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The Birds begun at Four o'clock  
- Emily Dickinson

The Birds begun at Four o'clock -  
Their period for Dawn -  
A Music numerous as space --  
But neighboring as Noon -  
  
Nor was it for applause -  
That I could ascertain -  
But independent Ecstasy  
Of Deity and Men -

By Six, the Flood had done -  
No Tumult there had been  
Of Dressing, or Departure -  
And yet the Band was gone -

The Sun engrossed the East -  
The Day controlled the World -  
The Miracle that introduced  
Forgotten, as fulfilled

## Appendix A: List of Surveyed Bird Species, Guilds, Feeding Groups, Forest Affinity and Migratory Status

Common name	Species	Genus	Family	Indonesian name	Guild	Guild simplified	Feeding group	Feeding group simplified to main food type	Forest affinity	Resident/migrant
Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	<i>Ixobrychus</i>	ARDEIDAE	Bambang merah	water	water	piscivore/carnivore /insectivore	piscivore	3	r
			ACCIPITRIDAE							
Chinese Goshawk	<i>Accipter soloensis</i>	<i>Accipter</i>	ACCIPITRIDAE	Elang-alap Cina	hawk	hawk	carnivore	carnivore	2	m
Crested Goshawk	<i>Accipter trivirgatus</i>	<i>Accipter</i>	ACCIPITRIDAE	Elang-alap jambul	hawk	hawk	carnivore	carnivore	1	r
Black Eagle	<i>Ictinaetus malayensis</i>	<i>Ictinaetus</i>	ACCIPITRIDAE	Elang hitam	aerial	aerial	carnivore	carnivore	1	r
Changeable Hawk-eagle	<i>Spizaetus cirrhatus</i>	<i>Spizaetus</i>	ACCIPITRIDAE	Elang brontok	aerial	aerial	carnivore	carnivore	3	r
Black-thighed Falconet	<i>Microhierax fringillarius</i>	<i>Microhierax</i>	FALCONIDAE	Alap-alap capung	hawk	hawk	insectivore /carnivore	insectivore	2	r
Blue-breasted Quail	<i>Coturnix chinensis</i>	<i>Coturnix</i>	PHASIANIDAE	Puyuh batu	ground	ground	omnivore	omnivore	3	r
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	<i>Amaurornis</i>	RALLIDAE	Kareo padi	water	water	omnivore	omnivore	3	r/m
			COLUMBIDAE							
Mountain Imperial Pigeon	<i>Ducula badia</i>	<i>Ducula</i>	COLUMBIDAE	Pergam gunung	upper-storey	upper-storey	frugivore	frugivore	0	r
Barred Cuckoo-dove	<i>Macropygia unchall</i>	<i>Macropygia</i>	COLUMBIDAE	Uncal loreng	upper-storey	upper-storey	frugivore	frugivore	0	r
Little Cuckoo-dove	<i>Macropygia ruficeps</i>	<i>Macropygia</i>	COLUMBIDAE	Uncal kouran	upper-storey	upper-storey	frugivore	frugivore	1	r
Spotted Dove	<i>Streptopelia chinensis</i>	<i>Streptopelia</i>	COLUMBIDAE	Tekukur biasa	various /ground?	ground	granivore	granivore	3	r
Zebra Dove	<i>Geopelia striata</i>	<i>Geopelia</i>	COLUMBIDAE	Perkutut jawa	various /ground?	ground	granivore	granivore	3	r
Emerald Dove	<i>Chalcophaps indica</i>	<i>Chalcophaps</i>	COLUMBIDAE	Delimuk un zamrud	understorey/ground	understorey	granivore	granivore	0	r
			CUCULIDAE							
		<i>Cacomantis</i>	CUCULIDAE							
Plaintive Cuckoo	<i>Cacomantis merulinus</i>	<i>Cacomantis</i>	CUCULIDAE	Wiwik kelabu	upper-storey	upper-storey	insectivore	insectivore	2	r
Rusty-breasted Cuckoo	<i>Cacomantis sepulchralis</i>	<i>Cacomantis</i>	CUCULIDAE	Wiwik uncuung	upper-storey	upper-storey	insectivore	insectivore	2	r
Drongo Cuckoo	<i>Sumniculus lugubris</i>	<i>Sumniculus</i>	CUCULIDAE	Kedasi hitam	upper-storey	upper-storey	insectivore	insectivore	2	r/m
Coucal species	<i>Centropus</i>	<i>Centropus</i>	CUCULIDAE	Bubut	understorey	understorey	insectivore	insectivore	3	r
Lesser Coucal	<i>Centropus bengalensis</i>	<i>Centropus</i>	CUCULIDAE	Bubut alang-	understorey	understorey	insectivore	insectivore	3	r

Greater Coucal	Centropus sinensis	Centropus	CUCULIDAE	alang Bubut besar	unders torey	understorey	insectivore	insectivore	3	r
Scops Owl		Otus	STRIGIDAE	Burung hantu	hawk	hawk	carnivore	carnivore	2	r
			APODIDAE		airial	airial	insectivore	insectivore		
Glossy Swiftlet	Collocalia esculenta	Collocalia	APODIDAE	Walet sapi	airial	airial	insectivore	insectivore	2	r
Silver-rumped Swift	Rhapidura leucopygia	Rhapidura	APODIDAE	Kapinis-jarum kecil	airial	airial	insectivore	insectivore	2	r
Fork-tailed Swift	Apus pacificus	Apus	APODIDAE	Kapinis laut	airial	airial	insectivore	insectivore	3	m
Little Swift	Apus affinus	Apus	APODIDAE	Walet sapi	airial	airial	insectivore	insectivore	3	r
			ALCEDINIDAE		hawk	hawk				
Black-backed Kingfisher	Ceyx erithacus	Ceyx	ALCEDINIDAE	Udang api	hawk	hawk	insectivore	insectivore	1	r
White-throated Kingfisher	Halcyon smyrnensis	Halcyon	ALCEDINIDAE	Cekakak belukar (raja udang)	hawk	hawk	piscivore/ carnivore/ insectivore	piscivore	3	r
Collared Kingfisher	Todirhamphus chloris	Todirhamphus	ALCEDINIDAE	Cekakak belukar (raja udang)	hawk	hawk	piscivore/ carnivore/ insectivore	piscivore	3	r
Bee-eater		Merops	MEROPIDAE		hawk	hawk	insectivore	insectivore	2	r/m
Blue-throated Bee-eater	Merops viridis	Merops	MEROPIDAE	Kirik- kirik biru	hawk	hawk	insectivore	insectivore	2	r/m
Great Hornbill	Buceros bicornis	Buceros	BUCEROTIDAE	Rangkong papan	upper- storey	upper-storey	frugivore	frugivore	0	r
		Megalaima	CAPITONIDAE				frugivore	frugivore		
Gold-whiskered Barbet	Megalaima chrysopogon	Megalaima	CAPITONIDAE	Takur gedang	upper- storey	upper-storey	frugivore	frugivore	1	r
Black-browed Barbet	Megalaima oortii	Megalaima	CAPITONIDAE	Takur bukit	upper- storey	upper-storey	frugivore	frugivore	1	r
Coppersmith Barbet	Megalaima haemacephala	Megalaima	CAPITONIDAE	Takur ungkutan- ungkutan	upper- storey	upper-storey	frugivore	frugivore	2	r
Brown Barbet	Calorhamphus fuliginosus	Calorhamphus	CAPITONIDAE	Takur ampis	upper- storey	upper-storey	frugivore	frugivore	1	r
Rufous Piculet	Sasia abnormis	Sasia	PICIDAE	Tukik tikus	trunk	trunk	insectivore	insectivore	1	r
Sunda Woodpecker	Picooides moluccensis	Picooides	PICIDAE	Caladitilik	trunk	trunk	insectivore	insectivore	2	r
Black-and-yellow Broadbill	Eurylaimus ochromalus	Eurylaimus	EURYLAIMIDAE	Sempurhujan darat	airial	airial	insectivore /frugivore?	insectivore	1	r
Green Broadbill	Calyptomena viridis	Calyptomena	EURYLAIMIDAE	Madihijau kecil	airial	airial	insectivore /frugivore?	insectivore	0	r
Barn Swallow	Hirundo rustica	Hirundo	HIRUNDINIDAE	Layang layang api	airial	airial	insectivore	insectivore	3	m
Asian House-martin	Delichon dasypus	Delichon	HIRUNDINIDAE	Layang-layang rumah	airial	airial	insectivore	insectivore	3	m
		Hemipus	CAMPEPHAGIDAE		airial	airial	insectivore	insectivore		
Bar-winged	Hemipus picatus	Hemipus	CAMPEPHAGIDAE	Jingjing bukit	hawk	hawk	insectivore	insectivore	1	r



Flycatcher-shrike											
Lesser Cuckoo-shrike	Coracina fimbriata	Coracina	CAMPEPHAGIDAE	Kepudang-sungu kecil	hawk	hawk	insectivore	insectivore	1	r	
Pied Triller	Lalage nigra	Lalage	CAMPEPHAGIDAE	Kapasan kemiri	hawk	hawk	insectivore	insectivore	3	r	
		Pericrotus	CAMPEPHAGIDAE		upper-storey	upper-storey	insectivore? /frugivore?	insectivore			
Minivet		Pericrotus	CAMPEPHAGIDAE	Sepah	upper-storey	upper-storey	insectivore? /frugivore?	insectivore	0	r	
Fiery Minivet	Pericrotus igneus	Pericrotus	CAMPEPHAGIDAE	Sepah tulin	upper-storey	upper-storey	insectivore? /frugivore?	insectivore	0	r	
Scarlet Minivet	Pericrotus flammeus	Pericrotus	CAMPEPHAGIDAE	Sepah hutan	upper-storey	upper-storey	insectivore? /frugivore?	insectivore	0	r	
lora		Aegithina	CHLOROPSEIDAE	Cipoh	upper-storey	upper-storey	insectivore? /frugivore	insectivore	1	r	
Green lora	Aegithina viridissima	Aegithina	CHLOROPSEIDAE	Cipoh jantung	upper-storey	upper-storey	insectivore? /frugivore	insectivore	1	r	
Blue-winged leafbird	Chloropsis venusta	Chloropsis	CHLOROPSEIDAE	Cica-daun sayap-biru	upper-storey	upper-storey	frugivore /insectivore	frugivore	0	r	
Bulbul			PYCNONOTIDAE								
Bulbul		Pycnonotus	PYCNONOTIDAE	bulbul			frugivore /insectivore	omnivore		r	
Black-headed Bulbul	Pycnonotus atriceps	Pycnonotus	PYCNONOTIDAE	Cucak kuricang	upper-storey	upper-storey	frugivore/ insectivore /omnivore	omnivore	2	r	
Black-crested Bulbul	Pycnonotus melanicterus	Pycnonotus	PYCNONOTIDAE	Cucak kuning (kutulang mas)	upper-storey	upper-storey	frugivore/ insectivore	omnivore	2	r	
Sooty-headed Bulbul	Pycnonotus aurigaster	Pycnonotus	PYCNONOTIDAE	Cucak kutulang	various	various	frugivore /insectivore	omnivore	3	r	
Yellow-vented Bulbul	Pycnonotus goiavier	Pycnonotus	PYCNONOTIDAE	Merbah cerukcuk (jog-jog/kero-co)	various/upper-storey	upper-storey	frugivore /insectivore	omnivore	3	r	
Grey-cheeked Bulbul	Alophoixus bres	Alophoixus	PYCNONOTIDAE	Empuloh janggut (kutulang jengot)	upper-storey/undersorey	upper-storey	frugivore /insectivore	omnivore	0	r	
Streaked Bulbul	Ixos malaccensis	Ixos	PYCNONOTIDAE	Brinji bergaris	upper-storey	upper-storey	frugivore /insectivore	omnivore	0	r	
Ashy Bulbul	Hypsipetes flavala	Hypsipetes	PYCNONOTIDAE	Brinji kelabu	upper-storey/undersorey	upper-storey	frugivore /insectivore	omnivore	0	r	
Black-naped Oriole	Oriolus chinensis	Oriolus	ORIOLIDAE	Kepudang kuduk-hitam	upper-storey	upper-storey	insectivore? /frugivore?	insectivore	2	r	
Velvet-fronted Nuthatch	Sitta frontalis	Sitta	SITTIDAE	Munguk beledu	trunk	trunk	insectivore	insectivore	1	r	
Babbler			TIMALIIDAE		undersorey/ground	understorey	insectivore	insectivore	1	r	
Black-capped Babbler	Pellorneum capistratum	Pellorneum	TIMALIIDAE	Pelanduk topi-hitam	undersorey/ground	understorey	insectivore	insectivore	1	r	
		Trichastoma	TIMALIIDAE								
Ferruginous Babbler	Trichastoma bicolor	Trichastoma	TIMALIIDAE	Pelanduk merah	undersorey	understorey	insectivore	insectivore	0	r	
		Malacocincla	TIMALIIDAE		undersorey	understorey	insectivore	insectivore	1	r	
Rusty-breasted Wren babbler	Napothera rufipectus	Napothera	TIMALIIDAE	Berencet dada-karat	undersorey	understorey	insectivore	insectivore	0	r	

