

Supplementary material

Appendix 1

Fig. A1. Phylogenetic tree for the 187 Western Palearctic species that perform a partial moult during the first year of life, based on BirdTree.org (Rubolini et al. 2015). The blue branches represent the 63 species of our analysis. This species sample was random and unbiased (Chi square = 26.08, df = 22, P = 0.25) and thus reliably represents the distribution of species that perform partial moult among the bird families in the Western Palearctic which perform partial moult.

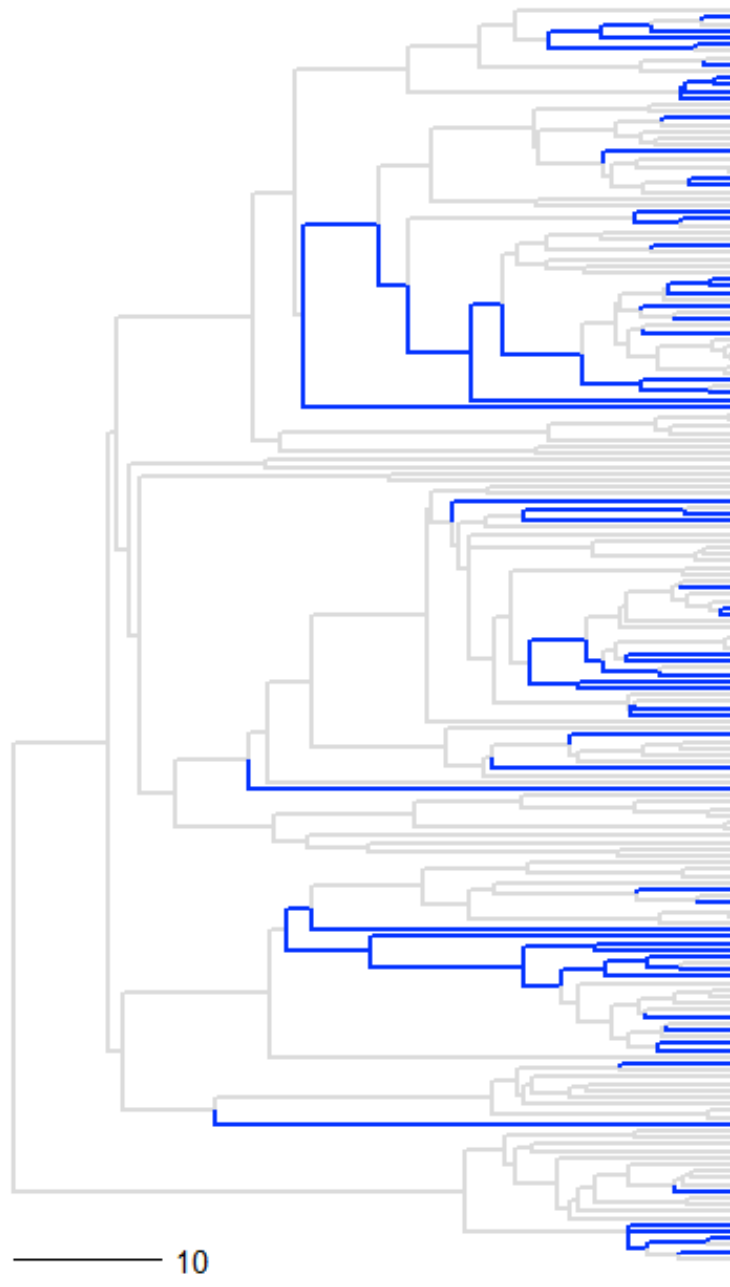


Table A1. The probability of moulting feather tracts (Value A from Formula 1) during the first year for the post-juvenile (PostJ, n = 57 species) and first pre-breeding (PreB, n = 14 species) moults.

