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WIDESPREAD CRYPTIC DICHROMATISM AND ULTRAVIOLET REFLECTANCE IN THE LARGEST RADIATION OF NEOTROPICAL SONGBIRDS: IMPLICATIONS OF ACCOUNTING FOR AVIAN VISION IN THE STUDY OF PLUMAGE EVOLUTION

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TABLE S1. Prevalence of UV coloration and sexual dichromatism across the tanagers and cardinals. The percentage of UV reflectance (mean reflectance between 340 and 380 nm) is reported for the most UV reflective patch. Percentage reflectance is indicated on a scale of 1 to 4, with 1 meaning reflectance <5, 2 meaning reflectance ≥ 5 and < 10, 3 meaning reflectance ≥ 10 and < 20, and 4 meaning reflectance > 20. A "u" next to one of these numbers indicates that the specimen measured was of unknown sex. A 1 indicates the presence and 0 indicates the absence of Peak UV > 10% and Max UV. A 1 indicates a human perceived dichromatic species, and a 0 indicates a human perceived monochromatic species. Dashes indicates that there was no specimen available to measure, or that avian-perceived sexual dichromatism could not be calculated.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Acanthidops*	*bairdii*	3	2	0	0	0	0	0	0	1	2.20
Cardinalidae	*Amaurospiza*	*concolor*	2	2	0	0	0	0	0	0	1	5.91
Cardinalidae	*Amaurospiza*	*moesta*	3	2	0	0	0	0	0	0	1	4.92
Thraupidae	*Anisognathus*	*igniventris*	4	4	1	1	1	1	1	1	0	2.47
Thraupidae	*Anisognathus*	*lacrymosus*	4	4	1	1	1	1	1	1	0	2.98
Thraupidae	*Anisognathus*	*melanogenys*	4	4	1	1	1	1	1	1	0	3.68
Thraupidae	*Anisognathus*	*notabilis*	4	—	1	?	1	—	1	—	0	—
Thraupidae	*Anisognathus*	*somptuosus*	4	4	1	1	1	1	1	0	0	2.40
Thraupidae	*Bangsia*	*arcaei*	3	3	1	1	1	1	1	1	0	1.14
Thraupidae	*Bangsia*	*aureocincta*	4	2	1	1	1	1	0	0	1	3.22
Thraupidae	*Bangsia*	*edwardsi*	3	3	1	1	1	1	1	0	0	2.36
Thraupidae	*Bangsia*	*melanochlamys*	3	3	1	1	1	1	0	0	0	2.53
Thraupidae	*Bangsia*	*rothschildi*	3	3	1	1	1	1	1	0	0	2.06
Thraupidae	*Buthraupis*	*aureodorsalis*	4	—	1	—	1	—	1	—	0	—
Thraupidae	*Buthraupis*	*eximia*	4	4	1	1	1	1	1	1	0	3.14
Thraupidae	*Buthraupis*	*montana*	4	4	1	1	1	1	1	1	0	2.51
Thraupidae	*Buthraupis*	*wetmorei*	—	4	—	1	—	1	—	1	0	—
Thraupidae	*Calochaetes*	*coccineus*	2	3	1	1	1	1	0	0	0	5.37
Thraupidae	*Camarhynchus*	*heliobates*	3	3	0	0	0	0	0	0	0	0.87
Thraupidae	*Camarhynchus*	*pallidus*	3	4	0	0	0	0	0	0	0	0.97
Thraupidae	*Camarhynchus*	*parvulus*	3	3	0	0	0	0	0	0	1	1.39