Jungle Babbler		Stachyris	TIMALIIDAE								
Spot-necked Babbler	Stachyris striolata	Stachyris	TIMALIIDAE	Tepus lurik	undersorey	undersorey	insectivore	insectivore	0	r	
Striped Tit-babbler	Macronous gularis	Macronous	TIMALIIDAE	Ciung-air corent	undersorey	undersorey	insectivore	insectivore	2	r	
White-brown Shrike-babbler	Pteruthius flaviscapis	Pteruthius	TIMALIIDAE	Ciu besar	upperstorey	upperstorey	insectivore	insectivore	0	r	
Magpie Robin	Copsychus saularis	Copsychus	TURDIDAE	Kucica kampung (kacer)	undersorey	undersorey	insectivore	insectivore	2	r	
Rufous-tailed Shama Trogon	Trichixos pyrropygus	Trichixos	TURDIDAE	Kucica ekor-kuning	undersorey	undersorey	insectivore	insectivore	0	r	
		Harpactes	TROGONIDAE		hawk	hawk	insectivore	insectivore	1	r	
Arctic Warbler	Phylloscopus borealis	Phylloscopus	SYLVIIDAE	Cikrak kutub	upperstorey	upperstorey	insectivore	insectivore	2	m	
Lanceolated Warbler	Locustella lanceolata	Locustella	SYLVIIDAE	Keccilurik	undersorey/ground	undersorey	insectivore	insectivore	3	m	
Ashy Tailorbird	Orthotomus ruficeps	Orthotomus	SYLVIIDAE	Cinenen kelabu (ciblek/perenjajak)	undersorey	undersorey	insectivore	insectivore	3	r	
Rufous-tailed Tailorbird	Orthotomus sericeus *above usual altitude	Orthotomus	SYLVIIDAE	Cinenen merah	undersorey	undersorey	insectivore	insectivore	2	r	
		Prinia	SYLVIIDAE								
Hill Prinia	Prinia atrogularis	Prinia	SYLVIIDAE	Perenjaj gunung	undersorey	undersorey	insectivore	insectivore	2	r	
Yellow-bellied Prinia	Prinia flaviventris	Prinia	SYLVIIDAE	Perenjaj rawa	undersorey	undersorey	insectivore	insectivore	3	r	
Bar-winged Prinia	Prinia familiaris	Prinia	SYLVIIDAE	Perenjaj Jawa	undersorey	undersorey	insectivore	insectivore	3	r	
			MUSCICAPIDAE								
			MUSCICAPIDAE		hawk	hawk	insectivore	insectivore			
Fulvous-chested Jungle Flycatcher	Rhinomyias olivacea	Rhinomyias	MUSCICAPIDAE	Sikatan bubuk	hawk	hawk	insectivore	insectivore	1	r	
Asian Brown Flycatcher	Muscicapau dauurica	Muscicapau	MUSCICAPIDAE	Sikatan-rimba dada doklat	hawk	hawk	insectivore	insectivore	2	r/m	
Verditer Flycatcher	Eumyias thalassina	Eumyias	MUSCICAPIDAE	Sikatan hijau-laut	hawk/aerial	hawk	insectivore	insectivore	1	r	
Indigo Flycatcher	Eumyias indigo * at lower altitude than usually recorded	Eumyias	MUSCICAPIDAE	Sikatan ninon	hawk	hawk	insectivore	insectivore	0	r	
Yellow-rumped Flycatcher	Ficedula zanthopygia	Ficedula	MUSCICAPIDAE	Sikatan emas	hawk	hawk	insectivore	insectivore	2	m	
Black-naped Monarch	Hypothymis azurea	Hypothymis	MONARCHIDAE	Kehicap ranting	hawk	hawk	insectivore	insectivore	1	r	
Grey Wagtail	Motacilla cinerea	Motacilla	MOTACILLIDAE	Kicuit batu	ground	ground	insectivore	insectivore	3	m	
Forest Wagtail	Dendronanthus indicus	Dendronanthus	MOTACILLIDAE	Kicuit hutan	ground	ground	insectivore	insectivore	2	m	

Common Pipit	<i>Anthus novaseelandiae</i>	<i>Anthus</i>	MOTACILLIDAE	Apung tanah	ground	ground	insectivore	insectivore	3	r
White breasted Woodswallow	<i>Artamus leucorhynchus</i>	<i>Artamus</i>	ARTAMIDAE	Kekep babi	aerial	aerial	insectivore	insectivore	3	r
Tiger Shrike	<i>Lanius tigrinus</i>	<i>Lanius</i>	LANIIDAE	Bentet loreng	hawk/pounce	hawk	insectivore/carnivore	insectivore	3	m
Long-tailed Shrike	<i>Lanius schach</i>	<i>Lanius</i>	LANIIDAE	Bentet kelabu (towet/bentet)	hawk/pounce	hawk	insectivore/carnivore	insectivore	3	r
Javan Myna	<i>Acridotheres javanicus</i>	<i>Acridotheres</i>	STURNIDAE	Kerak kerbau (jalak)	ground	ground	insectivore/frugivore	insectivore	3	r
Plain Sunbird	<i>Anthreptes simplex</i>	<i>Anthreptes</i>	NECTARINIIDAE	Burung-madu polos	upper-storey	upper-storey	nectarivore	nectarivore	1	r
Ruby throated Sunbird	<i>Anthreptes singalensis</i>	<i>Anthreptes</i>	NECTARINIIDAE	Burung-madu belukar	upper-storey/undersorey	upper-storey	nectarivore	nectarivore	2	r
Purple-naped Sunbird	<i>Hypogramma hypogrammicum</i>	<i>Hypogramma</i>	NECTARINIIDAE	Burung-madu rimba	upper-storey/undersorey	upper-storey	nectarivore/insectivore?	nectarivore	1	r
Olive backed Sunbird	<i>Nectarinia jugularis</i>	<i>Nectarinia</i>	NECTARINIIDAE	Burung-madu sriganti	upper-storey/undersorey	upper-storey	nectarivore	nectarivore	3	r
Temminck's Sunbird	<i>Aethopyga temminckii</i>	<i>Aethopyga</i>	NECTARINIIDAE	Burung-madu ekor-merah	upper-storey/undersorey	upper-storey	nectarivore/insectivore	nectarivore	1	r
Spiderhunter		<i>Arachnotera</i>	NECTARINIIDAE	Pijantung	undersorey	undersorey	nectarivore/insectivore	nectarivore	1	r
Little Spiderhunter	<i>Arachnotera longirostra</i>	<i>Arachnotera</i>	NECTARINIIDAE	Pijantung kecil	undersorey	undersorey	nectarivore/insectivore	nectarivore	1	r
Yellow-breasted Flowerpecker	<i>Prionochilus maculatus</i>	<i>Prionochilus</i>	DICAEIDAE	Pentis raja	upper-storey/undersorey	upper-storey	frugivore/insectivore	omnivore	1	r
Crimson-breasted Flowerpecker	<i>Prionochilus percussus</i>	<i>Prionochilus</i>	DICAEIDAE	Pentis pelangi	upper-storey	upper-storey	frugivore/insectivore	omnivore	1	r
Yellow vented Flowerpecker	<i>Dicaeum chrysorrheum</i>	<i>Dicaeum</i>	DICAEIDAE	Cabai rimba	upper-storey/undersorey	upper-storey	frugivore/insectivore	omnivore	1	r
Orange bellied Flowerpecker	<i>Dicaeum trigonostigma</i>	<i>Dicaeum</i>	DICAEIDAE	Cabai bunga-api	upper-storey/undersorey	upper-storey	frugivore/insectivore/nectarivore	omnivore	2	r
Plain Flowerpecker	<i>Dicaeum concolor</i> *below usual altitude	<i>Dicaeum</i>	DICAEIDAE	Cabai polos	upper-storey/undersorey	upper-storey	frugivore/insectivore	omnivore	1	r
Scarlet-backed Flowerpecker	<i>Dicaeum cruentatum</i>	<i>Dicaeum</i>	DICAEIDAE	Cabai merah	upper-storey/undersorey	upper-storey	frugivore/insectivore	omnivore	2	r
Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>	<i>Dicaeum</i>	DICAEIDAE	Cabai perut kuning	upper-storey	upper-storey	frugivore/insectivore	omnivore	0	r
Scarlet-headed Flowerpecker	<i>Dicaeum trochileum</i>	<i>Dicaeum</i>	DICAEIDAE	Cabai Jawa	upper-storey/undersorey	upper-storey	frugivore/insectivore	omnivore	2	r



Oriental White-eye lowland form	Zosterops palpebrosus	Zosterops	ZOSTEROPIDAE	Kacamata biasa	upper-storey	upper-storey	frugivore/insectivore/nectarivore	omnivore	2	r
Black-capped White-eye	Zosterops atricapilla	Zosterops	ZOSTEROPIDAE	Kacamata topi hitam	upper-storey	upper-storey	frugivore/insectivore/nectarivore	omnivore	1	r
			PLOCEIDAE				granivore	granivore		
Eurasian Tree Sparrow	Passer montanus	Passer	PLOCEIDAE	Burung gereja Erasia	various	various	granivore	granivore	3	r
Pin-tailed Parrotfinch	Erythrura prasina	Erythrura	PLOCEIDAE	Bondol-hijau binglis	ground/understorey	ground	granivore	granivore	3	r
		Lonchura	PLOCEIDAE							
Javan Munia	Lonchura leucogastroides	Lonchura	PLOCEIDAE	Bondol Jawa (pipit)	ground/understorey	ground	granivore	granivore	3	r
Scaly-breasted Munia	Lonchura punctulata	Lonchura	PLOCEIDAE	Bondol Peking (pipit)	ground/understorey	ground	granivore	granivore	3	r
White-headed Munia	Lonchura maja	Lonchura	PLOCEIDAE	Bondol Haji (pipit)	ground/understorey	ground	granivore	granivore	3	r
	unknown									
	unknown a									
	unknown b									
	unknown c									
	unknown d									
	unknown e									
	unknown f									
	unknown g									

## Appendix B: Survey dates, times and environmental variables

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Abung 1	Ab1	simple shade	shade	1	28-Oct-01	17.15	0	8	24	3		833
Abung 2	Ab2	multistrata	shade	1	01-Nov-01	8.10	0	8	18	2		825
Abung 3	Ab3	simple shade	shade	1	01-Nov-01	16.45	0	8	22	2.5		872
Bodong 1	B1	multistrata	shade	1	29-Oct-01	9.25	2.5	2	24	2		852
Bodong 2	B2	simple shade	shade	1	29-Oct-01	11.25	0	6	25	1		777
Bodong 3	B3	monoculture	monoculture	1	30-Oct-01	8.15	2.5	7	22	1		868
Bodong 4	B4	multistrata	shade	1	02-Nov-01	8.30	0	1.5	26	1		896
Bodong 5	B5	monoculture	monoculture	1	02-Nov-01	11.05	2.5	6	28	1		947
Bodong 6	B6	forest	forest	1	26-Nov-01	10.35	5	5	23	1		1000
Fajar Bulan 1	FB1	multistrata	shade	1	03-Dec-01	8.50	3	4	25	3		858
Gunung Terang 1	GT1	multistrata	shade	1	20-Nov-01	11.50	5	7	25	1		871
Gunung Terang 2	GT2	multistrata	shade	1	20-Nov-01	4.45	2	8	23	2		876
Gunung Terang 3	GT3	multistrata	shade	1	21-Nov-01	7.45	0	8	20	2		875
Gunung Terang 4	GT4	simple shade	shade	1	21-Nov-01	10.20	3	8	24	1		887
Krui 1	K1	damar	damar	1	04-Jun-02	8.35	0	1	25	1	82	165
Krui 2	K2	damar	damar	1	04-Jun-02	10.25	2	0	26	2	80	120
Krui 3	K3	damar	damar	1	04-Jun-02	12.10	4	6	26	2	82	122
L. Monyet 1	LM1	monoculture	monoculture	1	28-Oct-01	7.00	0	8	22	0		866
L.Monyet 2	LM2	monoculture closed	monoculture	1	29-Nov-01	11.40	7.5	8	24	0		876
L.Monyet 3	LM3	multistrata	shade	1	31 Oct 01	17.20	0	6	24	1		815
L.Monyet 4	LM4	multistrata	shade	1	05-Nov-01	7.35	0	7	23	0.5		840
L.Monyet 5	LM5	multistrata	shade	1	05-Nov-01	10.05	2.5	7	26	0		933
Laksana 1	L1	tall scrub	successional	1	31-Oct-01	8.05	0	8	19	2.5		850
Laksana 2	L2	monoculture	monoculture	1	31-Oct-01	10.30	2.5	6	25	3		900
Laksana 3	L3	multistrata	shade	1	31-Oct-01	12.20	2.5	6	26	2		875
Laksana 4	L4	forest	forest	1	25-Nov-01	9.20	0	8	21	2		975
Purajaya 1	P1	paddy	paddy	1	07-Nov-01	10.50	7.5	6	25	0		869
Purajaya 2	P2	simple shade	shade	1	24 Nov 01	8.45	3	8	21	2		872
Purajaya 3	P3	low scrub	successional	1	18-Nov-01	11.00	10	8	24	1		895
Purajaya 4	P4	simple shade	shade	1	18-Nov-01	13.20	5	8	25	1		895
Rata Agung 1	RA1	multistrata	shade	1	06-Jun-02	8.35	1	1	25	1	80	297
Rata Agung 2	RA2	forest	forest	1	06-Jun-02	11.20	0	4	24	3.5	80	305
Rata Agung 3	RA3	monoculture	monoculture	1	06-Jun-02	12.40	5	4	29	1	56	445
Simpangsari 1	S1	paddy	paddy	1	04-Nov-01	6.45	0	8	24	3		750
Simpangsari 2	S2	multistrata	shade	1	04-Nov-01	8.50	2.5	6	24	2		783
Simpangsari 3	S3	multistrata	shade	1	04-Nov-01	12.03	2.5	6	28	3		782
Simpangsari 4	S4	monoculture	monoculture	1	04-Nov-01	16.35	2.5	6	23	1		801
Tepus 1	T1	Imperata	successional	1	03-Nov-01	10.00	5	4	27	1		869
Tepus 2	T2	monoculture	monoculture	1	06-Nov-01	10.05	0	4	28	1		868
Tepus 3	T3	monoculture	monoculture	1	06-Nov-01	8.50	0	3	26	1		881
Tepus 4	T4	tall scrub	successional	1	27 Nov 01	12.20	5	8	25	0		901
Trimulyo 1	TM1	multistrata	shade	1	22-Nov-01	13.00	12.5	8	24	3		908
Trimulyo 2	TM2	Imperata	successional	1	22-Nov-01	7.55	5	5.5	21	1		1114
Trimulyo 3	TM3	low scrub	successional	1	22-Nov-01	9.32	3	8	24	0		1088
Trimulyo 4	TM4	monoculture	monoculture	1	22-Nov-01	11.35	2	7.5	25	2		1099
Abung 1	Ab1	simple shade	shade	2	16-Nov-01	8.50	2	7	24	2		833
Abung 2	Ab2	multistrata	shade	2	16-Nov-01	10.55	7.5	7	25	2		825
Abung 3	Ab3	simple shade	shade	2	30-Nov-01	7.30	1	7	22	3		872
Bodong 1	B1	multistrata	shade	2	17-Nov-01	10.05	0	7	23	1		852
Bodong 2	B2	simple shade	shade	2	17-Nov-01	8.00	2	8	21	1		777
Bodong 3	B3	monoculture	monoculture	2	19-Nov-01	12.35	7.5	6	27	1		868
Bodong 4	B4	multistrata	shade	2	19-Nov-01	10.00	15	6	25	0		896
Bodong 5	B5	monoculture	monoculture	2	19-Nov-01	8.10	5	8	20	1		947
Bodong 6	B6	forest	forest	2	07-Dec-01	9.20	20	7	22	0		1000
Fajar Bulan 1	FB1	multistrata	shade	2	08-Dec-01	10.50	10	8	22	2.5		858

