

Appendix 1. Avian hosts associated with each *Plasmodium* or *Haemoproteus* parasite lineage in Figure 1.

Lineage	Host name				Named parasites		Location ¹
	Family	Genus	Species	Common Name	Genus	Species	
1	Muscicapidae	<i>Sialia</i>	<i>mexicana</i>	Western Bluebird			New Mexico (NA)
1	Muscicapidae	<i>Sialia</i>	<i>sialis</i>	Eastern Bluebird			Missouri (NA)
2	Fringillidae	<i>Dendroica</i>	<i>dominica</i>	Yellow-throated Warbler	<i>Haemoproteus</i>	<i>paruli</i>	Missouri (NA)
2	Fringillidae	<i>Parula</i>	<i>americana</i>	Northern Parula	<i>Haemoproteus</i>	<i>paruli</i>	Missouri (NA)
3	Mimidae	<i>Toxostoma</i>	<i>rufum</i>	Brown Thrasher			Alabama (NA)
4	Mimidae	<i>Margarops</i>	<i>fuscus</i>	Scaly-breasted Thrasher			Dominica (LA)
5	Mimidae	<i>Margarops</i>	<i>fuscus</i>	Scaly-breasted Thrasher			St. Lucia (LA)
6	Fringillidae	<i>Coereba</i>	<i>flaveola</i>	Bananaquit			Trinidad (LA)
7	Fringillidae	<i>Tiaris</i>	<i>bicolor</i>	Black-faced Grassquit			Venezuela (LA)
8	Fringillidae	<i>Loxigilla</i>	<i>noctis</i>	Lesser Antillean Bullfinch			Antigua (LA)
9	Sylviidae	<i>Acrocephalus</i>	<i>scirpaceus</i>	Reed Warbler			Sweden (EU)
10	Sylviidae	<i>Acrocephalus</i>	<i>arundinaceus</i>	Great Reed Warbler			Sweden (EU)
11	Sylviidae	<i>Acrocephalus</i>	<i>arundinaceus</i>	Great Reed Warbler	<i>Haemoproteus</i>	<i>sylvae</i>	Sweden (EU)
12	Sylviidae	<i>Acrocephalus</i>	<i>griseldis</i>	Basra Reed Warbler			Kenya (AF)
13	Sylviidae	<i>Acrocephalus</i>	<i>palustris</i>	Marsh Warbler			Sweden (EU)
14	Sylviidae	<i>Acrocephalus</i>	<i>palustris</i>	Marsh Warbler			Sweden (EU)
15	Sylviidae	<i>Acrocephalus</i>	<i>schoenobaenus</i>	Sedge Warbler			Sweden (EU)
16	Sylviidae	<i>Phylloscopus</i>	<i>trochiloides</i>	Greenish Warbler			India (EA)
17	Sylviidae	<i>Phylloscopus</i>	<i>occipitalis</i>	Large-crowned Leaf Warbler			India (EA)
18	Hirundinidae	<i>Tachycineta</i>	<i>thalassina</i>	Violet-green Swallow			New Mexico (NA)
19	Pycnonotidae	<i>Alophoixus</i>	<i>bres</i>	Grey-cheeked Bulbul			Thailand (EA)
20	Mimidae	<i>Margarops</i>	<i>fuscus</i>	Scaly-breasted Thrasher			Montserrat (LA)
20	Mimidae	<i>Margarops</i>	<i>fuscatus</i>	Pearly eyed Thrasher			Montserrat (LA)
20	Mimidae	<i>Dumatella</i>	<i>carolensis</i>	Grey Catbird			Missouri (NA)
21	Corvidae	<i>Corvus</i>	<i>brachyrhynchos</i>	Common Crow			Missouri (NA)
22	Muscicapidae	<i>Neocossyphus</i>	<i>poensis</i>	White-tailed Ant-Thrush			Cameroon (AF)
22	Muscicapidae	<i>Stizorhina</i> (<i>Neocossyphus</i>)	<i>fraseri</i>	Rufous Flycatcher-Thrush			Cameroon (AF)
23	Sylviidae	<i>Phylloscopus</i>	<i>humei</i>	Hume's Yellow-browed Warbler			India (EA)
24	Sylviidae	<i>Phylloscopus</i>	<i>trochilus</i>	Willow Warbler			Sweden (EU)
25	Paridae	<i>Parus</i>	<i>major</i>	Great Tit	<i>Haemoproteus</i>	<i>majoris</i>	Sweden (EU)
26	Sylviidae	<i>Phylloscopus</i>	<i>trochilus</i>	Willow Warbler			Sweden (EU)
27	Vireonidae	<i>Vireo</i>	<i>altiloquus</i>	Black-whiskered Vireo			Antigua (LA)
28	Vireonidae	<i>Vireo</i>	<i>olivaceus</i>	Red-eyed Vireo	<i>Haemoproteus</i>	<i>vireonis</i>	Missouri (NA)
29	Vireonidae	<i>Vireo</i>	<i>griseus</i>	White-eyed Vireo			Missouri (NA)
30	Passeridae	<i>Erythrura</i>	<i>prasina</i>	Pin-tailed Parrotfinch			Thailand (EA)
31	Fringillidae	<i>Coereba</i>	<i>flaveola</i>	Bananaquit			Dominica (LA)
31	Fringillidae	<i>Loxigilla</i>	<i>noctis</i>	Lesser Antillean Bullfinch			Dominica and Martinique (LA)
32	Fringillidae	<i>Dendroica</i>	<i>pennsylvanica</i>	Chestnut-sided Warbler			Missouri (NA)
33	Fringillidae	<i>Junco</i>	<i>hyemalis</i>	Dark-eyed Junco			West Virginia (NA)
34	Fringillidae	<i>Piranga</i>	<i>rubra</i>	Summer Tanager			Missouri (NA)
35	Fringillidae	<i>Piranga</i>	<i>olivacea</i>	Scarlet Tanager	<i>Haemoproteus</i>	<i>thraupi</i>	Missouri (NA)
35	Fringillidae	<i>Piranga</i>	<i>rubra</i>	Summer Tanager	<i>Haemoproteus</i>	<i>thraupi</i>	Missouri (NA)
36	Mimidae	<i>Margarops</i>	<i>fuscatus</i>	Pearly-eyed Thrasher			Montserrat (LA)

