

1 **Supporting Information**

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3 **Table S1: Comparing features of cacao and coffee agroforestry**

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	Cocoa <i>Theobroma cacao</i>	Coffee Arabica <i>Coffea arabica</i>	Coffee Robusta <i>Coffea canephora</i>	References
Original habitat	Understorey of tropical South American rainforests	Understorey of highland forests of SW Ethiopia and SE Sudan	Understorey of subsaharan African rainforests	Wood & Lass 2001 Wrigley 1988 www.ico.org/botanical.asp
Optimal altitude	0-400 (-1200) m	1000-2000m	0-700m	www.ico.org/botanical.asp www.bar.gov.ph/agfishtech/crops/cacao.asp
Conservation value of plantations	Variable, but can be high. Tend to decrease over time through shade tree removal	Variable, but often high due to shaded agroforestry	Mostly low (reduced shade) but there are exceptions.	Rice & Greenberg 2000 Perfecto <i>et al.</i> 2007 Schroth <i>et al.</i> 2004 Garcia <i>et al.</i> 2010
Pollinator groups	Midges	Bees	Bees	Klein <i>et al.</i> 2003b, Juhrbandt <i>et al.</i> 2010, www.CoffeeResearch.org
Pollination dependency	100% pollination dependent	Self-pollinating but pollination increases yield up to 50% (short-term flowering after rain)	Requires out-crossing with bees increasing yield by 90% (irregular flowering)	Klein <i>et al.</i> 2003a, 2003b, 2003c Juhrbandt <i>et al.</i> 2010
Pest and disease problems (caffeine content given as a measure of insect deterrence)	High	High (0.8-1.4%)	Less than <i>C. arabica</i> , resistant to e.g. coffee leaf rust (1.7-4.0%)	Wood & Lass 2001 www.ico.org/botanical.asp

# of conservation studies (shaded agroforestry) a	602 (77)	252 (32) b	111 (7) b	ISI Web of Science research a
Global production 2008 [million t]	4.3	6.2-6.6	2.1-1.6	FAOSTAT 2010 c
Five main producer countries (in decreasing order)	Côte d'Ivoire, Indonesia, Ghana, Nigeria, Brazil	Brazil, Viet Nam, Colombia, Indonesia, Peru d	Indonesia, Vietnam, Cote d'Ivoire, Uganda, Brazil e	FAOSTAT 2010 d www.ncausa.org/i4a/pages/index.cfm?pageid=75 www.nationalgeographic.com/coffee/map.html e

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2 a: Search strings:

- 3 - ((cacao OR cocoa) AND conservation) for cocoa conservation studies
4 - ((cacao OR cocoa) AND conservation AND shade* AND agroforest*) for cocoa conservation
5 studies in shaded agroforestry
6 - Conservation AND ("SPECIES NAME" OR (coffee AND TYPE)) for coffee conservation
7 studies (SPECIES NAME replaced with the two species and TYPE with robusta or arabica)
8 - (Conservation AND ("SPECIES NAME" OR (coffee AND TYPE) AND shade* AND
9 agroforest*) for coffee conservation studies in shaded agroforestry (SPECIES NAME replaced
10 with the two species and TYPE with robusta or arabica)

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12 b: When searched for "coffee" (in general) instead of the two varieties, results are 1275 (142)

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14 c: FAOSTAT provides production statistics for green coffee beans (8.2 million tonnes). The given
15 values are the percentages for Arabica and Robusta coffee of the world coffee production
16 according to www.coffeeresearch.org.

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18 d: No differentiation between Arabica and Robusta coffee

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20 e: for Robusta coffee based on data from 1999

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1 **Table S2:** Species richness and community similarity reported from cacao
 2 agroforestry systems (see below for cited references)
 3

Country	Region	Taxa	Richness compared to forest (%)	Similarity to forest (%)	Reference
Brazil	Southern Bahia	Ants	52-110	60-88	Delabie <i>et al.</i> 2007
Brazil	Southern Bahia	Bats	135-186	64-70	Faria <i>et al.</i> 2006
Brazil	Southern Bahia	Birds	95-135	56-76	Faria <i>et al.</i> 2006
Brazil	Southern Bahia	Ferns	80	31	Faria <i>et al.</i> 2007
Brazil	Southern Bahia	Frogs	82	67-92	Faria <i>et al.</i> 2007
Brazil	Southern Bahia	Lizards	100	66-87	Faria <i>et al.</i> 2007
Brazil	Bahia and Espirito Santo	Trees	57	43	Rolim & Chiarello 2004
Cameroon	Southwestern	Butterflies	80-103	19-31	Bobo <i>et al.</i> 2006a
Cameroon	Southwestern	Trees	35-36	5-13	Bobo <i>et al.</i> 2006b
Cameroon	Southwestern	Understorey plants	38-58	2-8	Bobo <i>et al.</i> 2006b
Cameroon	South	Termites	51-62	Not available	Eggleton <i>et al.</i> 2002
Costa Rica	Talamanca	Trees	15	Not available	Harvey <i>et al.</i> 2006
Costa Rica	Talamanca	Mammals	121	91	Harvey <i>et al.</i> 2006
Costa Rica	Talamanca	Dung beetles	112	98	Harvey <i>et al.</i> 2006
Costa Rica	Talamanca	Trees	27	25	Harvey & Villalobos 2007
Costa Rica	Talamanca	Bats	121	55	Harvey & Villalobos 2007
Costa Rica	Talamanca	Birds	86	60	Harvey & Villalobos 2007
Costa Rica	Sarapiqui	Ants	44	4-30	Roth <i>et al.</i> 1994
Ecuador	West coast	Trees	53-81	21-47	Lozada <i>et al.</i> 2007
India	Kodagu	Trees	121	62	Bhagwat <i>et al.</i> 2005
Indonesia	Sulawesi	Trees	16-37	low	Bos <i>et al.</i> 2007
Indonesia	Sulawesi	Ants	100-150	75	Bos <i>et al.</i> 2007
Indonesia	Sulawesi	Beetles	180-250	13	Bos <i>et al.</i> 2007
Indonesia	Sulawesi	Dung beetles	75-107	64-67	Shahabuddin <i>et al.</i> 2005
Indonesia	Sulawesi	Amphibians	29	11	Wanger <i>et al.</i> 2010b
Indonesia	Sulawesi	Reptiles	133	83	Wanger <i>et al.</i> 2010b
Indonesia	Sulawesi	Bryophytes	30	85	Sporn 2008
Indonesia	Sulawesi	Bees	250-300	low	Hoehn <i>et al.</i> 2010

Indonesia	Sulawesi	Herbs	86-103	3.4	Clough <i>et al.</i> 2010
Mexico	Veracruz	Trees	97	87	Villavicencio & Valdes 2003
Nigeria	Ondo state	Trees	76	26	Oke & Odebiyi 2007

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2 **Notes:**

3 *Richness:* Values are based on published data reporting species richness in agroforestry
4 systems and neighbouring forest reserves. Values greater than 100 suggest agroforestry
5 system with species richness higher than that of neighbouring forest reserve due to the
6 presence of nonforest species.

7 *Similarity:* Values are based on published data reporting similarity in species composition
8 between agroforestry systems and neighbouring forest reserves. Differences in methods
9 involved between studies mean that the numerical comparisons shown here should be seen
10 as only a rough guide.

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