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Gunung Terang 1	GT1	multistrata	shade	2	04-Dec-01	6.30	0	7	20	0.5		871
Gunung Terang 2	GT2	multistrata	shade	2	04-Dec-01	7.35	0	3.5	20	1		876
Gunung Terang 3	GT3	multistrata	shade	2	03-Dec-01	16.55	3	7	22	0.5		875
Gunung Terang 4	GT4	simple shade	shade	2	03-Dec-01	9.00	3.5	3	24	1		887
Krui 1	K1	damar	damar	2	05-Jun-02	9.40	0	2	26	4	82	165
Krui 2	K2	damar	damar	2	05-Jun-02	8.25	0	0	24	2	90	120
Krui 3	K3	damar	damar	2	05-Jun-02	7.20	1	0	22	0	85	122
L.Monyet 1	LM1	monoculture	monoculture	2	07-Nov-01	16.55	0	8	24	1		866
L.Monyet 2	LM2	monoculture closed	monoculture	2	09-Dec-01	7.58	7	7	22	1		876
L.Monyet 3	LM3	multistrata	shade	2	24-Nov-01	7.15	0	8	21	0		815
L.Monyet 4	LM4	multistrata	shade	2	24-Nov-01	12.50	7.5	8	21	1		840
L.Monyet 5	LM5	multistrata	shade	2	29-Nov-01	7.50	0	8	20	2		933
Laksana 1	L1	tall scrub	successional	2	28 Nov 01	12.20	2.5	4	30	2		850
Laksana 2	L2	monoculture	monoculture	2	27-Nov-01	9.30	10	6.5	24	3		900
Laksana 3	L3	multistrata	shade	2	27-Nov-01	7.50	7.5	8	18	1.5		875
Laksana 4	L4	forest	forest	2	06-Dec-01	10.24	12	7	25	1		975
Purajaya 1	P1	paddy	paddy	2	02-Dec-01	7.40	3	7	20	3		869
Purajaya 2	P2	simple shade	shade	2	02-Dec-01	11.45	7.5	8	25	1.5		872
Purajaya 3	P3	low scrub	successional	2	02-Dec-01	9.35	5	7	26	1.5		895
Purajaya 4	P4	simple shade	shade	2	02-Dec-01	8.40	4	6	24	0		895
Rata Agung 1	RA1	multistrata	shade	2	07-Jun-02	10.45	2	3.5	30	0	66	297
Rata Agung 2	RA2	forest	forest	2	07-Jun-02	9.45	5	0	23	3	95	305
Rata Agung 3	RA3	monoculture	monoculture	2	07-Jun-02	7.20	0	1	20	1	80	445
Simpangsari 1	S1	paddy	paddy	2	18-Nov-01	16.45	4	7	22	1		750
Simpangsari 2	S2	multistrata	shade	2	30-Nov-01	10.55	15	8	24	1		783
Simpangsari 3	S3	multistrata	shade	2	23-Nov-01	6.45	0	7	20	1		782
Simpangsari 4	S4	monoculture	monoculture	2	23-Nov-01	8.30	2	6	26	3		801
Tepus 1	T1	Imperata	successional	2	28-Nov-01	7.50	3	6	23	0		869
Tepus 2	T2	monoculture	monoculture	2	27-Nov-01	9.20	5	6	27	3		868
Tepus 3	T3	monoculture	monoculture	2	28-Nov-01	10.25	5	5	29	1		881
Tepus 4	T4	tall scrub	successional	2	06-Dec-01	7.35	10	7	20	0		901
Trimulyo 1	TM1	multistrata	shade	2	05-Dec-01	6.15	0	7	20	2.5		908
Trimulyo 2	TM2	Imperata	successional	2	05-Dec-01	12.35	7.5	8	24	0.5		1114
Trimulyo 3	TM3	low scrub	successional	2	05-Dec-01	10.45	7.5	7	24	1		1088
Trimulyo 4	TM4	monoculture	monoculture	2	05-Dec-01	9.20	4	6	22	2		1099
Abung 1	Ab1	simple shade	shade	3	22-Apr-02	8.55	0	7	24	1	80	833
Abung 2	Ab2	multistrata	shade	3	22-Apr-02	11.35	5	4	26	1	63	825
Abung 3	Ab3	simple shade	shade	3	22-Apr-02	10.10	1	5	28	1.5	78	872
Bodong 1	B1	multistrata	shade	3	23-Apr-02	7.45	0	8	24	1	82	852
Bodong 2	B2	simple shade	shade	3	25-Apr-02	11.15	3	5	28	0	67	777
Bodong 3	B3	monoculture	monoculture	3	23-Apr-02	9.20	5	3	27	1	78	868
Bodong 4	B4	multistrata	shade	3	23-Apr-02	12.10	5	6	29	1	60	896
Bodong 5	B5	monoculture	monoculture	3	23-Apr-02	10.50	6.5	4	26	1	75	947
Bodong 6	B6	forest	forest	3	25-Apr-02	8.40	1	3	20	1	95	1000
Fajar Bulan 1	FB1	multistrata	shade	3	27-Apr-02	7.25	0	1	18	0	84	858
Gunung Terang 1	GT1	multistrata	shade	3	28-Apr-02	7.20	0	8	20	0	82	871
Gunung Terang 2	GT2	multistrata	shade	3	28-Apr-02	9.05	0	7	25	0	64	876
Gunung Terang 3	GT3	multistrata	shade	3	28-Apr-02	11.00	1	6	28	1	72	875
Gunung Terang 4	GT4	simple shade	shade	3	28-Apr-02	12.25	1	4	30	2	58	887
Krui 1	K1	damar	damar	3	11 Jun 02	9.25	0	4	26	1.5	90	165
Krui 2	K2	damar	damar	3	11-Jun-02	10.45	0	7	26	2	80	120
Krui 3	K3	damar	damar	3	11-Jun-02	8.00	2	4	25	1.5	90	122
L.Monyet 1	LM1	monoculture	monoculture	3	21-Apr-02	8.45	2.5	1	29	1	60	866
L.Monyet 2	LM2	monoculture closed	monoculture	3	21-Apr-02	9.45	2	3	28	1	60	876
L.Monyet 3	LM3	multistrata	shade	3	02-May-02	10.00	7.5	6	28	2	66	815
L.Monyet 4	LM4	multistrata	shade	3	21-Apr-02	10.50	1	3	30	1	58	840
L.Monyet 5	LM5	multistrata	shade	3	21-Apr-02	7.30	0.5	2	26	0	70	933

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Laksana 1	L1	tall scrub	successional	3	20-Apr-02	7.50	0.5	7	22	1	87	850
Laksana 2	L2	monoculture	monoculture	3	20-Apr-02	10.45	0	7	26	1	70	900
Laksana 3	L3	multistrata	shade	3	20-Apr-02	9.30	5	5	27	1	68	875
Laksana 4	L4	forest	forest	3	20-Apr-02	13.00	1	7	22	2	74	975
Purajaya 1	P1	paddy	paddy	3	24-Apr-02	10.20	1	4	31	1	56	869
Purajaya 2	P2	simple shade	shade	3	24-Apr-02	12.50	2	6	25	2	70	872
Purajaya 3	P3	low scrub	successional	3	24-Apr-02	8.10	6	7	24	0	85	895
Purajaya 4	P4	simple shade	shade	3	24-Apr-02	9.10	5	6	26	1	63	895
Rata Agung 1	RA1	multistrata	shade	3	08-Jun-02	10.20	2	6	29	1	75	297
Rata Agung 2	RA2	forest	forest	3	08-Jun-02	7.45	1	3	22	3	98	305
Rata Agung 3	RA3	monoculture	monoculture	3	08-Jun-02	9.00	1	3	26	1.5	72	445
Simpangsari 1	S1	paddy	paddy	3	02-May-02	9.00	1	3	26	1	78	750
Simpangsari 2	S2	multistrata	shade	3	21-Apr-02	12.25	2.5	4	32	1	56	783
Simpangsari 3	S3	multistrata	shade	3	26-Apr-02	6.00	0	8	18	0	94	782
Simpangsari 4	S4	monoculture	monoculture	3	02-May-02	7.55	0	3	24	2	78	801
Tepus 1	T1	Imperata	successional	3	05-May-02	9.35	1	6	26	1	68	869
Tepus 2	T2	monoculture	monoculture	3	05-May-02	8.10	0	6	26	0	74	868
Tepus 3	T3	monoculture	monoculture	3	05-May-02	9.25	5	8	24	0	82	881
Tepus 4	T4	tall scrub	successional	3	04-May-02	7.00	0	7	22	0	76	901
Trimulyo 1	TM1	multistrata	shade	3	30-Apr-02	6.30	1	7	19	2	78	908
Trimulyo 2	TM2	Imperata	successional	3	30-Apr-02	9.50	4	3	28	0	60	1114
Trimulyo 3	TM3	low scrub	successional	3	30-Apr-02	11.05	4	3	27	0	50	1088
Trimulyo 4	TM4	monoculture	monoculture	3	30-Apr-02	8.30	0	2	24	2	68	1099
Abung 1	Ab1	simple shade	shade	4	25-May-02	9.40	0	2	23	1	88	833
Abung 2	Ab2	multistrata	shade	4	25-May-02	7.10	0	7	19	1	71	825
Abung 3	Ab3	simple shade	shade	4	25-May-02	8.40	0	0	20	0	98	872
Bodong 1	B1	multistrata	shade	4	08-May-02	9.30	1	5	25	2.5	64	852
Bodong 2	B2	simple shade	shade	4	08-May-02	10.25	2	6	27	1	76	777
Bodong 3	B3	monoculture	monoculture	4	08-May-02	8.20	0	5	23	0	82	868
Bodong 4	B4	multistrata	shade	4	08-May-02	7.20	0	8	21	0	82	896
Bodong 5	B5	monoculture	monoculture	4	28-May-02	8.10	1	5	21	1	80	947
Bodong 6	B6	forest	forest	4	28-May-02	10.15	0	6	22	3	92	1000
Fajar Bulan 1	FB1	multistrata	shade	4	27-May-02	8.50	0	8	20	1	88	858
Gunung Terang 1	GT1	multistrata	shade	4	29-Apr-02	10.10	4.5	3	28	1	64	871
Gunung Terang 2	GT2	multistrata	shade	4	29-Apr-02	8.50	3	4	24	3	75	876
Gunung Terang 3	GT3	multistrata	shade	4	29-Apr-02	8.00	2	4	25	1	78	875
Gunung Terang 4	GT4	simple shade	shade	4	29-Apr-02	7.00	0	5	20	0	78	887
Krui 1	K1	damar	damar	4	12-Jun-02	9.00	0	0	26	1	90	165
Krui 2	K2	damar	damar	4	12-Jun-02	7.15	0	8	23	0	90	120
Krui 3	K3	damar	damar	4	12-Jun-02	10.20	1	1	26	1	80	122
L.Monyet 1	LM1	monoculture	monoculture	4	26-May-02	10.05	5	3	29	0	68	866
L.Monyet 2	LM2	monoculture closed	monoculture	4	26-May-02	11.15	1	5	28	0	62	876
L.Monyet 3	LM3	multistrata	shade	4	26-May-02	7.00	0	7	19	0	85	815
L.Monyet 4	LM4	multistrata	shade	4	26-May-02	8.45	1	1	22	1	87	840
L.Monyet 5	LM5	multistrata	shade	4	27-May-02	10.45	1	6	26	1.5	60	933
Laksana 1	L1	tall scrub	successional	4	05-May-02	11.20	6	4	28	1	60	850
Laksana 2	L2	monoculture	monoculture	4	06-May-02	9.40	1	6	28	2	86	900
Laksana 3	L3	multistrata	shade	4	06-May-02	10.30	0.5	6	29	2	67	875
Laksana 4	L4	forest	forest	4	06-May-02	7.30	0	8	20	1	90	975
Purajaya 1	P1	paddy	paddy	4	07-May-02	8.20	0	8	21	1	88	869
Purajaya 2	P2	simple shade	shade	4	07-May-02	7.20	0	8	22	1.5	82	872
Purajaya 3	P3	low scrub	successional	4	07-May-02	9.20	1	8	26	1.5	76	895
Purajaya 4	P4	simple shade	shade	4	07-May-02	10.25	1	7	27	1	68	895
Rata Agung 1	RA1	multistrata	shade	4	09-Jun-02	7.25	1	7	22	0	80	297
Rata Agung 2	RA2	forest	forest	4	09-Jun-02	10.25	0	2	24	2	98	305
Rata Agung 3	RA3	monoculture	monoculture	4	09-Jun-02	8.55	3	3	27	1	74	445
Simpangsari 1	S1	paddy	paddy	4	31-May-02	6.00	0	5	16	0	90	750
Simpangsari 2	S2	multistrata	shade	4	03-May-02	6.00	2	8	21	1	78	783