Thraupidae	*Camarhynchus*	*pauper*	3	3	0	0	0	0	0	0	1	3.01
Thraupidae	*Camarhynchus*	*psittacula*	3	3	0	0	0	0	0	0	1	2.36

(*continued*)

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TABLE S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Cardinalidae	*Cardinalis*	*cardinalis*	2	2	1	1	1	1	0	0	1	6.76
Cardinalidae	*Cardinalis*	*phoeniceus*	3	3	1	1	1	1	0	0	1	7.53
Cardinalidae	*Cardinalis*	*sinuatus*	3	3	1	1	1	1	0	0	1	4.48
Cardinalidae	*Caryothraustes*	*canadensis*	3	3	1	1	1	1	0	0	0	4.64
Cardinalidae	*Caryothraustes*	*poliogaster*	3	3	1	1	1	1	0	0	0	5.94
Thraupidae	*Catamblyrhynchus*	*diadema*	2	2	1	1	1	0	0	0	0	1.14
Thraupidae	*Catamenia*	*analis*	4	3	0	0	0	0	0	0	1	2.91
Thraupidae	*Catamenia*	*homochroa*	2	2	0	0	0	0	0	0	1	3.48
Thraupidae	*Catamenia*	*inornata*	3	3	1	0	0	0	0	0	1	2.99
Thraupidae	*Certhidea*	*olivacea*	3	3	0	0	0	0	0	0	1	1.85
Thraupidae	*Charitospiza*	*eucosma*	3	3	0	0	0	0	0	0	1	5.30
Thraupidae	*Chlorochrysa*	*calliparaea*	3	3	1	1	1	0	0	0	1	5.89
Thraupidae	*Chlorochrysa*	*nitidissima*	2	2	0	0	0	0	0	0	1	6.30
Thraupidae	*Chlorochrysa*	*phoenicotis*	4	4	1	1	1	1	1	1	0	1.73
Thraupidae	*Chlorophanes*	*spiza*	3	2	1	0	0	0	0	0	1	4.57
Thraupidae	*Chlorornis*	*riefferii*	4	4	1	1	1	1	0	0	0	2.77
Cardinalidae	*Chlorothraupis*	*carmioli*	2	3	1	1	1	1	0	0	0	2.57
Cardinalidae	*Chlorothraupis*	*olivacea*	3	3	1	1	1	1	0	0	0	2.30
Cardinalidae	*Chlorothraupis*	*stolzmanni*	2	2	1	1	1	0	0	0	0	2.05
Thraupidae	*Chrysothlypis*	*chrysomelas*	2	3	1	1	1	1	0	0	1	8.43
Thraupidae	*Chrysothlypis*	*salmoni*	3	3	1	1	1	0	0	0	1	7.96
Thraupidae	*Cissopis*	*leverianus*	4	4	1	1	0	0	0	0	0	1.80
Thraupidae	*Cnemoscopus*	*rubrirostris*	3	4	1	1	1	1	0	0	0	1.52
Thraupidae	*Coereba*	*flaveola*	3	3	1	1	1	1	0	0	0	2.56
Thraupidae	*Compsospiza*	*baeri*	1	2	0	1	0	0	0	0	0	1.22
Thraupidae	*Compsospiza*	*garleppi*	3	—	1	—	0	—	0	—	0	—
Thraupidae	*Compsothraupis*	*loricata*	4	4	1	1	1	0	0	0	1	10.08
Thraupidae	*Conirostrum*	*albifrons*	4	3	1	1	1	1	1	0	1	5.52
Thraupidae	*Conirostrum*	*bicolor*	3	4	0	1	0	0	0	0	0	3.17
Thraupidae	*Conirostrum*	*cinereum*	2	3	0	0	0	0	0	0	0	2.38
Thraupidae	*Conirostrum*	*ferrugineiventre*	3	3	0	0	0	0	0	0	0	1.72
Thraupidae	*Conirostrum*	*leucogenys*	4	3	0	0	0	0	0	0	1	3.38
Thraupidae	*Conirostrum*	*margaritae*	4	4	0	0	0	0	0	0	0	0.93
Thraupidae	*Conirostrum*	*rufum*	2	2	1	1	0	0	0	0	0	1.44
Thraupidae	*Conirostrum*	*sitticolor*	4	4	1	1	1	1	1	1	1	1.83
