i>	Nymphalidae	Ageroniini	12			
26	<i>Morpho achilles</i>	Nymphalidae	Morphini	13		Understorey	
27	<i>Caligo euphorbus</i>	Nymphalidae	Brassolini	14		Understorey	
28	<i>Heliconius sara</i>	Nymphalidae	Heliconiini	15			
29	<i>Heliconius doris</i>	Nymphalidae	Heliconiini	16	Carriion		MXD, SLR
30	<i>Caeruleuptychia ziza</i>	Nymphalidae	Satyrini	17			
31	<i>Archaeoprepona demophon</i>	Nymphalidae	Preponini	18	Carriion	Understorey	
32	<i>Ostrinotes sp2</i>	Lycaenidae	Eumaeini	19			
33	<i>Nessaea hewitsonii</i>	Nymphalidae	Catonephelini	20		Understorey	MXD, SLR
34	<i>Memphis sp3</i>	Nymphalidae	Anaeini	21	Carriion		
35	UID			22			
36	<i>Hypoleria lavinia</i>	Nymphalidae	Ithomiini	23			
37	<i>Vila azeca</i>	Nymphalidae	Biblidini	24		Understorey	
39	<i>Heliconius numata</i>	Nymphalidae	Heliconiini	25			
40	<i>Heliconius hecale</i>	Nymphalidae	Heliconiini	26			MXD, SLR
41	<i>Heliconius numata</i>	Nymphalidae	Heliconiini	27	Carriion	Midstorey, Understorey	

43	<i>Heliconius melpomene</i>	Nymphalidae	Heliconiini	28		
45	<i>Heliconius pardalinus</i>	Nymphalidae	Heliconiini	29		
46	<i>Tithorea harmonia</i>	Nymphalidae	Ithomiini	30		
47	<i>Tithorea harmonia</i>	Nymphalidae	Ithomiini	31		
49	<i>Nessaea obrinus</i>	Nymphalidae	Catonephelini	32		Understorey
51	<i>Tigridia acesta</i>	Nymphalidae	Nymphalini	33	Carrion	Understorey
53	<i>Baeotus aeilus</i>	Nymphalidae	Coeini	34	Fruit	Midstorey
55	<i>Philaethria dido</i>	Nymphalidae	Heliconiini	35	Fruit	Canopy
	<i>Hypna clytemnestra negra</i>	Nymphalidae	Anaeini	36		Understorey
57	<i>Colobura dirce</i>	Nymphalidae	Nymphalini	37		Understorey
	<i>Dynamine sosthenes smerdis</i>	Nymphalidae	Eubagini	38		
60	<i>Temenis laothoe</i>	Nymphalidae	Epiphelini	39	Carrion	Midstorey, Understorey
61	<i>Taygetis sylvia</i>	Nymphalidae	Satyrini	40	Carrion	Canopy, Understorey
62	<i>Pareuptychia ocirrhoe</i>	Nymphalidae	Satyrini	41		Understorey
63	<i>Mesosemia sp</i>	Riodinidae	Mesosemiini	42		
66	<i>Fountainea eurypyle</i>	Nymphalidae	Anaeini	43		
67	<i>UID</i>			44		
68	<i>Cissia proba</i>	Nymphalidae	Satyrini	45		
69	<i>Napeogenes juanjuensis</i>	Nymphalidae	Ithomiini	46		
70	<i>Oleria victorine</i>	Nymphalidae	Ithomiini	47		
73	<i>Ancylurius meneria</i>	Riodinidae	Riodinini	48		Understorey
76	<i>Hamadryas fornax</i>	Nymphalidae	Ageroniini	49		
77	<i>Callicore astarte</i>	Nymphalidae	Callicorini	50		
78	<i>Callicore lyca</i>	Nymphalidae	Callicorini	51		
79	<i>Fountainea halice</i>	Nymphalidae	Anaeini	52		
80	<i>Eunica sophonisba</i>	Nymphalidae	Catonephelini	53		
81	<i>Fountainea ryphea</i>	Nymphalidae	Anaeini	54		
83	<i>UID</i>			55		Canopy
85	<i>Batesia hypochlora</i>	Nymphalidae	Ageroniini	56	Carrion	Understorey
87	<i>Zaretis itys</i>	Nymphalidae	Anaeini	57		