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Simpangsari 3	S3	multistrata	shade	4	25-May-02	11.00	2	3	24	1	75	782
Simpangsari 4	S4	monoculture	monoculture	4	01-Jun-02	11.00	5	5	28	0.5	68	801
Tepus 1	T1	Imperata	successional	4	29-May-02	8.05	0	3	24	0	88	869
Tepus 2	T2	monoculture	monoculture	4	29-May-02	9.35	4	4	27	0.5	71	868
Tepus 3	T3	monoculture	monoculture	4	29-May-02	10.25	1.5	4	27	0	60	881
Tepus 4	T4	tall scrub	successional	4	29-May-02	11.30	3	5	29	0	60	901
Trimulyo 1	TM1	multistrata	shade	4	01-May-02	10.50	3	8	25	3	66	908
Trimulyo 2	TM2	Imperata	successional	4	01-May-02	8.30	0	5	26	0	75	1114
Trimulyo 3	TM3	low scrub	successional	4	01-May-02	7.25	0	7	24	0	72	1088
Trimulyo 4	TM4	monoculture	monoculture	4	01-May-02	9.40	1	7	27	2	64	1099
Abung 1	Ab1	simple shade	shade	5	01-Jun-02	6.50	0	7	19	1	85	833
Abung 2	Ab2	multistrata	shade	5	01-Jun-02	9.30	1	4	24	2	75	825
Abung 3	Ab3	simple shade	shade	5	01-Jun-02	7.55	0	3	22	0	80	872
Bodong 1	B1	multistrata	shade	5	02-Jun-02	8.45	0.5	4.5	23	3	88	852
Bodong 2	B2	simple shade	shade	5	02-Jun-02	7.40	0	8	22	2	84	777
Bodong 3	B3	monoculture	monoculture	5	17-Jul-02	7.50	0	7.5	21	2.5	75	868
Bodong 4	B4	multistrata	shade	5	18-Jul-02	10.25	2	4	25	1	66	896
Bodong 5	B5	monoculture	monoculture	5	18-Jul-02	9.15	0	0	25	0	85	947
Bodong 6	B6	forest	forest	5	17-Jul-02	10.45	0	7	22	1.5	98	1000
Fajar Bulan 1	FB1	multistrata	shade	5	02-Jun-02	10.15	0	7	25	3	65	858
Gunung Terang 1	GT1	multistrata	shade	5	23-Jun-02	8.25	0	0	26	1	75	871
Gunung Terang 2	GT2	multistrata	shade	5	23-Jun-02	11.10	1	6	29	0	56	876
Gunung Terang 3	GT3	multistrata	shade	5	23-Jun-02	12.15	1.5	7	29	0.5	60	875
Gunung Terang 4	GT4	simple shade	shade	5	23-Jun-02	9.55	0.5	7	27	0.5	75	887
Krui 1	K1	damar	damar	5	15-Sep-02a	9.45	2	4	26	1	71	165
Krui 2	K2	damar	damar	5	15-Sep-02a	9.25	1	4	24	0.5	100	120
Krui 3	K3	damar	damar	5	13-Jun-02	8.35	5	7	30	1	80	122
L.Monyet 1	LM1	monoculture	monoculture	5	16-Jul-02	9.45	2	4	26	1	71	866
L.Monyet 2	LM2	monoculture closed	monoculture	5	16-Jul-02	8.40	2	5	24	1	70	876
L.Monyet 3	LM3	multistrata	shade	5	20-Jul-02	7.25	0	1	21	0	88	815
L.Monyet 4	LM4	multistrata	shade	5	16-Jul-02	12.00	1	4	28	1.5	46	840
L.Monyet 5	LM5	multistrata	shade	5	19-Jul-02	9.30	1	8	23	0	88	933
Laksana 1	L1	tall scrub	successional	5	30-May-02	11.30	2.5	7	27	1	98	850
Laksana 2	L2	monoculture	monoculture	5	30-May-02	8.05	0	3	20	2	90	900
Laksana 3	L3	multistrata	shade	5	30-May-02	7.05	0	3	18	1	80	875
Laksana 4	L4	forest	forest	5	30-May-02	9.55	1	6	20	2	90	975
Purajaya 1	P1	paddy	paddy	5	22-Jun-02	11.25	1	5	30	0	60	869
Purajaya 2	P2	simple shade	shade	5	22-Jun-02	10.25	0	4	30	0	60	872
Purajaya 3	P3	low scrub	successional	5	22-Jun-02	8.50	1	2	24	1	75	895
Purajaya 4	P4	simple shade	shade	5	22-Jun-02	7.45	0	2	23	1	78	895
Rata Agung 1	RA1	multistrata	shade	5	10-Jun-02	11.15	1	1	28	0	58	297
Rata Agung 2	RA2	forest	forest	5	10-Jun-02	9.00	5	0	22	2	98	305
Rata Agung 3	RA3	monoculture	monoculture	5	10-Jun-02	7.25	0	1	23	1	80	445
Simpangsari 1	S1	paddy	paddy	5	20-Jul-02	8.35	0	0	23	0	92	750
Simpangsari 2	S2	multistrata	shade	5	21-Jun-02	9.15	0	1	28	2.5	62	783
Simpangsari 3	S3	multistrata	shade	5	20-Jul-02	9.50	0	1	26	0	66	782
Simpangsari 4	S4	monoculture	monoculture	5	18-Jul-02	7.15	0	7.5	18	1.5	80	801
Tepus 1	T1	Imperata	successional	5	27-Jun-02	9.15	3	4	26	0	80	869
Tepus 2	T2	monoculture	monoculture	5	27-Jun-02	7.50	4	4	24	1	80	868
Tepus 3	T3	monoculture	monoculture	5	27-Jun-02	10.50	5	5	30	0	59	881
Tepus 4	T4	tall scrub	successional	5	27-Jun-02	12.50	1	4	31	0	56	901
Trimulyo 1	TM1	multistrata	shade	5	25-Jun-02	6.25	0	8	20	0	86	908
Trimulyo 2	TM2	Imperata	successional	5	25-Jun-02	8.45	1	7	25	0	74	1114
Trimulyo 3	TM3	low scrub	successional	5	25-Jun-02	10.10	4	5	30	0	56	1088
Trimulyo 4	TM4	monoculture	monoculture	5	25-Jun-02	11.25	2	4	30	1	58	1099
Abung 1	Ab1	simple shade	shade	6	23-Jul-02	10.45	2	3	25	1	78	833
Abung 2	Ab2	multistrata	shade	6	23-Jul-02	8.00	0	8	20	2	92	825
Abung 3	Ab3	simple shade	shade	6	23-Jul-02	9.40	0	3	23	2.5	88	872

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Bodong 1	B1	multistrata	shade	6	22-Jul-02	8.25	2	4	22	1	98	852
Bodong 2	B2	simple shade	shade	6	22-Jul-02	7.25	0	5	23	0.5	82	777
Bodong 3	B3	monoculture	monoculture	6	28-Jul-02	7.30	0.5	3	18	0	96	868
Bodong 4	B4	multistrata	shade	6	27-Jul-02	10.45	2	6	24	0	84	896
Bodong 5	B5	monoculture	monoculture	6	28-Jul-02	8.55	2	4	21	2	94	947
Bodong 6	B6	forest	forest	6	27-Jul-02	8.45	0.5	8	20	0	98	1000
Fajar Bulan 1	FB1	multistrata	shade	6	22-Jul-02	11.50	5	2	27	1	58	858
Gunung Terang 1	GT1	multistrata	shade	6	24-Jun-02	9.40	0.5	4	26	1	75	871
Gunung Terang 2	GT2	multistrata	shade	6	24-Jun-02	12.25	3	4	30	0	56	876
Gunung Terang 3	GT3	multistrata	shade	6	24-Jun-02	10.45	1	5	30	0.5	60	875
Gunung Terang 4	GT4	simple shade	shade	6	24-Jun-02	6.45	0	7	20	0	78	887
Krui 1	K1	damar	damar	6	15-Sep-02b	7.40	0.5	7	25	1	98	165
Krui 2	K2	damar	damar	6	15-Sep-02b	10.30	0.5	6	27	0.5	95	120
Krui 3	K3	damar	damar	6	15 Sept 02	11.45	7	6	24	0	98	122
L.Monyet 1	LM1	monoculture	monoculture	6	29-Jul-02	8.20	0.5	5.5	21	0.5	72	866
L.Monyet 2	LM2	monoculture closed	monoculture	6	29-Jul-02	7.05	1	5	18	0	95	876
L.Monyet 3	LM3	multistrata	shade	6	29-Jul-02	11.15	1	4	26	0	68	815
L.Monyet 4	LM4	multistrata	shade	6	26-Jul-02	6.10	0.5	7	20	1	95	840
L.Monyet 5	LM5	multistrata	shade	6	29-Jul-02	9.40	1.5	5	25	1	78	933
Laksana 1	L1	tall scrub	successional	6	21-Jul-02	7.15	2	1	20	1	94	850
Laksana 2	L2	monoculture	monoculture	6	21-Jul-02	9.35	6	4	24	1	94	900
Laksana 3	L3	multistrata	shade	6	21-Jul-02	8.20	6	2	21	1	97	875
Laksana 4	L4	forest	forest	6	21-Jul-02	9.35	10	2	23	1	94	975
Purajaya 1	P1	paddy	paddy	6	24-Jul-02	7.45	1	1	21	1	90	869
Purajaya 2	P2	simple shade	shade	6	24-Jul-02	8.45	4	3.5	25	1	82	872
Purajaya 3	P3	low scrub	successional	6	24-Jul-02	11.00	3	5	25	0	80	895
Purajaya 4	P4	simple shade	shade	6	24-Jul-02	9.50	5.5	4	25	1.5	80	895
Rata Agung 1	RA1	multistrata	shade	6	18-Sep-02a	7.05	0	2	23	0	98	297
Rata Agung 2	RA2	forest	forest	6	18-Sep-02a	10.50	5	3	27	2	82	305
Rata Agung 3	RA3	monoculture	monoculture	6	18-Sep-02a	9.40	3	1	28	2	74	445
Simpangsari 1	S1	paddy	paddy	6	28-Jul-02	12.20	7	6	30	2.5	70	750
Simpangsari 2	S2	multistrata	shade	6	23-Jul-02	6.55	0	8	19	1	98	783
Simpangsari 3	S3	multistrata	shade	6	31-Jul-02	6.50	0	7	19	0	88	782
Simpangsari 4	S4	monoculture	monoculture	6	07-Aug-02	10.20	2	0.5	27	1	66	801
Tepus 1	T1	Imperata	successional	6	25-Jul-02	11.15	1	6	27	0	72	869
Tepus 2	T2	monoculture	monoculture	6	25-Jul-02	10.00	3	3	25	0	70	868
Tepus 3	T3	monoculture	monoculture	6	25-Jul-02	9.00	1	3	23	0.5	88	881
Tepus 4	T4	tall scrub	successional	6	25-Jul-02	7.55	0.5	2	20	0	98	901
Trimulyo 1	TM1	multistrata	shade	6	26-Jun-02	11.25	1	8	28	2	58	908
Trimulyo 2	TM2	Imperata	successional	6	26-Jun-02	10.10	1	5	28	0	52	1114
Trimulyo 3	TM3	low scrub	successional	6	26-Jun-02	8.55	3	3	27	0	50	1088
Trimulyo 4	TM4	monoculture	monoculture	6	26-Jun-02	7.25	0	3	21	1.5	88	1099
Abung 1	Ab1	simple shade	shade	7	09-Aug-02	6.40	0	6	20	1	96	833
Abung 2	Ab2	multistrata	shade	7	06-Aug-02	9.20	0.5	4	22	2.5	95	825
Abung 3	Ab3	simple shade	shade	7	02-Aug-02	6.15	0.5	8	19	1.5	90	872
Bodong 1	B1	multistrata	shade	7	05-Aug-02	9.55	5	4	26	0	78	852
Bodong 2	B2	simple shade	shade	7	05-Aug-02	8.45	0	4	24	0	88	777
Bodong 3	B3	monoculture	monoculture	7	05-Aug-02	10.50	5	5	25	0	84	868
Bodong 4	B4	multistrata	shade	7	04-Aug-02	10.40	8	5	25	0	80	896
Bodong 5	B5	monoculture	monoculture	7	04-Aug-02	7.55	1	7	22	0	90	947
Bodong 6	B6	forest	forest	7	04-Aug-02	8.25	10	2	18	0.5	98	1000
Fajar Bulan 1	FB1	multistrata	shade	7	22-Aug-02	7.55	0	2	21.5	0.5	80	858
Gunung Terang 1	GT1	multistrata	shade	7	25-Aug-02	12.30	1	2	29	1.5	70	871
Gunung Terang 2	GT2	multistrata	shade	7	25-Aug-02	8.50	0	1	22	2.5	78	876
Gunung Terang 3	GT3	multistrata	shade	7	25-Aug-02	11.20	1	1	27	0.5	72	875
Gunung Terang 4	GT4	simple shade	shade	7	25-Aug-02	10.10	2	2	25	0	82	887
Krui 1	K1	damar	damar	7	16-Sep-02a	9.30	2	2	27	2	98	165
Krui 2	K2	damar	damar	7	16-Sep-02	8.30	0	0	28	1	98	120

Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Krui 3	K3	damar	damar	7	16-Sep-02a	7.20	0.5	2	29	0	98	122
L.Monyet 1	LM1	monoculture	monoculture	7	08-Aug-02	7.15	0.5	5	21	1	95	866
L.Monyet 2	LM2	monoculture closed	monoculture	7	08-Aug-02	8.40	0	6	24	0	80	876
L.Monyet 3	LM3	multistrata	shade	7	07-Aug-02	8.45	1	1	22	0.5	75	815
L.Monyet 4	LM4	multistrata	shade	7	08-Aug-02	9.40	0.5	7	26	1	73	840
L.Monyet 5	LM5	multistrata	shade	7	07-Aug-02	7.05	0	5	19	0.5	92	933
Laksana 1	L1	tall scrub	successional	7	01-Aug-02	8.25	0	5	22	1	94	850
Laksana 2	L2	monoculture	monoculture	7	30-Jul-02	7.10	0.5	8	20	1	98	900
Laksana 3	L3	multistrata	shade	7	30-Jul-02	11.30	0	4	24	1.5	80	875
Laksana 4	L4	forest	forest	7	30-Jul-02	9.40	0	5	21	0.5	98	975
Purajaya 1	P1	paddy	paddy	7	03-Aug-02	11.35	4	6	25	0	62	869
Purajaya 2	P2	simple shade	shade	7	03-Aug-02	10.20	2	3	26	2	63	872
Purajaya 3	P3	low scrub	successional	7	03-Aug-02	7.50	0.5	1	21	3.5	90	895
Purajaya 4	P4	simple shade	shade	7	03-Aug-02	9.10	1	2	24	1	90	895
Rata Agung 1	RA1	multistrata	shade	7	18-Sep-02b	7.45	1	1	25	0	98	297
Rata Agung 2	RA2	forest	forest	7	18-Sep-02b	11.30	7	4	27	2.5	82	305
Rata Agung 3	RA3	monoculture	monoculture	7	18-Sep-02b	12.50	5	4	28	2	88	445
Simpangsari 1	S1	paddy	paddy	7	06-Aug-02	7.00	2.5	3	19	0.5	90	750
Simpangsari 2	S2	multistrata	shade	7	01-Aug-02	10.10	0	7	23	3.5	92	783
Simpangsari 3	S3	multistrata	shade	7	06-Aug-02	8.00	1	0	21	0.5	95	782
Simpangsari 4	S4	monoculture	monoculture	7	23-Aug-02	6.10	0	8	26	2.5	88	801
Tepus 1	T1	Imperata	successional	7	31-Jul-02	10.15	1	4	26	0	73	869
Tepus 2	T2	monoculture	monoculture	7	31-Jul-02	8.45	2	0	24	1	72	868
Tepus 3	T3	monoculture	monoculture	7	31-Jul-02	11.35	2	5	26	0.5	68	881
Tepus 4	T4	tall scrub	successional	7	01-Aug-02	7.15	0	7	20	0	96	901
Trimulyo 1	TM1	multistrata	shade	7	27-Aug-02	11.00	4	4	30	1	58	908
Trimulyo 2	TM2	Imperata	successional	7	27-Aug-02	7.20	0	8	20	0	90	1114
Trimulyo 3	TM3	low scrub	successional	7	27-Aug-02	8.35	4	1	27	0	74	1088
Trimulyo 4	TM4	monoculture	monoculture	7	27-Aug-02	9.50	0	1	29	0	74	1099
Abung 1	Ab1	simple shade	shade	8	31-Aug-02	8.15	1	6	22	1	90	833
Abung 2	Ab2	multistrata	shade	8	30-Aug-02	6.30	0	8	20	2.5	98	825
Abung 3	Ab3	simple shade	shade	8	31-Aug-02	7.05	0.5	7	20	1	98	872
Bodong 1	B1	multistrata	shade	8	22-Aug-02	11.15	3.5	4	28	0	64	852
Bodong 2	B2	simple shade	shade	8	22-Aug-02	12.15	2	2	29	3.5	68	777
Bodong 3	B3	monoculture	monoculture	8	02-Sep-02	7.30	0.5	2	20	0	95	868
Bodong 4	B4	multistrata	shade	8	01-Sep-02	9.35	0.5	7	25	0	85	896
Bodong 5	B5	monoculture	monoculture	8	01-Sep-02	10.00	2	3	22	0	98	947
Bodong 6	B6	forest	forest	8	02-Sep-02	10.00	2	3	22	0	98	1000
Fajar Bulan 1	FB1	multistrata	shade	8	08-Sep-02	10.15	2	2	26	3	61	858
Gunung Terang 1	GT1	multistrata	shade	8	26-Aug-02	9.10	0	0	23	0	65	871
Gunung Terang 2	GT2	multistrata	shade	8	26-Aug-02	10.20	3	0.5	26	0	70	876
Gunung Terang 3	GT3	multistrata	shade	8	26-Aug-02	6.20	0	2	17	0.5	88	875
Gunung Terang 4	GT4	simple shade	shade	8	26-Aug-02	7.20	0	0	17	0.5	98	887
Krui 1	K1	damar	damar	8	16-Sep-02b	10.10	4	3	28	2	98	165
Krui 2	K2	damar	damar	8	17-Sep-02a	8.35	1	0	25	2	90	120
Krui 3	K3	damar	damar	8	16-Sep-02b	11.40	2	0	23	0	80	122
L.Monyet 1	LM1	monoculture	monoculture	8	14-Sep-02	7.05	0.5	7.5	22	1	90	866
L.Monyet 2	LM2	monoculture closed	monoculture	8	03-Sep-02	8.40	1	3	23	1	98	876
L.Monyet 3	LM3	multistrata	shade	8	04-Sep-02	9.20	0.5	4	25	0	80	815
L.Monyet 4	LM4	multistrata	shade	8	03-Sep-02	7.15	0.5	8	21	0	92	840
L.Monyet 5	LM5	multistrata	shade	8	03-Sep-02	10.05	0.5	6	25	1	78	933
Laksana 1	L1	tall scrub	successional	8	29-Aug-02	7.30	0.5	1	20	0	98	850
Laksana 2	L2	monoculture	monoculture	8	31-Aug-02	10.10	0.5	8	24	0.5	90	900
Laksana 3	L3	multistrata	shade	8	24-Aug-02	11.40	2	6	29	2	73	875
Laksana 4	L4	forest	forest	8	29-Aug-02	11.00	0	5	23	2	75	975
Purajaya 1	P1	paddy	paddy	8	11-Sep-02	8.00	1	8	22	0	88	869
Purajaya 2	P2	simple shade	shade	8	11-Sep-02	9.00	1	7	23	0	90	872



Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Purajaya 3	P3	low scrub	successional	8	11-Sep-02	11.30	0.5	8	25	0.5	90	895
Purajaya 4	P4	simple shade	shade	8	11-Sep-02	10.20	1	8	25	0.5	98	895
Rata Agung 1	RA1	multistrata	shade	8	18-Sep-02c	17.25	0	8	27	0.5	88	297
Rata Agung 2	RA2	forest	forest	8	19-Sep-02a	8.30	1	4	25	2	80	305
Rata Agung 3	RA3	monoculture	monoculture	8	19-Sep-02a	7.15	1	3	24	1	98	445
Simpangsari 1	S1	paddy	paddy	8	04-Sep-02	8.10	0	4	27	0	83	750
Simpangsari 2	S2	multistrata	shade	8	04-Sep-02	6.50	0	8	21	0	98	783
Simpangsari 3	S3	multistrata	shade	8	12-Sep-02	10.00	0.5	8	25	1	85	782
Simpangsari 4	S4	monoculture	monoculture	8	04-Sep-02	11.05	2	7	28	1	75	801
Tepus 1	T1	Imperata	successional	8	24-Aug-02	7.55	0	8	22	1.5	90	869
Tepus 2	T2	monoculture	monoculture	8	24-Aug-02	10.10	0.5	5	27	0	72	868
Tepus 3	T3	monoculture	monoculture	8	24-Aug-02	9.20	1	4	27	0.5	78	881
Tepus 4	T4	tall scrub	successional	8	29-Aug-02	8.50	3	1	24	0	84	901
Trimulyo 1	TM1	multistrata	shade	8	28-Aug-02	6.25	0	1	19	1	88	908
Trimulyo 2	TM2	Imperata	successional	8	28-Aug-02	11.05	0	4	27	0.5	64	1114
Trimulyo 3	TM3	low scrub	successional	8	28-Aug-02	9.55	3	3	25	0	82	1088
Trimulyo 4	TM4	monoculture	monoculture	8	28-Aug-02	8.35	5	1	20	1.5	98	1099
Abung 1	Ab1	simple shade	shade	9	21-Oct-02	8.50	0	1	22	4	88	833
Abung 2	Ab2	multistrata	shade	9	21-Oct-02	7.15	0	8	21	2	84	825
Abung 3	Ab3	simple shade	shade	9	21-Oct-02	10.20	2	1	29	1.5	58	872
Bodong 1	B1	multistrata	shade	9	07-Oct-02	9.00	0.5	1	25	1	90	852
Bodong 2	B2	simple shade	shade	9	07-Oct-02	7.35	0	8	20	0	95	777
Bodong 3	B3	monoculture	monoculture	9	15-Oct-02	11.15	2	2	32	0	54	868
Bodong 4	B4	multistrata	shade	9	13-Oct-02	7.40	0.5	2	24	0	74	896
Bodong 5	B5	monoculture	monoculture	9	13-Oct-02	9.10	5	3	26	0	62	947
Bodong 6	B6	forest	forest	9	15-Oct-02	8.40	5	6	22	1	98	1000
Fajar Bulan 1	FB1	multistrata	shade	9	08-Oct-02	7.45	0.5	1	22	0.5	80	858
Gunung Terang 1	GT1	multistrata	shade	9	09-Oct-02	11.55	1	8	29	1	68	871
Gunung Terang 2	GT2	multistrata	shade	9	09-Oct-02	8.20	0	3	25	2.5	88	876
Gunung Terang 3	GT3	multistrata	shade	9	09-Oct-02	9.25	3.5	4	27	1	92	875
Gunung Terang 4	GT4	simple shade	shade	9	09-Oct-02	10.40	3	5	30	0	64	887
Krui 1	K1	damar	damar	9	17-Sep-02	9.40	3	1	28	2	92	165
Krui 2	K2	damar	damar	9	17-Sep-02b	9.50	0	1	29	0	80	120
Krui 3	K3	damar	damar	9	17-Sep-02	7.30	0	1	29	2	90	122
L.Monyet 1	LM1	monoculture	monoculture	9	17-Oct-02	7.10	5	2	23	1	72	866
L.Monyet 2	LM2	monoculture closed	monoculture	9	19-Oct-02	7.25	1	2	21	0	86	876
L.Monyet 3	LM3	multistrata	shade	9	19-Oct-02	8.45	0.5	2	23	0.5	95	815
L.Monyet 4	LM4	multistrata	shade	9	17-Oct-02	8.20	3	3	26	1	88	840
L.Monyet 5	LM5	multistrata	shade	9	17-Oct-02	9.55	12.5	3	28	0	70	933
Laksana 1	L1	tall scrub	successional	9	12-Oct-02	12.05	4	2	28	1	75	850
Laksana 2	L2	monoculture	monoculture	9	12-Oct-02	10.50	2	1	26	0	84	900
Laksana 3	L3	multistrata	shade	9	11-Oct-02	6.10	0	1	19	1	72	875
Laksana 4	L4	forest	forest	9	12-Oct-02	8.20	2	1	20	0.5	98	975
Purajaya 1	P1	paddy	paddy	9	14-Oct-02	10.30	5	1	29	0	70	869
Purajaya 2	P2	simple shade	shade	9	14-Oct-02	9.25	3	0	27	1	85	872
Purajaya 3	P3	low scrub	successional	9	14-Oct-02	11.25	4	1	31	0	60	895
Purajaya 4	P4	simple shade	shade	9	14-Oct-02	7.35	0	8	22	1	76	895
Rata Agung 1	RA1	multistrata	shade	9	19-Sep-02	12.35	0	8	30	1	80	297
Rata Agung 2	RA2	forest	forest	9	19-Sep-02b	8.30	3	4	23	3	80	305
Rata Agung 3	RA3	monoculture	monoculture	9	19-Sep-02b	11.15	4	6	29	2.8	82	445
Simpangsari 1	S1	paddy	paddy	9	20-Oct-02	8.20	0	2	21	3	98	750
Simpangsari 2	S2	multistrata	shade	9	20-Oct-02	10.55	2	3	32	1	50	783
Simpangsari 3	S3	multistrata	shade	9	20-Oct-02	9.50	0.5	2	26	2	80	782
Simpangsari 4	S4	monoculture	monoculture	9	20-Oct-02	7.15	0	4	19	1	86	801
Tepus 1	T1	Imperata	successional	9	16-Oct-02	7.15	0.5	4	22	0	88	869
Tepus 2	T2	monoculture	monoculture	9	16-Oct-02	8.15	5	6	24	0.5	87	868
Tepus 3	T3	monoculture	monoculture	9	16-Oct-02	9.25	0.5	7	29	0	74	881
Tepus 4	T4	tall scrub	successional	9	16-Oct-02	10.30	0	7	30	1	65	901



Site	Site code	Habitat	Simplified Habitat	Survey number	Date	Time	Wind (k)	Cloud (/8)	Temperature (°C)	Noise (/5)	Humidity (%)	Altitude (m a.s.l.)
Trimulyo 1	TM1	multistrata	shade	9	10-Oct-02	11.45	5	5	31	1	60	908
Trimulyo 2	TM2	Imperata	successional	9	10-Oct-02	9.15	5	1	27	0	60	1114
Trimulyo 3	TM3	low scrub	successional	9	10-Oct-02	8.00	2	4	24	0	94	1088
Trimulyo 4	TM4	monoculture	monoculture	9	10-Oct-02	10.25	5	3	30	1	58	1099

## Appendix C: Interview question guide: *Indonesian* and *English* translation

### *Sejarah -History*

*Sudah berapa lama Bapak/Ibu tinggal di sini?*

- How long have you lived here?

*Bapak/Ibu lahir di mana?*

- Where were you born?

*Asli dari mana?*

- What is your ethnicity?

*Sudah berapa lama Bapak/Ibu memelihara kebun di sini?*

- How long have you looked after this garden?

*Apakah kebun ini milik Bapak/Ibu atau menyewa?*

- Do you own this garden yourself, or is it rented?

*Status lahannya?*

- What is the land tenure status?

*Bagaimana mendapatkannya?*

- How did you acquire the land?

*Kalau Bapak/Ibu membuka sendiri, sebelumnya berupa apa?*

- If you opened the land yourself, what was it like before?

*Kapan Bapak/Ibu melakukan itu?*

- When did you do that? (change the land to a coffee garden)

*Kapan lahan pertama dibuka dari hutan?*

- When was the land first opened from forest?

### *Kopi - coffee*

*Kegiatan apa yang Bapak/Ibu lakukan untuk memelihara kopi?*

- What activities do you do to look after the coffee?

*Kapan memanen kopi?*

- When do you harvest the coffee?

*Berapa lama untuk memanen kopi sampai habis?*

- How long does it take to harvest the coffee? (How many months?)

*Berapa orang yang membantu memanen?*

- How many people help to harvest?

*Apakah Ibu/Bapak menggunakan pupuk? Macam apa? Berapa kali setahun?*

- Do you use fertiliser? What type? How many times per year?

*Bagaimana cara untuk Ibu/Bapak membersihkan rumput? Berapa kali setahun? (koret/semprot)*

- What is the method used for weeding? How many times per year? (Hoe or herbicide?)

*Berapa kali setahun Ibu/Bapak membersihkan tunas dan membuang ranting? Mengapa lakukan seperti itu?*

- How many times per year do you clean buds and prune branches? Why do you do that?

*Dari mana Ibu/Bapak belajar memelihara kebun?*

- Where did you learn to care for a garden?

*Apakah ada hama yang mengganggu kopi?*

- Are there any pests that disturb the coffee? (What are they?)

*Bagaimana cara mengatasinya?*

- What is the method for overcoming them?

## *Pohon - Trees*

*(Apakah ada pohon pelindung di kebun?*

*Jenisnya apa?)*

– Are there shade trees in the garden? What type?

*Dari mana asal bibit pohon itu?*

– From where did you get the seedlings?

*Kegiatan apa yang Bapak/Ibu lakukan untuk memelihara pohon?*

– What do you do to look after the trees?

*Mengapa Bapak/Ibu melakukan itu?*

– Why do you do that?

*Apakah ada masalah dengan pertumbuhan kebun?*

– Is there any problem with the growth of the garden? (trees)

*Apakah jenis itu cocok di sini?*

– Are the types of trees suitable here?

*Apa manfaat pohon itu untuk kebun? (Apa alasan Bapak/Ibu menanam pohon itu?)*

– What are the benefits of trees for the garden? (Why did you plant these trees?)

*Kenapa jenis pohon itu dipilih?*

– Why did you choose these species of trees?

*Apakah jenis pohon itu punya dampak negatif untuk kebun?*

– Are there any negative impacts to the garden of these types of trees?

*Apakah ada batasan misalnya ketinggian pohon, jumlah pohon, kerimbunan, atau umur pohon sehingga dapat mengganggu pertumbuhan atau berbuahnya kopi?*

– Is there a threshold of, for example, the height of trees, number of trees, shade cover or age of trees, beyond which the trees disturb the growth of, or fruiting of coffee?

*Bagaimana cara menanam kopi dan pohon pelindung? Apakah bersama-sama (kopi dulu atau pohon dulu?) Mengapa?*

– What is the method for planting coffee and shade trees? Are they planted together, coffee first or trees first? Why?

*Apakah kopi bisa ditanam dibawah tajuk pohon yang sudah tua?*

– Can coffee be planted under the canopy of mature trees?

*Berapa lama pohon ini bisa hidup?*

– How long can these trees live?

*Kapan biasanya Bapak/Ibu menebang jenis pohon kayu? Berapa umur pohon itu?*

– Do you usually cut these types of trees for wood? At what age would the trees be when you did this?

## *Konservasi - Conservation*

*Masalah apa yang paling penting untuk melindungi burung-burung?*

– What is the most important factor for protecting birds?

*Apakah fungsi burung terhadap lingkungan? Apakah fungsi itu?*

– Do birds have a function in the environment? What is that?

*Apakah Bapak/Ibu lebih suka melihat burung di dalam sangkar atau bebas? Mengapa?*

– Do you prefer to see birds in a cage or free? Why?

*Apa pendapat Bapak/Ibu tentang kegiatan menangkap burung?*

– Do you have an opinion about bird trapping?

*Siapa yang bertanggung jawab untuk perlindungan burung?*

– Who is responsible for protecting birds?

*Apakah Bapak/Ibu berpendapat bahwa kebun memiliki peran untuk melindungi burung?*

– Do you think that gardens have a role in protecting birds?

*Seperti apa peran itu?*

– What is that role?

*Apabila hutan sebagai tempat tinggal burung hilang, di mana burung itu akan tinggal?*

- If the forest is lost as bird habitat, where do you think those birds will live?

*Bagaimana pendapat Bapak/Ibu tentang kegiatan pengelolaan kebun untuk perlindungan burung?*

- What is your opinion regarding maintenance of gardens for protecting birds?

*Cara seperti apa yang akan Bapak/Ibu lakukan untuk itu?*

- What activities could you do to achieve that?

*Kesulitan apa yang akan Bapak/Ibu jumpai jika lakukan cara itu? Bagaimana mengatasinya?*

- What difficulties might you find if you did that? How could they be overcome?

*Bagaimana pendapat Bapak/Ibu tentang kerjasama antara pemerintah dan petani dalam hal perlindungan atau konservasi?*

- What is your opinion regarding co-operation between the Government and farmers in matters of conservation?

*Bagaimana cara yang paling baik untuk itu?*

- What would be the best way to achieve that?