37	Passeridae	<i>Motacilla</i>	<i>clara</i>	Mountain Wagtail			Cameroon (AF)
38	Vireonidae	<i>Vireo</i>	<i>griseus</i>	White-eyed Vireo			Missouri (NA)
39	Muscicapidae	<i>Copsychus</i>	<i>malabaricus</i>	White-rumped Shama			Thailand (EA)
40	Muscicapidae	<i>Alethe</i>	<i>poliocephala</i>	Brown-chested Alethe			Thailand (EA)
41	Strigidae	<i>Strix</i>	<i>varia</i>	Barred Owl			Florida (NA)
41	Strigidae	<i>Bubo</i>	<i>virginianus</i>	Great-horned Owl			Florida (NA)
42	Picidae	<i>Melanerpes</i>	<i>erythrocephalus</i>	Red-headed Woodpecker			Alabama (NA)
43	Anatidae	<i>Cygnus</i>	<i>columbianus</i>	Tundra Swan			Minnesota (NA)
43	Anatidae	<i>Anas</i>	<i>platyrhynchos</i>	Mallard			Minnesota (NA)
44	Cuclidae	<i>Eudynamis</i>	<i>cycnocephala</i>	Koel			Australia (AU)
45	Laridae	<i>Larus</i>	<i>cachinnans</i>	Yellow-legged Gull			Spain (EU)
46	Falconidae	<i>Polyborus</i>	<i>plancus</i>	Crested Caracara			Florida (NA)
47	Fringillidae	<i>Agelaius</i>	<i>phoeniceus</i>	Red-winged Blackbird			Wisconsin (NA)
48	Muscicapidae	<i>Turdus</i>	<i>migratorius</i>	American Robin			Missouri (NA)
49	Fringillidae	<i>Zonotrichia</i>	<i>leucophrys</i>	White-crowned Sparrow			Oregon (NA)
50	Passeridae	<i>Andropadus</i>	<i>latirostris</i>	Yellow-whiskered Greenbul			Cameroon (AF)
50	Pycnonotidae	<i>Phyllastrephus</i>	<i>laterinus</i>				Cameroon (AF)
51	Nectarinidae	<i>Nectarinia</i>	<i>olivacea</i>	Olive Sunbird			Cameroon (AF)
52	Muscicapidae	<i>Alethe</i>	<i>diademata</i>	White-tailed Alethe			Cameroon (AF)
53	Mimidae	<i>Cinclocerthia</i>	<i>ruficauda</i>	Brown Trembler			Guadeloupe (LA)
54	Fringillidae	<i>Helmitheros</i>	<i>vermivorus</i>	Worm-eating Warbler			Missouri (NA)
54	Fringillidae	<i>Dendroica</i>	<i>magnolia</i>	Magnolia Warbler			Missouri (NA)
55	Paridae	<i>Baelophus</i>	<i>bicolor</i>	Tufted Titmouse	<i>Haemoproteus</i>	spp.	Missouri (NA)
					(?)		
56	Fringillidae	<i>Passerina</i>	<i>cyanea</i>	Indigo Bunting	<i>Plasmodium</i>	near <i>elongatum</i>	Missouri (NA)
57	Paridae	<i>Parus</i>	<i>major</i>	Great Tit			Sweden (EU)
58	Phasianidae	<i>Gallus</i>	<i>domesticus</i>	Domestic Fowl	<i>Plasmodium</i>	<i>gallinaceum</i>	Cosmopolitan
59	Sylviidae	<i>Acrocephalus</i>	<i>arundinaceus</i>	Great Reed Warbler	<i>Plasmodium</i>	<i>relictum</i>	Sweden (EU)
60	Passeridae	<i>Passer</i>	<i>domesticus</i>	House Sparrow	<i>Plasmodium</i>	<i>elongatum</i>	Cosmopolitan
61	Fringillidae	<i>Icteria</i>	<i>virens</i>	Yellow-breasted Chat			Missouri (NA)
62	Fringillidae	<i>Loxigilla</i>	<i>noctis</i>	Lesser Antillean Bullfinch			Dominica (LA)
63	Sylviidae	<i>Acrocephalus</i>	<i>arundinaceus</i>	Great Reed Warbler	<i>Plasmodium</i>	<i>nucleophilum</i>	Sweden (EU)
64	Vireonidae	<i>Vireo</i>	<i>griseus</i>	White-eyed Vireo			Missouri (NA)
65	Sylviidae	<i>Acrocephalus</i>	<i>orientalis</i>	Oriental Reed Warbler			Japan (EA)
66	Columbidae	<i>Columba</i>	<i>livia</i>	Rock Dove			Minnesota (NA)
67	Nectarinidae	<i>Nectarinia</i>	<i>olivacea</i>	Olive Sunbird			Cameroon (AF)
68	Certhiidae	<i>Thryothorus</i>	<i>ludovicianus</i>	Carolina Wren			Ohio (NA)
69	Hominidae	<i>Homo</i>	<i>sapiens</i>	Human	<i>Plasmodium</i>	<i>falciparum</i>	Tropical regions
70	Hominidae	<i>Pan</i>	<i>trogodytes</i>	Chimpanzee	<i>Plasmodium</i>	<i>reichenowi</i>	Central Africa
71	Cercopithecidae	<i>Papio</i>	<i>anubis(?)</i>	Baboon	<i>Hepaticystis</i>	spp.	Ethiopia
72	Muridae	<i>Thamnomys</i>	<i>rutilans</i>	Shiny Thicket Rat	<i>Plasmodium</i>	<i>chabaudi</i>	Central Africa
73	Muridae	<i>Thamnomys</i>	<i>rutilans</i>	Shiny Thicket Rat	<i>Plasmodium</i>	<i>yoelli</i>	Central Africa
74	Muridae	<i>Grammomys</i>	<i>surdaster</i>	Thicket Rat	<i>Plasmodium</i>	<i>berghei</i>	Central Africa
75	Cercopithecidae	<i>Cercocebus</i>	<i>spp.</i>	Old world monkeys	<i>Plasmodium</i>	<i>gonderi</i>	Central Africa
76	Cercopithecidae	<i>Macaca</i>	<i>fascicularis</i>	Long-tailed Macaque	<i>Plasmodium</i>	<i>knowlesi</i>	Malaysia
77	Hominidae	<i>Homo</i>	<i>sapiens</i>	Human	<i>Plasmodium</i>	<i>vivax</i>	Tropical and subtropical

