



## Supplementary Online Material for

# SEXING BIRDS USING DISCRIMINANT FUNCTION ANALYSIS: A CRITICAL APPRAISAL

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TABLE S1. Summary of literature survey based on 141 articles. Discriminant function analysis (DFA) for sexing bird as function of family and species, age (A = adults, J = juveniles, AJ = adults and juveniles), sample size (number of birds used to calibrate the discriminant function), discriminant rate (proportion of birds correctly sexed), mean tarsus length, validation method (J = jack-knife, R = resubstitution, SS = sample splitting, NE = non-explained), variable reduction (A = automated stepwise, NA = non-automated variable reduction, N = no reduction, NE = non-explained), number of variables used for equation, authors, and year of publication.

Family/Species	Age	Sample size	Discriminant rate (%)	Tarsus length male (mm)	Tarsus length female (mm)	Validation method	Variable reduction	Number of variables used for equation	Authors	Year
<b>Accipitridae</b>										
<i>Aquila adalberti</i>	AJ	38	94.7	93.8	102.1	J	A	1	Ferrer and de le Court	1992
<i>Buteo jamaicensis</i>	J	121	97.0	88.2	85.2	NE	A	4	Donohue and Dufty	2006
<i>Buteo jamaicensis</i>	A	50	98.0	85.7	88.9	NE	A	2	Donohue and Dufty	2006
<i>Buteo jamaicensis</i>	A	49	100.0	10.8	12.5	SS	A	3	Pitzer et al.	2008
<i>Buteo jamaicensis</i>	J	51	90.3	10.6	12.1	SS	A	3	Pitzer et al.	2008
<i>Buteo jamaicensis</i>	J	139	90.0	10.7	12.1	SS	A	3	Pitzer et al.	2008
<i>Buteo lineatus</i>	J	25	100.0	7.8	8.5	SS	A	3	Pitzer et al.	2008
<i>Buteo swainsoni</i>	AJ	104	93.3	69.5	72.6	J	A	3	Sarasola and Negro	2004
<i>Haliaeetus albicilla</i>	J	182	96.4	12.8	14.8	R	A	1	Helander et al.	2007
<i>Hieraaetus fasciatus</i>	J	39	94.9	110.2	113.4	J	A	3	Palma et al.	2001
<i>Hieraaetus pennatus</i>	J	81	84.0	64.4	69.3	J	NA	4	Balbontin et al.	2001
<i>Hieraaetus pennatus</i>	A	41	100.0	64.1	69.4	J	NA	2	Balbontin et al.	2001
<b>Alaudidae</b>										
<i>Chersophilus duponti</i>	A	311	99.0	23.8	23.0	J	A	2	Vögeli et al.	2007
<i>Chersophilus duponti</i>	J	42	97.6	23.7	22.9	J	A	2	Vögeli et al.	2007
<b>Alcedinidae</b>										
<i>Todiramphus cinnamominus</i>	A	41	73.0	18.2	18.5	R	N	4	Kesler et al.	2006
<b>Alcidae</b>										
<i>Alca torda</i>	A	80	78.8	34.6	34.9	J	A	3	Grecian et al.	2003
<i>Alle alle</i>	A	141	70.2	20.3	20.2	J	A	1	Jakubas and Wojczulanis	2007
<i>Cerorhinca monocerata</i>	A	73	95.9	31.4	30.7	NE	A	2	Niizuma et al.	1999
<i>Fratercula cirrhata</i>	A	176	74.0	NA	NA	J	N	3	Williams et al.	2007
<b>Ardeidae</b>										
<i>Ardea alba</i>	A	76	89.5	153.2	145.2	J	A	2	Herring et al.	2008
<b>Callaeidae</b>										
<i>Callaeas cinerea</i>	A	130	82.6	68.6	64.5	NE	A	2	Flux and Innes	2001
<b>Charadriidae</b>										
<i>Charadrius montanus</i>	A	190	63.0	39.6	39.8	NE	A	1	Iko et al.	2004
<b>Ciconiidae</b>										
<i>Ciconia boyciana</i>	A	25	82.0	NA	NA	SS	N	2	Cheong et al.	2007

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TABLE S1. Continued.