Species	Moult	Sample size	Greater-Coverts (GC)	Carpal-Covert (CC)	Alula (Al)	Primary-Coverts (PC)	Tertials (T)	Secondaries (S)	Primaries (P)	Rectrices (R)
<i>Anthus campestris</i>	PostJ	16	9%	0%	0%	0%	19%	0%	0%	2%
<i>Anthus spinoletta</i>	PostJ	65	6%	0%	0%	0%	14%	0%	0%	1%
<i>Anthus pratensis</i>	PostJ	107	1%	0%	0%	0%	3%	0%	0%	1%
<i>Anthus cervinus</i>	PostJ	57	2%	2%	1%	0%	2%	0%	0%	0%
<i>Anthus trivialis</i>	PreB	51	49%	6%	0%	0%	98%	0%	0%	21%
<i>Motacilla alba</i>	PostJ	364	42%	25%	4%	0%	22%	0%	0%	3%
<i>Motacilla citreola</i>	PostJ	61	3%	0%	0%	0%	1%	0%	0%	0%
<i>Motacilla citreola</i>	PreB	32	63%	0%	0%	0%	58%	0%	0%	13%
<i>Motacilla flava</i>	PostJ	340	19%	1%	1%	0%	3%	0%	0%	2%
<i>Motacilla cinerea</i>	PostJ	22	48%	5%	6%	0%	38%	0%	0%	6%
<i>Erithacus rubecula</i>	PostJ	100	52%	6%	3%	0%	1%	0%	0%	0%
<i>Luscinia svecica</i>	PostJ	200	36%	6%	3%	0%	6%	0%	0%	1%
<i>Luscinia luscinia</i>	PostJ	29	43%	0%	0%	0%	0%	0%	0%	0%
<i>Phoenicurus ochruros</i>	PostJ	18	39%	6%	9%	0%	9%	0%	0%	0%
<i>Phoenicurus phoenicurus</i>	PostJ	46	25%	0%	0%	0%	1%	0%	0%	0%
<i>Saxicola rubetra</i>	PostJ	22	13%	0%	0%	0%	0%	0%	0%	0%
<i>Saxicola torquatus</i>	PostJ	43	85%	65%	28%	0%	54%	0%	0%	0%
<i>Oenanthe isabellina</i>	PostJ	20	32%	0%	0%	0%	7%	0%	0%	0%
<i>Oenanthe finschii</i>	PostJ	45	99%	91%	15%	0%	41%	0%	0%	10%
<i>Oenanthe hispanica</i>	PostJ	29	72%	21%	5%	0%	6%	0%	0%	0%
<i>Oenanthe lugens</i>	PostJ	31	100%	100%	40%	0%	32%	0%	0%	0%
<i>Oenanthe monacha</i>	PostJ	32	84%	47%	4%	0%	7%	0%	0%	0%
<i>Oenanthe deserti</i>	PostJ	37	66%	11%	5%	0%	5%	0%	0%	0%
<i>Oenanthe leucopyga</i>	PostJ	19	81%	32%	4%	0%	0%	0%	0%	1%
<i>Turdus merula</i>	PostJ	86	91%	84%	31%	7%	58%	11%	3%	25%
<i>Turdus philomelos</i>	PostJ	52	33%	0%	0%	0%	9%	0%	0%	0%
<i>Prinia gracilis</i>	PostJ	35	100%	100%	96%	60%	100%	83%	99%	100%
<i>Cettia cetti</i>	PostJ	50	86%	66%	33%	0%	53%	7%	1%	10%
<i>Sylvia atricapilla</i>	PostJ	166	85%	7%	6%	0%	5%	0%	0%	0%
<i>Sylvia atricapilla</i>	PreB	392	13%	0%	0%	0%	52%	1%	0%	3%
<i>Sylvia borin</i>	PostJ	17	16%	0%	0%	0%	0%	0%	0%	0%
<i>Sylvia nisoria</i>	PreB	65	97%	88%	90%	4%	79%	50%	13%	82%
<i>Sylvia crassirostris</i>	PostJ	71	51%	1%	13%	0%	8%	0%	0%	0%