Thraupidae	*Conirostrum*	*speciosum*	4	4	0	1	0	1	0	0	1	5.01
Thraupidae	*Conothraupis*	*speculigera*	4	3	0	0	0	0	0	0	1	5.28
Thraupidae	*Coryphaspiza*	*melanotis*	4	3	1	0	0	0	0	0	1	3.35
Thraupidae	*Coryphospingus*	*cucullatus*	3	2	1	1	1	0	0	0	1	6.20
Thraupidae	*Coryphospingus*	*pileatus*	4	4	1	1	1	1	1	0	1	7.14
Thraupidae	*Creurgops*	*dentatus*	2	4	1	1	0	0	0	0	1	6.55
Thraupidae	*Creurgops*	*verticalis*	3	2	1	0	0	0	0	0	1	5.17
Thraupidae	*Cyanerpes*	*caeruleus*	4	3	1	1	1	1	1	0	1	15.25
Thraupidae	*Cyanerpes*	*cyaneus*	4	3	1	1	1	1	0	0	1	13.64
Thraupidae	*Cyanerpes*	*lucidus*	4	3	1	1	1	1	1	0	1	11.33
Thraupidae	*Cyanerpes*	*nitidus*	4	3	1	1	1	1	0	0	1	13.59
Thraupidae	*Cyanicterus*	*cyanicterus*	3	3	1	1	1	1	1	0	1	10.57
Cardinalidae	*Cyanocompsa*	*brissonii*	4	2	1	0	1	0	1	0	1	9.91
Cardinalidae	*Cyanocompsa*	*cyanoides*	4	1	1	0	1	0	0	0	1	9.48
Cardinalidae	*Cyanocompsa*	*parellina*	4	1	1	0	1	0	0	0	1	12.92
Cardinalidae	*Cyanoloxia*	*glaucocaerulea*	3	2	0	0	0	0	0	0	1	5.52
Thraupidae	*Cypsnagra*	*hirundinacea*	4	4	0	1	0	0	0	1	0	2.27
Thraupidae	*Dacnis*	*albiventris*	4	3	1	1	1	1	1	0	1	9.43
Thraupidae	*Dacnis*	*berlepschi*	4	3	1	1	1	1	0	0	1	9.69
Thraupidae	*Dacnis*	*cayana*	4	3	1	1	1	1	0	0	1	10.43

(*continued*)

Table S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Dacnis*	*flaviventer*	4	3	1	1	1	0	0	0	1	4.78
Thraupidae	*Dacnis*	*hartlaubi*	4	—	1	—	1	—	1	—	1	—
Thraupidae	*Dacnis*	*lineata*	4	4	1	1	1	1	1	0	1	7.10
Thraupidae	*Dacnis*	*nigripes*	4	4	1	1	1	1	0	0	1	6.00
Thraupidae	*Dacnis*	*venusta*	4	3	1	1	1	1	0	0	1	8.60
Thraupidae	*Dacnis*	*viguieri*	4	3	1	1	1	1	0	0	1	6.41
Thraupidae	*Delothraupis*	*castaneoventris*	4	4	0	1	0	0	0	1	0	1.97
Thraupidae	*Diglossa*	*albilatera*	4	3	0	0	0	0	0	0	1	4.84
Thraupidae	*Diglossa*	*baritula*	2	2	1	0	0	0	1	0	1	4.83
Thraupidae	*Diglossa*	*brunneiventris*	3	3	1	0	0	0	1	0	0	0.62
Thraupidae	*Diglossa*	*caerulescens*	3	3	0	0	0	0	1	0	0	1.04
Thraupidae	*Diglossa*	*carbonaria*	3	3	1	1	0	0	1	0	0	5.71
Thraupidae	*Diglossa*	*cyanea*	3	3	1	0	0	0	0	0	0	1.04
Thraupidae	*Diglossa*	*duidae*	2	3	1	1	0	0	1	0	0	2.10
Thraupidae	*Diglossa*	*glauca*	3	3	1	1	1	1	1	1	0	1.00
Thraupidae	*Diglossa*	*gloriosa*	3	2	1	1	0	0	1	0	0	2.03
Thraupidae	*Diglossa*	*gloriosissima*	2	3	1	1	0	0	1	0	0	1.56
Thraupidae	*Diglossa*	*humeralis*	3	2	1	1	0	0	0	0	0	1.04
Thraupidae	*Diglossa*	*indigotica*	2	2	0	1	0	1	0	0	0	4.54
Thraupidae	*Diglossa*	*lafresnayii*	3	4	1	1	0	1	1	1	0	0.93
Thraupidae	*Diglossa*	*major*	2	2	0	0	0	0	0	0	0	1.31