89						SLR

90	<i>Opsiphanes cassina</i>	Nymphalidae	Brassolini	58	Carrion	Understorey	
91	<i>Ectima iona</i>	Nymphalidae	Ageroniini	59			
	<i>Hamadryas iphthime</i>	Nymphalidae	Ageroniini	60			
92	<i>iphthime</i>						
93	<i>Cissia sp.</i>	Nymphalidae	Satyrini	61			
94	<i>Splendeuptychia furina</i>	Nymphalidae	Satyrini	62			
96	<i>Panacea regina</i>	Nymphalidae	Ageroniini	63			
97	<i>Memphis praxias</i>	Nymphalidae	Anaeini	64	Carrion	Understorey	MXD, SLR
98	<i>Catoblepia xanthicles</i>	Nymphalidae	Brassolini	65	Carrion	Canopy, Understorey	
99	<i>Catoblepia berecynthia</i>	Nymphalidae	Brassolini	66	Carrion	Understorey	
102	<i>Taygetis elegia</i>	Nymphalidae	Satyrini	67		Understorey	
103	<i>Hypothris ninonia</i>	Nymphalidae	Ithomiini	68			
104	<i>Morpho helenor</i>	Nymphalidae	Morphini	69		Understorey	
106	<i>Heliconius numata</i>	Nymphalidae	Heliconiini	70			
107	<i>Tithorea harmonia</i>	Nymphalidae	Ithomiini	71		Understorey	
108	<i>Memphis basilia</i>	Nymphalidae	Anaeini	72	Carrion	Midstorey, Understorey	
111	<i>Myscelia capenae</i>	Nymphalidae	Catonephelini	73			SLR
113	<i>Adelpha boreas</i>	Nymphalidae	Limenitidini	74			
114	<i>Chloreuptychia herseis</i>	Nymphalidae	Satyrini	75	Fruit	Midstorey, Understorey	
115, 318	<i>Caeruleuptychia cyanites</i>	Nymphalidae	Satyrini	76			
116, 325	<i>Temenis pulchra</i>	Nymphalidae	Epiphelini	77	Carrion	Midstorey	
120, 290	<i>Adelpha iphiclus</i>	Nymphalidae	Limenitidini	78	Carrion	Canopy, Midstorey	
122	<i>Chloreuptychia chlorimene</i>	Nymphalidae	Satyrini	79	Fruit	Understorey	
123	<i>Opsiphanes invirae</i>	Nymphalidae	Brassolini	80	Carrion		
126	<i>Phothecia thespia</i>	Lycaenidae	Eumaeini	81			
127	<i>Prepona claudina</i>	Nymphalidae	Preponini	82	Carrion	Midstorey, Understorey	
129	<i>Satyrinae</i>	Nymphalidae		83			
130	<i>Prepona laertes</i>	Nymphalidae	Preponini	84	Carrion	Midstorey, Understorey	
131	<i>Euselasia hahneli</i>	Riodinidae	Euselasiini	85	Carrion	Canopy	MXD, SLR

132	<i>Smyrna blomfildia</i>	Nymphalidae	Nymphalini	86	Fruit	Midstorey, Understorey
142	<i>Narope cyllabarus</i>	Nymphalidae	Brassolini	87		Canopy, Understorey
143, 310	<i>Hamydras laodamia</i>	Nymphalidae	Ageroniini	88		
8, 145	<i>Harjesia obscura</i>	Nymphalidae	Satyrini	89		Understorey
150	<i>Caligopsis seleucida</i>	Nymphalidae	Brassolini	90		
151	<i>Chloreaptychia arnaca</i>	Nymphalidae	Satyrini	91		
154	<i>Posttaygetis penelea</i>	Nymphalidae	Satyrini	92		
110, 155	<i>Memphis philomena</i>	Nymphalidae	Anaeini	93		Midstorey, Understorey
156	<i>Adelpha serpa</i>	Nymphalidae	Limenitidini	94		CCR, SLR
159	<i>Emesis sp2</i>	Riodinidae	Helicopini	95		
160	<i>Hamadryas amphinome</i>	Nymphalidae	Ageroniini	96		