<i>Sylvia crassirostris</i>	PreB	34	98%	88%	93%	13%	83%	46%	61%	81%
<i>Sylvia curruca</i>	PostJ	168	91%	30%	23%	0%	2%	0%	0%	3%
<i>Sylvia curruca</i>	PreB	321	16%	3%	4%	0%	88%	8%	0%	17%
<i>Sylvia communis</i>	PostJ	38	30%	0%	2%	0%	4%	0%	0%	0%
<i>Sylvia rueppelli</i>	PostJ	34	100%	100%	94%	6%	100%	15%	1%	51%
<i>Sylvia rueppelli</i>	PreB	23	24%	0%	0%	0%	46%	2%	0%	8%
<i>Sylvia melanocephala</i>	PostJ	69	100%	100%	97%	32%	98%	33%	38%	71%
<i>Sylvia melanothorax</i>	PostJ	20	100%	100%	100%	20%	100%	30%	52%	88%
<i>Sylvia melanothorax</i>	PreB	19	4%	0%	9%	0%	74%	8%	0%	23%
<i>Phylloscopus collybita</i>	PostJ	181	56%	17%	6%	0%	52%	1%	0%	7%
<i>Phylloscopus collybita</i>	PreB	40	14%	3%	0%	0%	78%	5%	0%	8%
<i>Phylloscopus trochilus</i>	PostJ	112	4%	0%	0%	0%	1%	0%	0%	0%
<i>Remiz pendulinus</i>	PostJ	50	92%	38%	18%	0%	73%	6%	2%	56%
<i>Parus major</i>	PostJ	38	100%	100%	97%	1%	98%	14%	1%	90%
<i>Lanius excubitor</i>	PostJ	42	100%	88%	79%	7%	99%	38%	52%	88%
<i>Lanius nubicus</i>	PreB	19	96%	95%	68%	11%	100%	32%	27%	62%
<i>Lanius senator</i>	PreB	20	99%	95%	85%	21%	95%	63%	76%	100%
<i>Lanius isabellinus</i>	PreB	66	100%	100%	97%	17%	100%	44%	74%	99%
<i>Onychognathus tristramii</i>	PostJ	32	84%	41%	39%	4%	63%	14%	0%	59%
<i>Corvus cornix</i>	PostJ	30	69%	47%	42%	11%	69%	24%	13%	47%
<i>Petronia brachydactyla</i>	PostJ	22	100%	100%	100%	11%	100%	65%	90%	100%
<i>Rhodopechys obsoletus</i>	PostJ	28	100%	100%	63%	23%	92%	50%	50%	87%
<i>Bucanetes githagineus</i>	PostJ	72	100%	97%	97%	67%	99%	86%	86%	96%
<i>Coccothraustes coccothraustes</i>	PostJ	21	100%	76%	21%	0%	68%	2%	0%	15%
<i>Fringilla coelebs</i>	PostJ	157	87%	30%	2%	0%	8%	0%	0%	3%
<i>Fringilla montifringilla</i>	PostJ	38	73%	3%	2%	0%	32%	0%	0%	4%
<i>Serinus serinus</i>	PostJ	28	78%	43%	17%	0%	40%	4%	0%	13%
<i>Serinus syriacus</i>	PostJ	64	91%	59%	9%	0%	77%	0%	4%	59%
<i>Serinus pusillus</i>	PostJ	83	44%	10%	2%	0%	10%	0%	0%	3%
<i>Carduelis cannabina</i>	PostJ	25	91%	36%	15%	2%	57%	12%	15%	40%
<i>Carduelis carduelis</i>	PostJ	15	95%	53%	16%	0%	94%	1%	45%	41%
<i>Carduelis spinus</i>	PostJ	22	70%	9%	3%	0%	6%	0%	1%	4%
<i>Carduelis chloris</i>	PostJ	47	99%	96%	76%	16%	79%	23%	31%	70%
<i>Emberiza schoeniclus</i>	PostJ	55	100%	100%	13%	0%	47%	0%	0%	11%
<i>Emberiza hortulana</i>	PostJ	17	26%	6%	0%	0%	10%	0%	0%	6%
<i>Emberiza hortulana</i>	PreB	37	96%	35%	5%	0%	96%	5%	2%	33%
<i>Emberiza caesia</i>	PreB	18	41%	0%	0%	0%	78%	2%	0%	28%
<i>Emberiza cia</i>	PostJ	50	100%	100%	39%	0%	71%	0%	0%	6%