78	Cebidae	<i>Alouatta</i>	<i>fusca</i>	Brown Howler Monkey	<i>Plasmodium</i>	<i>simium</i>	Brazil
79	Cercopithe- cidae	<i>Macaca</i>	<i>fascicularis</i>	Long-tailed Macaque	<i>Plasmodium</i>	<i>cynomolgi</i>	Southeast Asia
80	Cercopithecidae			Old world monkeys	<i>Plasmodium</i>	<i>simiovale</i>	Sri Lanka
81	Cercopithecidae			Old world monkeys	<i>Plasmodium</i>	<i>fieldi</i>	Malaysia
82	Hylobatidae	<i>Hylobates</i>	<i>moloch</i>	Moloch Gibbon	<i>Plasmodium</i>	<i>hylobati</i>	Malaysia
83	Cercopithe- cidae	<i>Macaca</i>	<i>spp.</i>	Macaque	<i>Plasmodium</i>	<i>inui</i>	India and Southeast asia
84	Hominidae	<i>Homo</i>	<i>sapiens</i>	Human	<i>Plasmodium</i>	<i>ovale</i>	Tropics of Africa and Asia
85	Hominidae	<i>Homo</i>	<i>sapiens</i>	Human	<i>Plasmodium</i>	<i>malariae</i>	Tropical and subtropical