Family/Species	Age	Sample size	Discriminant rate (%)	Tarsus length male (mm)	Tarsus length female (mm)	Validation method	Variable reduction	Number of variables used for equation	Authors	Year
<b>Columbidae</b>										
<i>Ducula goliath</i>	A	58	74.1	41.0	39.7	J	NA	6	Barré et al.	2003
<i>Zenaida galapagoensis</i>	A	105	97.5	NA	NA	J	A	3	Santiago-Alarcon and Parker	2007
<b>Corvidae</b>										
<i>Corvus brachyrhynchos</i>	A	74	91.9	58.9	56.2	NE	NA	3	Clark et al.	1991
<i>Corvus brachyrhynchos</i>	J	30	79.5	59.4	56.7	NE	NA	4	Clark et al.	1991
<i>Corvus frugilegus</i>	A	156	98.7	55.2	52.1	NE	NE	2	Green	1982
<i>Corvus monedula</i>	A	95	93.7	45.5	43.9	NE	NE	2	Green and Theobalt	1989
<i>Corvus moneduloides</i>	A	22	90.9	57.6	54.9	J	A	2	Kenward et al.	2004
<i>Cyanopica cyanus</i>	A	62	90.0	35.3	34.3	NE	A	3	Alarcos et al.	2007
<i>Cyanopica cyanus</i>	J	54	90.0	34.8	34.1	NE	A	2	Alarcos et al.	2007
<i>Pica pica</i>	A	71	88.7	50.4	48.0	NE	A	3	Reese and Kadlec	1982
<i>Pica pica</i>	AJ	243	93.8	NA	NA	NE	NE	5	Kavanagh	1988
<i>Pica pica</i>	J	105	86.5	50.3	48.2	NE	A	3	Lee et al.	2007
<i>Pica pica</i>	A	72	93.1	50.1	48.0	NE	A	3	Lee et al.	2007
<i>Pyrrhocorax pyrrhocorax</i>	A	51	100.0	55.7	51.6	SS	NE	2	Tella and Torre	1993
<i>Pyrrhocorax pyrrhocorax</i>	A	171	100.0	55.7	51.5	SS	N	2	Blanco et al.	1996
<b>Emberizinae</b>										
<i>Miliaria calandra</i>	A	103	96.1	NA	NA	R	N	2	Campos et al.	2005
<i>Passerculus sandwichensis</i>	J	119	94.1	21.2	20.7	NE	NE	2	Wheelwright et al.	1994
<i>Passerculus sandwichensis</i>	J	93	75.3	19.3	18.9	NE	NE	3	Wheelwright et al.	1994
<b>Estrildidae</b>										
<i>Lonchura striata</i>	A	25	84.0	13.4	12.4	NE	A	2	Mizuta et al.	2003
<b>Falconidae</b>										
<i>Falco peregrinus</i>	J	150	96.2	43.2	48.1	SS	NE	5	Hurley et al.	2007
<b>Fringillidae</b>										
<i>Hemignathus munroi</i>	A	30	93.0	25.1	24.0	J	A	2	Pratt et al.	1994
<i>Hemignathus munroi</i>	A	48	92.0	25.1	24.4	J	A	3	Pratt et al.	1994
<i>Pseudonestor xanthophrys</i>	A	51	97.0	23.2	21.4	J	A	1	Berlin et al.	2001
<b>Furnariidae</b>										
<i>Automolus ochrolaemus</i>	A	33	81.8	24.9	23.6	J	A	3	Winker et al.	1994
<i>Spartonoica maluiroides</i>	A	35	77.0	19.6	19.4	J	A	4	Cardoni et al.	2009
<i>Xenops minutus</i>	A	31	90.3	14.2	14.1	J	A	1	Winker et al.	1994
<i>Xiphorhynchus flavigaster</i>	AJ	40	95.0	22.8	22.2	NE	A	2	Puebla-Olivares and Figueroa-Esquivel	2009
<b>Haematopodidae</b>										
<i>Haematopus bachmani</i>	A	119	88.2	51.6	53.1	J	A	4	Guzzetti et al.	2008
<i>Haematopus ostralegus</i>	A	1,195	90.7	NA	NA	R	N	4	Zwarts et al.	1996
<i>Haematopus ostralegus</i>	J	444	89.2	NA	NA	R	N	4	Zwarts et al.	1996
<b>Hirundinidae</b>										
<i>Hirundo rustica</i>	A	581	90.2	11.1	11.2	J	NE	3	Hermosell et al.	2007
<i>Hirundo rustica</i>	A	1,891	91.6	11.1	11.1	J	NE	3	Hermosell et al.	2007
<b>Hydrobatidae</b>										
<i>Oceanodroma furcata</i>	A	120	89.0	NA	NA	SS	NA	2	Boersma and Davies	1987
<b>Laniidae</b>										
<i>Lanius excubitor</i>	A	39	87.4	NA	NA	J	NA	2	Brady et al.	2009
<b>Laridae</b>										
<i>Anous stolidus</i>	A	49	90.0	NA	NA	R	A	2	Chardine and Morris	1989
<i>Chlidonias niger</i>	A	37	89.0	NA	NA	R	A	2	Stern and Jarvis	1991
<i>Chlidonias niger</i>	A	449	81.0	NA	NA	SS	A	2	Shealer and Cleary	2007
<i>Larus argentatus</i>	A	54	98.2	68.3	63.3	R	A	3	Shugart	1977
<i>Larus argentatus</i>	A	73	99.3	NA	NA	SS	A	2	Fox et al.	1981
<i>Larus argentatus</i>	A	480	96.8	NA	NA	NE	NA	6	Coulson et al.	1983
<i>Larus argentatus</i>	A	134	97.8	NA	NA	R	A	2	Migot	1986
<i>Larus argentatus</i>	A	316	92.0	71.1	66.0	SS	A	3	Evans et al.	1995
<i>Larus atricilla</i>	A	122	95.3	52.8	48.9	SS	A	2	Hanners and Patton	1985
<i>Larus atricilla</i>	A	76	93.0	50.5	47.3	SS	A	3	Evans et al.	1993
<i>Larus cachinnans</i>	A	181	100.0	71.0	65.1	J	A	4	Bosch	1996
<i>Larus californicus</i>	A	66	100.0	59.5	55.1	J	A	4	Schnell et al.	1985