Thraupidae	*Diglossa*	*mystacalis*	2	3	1	0	0	0	0	0	0	0.88
Thraupidae	*Diglossa*	*plumbea*	3	3	1	0	0	0	0	0	0	4.12
Thraupidae	*Diglossa*	*sittoides*	2	3	0	1	0	0	0	0	1	3.21
Thraupidae	*Diglossa*	*venezuelensis*	4	2	1	1	0	0	0	0	1	2.41
Thraupidae	*Diuca*	*diuca*	4	4	0	0	0	0	0	0	1	2.46
Thraupidae	*Diuca*	*speculifera*	4	4	0	0	0	0	0	0	0	1.08
Thraupidae	*Dolospingus*	*fringilloides*	4	3	1	0	0	0	0	0	1	3.03
Thraupidae	*Donacospiza*	*albifrons*	2	2	0	0	0	0	0	0	1	1.84
Thraupidae	*Dubusia*	*taeniata*	4	4	1	1	1	1	1	1	0	1.82
Thraupidae	*Emberizoides*	*duidae*	3	3	1	1	1	0	0	0	0	1.57
Thraupidae	*Emberizoides*	*herbicola*	4	3	1	0	1	0	0	0	0	2.19
Thraupidae	*Emberizoides*	*ypiranganus*	3	4	1	1	1	0	0	0	0	2.07
Thraupidae	*Embernagra*	*longicauda*	3	3	1	1	1	1	0	0	0	1.13
Thraupidae	*Embernagra*	*platensis*	4	3	1	1	1	1	0	0	0	1.92
Thraupidae	*Eucometis*	*penicillata*	3	3	1	1	1	1	0	0	0	2.05
Thraupidae	*Euneornis*	*campestris*	2	3	0	0	0	0	0	0	1	4.39
Thraupidae	*Geospiza*	*conirostris*	1	3	0	0	0	0	0	0	1	1.94
Thraupidae	*Geospiza*	*difficilis*	1	2	0	0	0	0	0	0	1	2.94
Thraupidae	*Geospiza*	*fortis*	2	3	0	0	0	0	0	0	1	2.13
Thraupidae	*Geospiza*	*fuliginosa*	2	2	0	0	0	0	0	0	1	2.69
Thraupidae	*Geospiza*	*magnirostris*	1	3	0	0	0	0	0	0	1	2.36
Thraupidae	*Geospiza*	*scandens*	2	3	0	0	0	0	0	0	1	2.85
Cardinalidae	*Granatellus*	*pelzelni*	3	3	1	1	1	1	1	1	1	6.86
Cardinalidae	*Granatellus*	*sallaei*	4	3	1	1	1	0	1	0	1	6.06
Cardinalidae	*Granatellus*	*venustus*	4	3	1	1	1	0	1	0	1	8.34
Thraupidae	*Gubernatrix*	*cristata*	3	4	1	1	1	1	0	0	1	11.51
Cardinalidae	*Habia*	*atrimaxillaris*	3	3	1	1	1	0	0	0	1	7.99
Cardinalidae	*Habia*	*cristata*	2	2	1	1	1	1	0	0	0	2.10
Cardinalidae	*Habia*	*fuscicauda*	2	2	1	0	1	0	0	0	1	8.91
Cardinalidae	*Habia*	*gutturalis*	3	2	1	1	1	1	0	0	1	3.51
Cardinalidae	*Habia*	*rubica*	3	2	1	1	1	0	0	0	1	6.28
Thraupidae	*Haplospiza*	*rustica*	3	3	1	1	1	0	1	0	1	2.90
Thraupidae	*Haplospiza*	*unicolor*	2	2	0	0	0	0	0	0	1	3.99
Thraupidae	*Hemispingus*	*atropileus*	3	3	1	1	1	1	0	0	0	2.10

(*continued*)

TABLE S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Hemispingus*	*calophrys*	2u	2u	1u	1u	1u	1u	0u	0u	0	—
Thraupidae	*Hemispingus*	*frontalis*	2	2	1	0	0	0	0	0	0	1.01
Thraupidae	*Hemispingus*	*goeringi*	2	3	1	1	0	0	0	0	0	1.41
Thraupidae	*Hemispingus*	*melanotis*	3	3	0	0	0	0	0	0	0	1.71
Thraupidae	*Hemispingus*	*parodii*	3	3	1	1	1	1	0	0	0	2.49
Thraupidae	*Hemispingus*	*reyi*	2	3	1	1	1	1	0	0	0	2.23