162	<i>Taygetis sp.</i>	Nymphalidae	Satyrini	97		Understorey
164	<i>Cithaerias pireta</i>	Nymphalidae	Haeterini	98	Fruit	Understorey
165	<i>Haetera piera</i>	Nymphalidae	Haeterini	99	Fruit	Understorey
166	<i>Taygetis inambari</i>	Nymphalidae	Satyrini	100		
167	<i>Historis acheronta</i>	Nymphalidae	Coeini	101		
168, 326	<i>Callicore cynosura</i>	Nymphalidae	Callicorini	102		
170	<i>Pyrrhogrya crameri</i>	Nymphalidae	Epiphelini	103		
95, 171	<i>Caligo eurilochus</i>	Nymphalidae	Brassolini	104		Understorey
173	<i>Godyris zavaleta</i>	Nymphalidae	Ithomiini	105		
174	<i>Harjesia obscura</i>	Nymphalidae	Satyrini	106		Understorey
175	<i>Heliconius melpomene</i>	Nymphalidae	Heliconiini	107		Understorey
176	<i>Adelpha boeotia</i>	Nymphalidae	Limenitidini	108		Midstorey, Understorey
177	<i>Heliconius xanthocles</i>	Nymphalidae	Heliconiini	109		Canopy
178	<i>Tithorea harmonia</i>	Nymphalidae	Ithomiini	110		MXD, SLR
179	<i>Siproeta stelenes</i>	Nymphalidae	Nymphalini	111		
181, 265	<i>Ectima lirides</i>	Nymphalidae	Ageroniini	112		
182	<i>Adelpha jordani</i>	Nymphalidae	Limenitidini	113	Carrion	Midstorey, Understorey
183	<i>Heliconius leucadia</i>	Nymphalidae	Heliconiini	114		MXD, SLR

184	<i>Doxocopa lavinia</i>	Nymphalidae	Apaturinae	115	
185	<i>Hypoleria lavinia</i>	Nymphalidae	Ithomiini	116	
186	<i>Archaeoprepona demophoon</i>	Nymphalidae	Preponini	117	Carrion
187	<i>Prepona dexamenus</i>	Nymphalidae	Preponini	118	Carrion
188	<i>Asterope leprieuri</i>	Nymphalidae	Epiphelini	119	
191	<i>Eunica alpais</i>	Nymphalidae	Catonephelini	120	
192	<i>Callicore pygas</i>	Nymphalidae	Callicorini	121	
194	<i>Heliconius erato</i>	Nymphalidae	Heliconiini	122	
195	<i>Eunica sydonia</i>	Nymphalidae	Epicaliini	123	
196	<i>Ithomia arduinna</i>	Nymphalidae	Ithomiini	124	
197	<i>Pierella lamia</i>	Nymphalidae	Haeterini	125	Understorey
198	<i>Chloreuptychia agatha</i>	Nymphalidae	Satyrini	126	
199	<i>Siderone syntyche</i>	Nymphalidae	Anaeini	127	
200	<i>Biblis hyperia</i>	Nymphalidae	Biblidini	128	
201	<i>Eunica orphise</i>	Nymphalidae	Catonephelini	129	
202	<i>Eunica sp</i>	Nymphalidae	Epicaliini	130	Canopy, Midstorey
203	<i>Ceratina sp1</i>	Nymphalidae	Ithomiini	131	
204	<i>Hyposcada anchiala subsp</i>	Nymphalidae	Ithomiini	132	
205	<i>Oleria victorine</i>	Nymphalidae	Ithomiini	133	
206	<i>Hyposcada illinissa</i>	Nymphalidae	Ithomiini	134	
207	<i>Heliconius emma</i>	Nymphalidae	Heliconiini	135	
208	<i>Caligo idomeneus</i>	Nymphalidae	Brassolini	136	Understorey
210	<i>Eueides libitina</i>	Nymphalidae	Heliconiini	137	
214	<i>Adelpha capucinus</i>	Nymphalidae	Limenitidini	138	Carrion
215	<i>Melinaea menophilus</i>	Nymphalidae	Ithomiini	139	Canopy, Midstorey
216	<i>Baeotus beotus</i>	Nymphalidae	Coeini	140	Canopy, Midstorey