(continued)

TABLE S1. Continued.

Family/Species	Age	Sample size	Discriminant rate (%)	Tarsus length male (mm)	Tarsus length female (mm)	Validation method	Variable reduction	Number of variables used for equation	Authors	Year
<i>Larus californicus</i>	A	491	99.2	57.6	53.3	SS	A	3	Rodriguez et al.	1996
<i>Larus californicus</i>	A	203	96.0	60.0	55.5	J	A	3	Herring et al.	2010
<i>Larus crassirostris</i>	A	237	96.6	57.6	53.2	NE	N	2	Chochi et al.	2002
<i>Larus delawarensis</i>	A	93	97.9	58.7	55.2	R	A	3	Shugart	1977
<i>Larus delawarensis</i>	A	59	95.0	66.2	61.4	SS	A	2	Ryder	1978
<i>Larus dominicanus</i>	A	100	97.0	NA	NA	SS	N	3	Torlaschi et al.	2000
<i>Larus fuscus</i>	A	121	97.5	NA	NA	NE	NA	6	Coulson et al.	1983
<i>Larus michahellis</i>	A	155	89.5	65.0	60.7	NE	A	4	Arizaga et al.	2008
<i>Larus michahellis</i>	A	67	97.0	74.2	68.9	J	A	3	Galarza et al.	2008
<i>Larus novaehollandiae</i>	A	165	90.1	45.6	43.8	NE	N	2	Mills	1971
<i>Larus ridibundus</i>	A	411	94.4	46.7	43.5	NE	A	2	Palomares et al.	1997
<i>Larus ridibundus</i>	J	143	90.2	46.6	44.0	NE	A	2	Palomares et al.	1997
<i>Onychoprion fuscatus</i>	A	63	77.8	25.5	24.8	NE	A	3	Reynolds et al.	2008
<i>Rissa tridactyla</i>	A	45	95.6	NA	NA	NE	NA	6	Coulson et al.	1983
<i>Rissa tridactyla</i>	A	303	84.2	37.0	35.4	SS	N	3	Jodice et al.	2000
<i>Rynchops niger</i>	A	50	100.0	33.5	28.9	J	A	1	Quinn	1990
<i>Rynchops niger</i>	A	78	97.9	33.9	29.8	NE	NA	2	Mariano-Jelicich et al.	2007
<i>Sterna caspia</i>	A	35	77.1	46.3	45.0	J	A	5	Quinn	1990
<i>Sterna caspia</i>	A	40	83.0	46.5	45.3	J	A	2	Ackerman et al.	2008
<i>Sterna forsteri</i>	A	84	86.0	24.7	24.3	J	A	2	Bluso et al.	2006
<i>Sterna hirundo</i>	A	105	80.0	24.0	24.1	NE	NA	4	Coulter	1986
<i>Sterna hirundo</i>	A	122	72.6	21.4	21.2	NE	A	3	Fletcher and Hamer	2003
<i>Sterna hirundo</i>	A	244	78.7	21.3	21.0	J	NA	2	Nisbet et al.	2007
<i>Sterna paradisaea</i>	A	71	71.6	16.8	16.6	NE	A	2	Fletcher and Hamer	2003
<i>Sterna paradisaea</i>	A	166	74.0	16.6	16.4	J	A	2	Devlin et al.	2004
<b>Mimidae</b>										
<i>Dumetella carolinensis</i>	A	242	78.0	NA	NA	SS	A	4	Suthers and Suthers	1990
<i>Mimodes graysoni</i>	A	35	100.0	37.8	35.9	J	NA	2	Martínez-Gómez and Curry	1998
<b>Notiomystidae</b>										
<i>Notiomystis cincta</i>	J	313	76.4	28.7	27.7	J	A	3	Thorogood et al.	2009
<b>Otididae</b>										
<i>Otis tarda</i>	J	165	98.2	125.5	108.2	NE	A	1	Martín et al.	2000
<b>Paridae</b>										
<i>Parus atricapillus</i>	A	314	93.7	16.9	16.3	SS	A	3	Desrochers	1990
<b>Pelecanidae</b>										
<i>Pelecanus erythrorhynchos</i>	A	188	97.0	120.4	111.0	J	A	2	Dorr et al.	2005
<b>Phalacrocoracidae</b>										
<i>Phalacrocorax albiventer</i>	A	84	96.5	65.0	62.2	NE	A	2	Malacalaza and Hall	1988
<i>Phalacrocorax atriceps</i>	A	188	94.0	69.0	65.1	J	A	2	Svagej and Quintana	2007
<i>Phalacrocorax auritus</i>	A	80	95.7	68.8	67.2	SS	A	3	Glahn and McCoy	1995
<i>Phalacrocorax bransfieldensis</i>	A	84	97.7	70.0	65.7	R	N	3	Casaux and Baroni	2000
<i>Phalacrocorax carbo</i>	A	51	96.1	NA	NA	R	A	3	Koffijberg and van Eerden	1995
<i>Phalacrocorax carbo</i>	A	81	95.1	69.4	65.1	J	NA	3	Liordos and Goutner	2008
<i>Phalacrocorax magellanicus</i>	A	84	86.0	54.0	52.8	NE	A	3	Quintana et al.	2003
<b>Phoenicopteridae</b>										
<i>Phoenicopus minor</i>	J	18	94.0	203.0	185.0	NE	A	2	Childress et al.	2005
<i>Phoenicopus minor</i>	A	40	93.0	238.0	210.0	NE	A	2	Childress et al.	2005
<i>Phoenicopus minor</i>	A	96	98.0	242.5	213.0	NE	A	2	Childress et al.	2005
<b>Pipridae</b>										
<i>Corapipo altera</i>	A	153	100.0	NA	NA	R	A	2	Mendenhall et al.	2010
<i>Manacus aurantiacus</i>	A	55	100.0	NA	NA	R	A	2	Mendenhall et al.	2010
<b>Podicipedidae</b>										
<i>Podiceps grisegena</i>	A	76	80.0	NA	NA	R	A	2	Kloskowski et al.	2006
<i>Podiceps nigricollis</i>	A	427	85.7	NA	NA	R	N	2	Jehl et al.	1998
<b>Procellariidae</b>										
<i>Calonectris diomedea</i>	J	94	93.7	NA	NA	J	N	4	Bretagnolle and Thibault	1995
<i>Calonectris diomedea</i>	A	211	95.0	54.2	52.8	NE	NA	2	Lo Valvo	2001
<i>Daption capense</i>	A	62	81.0	47.1	45.7	J	A	4	van Franeker and ter Braak	1993
<i>Fulmarus glacialis</i>	A	25	95.3	NA	NA	NE	N	2	Dunnet and Anderson	1961

(continued)

TABLE S1. Continued.