*Apakah Bapak/Ibu tahu tentang program HKm?*

- Are you familiar with the HKm program?

*Bagaimana pendapat Bapak/Ibu jika perlindungan terhadap binatang termasuk dalam syarat HKm?*

- What would be your opinion if animal conservation became part of the HKm regulations?

*Bagaimana pendapat Bapak/Ibu jika ada perusahaan yang masuk daerah ini, yang mau membuat system untuk membeli ‘kopi lestari’? Perusahaan itu akan membayar harga lebih tinggi, banding harga biasa, tapi mungkin ada kondisi, misalnya petani petani tidak boleh menyemprot atau memberi pupuk, lagi, petani itu harus mengikuti aturan tentang pohon pohon yang harus ditanam. Ini hanya contoh, tetapi kalau ada system seperti itu, apakah Bapak/Ibu tertarik, atau tidak?*

- What would be your opinion if a company came into the area, which wanted to create a system for buying ‘sustainable coffee’? The company would pay a higher price than normal, but there might be conditions, for example, farmers are forbidden from using herbicide, pesticide or fertiliser, also, farmers must follow rules regarding the trees that need to be planted. This is just an example, but if there were a system like that, would you be interested or not?



			Site																																																		
Vegetation functional type	Common name	Botanical name	Ab1	Ab2	Ab3	B1	B2	B3	B4	B5	B6	FB1	GT1	GT2	GT3	GT4	K1	K2	K3	L1	L2	L3	L4	LM1	LM2	LM3	LM4	LM5	P1	P2	P3	P4	RA1	RA2	RA3	S1	S2	S3	S4	T1	T2	T3	T4	TM1	TM2	TM3	TM4						
understorey crop	Coffee robinson	Coffea liberica			g																							g											g														
tree	Conifer																										r																										
groundcover	Cyperaceae									g									g	g																								g									
tree crop	Damar	Shorea javanica																v	a	a				g		g						r										g											
fruit	Duku	Lansium domesticum													o				o	f	f																																
fruit	Durian	Durio zibethinus	g	r		r		g	o	g					r				f	a		r	g			f	r	r			o	r		r		f	r																
groundcover	epiphytes																	g	g	g																	g																
tree	Erythrina	Erythrina subumbrans	a		r		o	f			a		o	f	a							r	r	g	f	a	f			r	f	f		f	r				g	r		r	r										
groundcover	Ferns			g						g	g	g					g	g	g	g						g	g			g			g		g					g	g												
tree	Forest tree			r						g	v						o	f	r				v										v																	g			
understorey crop	genjer																																																g				
understorey crop	ginger	Zingiber officinale				g		g		g		g															g	g					g		g		g	g	g						g								
groundcover	ginger-like (tepos)	Zingiberaceae							g	g								g	g	g	g												g												g								
tree	Gliricidia	Gliricidia sepium	a	f	f	a		r	o	g		a	f	f	a	f						g	f	g	r	r	r	r	f		f	g					f	f		u	g			g			g						
tree	Hamerang	Ficus pandana?																	a																								g						r				
groundcover	Hamerung	Vernonia arborea?																															g																		r		
groundcover	hanjuang				g					g	g		g	g	g							g		g											g										g								
groundcover	harendong	Melastoma malabathrycum?									g												g				g	g															g										
groundcover	harendong 2																																															g					
groundcover	imperata	Imperata cylindrica								g																																						g					
fruit	Jambu	Syzygium sp.	g	r		r		r			r					r			r					r		r	r	r				r		r		r	g		g		g												
fruit	Jambu 2	Syzygium sp.		r		r												g																																			
fruit	Jambu batu	Syzygium aqueum								r					r																																						
groundcover	Jarong 1	Achyranthes aspera?																																														g			g		r



			Site																																																										
Vegetation functional type	Common name	Botanical name	Ab1	Ab2	Ab3	B1	B2	B3	B4	B5	B6	FB1	GT1	GT2	GT3	GT4	K1	K2	K3	L1	L2	L3	L4	LM1	LM2	LM3	LM4	LM5	P1	P2	P3	P4	RA1	RA2	RA3	S1	S2	S3	S4	T1	T2	T3	T4	TM1	TM2	TM3	TM4														
fruit	Mango	Mangifera sp.		r				r			r		r									r				f		r		r	r								r	o							r														
tree	Mara	Macaranga sp.?									g										g																									r															
fruit	Markisa	Passiflora quadrangularis				g																		g																																					
understorey crop	Marrow																																							g							g														
tree	Medang	Litsea sp.?																																																											
tree crop	Mengkudu	Morinda citrifolia?						g																																																					
fruit	Nangka	Artocarpus heterophyllus	r	r	r	r		r	f	g							r		r		r	r	f		g	g	r		o		r	f	r							f	f		r	g	r	r															
fruit	orange	Citrus sp.						g													r										g		g								r																				
groundcover	orchids																			g																																									
groundcover	palm	ARECACEAE						g																																																					
fruit	Pawpaw	Carica papaya		r						g		r													g					r		o														o			r												
understorey crop	Peanuts	Arachis hypogea											g																																																
understorey crop	pepper	Piper nigrum	g	g		g	g	g		g	g	g	g	g							g			g	g			g	g		g	g		g		g		g		g	g			g		g															
fruit	petai	Parkia speciosa	g			f	r	r	g			o					o	r	o					o		r		o				f		g			o	r			r	g				r	g						g								
tree crop	Pinang	Areca catechu	g									r																	g																																
understorey crop	pineapple	Ananas comosus		g		g	g					g	g		g												g																						g	g											
groundcover	pulus	Dendrocide stimulans?																	r	g	g					r																																			
fruit	Rambutan	Nephelium sp.																o									r				r																						o	o							
groundcover	rattan	Calamus sp. or Daemonorops sp.?									g																					g																													
understorey crop	rice	Oryza sativa																												g																			g												
fruit	Sawo	Chrysophyllum cainito																															r																												
tree	Sengon	Paraserianthes falcataria	r			a	a							g																																								g		g					
groundcover	Shieri																			o	g												g																							g		r		g	r
understorey crop	sinoron									g																																																			





## Appendix E: Pairwise tests of floristic composition

ANOSIM Pairwise tests of habitat according to similarity of floristic composition Significant pairings in italics. Only pairs with at least 10 possible permutations shown.

Habitat Groups	R Statistic	Significance (%)	Permutations possible	Permutations completed	No.>=R
Simple shade, multistrata	0.203	6.8	38760	10000	678
<i>simple shade, monoculture</i>	<i>0.379</i>	<i>0.</i>	<i>8008</i>	<i>8008</i>	<i>4</i>
<i>simple shade, forest</i>	<i>1.</i>	<i>1.2</i>	<i>84</i>	<i>84</i>	<i>1</i>
<i>simple shade, damar</i>	<i>0.802</i>	<i>1.2</i>	<i>84</i>	<i>84</i>	<i>1</i>
simple shade, tall scrub	0.443	10.7	28	28	3
<i>simple shade, paddy</i>	<i>1.</i>	<i>3.6</i>	<i>28</i>	<i>28</i>	<i>1</i>
simple shade, low scrub	0.563	7.1	28	28	2
simple shade, Imperata	0.615	7.1	28	28	2
<i>multistrata, monoculture</i>	<i>0.599</i>	<i>0.</i>	<i>1961256</i>	<i>10000</i>	<i>0</i>
<i>multistrata, forest</i>	<i>1.</i>	<i>0.1</i>	<i>680</i>	<i>680</i>	<i>1</i>
<i>multistrata, damar</i>	<i>0.971</i>	<i>0.1</i>	<i>680</i>	<i>680</i>	<i>1</i>
<i>multistrata, tall scrub</i>	<i>0.982</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
multistrata, closed multistrata	0.619	13.3	15	15	2
<i>multistrata, paddy</i>	<i>1.</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
<i>multistrata, low scrub</i>	<i>0.825</i>	<i>1.7</i>	<i>120</i>	<i>120</i>	<i>2</i>
<i>multistrata, Imperata</i>	<i>0.999</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
<i>monoculture, forest</i>	<i>1.</i>	<i>0.3</i>	<i>286</i>	<i>286</i>	<i>1</i>
<i>monoculture, damar</i>	<i>0.99</i>	<i>0.3</i>	<i>286</i>	<i>286</i>	<i>1</i>
<i>monoculture, tall scrub</i>	<i>0.973</i>	<i>1.5</i>	<i>66</i>	<i>66</i>	<i>1</i>
monoculture, closed multistrata	0.684	9.1	11	11	1
<b>monoculture, paddy</b>	<b>1.</b>	<b>1.5</b>	<b>66</b>	<b>66</b>	<b>1</b>
<b>monoculture, low scrub</b>	<b>0.943</b>	<b>1.5</b>	<b>66</b>	<b>66</b>	<b>1</b>
<b>monoculture, Imperata</b>	<b>0.908</b>	<b>1.5</b>	<b>66</b>	<b>66</b>	<b>1</b>
forest, damar	1.	10.	10	10	1
forest, tall scrub	1.	10.	10	10	1
forest, paddy	1.	10.	10	10	1
forest, low scrub	1.	10.	10	10	1
forest, Imperata	1.	10.	10	10	1
damar, tall scrub	1.	10.	10	10	1
damar, paddy	1.	10.	10	10	1
damar, low scrub	1.	10.	10	10	1
damar, Imperata	1.	10.	10	10	1

Pairwise tests for habitats defined by the number of birds of each species at the constituent sites. They show the similarity between the bird assemblages in each type of habitat by the R statistic (positive value close to 1 indicates difference between sites while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons are in italics ( $p < 0.05$ ). The significance is determined by the number of permutations and the number of these producing an R value greater than that for the actual distribution

## Appendix F: Pairwise tests of bird species composition.

ANOSIM Pairwise tests of habitat according to similarity of floristic composition. Significant comparisons ( $P < 0.05$ ) in italics

Habitat Groups	R Statistic	Significance (%)	Permutations poss.	Permutations completed	No.>=R
simple shade, multistrata	0.035	34.4	38760	999	343
simple shade, monoculture	-0.076	71.5	8008	999	714
<i>simple shade, forest</i>	1.	1.2	84	84	1
<i>simple shade, damar</i>	1.	1.2	84	84	1
simple shade, closed multistrata	0.044	57.1	7	7	4
<i>simple shade, tall scrub</i>	0.646	3.6	28	28	1
<i>simple shade, paddy</i>	0.969	3.6	28	28	1
<i>simple shade, low scrub</i>	0.573	3.6	28	28	1
<i>simple shade, Imperata</i>	0.979	3.6	28	28	1
<i>multistrata, monoculture</i>	0.273	0.4	1961256	999	3
<i>multistrata, forest</i>	0.974	0.1	680	680	1
<i>multistrata, damar</i>	0.937	0.1	680	680	1
<i>multistrata, closed multistrata</i>	-0.502	100.	15	15	15
<i>multistrata, tall scrub</i>	0.125	28.3	120	120	34
<i>multistrata, paddy</i>	0.939	0.8	120	120	1
<i>multistrata, low scrub</i>	0.45	4.2	120	120	5
<i>multistrata, Imperata</i>	0.843	0.8	120	120	1
<i>monoculture, forest</i>	0.972	0.3	286	286	1
<i>monoculture, damar</i>	0.911	0.3	286	286	1
<i>monoculture, closed multistrata</i>	-0.12	45.5	11	11	5
<i>monoculture, tall scrub</i>	0.045	42.4	66	66	28
<i>monoculture, paddy</i>	0.357	12.1	66	66	8
<i>monoculture, low scrub</i>	-0.104	54.5	66	66	36
<i>monoculture, Imperata</i>	0.088	39.4	66	66	26
<i>forest, damar</i>	0.741	10.	10	10	1
<i>forest, closed multistrata</i>	1.	25.	4	4	1
<i>forest, tall scrub</i>	1.	10.	10	10	1
<i>forest, paddy</i>	1.	10.	10	10	1
<i>forest, low scrub</i>	1.	10.	10	10	1
<i>forest, Imperata</i>	1.	10.	10	10	1
<i>damar, closed multistrata</i>	1.	25.	4	4	1
<i>damar, tall scrub</i>	1.	10.	10	10	1
<i>damar, paddy</i>	1.	10.	10	10	1
<i>damar, low scrub</i>	1.	10.	10	10	1
<i>damar, Imperata</i>	1.	10.	10	10	1
<i>closed multistrata, tall scrub</i>	1.	33.3	3	3	1
<i>closed multistrata, paddy</i>	1.	33.3	3	3	1
<i>closed multistrata, low scrub</i>	0.	66.7	3	3	2
<i>closed multistrata, Imperata</i>	1.	33.3	3	3	1
<i>tall scrub, paddy</i>	1.	33.3	3	3	1
<i>tall scrub, low scrub</i>	0.	66.7	3	3	2
<i>tall scrub, Imperata</i>	1.	33.3	3	3	1
<i>paddy, low scrub</i>	1.	33.3	3	3	1
<i>paddy, Imperata</i>	1.	33.3	3	3	1
<i>low scrub, Imperata</i>	0.25	66.7	3	3	2

Pairwise tests for habitats defined by the similarity of vegetational floristic composition at the constituent sites. Each plant type was given an abundance score for each plot. The pairwise values show the similarity between the vegetation assemblages in each type of habitat by the R statistic (positive value close to 1 indicates difference between sites while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons are in italics ( $p < 0.05$ ). The significance is determined by the number of permutations (fifth column) and the number of these producing an R value greater than that for the actual distribution (shown in the final column).

## Appendix G: Pairwise tests of simplified habitats according to bird feeding group membership

Pairwise Tests						
Groups	R Statistic	Significance Level %	Possible Permutations	Actual Permutations	Number >=	Observed
<i>shade, monoculture</i>	0.126	7.	44352165	10000	700	
<i>shade, forest</i>	0.756	0.	2024	2024	1	
<i>shade, damar</i>	0.532	0.1	2024	2024	2	
<i>shade, successional</i>	0.137	10.	296010	10000	1003	
<i>shade, paddy</i>	0.944	0.4	253	253	1	
<i>monoculture, forest</i>	0.443	3.1	286	286	9	
<i>monoculture, damar</i>	0.319	7.7	286	286	22	
<i>monoculture, successional</i>	-0.156	95.7	8008	8008	7665	
<i>monoculture, paddy</i>	0.504	4.5	66	66	3	
<i>forest, damar</i>	0.852	10.	10	10	1	
<i>forest, successional</i>	0.852	1.2	84	84	1	
<i>forest, paddy</i>	1.	10.	10	10	1	
<i>damar, successional</i>	0.735	1.2	84	84	1	
<i>damar, paddy</i>	1.	10.	10	10	1	
<i>successional, paddy</i>	0.729	3.6	28	28	1	

The similarity between the bird assemblages in each type of plot by the R statistic (positive value close to 1 indicates difference between sites while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons are in italics ( $p < 0.05$ ). The significance is determined by the number of permutations and the number of these producing an R value greater than that for the actual distribution.