¹Regions: AF = Africa; AU = Australia; EA = eastern Asia; EU = Europe; LA = Lesser Antilles, Trinidad, and coastal Venezuela; NA = North America.

Appendix 2. Sample and sequence sources for *Plasmodium* and *Haemoproteus* DNA.

Lineage	Host Genus	Host species	Source of		BP	GenBank #
			Sample	Sequence ¹		
1	<i>Sialia</i>	<i>mexicana</i>	J. Fair	SMF	1128	TBS ²
1	<i>Sialia</i>	<i>sialis</i>	S. Eisenberg	SMF	857	TBS
2	<i>Dendroica</i>	<i>dominica</i>	A. Martinez	SMF	965	TBS
2	<i>Parula</i>	<i>americana</i>	A. Martinez	SMF	960	TBS
3	<i>Toxostoma</i>	<i>rufum</i>	S. Eisenberg	SMF	968	TBS
4	<i>Allenia</i>	<i>fuscus</i>	E. Bermingham	SMF	1128	TBS
5	<i>Allenia</i>	<i>fuscus</i>	E. Bermingham	SMF	991	TBS
6	<i>Coereba</i>	<i>flaveola</i>	E. Bermingham	SMF	678	TBS
7	<i>Tiaris</i>	<i>bicolor</i>	E. Bermingham	SMF	827	TBS
8	<i>Loxigilla</i>	<i>noctis</i>	E. Bermingham	SMF	994	TBS
9	<i>Acrocephalus</i>	<i>scirpaceus</i>		SB	478	AF254968
10	<i>Acrocephalus</i>	<i>arundinaceus</i>		SB	478	AF254965
11	<i>Acrocephalus</i>	<i>arundinaceus</i>		SB	478	AF254964
12	<i>Acrocephalus</i>	<i>griseldis</i>		SB	478	AF254966
13	<i>Acrocephalus</i>	<i>palustris</i>		SB	478	AF254970
14	<i>Acrocephalus</i>	<i>palustris</i>		SB	478	AF254969
15	<i>Acrocephalus</i>	<i>schoenobaenus</i>		SB	478	AF254967
16	<i>Phylloscopus</i>	<i>trochiloides</i>		SB	478	AF254976
17	<i>Phylloscopus</i>	<i>occipitalis</i>		SB	478	AF254973
18	<i>Tachycineta</i>	<i>thalassina</i>	J. Fair	SMF	1128	TBS
19	<i>Alophoixus</i>	<i>bres</i>	P. Parker	SMF	855	TBS
20	<i>Allenia</i>	<i>fuscus</i>	E. Bermingham	SMF	1128	TBS
20	<i>Margarops</i>	<i>fuscatus</i>	E. Bermingham	SMF	1128	TBS
20	<i>Dumatella</i>	<i>carolensis</i>	A. Scheuerlein	SMF	991	TBS
21	<i>Corvus</i>	<i>brachyrhynchos</i>	Bird Rehabilitation Center	SMF	990	TBS
22	<i>Neocossyphus</i>	<i>poensis</i>	T. Smith and R. Sehgal	SMF	992	TBS
22	<i>Stizorhina</i> (<i>Neocossyphus</i>)	<i>fraseri</i>	T. Smith and R. Sehgal	SMF	555	TBS
23	<i>Phylloscopus</i>	<i>humei</i>		SB	478	AF254974
24	<i>Phylloscopus</i>	<i>trochilus</i>		SB	478	AF254971
25	<i>Parus</i>	<i>major</i>		SB	478	AF254977
26	<i>Phylloscopus</i>	<i>trochilus</i>		SB	478	AF254972
27	<i>Vireo</i>	<i>altiloquus</i>	E. Bermingham	SMF	991	TBS