Family/Species	Age	Sample size	Discriminant rate (%)	Tarsus length male (mm)	Tarsus length female (mm)	Validation method	Variable reduction	Number of variables used for equation	Authors	Year
<i>Fulmarus glacialis</i>	A	247	98.0	55.8	51.7	J	A	4	van Franeker and ter Braak	1993
<i>Fulmarus glacialis</i>	A	32	97.0	56.0	52.5	J	A	4	van Franeker and ter Braak	1993
<i>Fulmarus glacialis</i>	A	63	95.0	54.1	49.8	J	A	2	Mallory and Forbes	2005
<i>Fulmarus glacialisoides</i>	A	130	89.0	54.3	51.9	J	A	4	van Franeker and ter Braak	1993
<i>Macronectes giganteus</i>	J	64	100.0	91.7	84.8	R	N	1	Copello et al.	2006
<i>Macronectes giganteus</i>	A	40	100.0	92.2	84.8	R	N	1	Copello et al.	2006
<i>Pagodroma nivea</i>	A	32	91.0	34.4	33.9	J	A	4	van Franeker and ter Braak	1993
<i>Pterodroma leucoptera</i>	A	209	66.2	30.4	30.2	J	N	3	O'Dwyer et al.	2006
<i>Pterodroma leucoptera</i>	J	206	64.6	30.6	30.3	J	N	2	O'Dwyer et al.	2006
<i>Puffinus carneipes</i>	A	102	90.0	56.1	54.9	J	A	3	Thalmann et al.	2007
<i>Puffinus mauretanicus</i>	A	52	90.0	50.2	49.0	J	NA	2	Genovart et al.	2003
<i>Puffinus yelkouan</i>	A	60	80.0	48.5	47.5	J	A	3	Bourgeois et al.	2007
<i>Thalassoica antarctica</i>	A	77	82.0	46.7	45.1	J	A	4	van Franeker and ter Braak	1993
<i>Thalassoica antarctica</i>	A	129	92.0	NA	NA	NE	NE	3	Lorentsen and Røv	1994
<b>Psittacidae</b>										
<i>Nestor notabilis</i>	A	61	85.5	42.6	41.5	NE	A	1	Bond et al.	1991
<b>Rallidae</b>										
<i>Fulica americana</i>	A	32	100.0	NA	NA	NE	NA	2	Boersma and Davies	1987
<i>Gallinula chloropus</i>	A	10	90.0	58.7	56.2	NE	N	7	Cucco et al.	1999
<i>Porphyrio mantelli</i>	A	37	89.2	97.3	90.7	J	A	2	Eason et al.	2001
<i>Rallus elegans</i>	A	26	100.0	61.0	54.2	SS	A	2	Perkins et al.	2009
<i>Rallus longirostris</i>	A	23	91.7	54.6	50.4	SS	A	3	Perkins et al.	2009
<b>Scolopacidae</b>										
<i>Calidris alba</i>	A	49	92.0	25.9	26.8	NE	A	2	Maron and Myers	1984
<i>Calidris alba</i>	A	42	86.0	NA	NA	NE	NA	2	Wood	1987
<i>Calidris alpina</i>	J	56	91.4	24.7	26.1	SS	NA	3	Meissner	2005
<i>Calidris alpina alpina</i>	A	80	98.8	24.7	26.1	J	NE	2	Meissner and Pilacka	2008