Thraupidae	*Hemispingus*	*rufosuperciliaris*	2	—	0	—	0	—	0	—	0	—
Thraupidae	*Hemispingus*	*superciliaris*	3	3	1	1	1	1	0	0	0	1.43
Thraupidae	*Hemispingus*	*trifasciatus*	2	3	0	0	0	0	0	0	0	2.06
Thraupidae	*Hemispingus*	*verticalis*	3	3	0	0	0	0	0	0	0	2.13
Thraupidae	*Hemispingus*	*xanthophthalmus*	4	4	0	0	0	0	0	0	0	1.28
Thraupidae	*Hemithraupis*	*flavicollis*	4	2	1	1	1	0	0	0	1	7.76
Thraupidae	*Hemithraupis*	*guira*	3	3	1	1	1	1	0	0	1	4.52
Thraupidae	*Hemithraupis*	*ruficapilla*	4	3	1	1	1	1	0	0	1	4.27
Thraupidae	*Heterospingus*	*rubrifrons*	2	3	1	1	1	1	0	0	0	3.48
Thraupidae	*Heterospingus*	*xanthopygius*	2	4	1	1	1	1	0	0	1	8.02
Thraupidae	*Idiopsar*	*brachyurus*	2	2	0	0	0	0	0	0	0	1.16
Thraupidae	*Incaspiza*	*laeta*	4	4	0	0	0	0	0	0	0	2.79
Thraupidae	*Incaspiza*	*ortizi*	4	4	0	0	0	0	0	0	0	2.25
Thraupidae	*Incaspiza*	*personata*	3	3	0	0	0	0	0	0	0	1.31
Thraupidae	*Incaspiza*	*pulchra*	4	—	0	—	0	—	0	—	0	—
Thraupidae	*Incaspiza*	*watkinsi*	—	4	—	0	—	0	—	0	0	—
Thraupidae	*Iridophanes*	*pulcherrimus*	4	3	0	1	0	1	0	0	1	9.47
Thraupidae	*Iridosornis*	*analis*	2	2	1	1	1	1	0	0	0	1.64
Thraupidae	*Iridosornis*	*jelskii*	3	3	1	1	1	1	0	0	0	3.46
Thraupidae	*Iridosornis*	*porphyrocephalus*	3	3	1	1	1	0	1	0	0	3.27
Thraupidae	*Iridosornis*	*reinhardti*	4	3	1	1	1	1	1	0	0	2.56
Thraupidae	*Iridosornis*	*rufivertex*	4	4	1	1	1	1	0	0	0	3.76
Thraupidae	*Lanio*	*aurantius*	4	3	1	1	1	1	0	0	1	8.25
Thraupidae	*Lanio*	*fulvus*	2	2	1	0	1	0	1	0	1	5.67
Thraupidae	*Lanio*	*leucothorax*	4	2	1	1	1	1	1	0	1	7.25
Thraupidae	*Lanio*	*versicolor*	4	2	1	0	0	0	0	0	1	9.01
Thraupidae	*Lophospingus*	*griseocristatus*	4	4	0	1	0	0	0	0	0	1.88
Thraupidae	*Lophospingus*	*pusillus*	4	4	0	0	0	0	0	0	1	1.37
Thraupidae	*Loxigilla*	*noctis*	2	2	1	0	0	0	0	0	1	5.06
Thraupidae	*Loxigilla*	*portoricensis*	2	1	1	0	0	0	0	0	1	2.71
Thraupidae	*Loxigilla*	*violacea*	2	2	1	1	0	0	0	0	1	2.29
Thraupidae	*Loxipasser*	*anoxanthus*	2	2	1	1	1	1	0	0	1	2.51
Thraupidae	*Melanodera*	*melanodera*	3	3	1	0	1	0	0	0	1	3.13
Thraupidae	*Melanodera*	*xanthogramma*	4	4	1	0	1	0	0	0	1	1.92
Thraupidae	*Melanospiza*	*richardsoni*	2	—	1	—	1	—	0	—	1	—
Thraupidae	*Melopyrrha*	*nigra*	4	3	1	0	0	0	1	0	1	1.98
Thraupidae	*Nemosia*	*pileata*	4	4	0	0	0	0	0	0	1	1.98
Thraupidae	*Neothraupis*	*fasciata*	4	3	0	0	0	0	0	0	0	1.43
Thraupidae	*Nephelornis*	*oneilli*	2	2	0	0	0	0	0	0	0	1.84
Thraupidae	*Nesospiza*	*acunhae*	3	3	1	1	1	1	0	0	0	1.49