## Appendix H: Pairwise tests of simplified habitats according to bird guild membership

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Groups	R Statistic	Significance Level %	Possible Permutations	Actual Permutations	Number=> Observed
<i>shade, monoculture</i>	<i>0.219</i>	<i>0.7</i>	<i>44352165</i>	<i>10000</i>	<i>72</i>
<i>shade, forest</i>	<i>0.518</i>	<i>0.1</i>	<i>2024</i>	<i>2024</i>	<i>2</i>
<i>shade, damar</i>	<i>0.176</i>	<i>14.2</i>	<i>2024</i>	<i>2024</i>	<i>288</i>
<i>shade, successional</i>	<i>0.262</i>	<i>1.4</i>	<i>296010</i>	<i>10000</i>	<i>139</i>
<i>shade, paddy</i>	<i>0.926</i>	<i>0.4</i>	<i>253</i>	<i>253</i>	<i>1</i>
<i>monoculture, forest</i>	<i>0.672</i>	<i>0.3</i>	<i>286</i>	<i>286</i>	<i>1</i>
<i>monoculture, damar</i>	<i>0.426</i>	<i>2.1</i>	<i>286</i>	<i>286</i>	<i>6</i>
<i>monoculture, successional</i>	<i>-0.076</i>	<i>73.8</i>	<i>8008</i>	<i>8008</i>	<i>5912</i>
<i>monoculture, paddy</i>	<i>0.42</i>	<i>7.6</i>	<i>66</i>	<i>66</i>	<i>5</i>
<i>forest, damar</i>	<i>0.259</i>	<i>20.</i>	<i>10</i>	<i>10</i>	<i>2</i>
<i>forest, successional</i>	<i>0.864</i>	<i>1.2</i>	<i>84</i>	<i>84</i>	<i>1</i>
<i>forest, paddy</i>	<i>1.</i>	<i>10.</i>	<i>10</i>	<i>10</i>	<i>1</i>
<i>damar, successional</i>	<i>0.71</i>	<i>1.2</i>	<i>84</i>	<i>84</i>	<i>1</i>
<i>damar, paddy</i>	<i>1.</i>	<i>10.</i>	<i>10</i>	<i>10</i>	<i>1</i>
<i>successional, paddy</i>		<i>0.813</i>		<i>3.6</i>	<i>28</i>
28	1				

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Pairwise tests for habitats defined by the number of birds in each guild at the constituent sites. They show the similarity between the bird assemblages in each type of plot by the R statistic (positive value close to 1 indicates difference between sites while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons are in italics ( $p < 0.05$ ). The significance is determined by the number of permutations (fifth column) and the number of these producing an R value greater than that for the actual distribution (shown in the final column).

## Appendix I: pairwise tests for sites on the basis of dominant tree type

ANOSIM Pairwise tests of sites defined by their dominant tree type, and according to similarity of bird species composition. Significant comparisons ( $P < 0.05$ ) in italics

Groups	R	Significance	Possible	Actual Number	>=	Permutations	Permutations	Observed
		Statistic	Level %					
Gliricidia, Erythrina		-0.072	69.1			792	792	547
Gliricidia, Sengon		-0.006	55.6			36	36	20
Gliricidia, Kapok		-0.429	100.			8	8	8
Gliricidia, Leucaena		0.019	41.7			36	36	15
<i>Gliricidia, Damar</i>		<i>0.968</i>	<i>0.8</i>			<i>120</i>	<i>120</i>	<i>1</i>
Gliricidia, Mahoghany		-0.442	100.			8	8	8
Gliricidia, Hamerang		0.24	16.7			36	36	6
Gliricidia, Nangka		-0.116	62.5			8	8	5
Gliricidia, macaranga		0.211	37.5			8	8	3
Gliricidia, kayu afrika		-0.204	75.			8	8	6
Gliricidia, Kemiri (candlenut)		0.156	37.5			8	8	3
Erythrina, Sengon		-0.2	76.2			21	21	16
Erythrina, Kapok		-0.48	83.3			6	6	5
Erythrina, Leucaena		-0.273	85.7			21	21	18
<i>Erythrina, Damar</i>		<i>0.867</i>	<i>1.8</i>			<i>56</i>	<i>56</i>	<i>1</i>
Erythrina, Mahoghany		-0.6	100.			6	6	6
Erythrina, Hamerang		0.	52.4			21	21	11
Erythrina, Nangka		0.04	50.			6	6	3
Erythrina, macaranga		-0.04	50.			6	6	3
Erythrina, kayu afrika		-0.2	66.7			6	6	4
Erythrina, Kemiri (candlenut)		0.08	50.			6	6	3
Sengon, Damar		1.	10.			10	10	1
Leucaena, Damar		1.	10.			10	10	1
Damar, Hamerang		1.	10.			10	10	1

Pairwise tests for sites defined by their dominant tree types, according to the similarity of their constituent bird assemblage. It shows the similarity between the bird assemblages in each type of plot by the R statistic (positive value close to 1 indicates difference between sites while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons are in italics ( $p < 0.05$ )

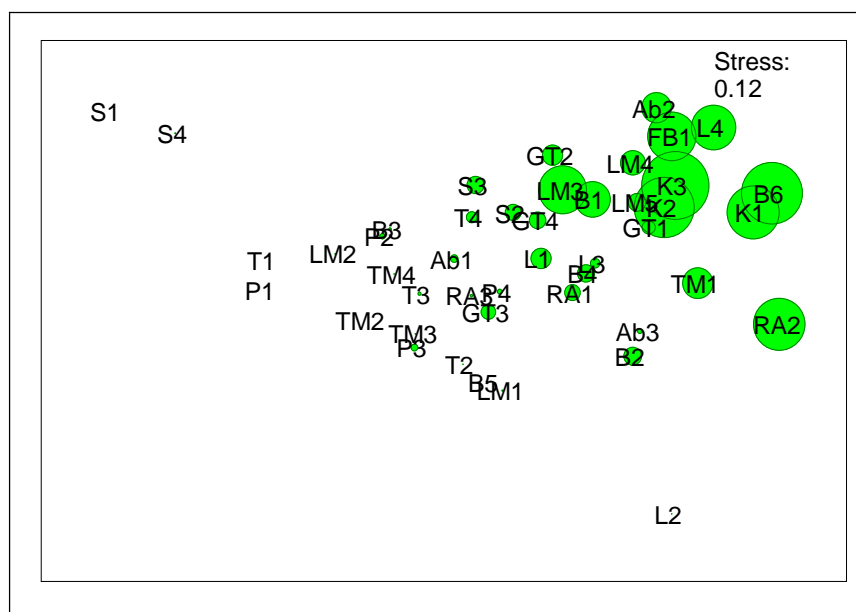
## Appendix J - Pairwise comparisons between habitats for number of birds in each microhabitat.

Habitat pair	R	Significance	Possible	Actual	Number >=
Observed	Statistic	Level %	Permutations	Permutations	
<i>simple shade, multistrata</i>	<i>0.34</i>	<i>0.4</i>	<i>38760</i>	<i>10000</i>	<i>36</i>
simple shade, monoculture	0.118	14.9	8008	8008	1190
<i>simple shade, forest</i>	<i>0.802</i>	<i>1.2</i>	<i>84</i>	<i>84</i>	<i>1</i>
<i>simple shade, damar</i>	<i>0.605</i>	<i>2.4</i>	<i>84</i>	<i>84</i>	<i>2</i>
simple shade, tall scrub	-0.099	67.9	28	28	19
<i>simple shade, paddy</i>	<i>0.823</i>	<i>3.6</i>	<i>28</i>	<i>28</i>	<i>1</i>
simple shade, low scrub	0.104	28.6	28	28	8
simple shade, Imperata	0.479	7.1	28	28	2
<i>multistrata, monoculture</i>	<i>0.596</i>	<i>0.</i>	<i>1961256</i>	<i>10000</i>	<i>0</i>
<i>multistrata, forest</i>	<i>0.738</i>	<i>0.1</i>	<i>680</i>	<i>680</i>	<i>1</i>
<i>multistrata, damar</i>	<i>0.355</i>	<i>3.5</i>	<i>680</i>	<i>680</i>	<i>24</i>
multistrata, closed multistrata	-0.347	86.7	15	15	13
multistrata, tall scrub	0.224	10.	120	120	12
<i>multistrata, paddy</i>	<i>0.983</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
<i>multistrata, low scrub</i>	<i>0.769</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
<i>multistrata, Imperata</i>	<i>0.894</i>	<i>0.8</i>	<i>120</i>	<i>120</i>	<i>1</i>
<i>monoculture, forest</i>	<i>0.828</i>	<i>0.3</i>	<i>286</i>	<i>286</i>	<i>1</i>
<i>monoculture, damar</i>	<i>0.656</i>	<i>0.3</i>	<i>286</i>	<i>286</i>	<i>1</i>
monoculture, closed multistrata	0.302	27.3	11	11	3
monoculture, tall scrub	0.037	36.4	66	66	24
monoculture, paddy	0.4	6.1	66	66	4
monoculture, low scrub	0.02	40.9	66	66	27
monoculture, Imperata	-0.015	45.5	66	66	30
forest, damar	-0.056	60.	10	10	6
forest, tall scrub	0.833	10.	10	10	1
forest, paddy	1.	10.	10	10	1
forest, low scrub	1.	10.	10	10	1
forest, Imperata	1.	10.	10	10	1
damar, tall scrub	1.	10.	10	10	1
damar, paddy	1.	10.	10	10	1
damar, low scrub	1.	10.	10	10	1
damar, Imperata	1.	10.	10	10	1

This shows the pairwise comparisons between complex habitat types on the basis of the number of birds in each microhabitat at the constituent sites. They show the similarity between assemblages in each type of plot by the R statistic (positive value close to 1 indicates difference between habitats while a zero or negative value indicates lack of difference), whilst the significance level (%) is also shown. Significant comparisons ( $p < 0.05$ ) are in italics. Only pairs with at least 10 possible permutations are included.

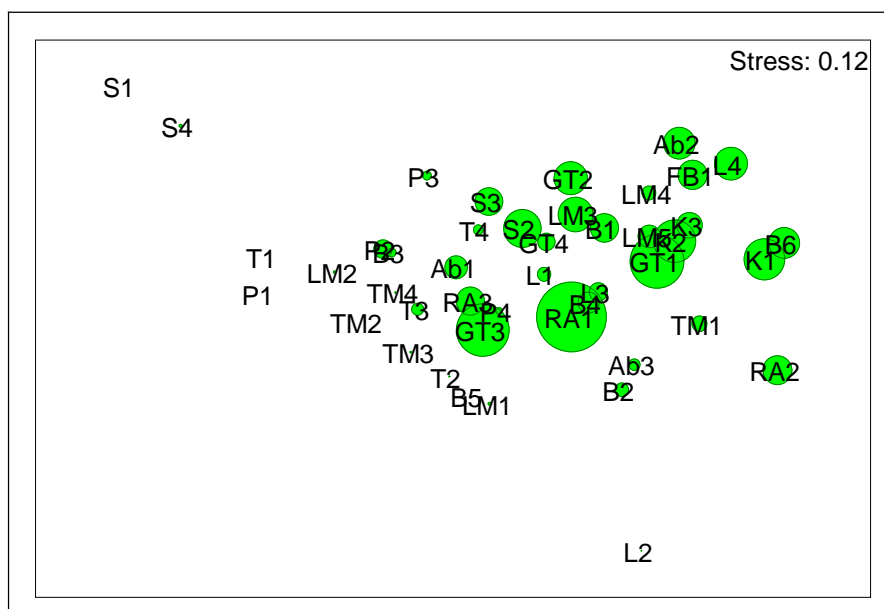
## Appendix K: Microhabitat use and environmental variables

### Canopy cover



MDS of sites according to birds' use of microhabitats, showing canopy cover. The sites are distributed according to the number of birds surveyed in each microhabitat. Overlain circles are proportional to the canopy cover at each site.

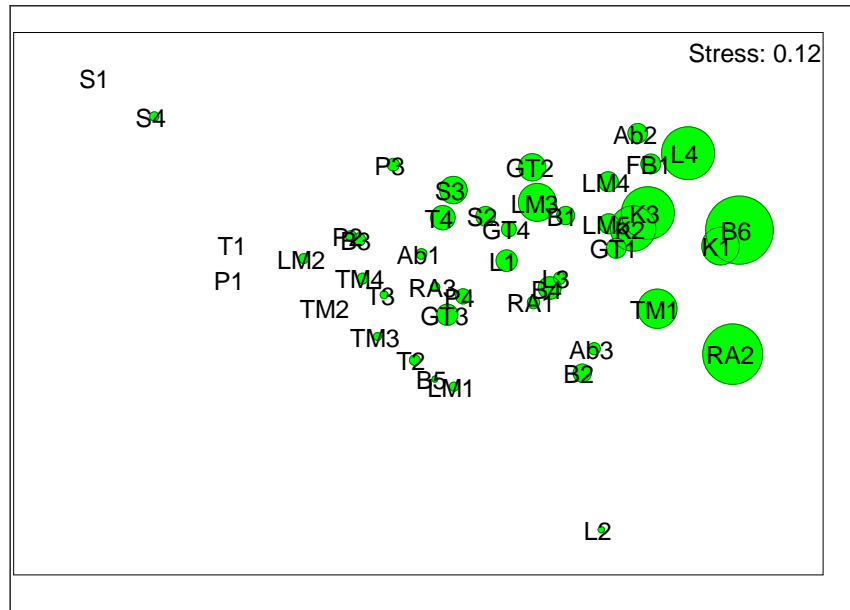
### Number of trees



MDS of birds' microhabitat use, showing number of trees. The sites are distributed according to the number of birds in each microhabitat while the overlain circles are proportional to the number of trees at each site.