<i>Calidris alpina pacifica</i>	A	200	91.5	NA	NA	J	N	3	Brennan et al.	1984
<i>Calidris canutus</i>	A	112	75.9	31.6	32.5	R	N	6	Baker et al.	1999
<i>Calidris canutus</i>	A	90	80.0	NA	NA	R	N	4	Baker et al.	1999
<i>Calidris canutus</i>	A	85	67.1	NA	NA	R	N	4	Baker et al.	1999
<i>Calidris temminckii</i>	A	43	86.0	17.8	18.0	J	A	2	Lislevand et al.	2009
<i>Gallinago gallinago</i>	A	334	89.0	32.4	33.2	J	A	4	McCloskey and Thompson	2000
<i>Lymnocyrtus minimus</i>	A	299	99.0	24.5	24.4	J	A	4	Sikora and Dubiec	2007
<i>Phalaropus lobatus</i>	A	53	73.0	NA	NA	NE	N	4	Rubega	1996
<b>Spheniscidae</b>										
<i>Eudyptes chrysocome</i>	A	117	93.2	NA	NA	J	NA	2	Hull	1996
<i>Eudyptes schlegeli</i>	A	138	97.1	NA	NA	J	NA	2	Hull	1996
<i>Eudyptula minor</i>	A	43	94.8	NA	NA	SS	A	2	Renner and Davis	1999
<i>Eudyptula minor</i>	A	400	91.1	NA	NA	SS	A	1	Arnould et al.	2004
<i>Megadyptes antipodes</i>	A	60	93.0	NA	NA	SS	N	2	Setiawan et al.	2004
<i>Megadyptes antipodes</i>	J	50	86.0	NA	NA	SS	N	2	Setiawan et al.	2004
<i>Pygoscelis adeliae</i>	A	45	89.0	NA	NA	NE	A	3	Kerry et al.	1992
<i>Pygoscelis antarctica</i>	A	55	94.6	NA	NA	J	N	2	Amat et al.	1993
<i>Pygoscelis papua</i>	A	35	91.4	NA	NA	J	A	5	Renner et al.	1998
<i>Spheniscus humboldti</i>	A	223	97.0	NA	NA	SS	A	2	Zavalga and Paredes	1997
<i>Spheniscus magellanicus</i>	A	98	95.9	49.4	46.4	NE	A	3	Scolaro et al.	1983
<i>Spheniscus magellanicus</i>	A	37	92.0	NA	NA	SS	NA	1	Boersma and Davies	1987
<i>Spheniscus magellanicus</i>	J	266	78.0	NA	NA	J	NA	2	Bertelloti et al.	2002
<i>Spheniscus magellanicus</i>	A	331	97.0	NA	NA	J	NA	2	Bertelloti et al.	2002
<b>Stercorariidae</b>										
<i>Stercorarius parasiticus</i>	A	74	90.5	44.5	45.2	J	A	2	Phillips and Furness	1997
<b>Strigidae</b>										
<i>Aegolius funereus</i>	A	41	96.9	NA	NA	SS	N	4	Hayward and Hayward	1991
<i>Aegolius funereus</i>	AJ	135	70.0	NA	NA	NE	A	1	Hipkiss	2007
<i>Bubo bubo</i>	A	50	90.7	93.8	102.5	NE	N	4	del mar Delgado and Penteriani	2004
<i>Otus asio</i>	A	77	88.3	28.4	27.6	NE	A	3	Smith and Wiemeyer	1992