28	<i>Vireo</i>	<i>olivaceus</i>	A. Martinez	SMF	1090	TBS
29	<i>Vireo</i>	<i>griseus</i>	A. Martinez	SMF	957	TBS
30	<i>Erythrura</i>	<i>prasina</i>	P. Parker	SMF	794	TBS
31	<i>Coereba</i>	<i>flaveola</i>	E. Bermingham	SMF	994	TBS
31	<i>Loxigilla</i>	<i>noctis</i>	E. Bermingham	SMF		TBS
32	<i>Dendroica</i>	<i>pensylvanica</i>	S. Latta	SMF	991	TBS
33	<i>Junco</i>	<i>hyemalis</i>	P. Parker	SMF	575	TBS
34	<i>Piranga</i>	<i>rubra</i>	A. Martinez	SMF	989	TBS
35	<i>Piranga</i>	<i>olivacea</i>	A. Martinez	SMF	847	TBS
35	<i>Piranga</i>	<i>rubra</i>	A. Martinez	SMF	581	TBS
36	<i>Margarops</i>	<i>fuscatus</i>	E. Bermingham	SMF	853	TBS
37	<i>Motacilla</i>	<i>clara</i>	T. Smith and R. Sehgal	SMF	559	TBS
38	<i>Vireo</i>	<i>griseus</i>	A. Martinez	SMF	557	TBS
39	<i>Copsychus</i>	<i>malabaricus</i>	P. Parker	SMF	966	TBS
40	<i>Alethe</i>	<i>poliocephala</i>	P. Parker	SMF	712	TBS
41	<i>Strix</i>	<i>varia</i>	H. Joyce	SMF	991	TBS
41	<i>Bubo</i>	<i>virginianus</i>	H. Joyce	SMF	990	TBS
42	<i>Melanerpes</i>	<i>erythrocephalus</i>	S. Eisenberg	SMF	989	TBS
43	<i>Cygnus</i>	<i>columbianus</i>	J. Wellehan	SMF	992	TBS
43	<i>Anas</i>	<i>platyrhynchos</i>	J. Wellehan	SMF	992	TBS
44	<i>Eudynamys</i>	<i>cyanocephala</i>	K. Rose	SMF	990	TBS
45	<i>Larus</i>	<i>cachinnans</i>	A. Martinez	SMF	591	TBS
46	<i>Polyborus</i>	<i>plancus</i>	H. Joyce	SMF	992	TBS
47	<i>Agelaius</i>	<i>phoeniceus</i>	P. Parker	SMF	834	TBS
48	<i>Turdus</i>	<i>migratorius</i>	St. Louis Bird Rehabilitation Center	SMF	791	TBS
49	<i>Zonotrichia</i>	<i>leucophrys</i>	P. Parker	SMF	860	TBS
50	<i>Andropadus</i>	<i>latirostris</i>	T. Smith and R. Sehgal	SMF	835	TBS
50	<i>Phyllastrephus</i>	<i>laterinus</i>	T. Smith and R. Sehgal	SMF		TBS
51	<i>Nectarinia</i>	<i>olivacea</i>	T. Smith and R. Sehgal	SMF	526	TBS
52	<i>Alethe</i>	<i>diademata</i>	T. Smith and R. Sehgal	SMF	560	TBS
53	<i>Cinclocerthia</i>	<i>ruficauda</i>	E. Bermingham	SMF	945	TBS
54	<i>Helmitheros</i>	<i>vermivorus</i>	A. Scheuerlein	SMF	991	TBS
54	<i>Dendroica</i>	<i>magnolia</i>	A. Scheuerlein	SMF	991	TBS
55	<i>Baelophus</i>	<i>bicolor</i>	A. Martinez	SMF	933	TBS