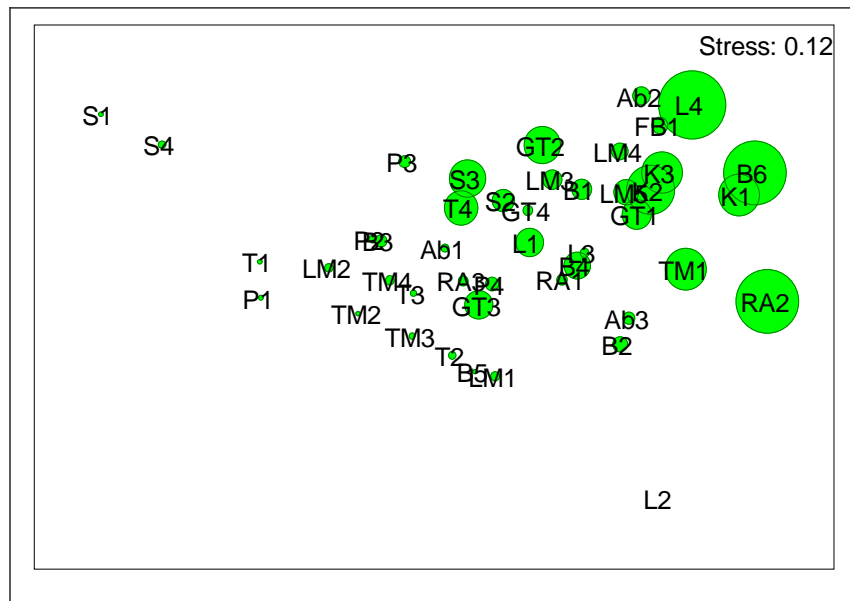


Maximum tree height



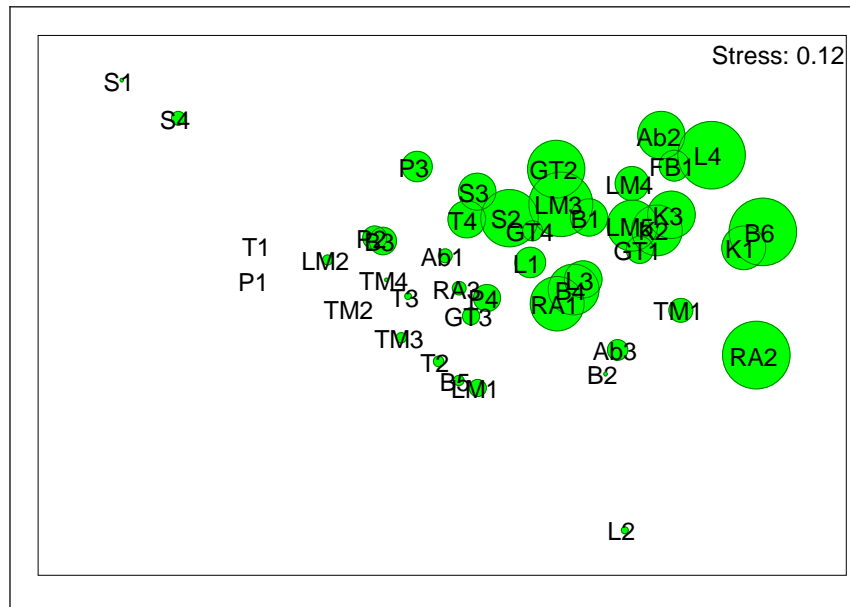
MDS of birds' microhabitat use showing maximum tree height. Sites are distributed according to the number of birds surveyed in each microhabitat. Overlaid circles are proportional to the maximum tree height at each site

Canopy depth



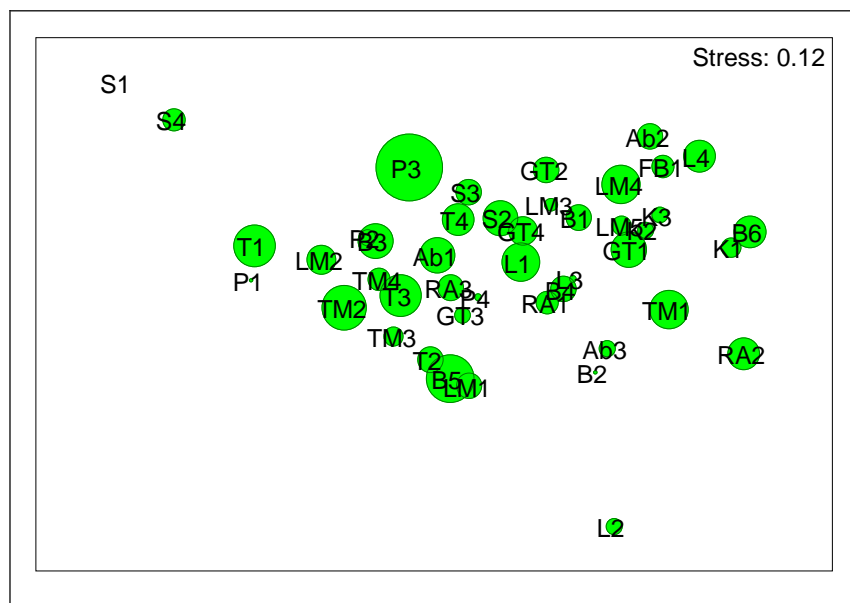
MDS of birds' microhabitat use, overlain by circles proportionate to canopy depth.

Tree species richness



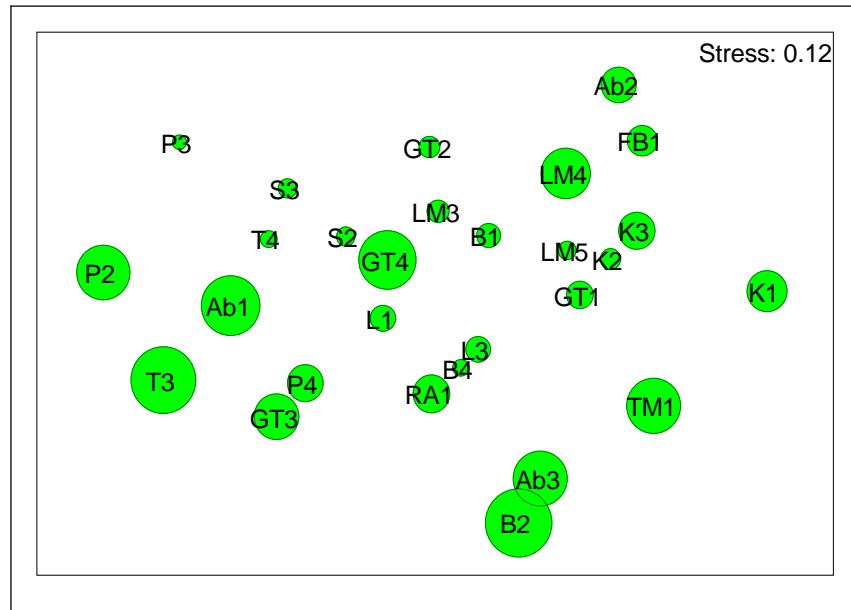
MDS of birds' microhabitat use showing tree species richness. Overlaid circles are proportional to the tree species richness at each site.

Understorey species richness



MDS of birds' microhabitat use, showing understorey plant species richness. Overlaid circles are proportional to the understorey plant species richness for each site.

Index of tree dominance<sup>25</sup>.



The distribution of sites according to the number of birds surveyed in each microhabitat. This is overlain with proportional circles indicating index of tree dominance at each site. Only those sites for which this index could be meaningfully calculated are included.

<sup>25</sup> Only sites for which this index could be meaningfully calculated are included.

Appendix L List of all bird species recorded, including opportunistics.

Species	Common name
<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern
<i>Microhierax fringillarius</i>	Black-thighed Falconet
<i>Accipiter trivirgatus</i>	Crested Goshawk (?)
<i>Accipiter soloensis</i>	Chinese Goshawk
<i>Spilornis cheela</i>	Crested Serpent-Eagle
<i>Spizaetus cirrhatus</i>	Changeable Hawk-eagle
<i>Ictinaetus malayensis</i>	Black Eagle
<i>Coturnix chinensis</i>	Blue breasted Quail
<i>Porzana fusca</i>	Ruddy-breasted Crake
<i>Amauornis phoenicurus</i>	White-breasted Waterhen
<i>Treron verans</i>	Pink-necked Green Pigeon
<i>Ducula badia</i>	Mountain Imperial Pigeon
<i>Macropygia unchall</i>	Barred Cuckoo dove
<i>Macropygia ruficeps</i>	Little Cuckoo dove
<i>Streptopelia chinensis</i>	Spotted Dove
<i>Geopelia striata</i>	Zebra Dove
<i>Chalcophaps indica</i>	Emerald Dove
<i>Cuculus saturatus</i>	Oriental Cuckoo
<i>Cacomantis merulinus</i>	Plaintive Cuckoo
<i>Cacomantis sepulcralis</i>	Rusty-breasted Cuckoo
<i>Surniculus lugubris</i>	Drongo Cuckoo
<i>Phaenicophaeus diardi</i>	Black-breasted Malkoha
<i>Phaenicophaeus curvirostris</i>	Chestnut-breasted Malkoha
<i>Centropus bengalensis</i>	Lesser Coucal
<i>Centropus sinensis</i>	Greater Coucal
<i>Bubo sumatrensis</i>	Barred Eagle-Owl
<i>Otus sp.</i>	Scops Owl
<i>Collocalia esculenta</i>	Glossy Swiftlet
<i>Rhapidura leucopygialis</i>	Silver-rumped Swift
<i>Apus pacificus</i>	Fork-tailed Swift
<i>Apus affinus</i>	Little Swift
<i>Hirundapus sp.</i>	Needletail
<i>Ceyx erithacus</i>	Black-backed Kingfisher
<i>Halcyon coromanda</i>	White-throated Kingfisher
<i>Todirhamphus chloris</i>	Collared Kingfisher
<i>Merops sp.</i>	Bee-eater
<i>Merops leschenaulti</i>	Chesnut-headed Bee-eater
<i>Aceros undulatus</i>	Wreathed Hornbill
<i>Buceros bicornis</i>	Great Hornbill
<i>Megalaima chrysopogon</i>	Gold-whiskered Barbet
<i>Megalaima rafflesii</i>	Red-crowned Barbet

Species	Common name
<i>Megalaima oorti</i>	Black-browed Barbet
<i>Megalaima haemacephala</i>	Coppersmith Barbet
<i>Calorhamphus fuliginosus</i>	Brown Barbet
<i>Sasia abnormis</i>	Rufous Piculet
<i>Dendrocopus macei</i>	Fulvous-breasted Woodpecker
<i>Picoides moluccensis</i>	Sunda Woodpecker
<i>Picus canus</i>	Grey-headed Woodpecker
<i>Picus miniaceus</i>	Banded Woodpecker
<i>Eurylaimus ochromalus</i>	Black-and -yellow Broadbill
<i>Calyptomena viridis</i>	Green Broadbill
<i>Hirundo rustica</i>	Barn Swallow
<i>Delichon dasypus</i>	Asian house-martin
<i>Hemipus picatus</i>	Bar-winged Flycatcher-Shrike
<i>Coracina fimbriata</i>	Lesser Cuckoo-Shrike
<i>Lalage nigra</i>	Pied Triller
<i>Pericrotus flammeus</i>	Scarlet Minivet
<i>Pericrotus igneus</i>	Fiery Minivet
<i>Aegithina viridissima</i>	Green Iora
<i>Aegithina sp</i>	Iora
<i>Chloropsis cochinchinensis</i>	Blue-winged Leafbird
<i>Pycnonotus atriceps</i>	Black-headed Bulbul
<i>Pycnonotus aurigaster</i>	Sooty-headed Bulbul
<i>Pycnonotus melanicterus</i>	Black-crested Bulbul
<i>Pycnonotus golaviei</i>	Yellow-vented Bulbul
<i>Alophoixus ochraceus</i>	Ochraceous Bulbul
<i>Alophoixus bres</i>	Grey-cheeked Bulbul
<i>Ixos malaccensis</i>	Streaked Bulbul
<i>Hypsipetes flavala</i>	Ashy Bulbul
<i>Dicrurus leucophaeus</i>	Ashy Drongo
<i>Dicrurus sp.</i>	Drongo
<i>Oriolus chinensis</i>	Black-naped Oriole
<i>Sitta frontalis</i>	Velvet-fronted Nuthatch
Black-capped Babbler	<i>Pellorneum capistratum</i>
<i>Trichastoma bicolor</i>	Ferruginous Babbler
<i>Pomatorhinus montanus</i>	Chestnut-backed Scimitar Babbler
<i>Macronous gularis</i>	Striped Tit-Babbler
<i>Stachyris nigriceps</i>	Grey-throated Babbler
<i>Stachyris striolata</i>	Spot-necked Babbler
<i>Malalocincla sp</i>	jungle babbler
<i>Napothera rufipectus</i>	Rusty-breasted Wren-Babbler(?)
<i>Pteruthius flaviscapris</i>	White-brown Shrike-Babbler
<i>Copsychus saularis</i>	Magpie robin
<i>Trichixos pyrrophygus</i>	Rufous-tailed Shama
<i>Abroscopus superciliaris</i>	Yellow-bellied Warbler
<i>Phylloscopus borealis</i>	Arctic Warbler

Species	Common name
<i>Phylloscopus coronatus</i>	Eastern Crowned-Warbler
<i>Locustella lanceolata</i>	Lanceolated Warbler
<i>Orthotomus ruficeps</i>	Ashy Tailorbird
<i>Orthotomus sericeus</i>	Rufous-tailed Tailorbird
<i>Prinia atrogularis</i>	Hill Prinia
<i>Prinia flaviventris</i>	Yellow-bellied Prinia
<i>Prinia familiaris</i>	Bar-winged Prinia
<i>Rhinomyias olivacea</i>	Fulvous-chested Jungle Flycatcher
<i>Eumyias indigo</i>	Indigo Flycatcher
<i>Muscicapa dauurica</i>	Asian brown Flycatcher
<i>Eumyias thalassina</i>	Verditer Flycatcher
<i>Ficedula zanthopygia</i>	Yellow-rumped Flycatcher
<i>Culicicapa ceylonensis</i>	Grey-headed Flycatcher
<i>Hypothymis azurea</i>	Black-naped Monarch
<i>Lanius cristatus</i>	Brown Shrike
<i>Lanius tigrinus</i>	Tiger Shrike
<i>Lanius schach</i>	Long-tailed Shrike
<i>Motacilla cinerea</i>	Grey Wagtail
<i>Dendronanthus indicus</i>	Forest Wagtail
<i>Anthus novaseelandiae</i>	Common Pipit
<i>Artamus leucorhynchus</i>	White breasted Wood-swallow
<i>Acridotheres javanicus</i>	Javan Myna
<i>Anthreptes simplex</i>	Plain Sunbird
<i>Anthreptes singalensis</i>	Ruby-throated Sunbird
<i>Hypogramma hypogrammicum</i>	Purple-naped Sunbird
<i>Nectarina jugularis</i>	Olive-backed Sunbird
<i>Aethopyga temminckii</i>	Temminck's Sunbird
<i>Arachnothera longirostra</i>	Little Spiderhunter
<i>Prionochilus maculatus</i>	Yellow-breasted Flowerpecker
<i>Prionochilus percussus</i>	Crimson-breasted Flowerpecker
<i>Dicaeum chysorrheum</i>	Yellow vented Flowerpecker
<i>Dicaeum trigonostigma</i>	Orange bellied flowerpecker
<i>Dicaeum concolor</i>	Plain Flowerpecker
<i>Dicaeum cruentatum</i>	Scarlet-backed Flowerpecker
<i>Dicaeum trochileum</i>	Scarlet-headed Flowerpecker
<i>Dicaeum ignipectus</i>	Fire-breasted Flowerpecker
<i>Zosterops palpebrosus</i>	Oriental White-eye (lowland form)
<i>Zosterops atricapilla</i>	Mountain White-eye
<i>Lonchura leucogastroides</i>	Javan Munia
<i>Lonchura punctulata</i>	Scaly-breasted Munia
<i>Lonchura maja</i>	White-headed Munia
<i>Passer montanus</i>	Eurasian Tree Sparrow
<i>Erythrura prasina</i>	Pin-tailed Parrotfinch