217	<i>Baeotus deucalion</i>	Nymphalidae	Coeini	141	
219	<i>Amphidecta pignerator</i>	Nymphalidae	Satyrini	142	
220	<i>Thisbe irenea</i>	Riodinidae	Nymphidini	143	
221	<i>UID</i>			144	Carrion
21, 189, 222	<i>Memphis phantes</i>	Nymphalidae	Anaeini	145	Understorey

224, 307	<i>Memphis acidalia</i>	Nymphalidae	Anaeini	146	Carrion	Canopy, Understorey
20, 225	<i>Memphis sp7</i>	Nymphalidae	Anaeini	147	Carrion	Midstorey, Understorey
226	<i>Heliconius numata lyrcaeus</i>	Nymphalidae	Heliconiini	148		
227	<i>Splendeuptychia sp.</i>	Nymphalidae	Satyrini	149		
82, 101, 229	<i>Taygetis virgilia</i>	Nymphalidae	Satyrini	150		Understorey
230	<i>Lycorea halia</i>	Nymphalidae	Danaini	151		SLR
231	<i>Adelpha cytherea</i>	Nymphalidae	Limenitidini	152		
232	<i>Adelpha pleasure</i>	Nymphalidae	Limenitidini	153		
233	<i>Callicore hystaspes</i>	Nymphalidae	Callicorini	154		
237	<i>Taygetis thamyra</i>	Nymphalidae	Satyrini	155		Understorey
238	<i>Zischkaia sp1</i>	Nymphalidae	Satyrini	156		
239	<i>Hortona albofasciata</i>	Nymphalidae	Haeterini	157		
240	<i>Eurybia cyclopa</i>	Riodinidae	Eurybiini	158		
242	<i>Splendeuptychia aurigera</i>	Nymphalidae	Satyrini	159		
244	<i>Rareuptychia clio</i>	Nymphalidae	Satyrini	160		
247	<i>Heliconius doris</i>	Nymphalidae	Heliconiini	161		
248	<i>Eueides lampeto acacetes</i>	Nymphalidae	Heliconiini	162		
249	<i>Ancyluris sp2</i>	Riodinidae	Riodinini	163		
250	<i>Eunica sp.</i>	Nymphalidae	Epicaliini	164		
251	<i>Dynamine giselia</i>	Nymphalidae	Eubagini	165		
252	<i>Eunica pusilla</i>	Nymphalidae	Catonephelini	166		
254	<i>UID</i>			167		
262	<i>Diaethria clymena</i>	Nymphalidae	Callicorini	168	Carrion	
263	<i>Pierella lena</i>	Nymphalidae	Haeterini	169		Understorey
264	<i>Adelpha melona</i>	Nymphalidae	Limenitidini	170		
266	<i>Prepona amydon</i>	Nymphalidae	Preponini	171		
267	<i>Fountainea nessus</i>	Nymphalidae	Anaeini	172		
270	<i>Hermeuptychia fallax</i>	Nymphalidae	Satyrini	173		
272	<i>Ancyluris meliboeus</i>	Riodinidae	Riodinini	174		
274	<i>Metamorpha elissa</i>	Nymphalidae	Victorinini	175		

275	<i>Memphis pithyusa</i>	Nymphalidae	Anaeini	176		
276	<i>Rhetus periander</i>	Riodinidae	Riodinini	177		
281	<i>Parides anchises</i>	Papilionidae	Troidini	178		
223, 288	<i>Memphis xenocles</i>	Nymphalidae	Anaeini	179	Carrion	
295	<i>Calycopis sp7</i>	Lycaenidae	Eumaeini	180		
296	<i>Asterope degandii</i>	Epiphilini		181		
297	<i>Adelpha epione</i>	Nymphalidae	Limenitidini	182		Midstorey
298	<i>UID</i>			183		
54, 299	<i>Adelpha cocala</i>	Nymphalidae	limenitidini	184	Carrion	
300	<i>Memphis anna</i>	Nymphalidae	Anaeini	185		
157, 172, 301	<i>Memphis acaudata</i>	Nymphalidae	Anaeini	186	Carrion	
313	<i>Vila emilia</i>	Nymphalidae	Biblidini	187		