56	<i>Passerina</i>	<i>cyanea</i>	A. Martinez	SMF	808	TBS
57	<i>Parus</i>	<i>major</i>		SB	412	AF254978
58	<i>Gallus</i>	<i>domesticus</i>		GB	1032	AF069612
59	<i>Acrocephalus</i>	<i>arundinaceus</i>		SB	478	AF254975
60	<i>Passer</i>	<i>domesticus</i>		GB	1032	AF069611
61	<i>Icteria</i>	<i>virens</i>	A. Scheuerlein	SMF	511	TBS
62	<i>Loxigilla</i>	<i>noctis</i>	E. Bermingham	SMF	368	TBS
63	<i>Acrocephalus</i>	<i>arundinaceus</i>		SB	478	AF254962
64	<i>Vireo</i>	<i>griseus</i>	A. Martinez	SMF	670	TBS
65	<i>Acrocephalus</i>	<i>orientalis</i>		SB	478	AF254963
66	<i>Columba</i>	<i>livia</i>	J. Wellehan	SMF	859	TBS
67	<i>Nectarinia</i>	<i>olivacea</i>	T. Smith and R. Sehgal	SMF	513	TBS
68	<i>Thryothorus</i>	<i>ludovicianus</i>	P. Parker	SMF	385	TBS
69	<i>Homo</i>	<i>sapiens</i>		GB	1128	AF069605
70	<i>Pan</i>	<i>troglodytes</i>		GB	1128	AF069610
71	<i>Papio</i>	<i>anubis(?)</i>		GB	1035	AF069626
72	<i>Thamnomys</i>	<i>rutilans</i>		GB	1128	AF014116
73	<i>Thamnomys</i>	<i>rutilans</i>		GB	1128	M29000
74	<i>Grammomys</i>	<i>surdaster</i>		GB	1128	AF146076
75	<i>Cercocebus</i>	<i>spp.</i>		GB	1035	AF069622
76	<i>Macaca</i>	<i>fascicularis</i>		GB	1035	AF069621
77	<i>Homo</i>	<i>sapiens</i>		GB	1128	AF069619
78	<i>Alouatta</i>	<i>fusca</i>		GB	1035	AF069620
79	<i>Macaca</i>	<i>fascicularis</i>		GB	1035	AF069616
80				GB	1035	AF069614
81				GB	1035	AF069615
82	<i>Hylobates</i>	<i>moloch</i>		GB	1035	AF069618
83	<i>Macaca</i>	<i>spp.</i>		GB	1035	AF069617
84	<i>Homo</i>	<i>sapiens</i>		GB	1035	AF069625
85	<i>Homo</i>	<i>sapiens</i>		GB	1035	AF069624

¹GB = GenBank; SB = Staffan Bensch; SMF = Sylvia M. Fallon.

²TBS = to be supplied.

Appendix 3. Parasite and host genetic distances used in Fig. 3.