(continued)

TABLE S1. Continued.

Family/Species	Age	Sample size	Discriminant rate (%)	Tarsus length male (mm)	Tarsus length female (mm)	Validation method	Variable reduction	Number of variables used for equation	Authors	Year
<i>Strix aluco</i>	A	142	81.0	NA	NA	R	NE	2	Hardy et al.	1981
<i>Strix occidentalis</i>	A	133	90.2	60.2	61.6	J	NA	1	Blakesley et al.	1990
<b>Sturnidae</b>										
<i>Acridotheres javanicus</i>	A	69	72.5	37.7	37.1	J	A	5	Counsilman et al.	1994
<i>Acridotheres tristis</i>	A	90	84.0	38.3	36.7	J	A	7	Counsilman et al.	1994
<i>Sturnus roseus</i>	A	41	93.0	32.0	30.7	J	N	2	Zenatello and Kiss	2005
<b>Tetraonidae</b>										
<i>Lagopus leucurus</i>	A	49	87.0	NA	NA	SS	A	2	Gruys and Hannon	1993
<i>Lagopus leucurus</i>	J	49	89.8	NA	NA	SS	A	2	Gruys and Hannon	1993
<b>Threskiornithidae</b>										
<i>Eudocimus albus</i>	A	130	77.0	97.4	88.4	J	A	2	Herring et al.	2008
<i>Plegadis falcinellus</i>	A	198	84.9	95.4	85.2	J	A	2	Figuerola et al.	2006
<b>Troglodytidae</b>										
<i>Henicorhina protheleuca</i>	AJ	83	95.2	22.4	21.3	J	A	4	Winker et al.	1996
<i>Thryothorus maculipectus</i>	AJ	62	95.2	21.9	20.8	J	A	3	Winker et al.	1996
<i>Troglodytes troglodytes</i>	A	85	96.0	NA	NA	NE	NA	2	Sweeney and Tatner	1996
<b>Turdidae</b>										
<i>Catharus bicknelli</i>	A	193	83.1	32.0	31.1	SS	A	2	Frey et al.	2008
<i>Catharus bicknelli</i>	J	128	79.1	32.0	31.1	SS	A	3	Frey et al.	2008
<b>Tyrannidae</b>										
<i>Empidonax virescens</i>	A	114	93.0	18.7	18.0	SS	A	2	Wilson	1999
<b>Vireonidae</b>										
<i>Hylophilus decurtatus</i>	A	44	97.7	16.9	16.7	NE	A	3	Winker et al.	1994
<i>Hylophilus ochraceiceps</i>	A	36	75.0	17.0	17.4	J	A	3	Winker et al.	1994

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