315	<i>Adelpha erotia</i>	Nymphalidae	Limenitidini	188		
319	<i>Eunica amelia</i>	Nymphalidae	Catonephelini	189		
322	<i>Dynamine chryseis</i>	Nymphalidae	Eubagini	190		
323	<i>Neographium agesilaus</i>	Papilionidae	Leptocircini	191		
324	<i>Doxocopa linda</i>	Nymphalidae	Apaturinae	192		
325	<i>Temenis pulchra</i>	Nymphalidae	Epiphilini	193		
330	<i>Memphis polyxo</i>	Nymphalidae	Anaeini	194		
331	<i>Heliconius sp.</i>	Nymphalidae	Heliconiini	195		
332	<i>Adelpha lara</i>	Nymphalidae	Limenitidini	196		
334	<i>Eurybia halimede</i>	Riodinidae	Eurybiini	197		
336	<i>Memphis sp1</i>	Nymphalidae	Anaeini	198		
337	<i>Eresia clio</i>	Nymphalidae	Melitaeini	199		
339	<i>Eurema daira</i>	Pieridae	Coliadinae	200		
340	<i>Nymphidium sp.</i>	Riodinidae	Nymphidini	201		
341	<i>Caria trochilus</i>	Riodinidae	Riodinini	202		
342	<i>Adelpha attica</i>	Nymphalidae	Limenitidini	203		
343	<i>Manataria hercyna</i>	Nymphalidae	Melitaeini	204		
448	<i>UID</i>			205		
483	<i>Itaballia demophile</i>	Pieridae	Pierini	206		
565	<i>Astraptes fuglerator</i>	Hesperiidae	Eudamini	207		Understorey
105, 124	<i>Heliconius burneyi</i>	Nymphalidae	Heliconiini	208	Carrion	MXD, SLR
109, 125, 134	<i>Doxocopa agathina</i>	Nymphalidae	Apaturinae	209	Carrion	
112, 121	<i>Baeotus jupiter</i>	Nymphalidae	Coeini	210		Canopy, Midstorey

119, 146	<i>Historis odius</i>	Nymphalidae	Coeini	211	Fruit	Canopy, Midstorey
135, 148	<i>Manataria hercyna</i>	Nymphalidae	Melitaeini	212		
138, 149	<i>Epiphile lampethusa</i>	Nymphalidae	Epiphelini	213		
144, 88	<i>Zaretis itys</i>	Nymphalidae	Anaeini	214	Carriion	Understorey
10, 19, 86	<i>Taygetis mermeria</i>	Nymphalidae	Satyrini	215		Understorey
2, 4, 117	<i>Yphthimoides renata</i>	Nymphalidae	Satyrini	216		
56, 136	<i>Adelpha zina</i>	Nymphalidae	Limenitidini	217		SLR
44, 118	<i>Neruda aoede</i>	Nymphalidae	Heliconiini	218		Understorey
257	<i>Eurybia molochina</i>	Riodinidae	Eurybiini	219		
128, 133	<i>Adelpha mesentina</i>	Nymphalidae	Limenitidini	220	Carriion	Canopy, Midstorey
158, 161, 311	<i>Polygrapha xenocrates</i>	Nymphalidae	Anaeini	221		
48, 42	<i>Catonephele acontius</i>	Nymphalidae	Catonephelinii	222		Midstorey, Understorey
50, 52, 141	<i>Catonephele numilia</i>	Nymphalidae	Catonephelinii	223		Midstorey, Understorey
5, 65	<i>Pseudodebis valentina</i>	Nymphalidae	Satyrini	224		Understorey
71, 140	<i>Pyrrhogrya otolais</i>	Nymphalidae	Epiphelini	225	Carriion	Midstorey, Understorey
75, 100, 139	<i>Bia actorion</i>	Nymphalidae	Brassolini	226		Understorey
84, 147, 137	<i>Consul fabius</i>	Nymphalidae	Anaeini	227		Understorey
14, 228	<i>Splendeuptychia ashna</i>	Nymphalidae	Satyrini	228		
6, 17	<i>Taygetis larua</i>	Nymphalidae	Satyrini	229		Understorey