Comparison	H or P	Host taxa	Bootstrap support	LogDet distance	
				Parasites	Hosts
1	1 vs 2	H <i>Sialia</i> , (<i>Dendroica dominica</i> = <i>Parula americana</i>)	98	0.0039	0.1544
2	4 vs 5	H <i>Margarops fuscus</i> , <i>M. fuscus</i>	84	0.0033	0.0141*
3	3 vs 4,5	H <i>Toxostoma rufum</i> , <i>M. fuscus</i>	91	0.0185	0.1398*
4	7 vs 8	H <i>Tiaris bicolor</i> , <i>Loxigilla noctis</i>	88	0.0086	0.0659
5	6 vs 7,8	H <i>Coereba flaveola</i> , (<i>Tiaris</i> , <i>Loxigilla</i>)	95	0.0199	0.0763
6	10 vs 12	H <i>Acrocephalus arundinaceus</i> , <i>A. griseldus</i>	85	0.0030	0.1207
7	11 vs 13	H <i>Acrocephalus arundinaceus</i> , <i>A. palustris</i>	85	0.0040	0.1350
8	14 vs 15	H <i>Acrocephalus palustris</i> , <i>A. schoenobaenus</i>	89	0.0051	0.1258
9	16 vs 17	H <i>Phylloscopus trochiloides</i> , <i>P. occipitalis</i>	98	0.0050	0.1003
10	23 vs 24	H <i>Phylloscopus humei</i> , <i>P. trochilus</i>	95	0.0091	0.1135
11	25 vs 26	H <i>Parus major</i> , <i>Phylloscopus trochilus</i>	91	0.0082	0.1457
12	28 vs 29	H <i>Vireo olivaceus</i> , <i>V. griseus</i>	97	0.0217	0.0879
13	54 vs 55	P (<i>Helmitheros vermivorus</i> = <i>Dendroica magnolia</i>), <i>Baeolophus bicolor</i>	100	0.0013	0.1520
14	53 vs 54,55	P <i>Cinclocerthia ruficauda</i> , (54,55)	100	0.0057	0.2314*
15	21 vs 22	H <i>Corvus</i> , (<i>Neocossyphus</i> = <i>Stizorhina</i>)	<60	0.0206	0.1554
16	27 vs 28,29	H <i>Vireo altiloquus</i> , (<i>V. olivaceus</i> , <i>V. griseus</i>)	69	0.0340	0.0709
17	32 vs 33	H <i>Dendroica pensylvanica</i> , <i>Junco hyemalis</i>	<60	0.0098	0.1097
18	34 vs 35	H <i>Piranga rubra</i> , (<i>P. rubra</i> = <i>P. olivacea</i>)	60	0.0126	0.0773
19	31 vs 32,33	H (<i>Coereba</i> = <i>Loxigilla</i>), (<i>Dendroica</i> , <i>Junco</i>)	<60	0.0186	0.1117
20	39 vs 40	H <i>Copsychus malabaricus</i> , <i>Alethe poliocephala</i>	73	0.0394	0.1164
21	38 vs 39,40	H <i>Vireo griseus</i> , (<i>Copsychus</i> , <i>Alethe</i>)	<60	0.0374	0.1524
22	47 vs 48	P <i>Agelaius phoeniceus</i> , <i>Turdus migratorius</i>	<60	0.0593	0.1888
23	61 vs 62	P <i>Icteria virens</i> , <i>Loxigilla noctis</i>	<60	0.0242	0.1372
24	64 vs 65	P <i>Vireo griseus</i> , <i>Acrocephalis orientalis</i>	<60	0.0288	0.1479

Comparison refers to numbered parasite lineages.

H or P refers to *Haemoproteus* or *Plasmodium*.

Bootstrap support refers to the parasite node subtending the comparison.

*Distance based on ATPase 6,8.

Appendix 4. Sources of cytochrome *b* sequence for passerine species of hosts.

Lineage	Host Genus	Host species	Common name	Bases	GenBank #	Source
65	<i>Acrocephalus</i>	<i>orientalis</i>	Oriental Reed Warbler	1041	AJ004285	P. Heidrich
10,11	<i>Acrocephalus</i>	<i>arundinaceus</i>	Great Reed Warbler	1041	AJ004253	P. Heidrich
12	<i>Acrocephalus</i>	<i>griseldis</i>	Basra Reed Warbler	1041		A. J. Helbig
13,14	<i>Acrocephalus</i>	<i>palustris</i>	Marsh Warbler	1041		A. J. Helbig
15	<i>Acrocephalus</i>	<i>schoenobaenus</i>	Sedge Warbler	1041		A. J. Helbig
47	<i>Agelaius</i>	<i>phoeniceus</i>	Red-winged Blackbird	894	AF290173	Klicka et al. (2000)
40	<i>Alethe</i>	<i>poliocephala</i> ¹	Brown-chested Alethe	711		SMF (Smith and Sehgal)
55	<i>Baelophus</i>	<i>bicolor</i> ²	Tufted Titmouse	646	D38314	Chikuni et al. (1995)
53	<i>Cinclocerthia</i>	<i>ruficauda</i>	Brown Trembler	842*		E. Bermingham and I. J. Lovette (unpubl.)
6,31	<i>Coereba</i>	<i>flaveola</i>	Bananaquit	1143		E. Bermingham and I. J. Lovette (unpubl.)
39	<i>Copsychus</i>	<i>malabaricus</i> ³	White-rumped Shama	646	D38318	Chickuni et al. (1995)
21	<i>Corvus</i>	<i>brachyrhynchus</i>	Common Crow	368	AF171067	C. R. Lage and I. Kornfield
2	<i>Dendroica</i>	<i>dominica</i>	Yellow-throated Warbler	1143		E. Bermingham and I. J. Lovette (unpubl.)
54	<i>Dendroica</i>	<i>magnolia</i>	Magnolia Warbler	1143		E. Bermingham and I. J. Lovette (unpubl.)
32	<i>Dendroica</i>	<i>pensylvanica</i>	Chestnut-sided Warbler	1143		E. Bermingham and I. J. Lovette (unpubl.)
54	<i>Helmitheros</i>	<i>vermivorus</i>	Worm-eating Warbler	1143		E. Bermingham and I. J. Lovette (unpubl.)
61	<i>Icteria</i>	<i>virens</i>	Yellow-breasted Chat	1143		E. Bermingham and I. J. Lovette (unpubl.)
33	<i>Junco</i>	<i>hyemalis</i>	Dark-eyed Junco	427	U26199	Dodge et al. (1995)
8,31,62	<i>Loxigilla</i>	<i>noctis</i>	Lesser Antillean Bullfinch	921	AF310041	A. Sato, H. Tichy, C. O'Huigin, et al.
4,5	<i>Margarops</i>	<i>fuscus</i>	Scaly-breasted Thrasher	842*		E. Bermingham and I. J. Lovette (unpubl.)
22	<i>Neocossyphus</i>	<i>poensis</i>	White-tailed Ant-Thrush	711		SMF (Smith and Sehgal)
2	<i>Parula</i>	<i>americana</i>	Northern Parula	1143	AF256502	Lovette and Bermingham (1999)
25	<i>Parus</i>	<i>major</i>	Great Tit	646	D38314	Chickuni et al. (1995)
23	<i>Phylloscopus</i>	<i>humei</i>	Hume's yellow-browed Warbler	1038	Z73488	Helbig et al. (1995)
17	<i>Phylloscopus</i>	<i>occipitalis</i>	Large-crowned Leaf Warbler	1027	Y10735	Price et al. (1997)
16	<i>Phylloscopus</i>	<i>trochiloides</i>	Greenish Warbler	1041	Y10739	Price et al. (1997)
24,26	<i>Phylloscopus</i>	<i>trochilus</i>	Willow Warbler	1041	AJ004326	P. Heidrich
35	<i>Piranga</i>	<i>olivacea</i>	Scarlet Tanager	1073	AF011775	Burns (1998)
34	<i>Piranga</i>	<i>rubra</i>	Summer Tanager	1073	AF011779	Burns (1998)
1	<i>Sialia</i>	<i>mexicana</i>	Western Bluebird	713		SMF (J. Fair)
22	<i>Stizorhina</i>	<i>fraseri</i>	Rufous Flycatcher-Thrush	711		SMF (Smith and Sehgal)

7	<i>Tiaris</i>	<i>bicolor</i>	Black-faced Grassquit	921	AF310044	A. Sato, H. Tichy, C. O'Huigin, et al.
3	<i>Toxostoma</i>	<i>rufum</i>	Brown Thrasher	842*		E. Bermingham and I. J. Lovette (unpubl.)
48	<i>Turdus</i>	<i>migratorius</i>	American Robin	1143	AF197835	J. Cracraft and J. Feinstein (2000)
27	<i>Vireo</i>	<i>altiloquus</i>	Black-whiskered Vireo	273	U12305	Murray et al. (1994)
29,38,64	<i>Vireo</i>	<i>griseus</i>	White-eyed Vireo	273	U12294	Murray et al. (1994)
28	<i>Vireo</i>	<i>olivaceus</i>	Red-eyed Vireo	1143	X74260	K. Helm-Bychowski and J. Cracraft (1993)

Alternate taxa were used for the analysis: 1, *Alethe diademata*; 2, *Parus major*; 3, *Erithacus cyanarus*.

*Sequence for ATPase 6,8 only.

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