Thraupidae	*Nesospiza*	*wilkinsi*	3	—	1	—	1	—	0	—	0	—
Thraupidae	*Orchesticus*	*abeillei*	2	2	0	0	0	0	0	0	0	2.08
Thraupidae	*Oreomanes*	*fraseri*	3	3	1	1	0	0	0	0	0	1.60
Thraupidae	*Oryzoborus*	*angolensis*	4	2	1	1	0	0	0	0	1	4.97
Thraupidae	*Oryzoborus*	*crassirostris*	3	3	1	0	0	0	0	0	1	5.54
Thraupidae	*Oryzoborus*	*maximiliani*	3	2	1	1	0	0	0	0	1	3.99
Thraupidae	*Oryzoborus*	*nuttingi*	4	2	1	0	1	0	1	0	1	4.70
Thraupidae	*Parkerthraustes*	*humeralis*	3	4	1	1	1	1	0	0	0	8.27
Thraupidae	*Paroaria*	*baeri*	4	4	0	0	0	0	1	0	0	1.39
Thraupidae	*Paroaria*	*capitata*	4	4	1	1	0	0	0	0	0	0.90

(*continued*)

Table S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Paroaria*	*coronata*	4	4	1	1	0	0	0	0	0	0.81
Thraupidae	*Paroaria*	*dominicana*	4	4	1	1	1	0	1	0	0	1.42
Thraupidae	*Paroaria*	*gularis*	4	4	0	1	0	0	1	0	0	2.55
Cardinalidae	*Passerina*	*amoena*	4	3	0	0	0	0	1	0	1	8.54
Cardinalidae	*Passerina*	*caerulea*	4	3	1	0	1	0	1	0	1	9.65
Cardinalidae	*Passerina*	*ciris*	4	3	1	0	1	0	1	0	1	12.45
Cardinalidae	*Passerina*	*cyanea*	4	3	0	0	0	0	0	0	1	8.43
Cardinalidae	*Passerina*	*leclancherii*	4	4	1	1	1	1	0	0	1	8.48
Cardinalidae	*Passerina*	*rositae*	4	3	1	0	1	0	0	0	1	10.08
Cardinalidae	*Passerina*	*versicolor*	4	3	1	0	1	0	1	0	1	9.80
Cardinalidae	*Periporphyrus*	*erythromelas*	3	2	1	1	1	1	1	0	1	8.02
Cardinalidae	*Pheucticus*	*aureoventris*	4	4	1	1	1	1	0	0	1	5.00
Cardinalidae	*Pheucticus*	*chrysogaster*	4	4	1	1	1	1	0	0	1	6.73
Cardinalidae	*Pheucticus*	*chrysopeplus*	4	3	1	1	1	1	0	0	1	3.84
Cardinalidae	*Pheucticus*	*ludovicianus*	4	3	1	0	1	0	0	0	1	5.01
Cardinalidae	*Pheucticus*	*melanocephalus*	3	3	1	0	1	0	0	0	0	4.31
Cardinalidae	*Pheucticus*	*tibialis*	4	3	1	1	1	1	0	0	1	3.92
Thraupidae	*Phrygilus*	*alaudinus*	4	4	0	0	0	0	0	0	1	1.86
Thraupidae	*Phrygilus*	*atriceps*	3	3	1	1	1	1	0	0	1	3.12
Thraupidae	*Phrygilus*	*carbonarius*	2	3	0	0	0	0	0	0	1	2.92
Thraupidae	*Phrygilus*	*dorsalis*	4	3	1	0	0	0	0	0	0	1.46
Thraupidae	*Phrygilus*	*erythronotus*	4	3	0	1	0	0	0	0	0	0.80
Thraupidae	*Phrygilus*	*fruticeti*	4	3	0	0	0	0	0	0	1	1.88
Thraupidae	*Phrygilus*	*gayi*	3	3	1	0	1	0	0	0	1	4.80
Thraupidae	*Phrygilus*	*patagonicus*	4	3	1	1	1	1	0	0	1	3.86
Thraupidae	*Phrygilus*	*plebejus*	3	3	0	0	0	0	0	0	0	2.84
Thraupidae	*Phrygilus*	*punensis*	3	3	1	1	1	1	0	0	1	2.83
Thraupidae	*Phrygilus*	*unicolor*	2	2	0	0	0	0	0	0	1	8.95
Thraupidae	*Piezorhina*	*cinerea*	4	3	0	0	0	0	0	0	0	2.90
Thraupidae	*Pinaroloxias*	*inornata*	1	3	1	1	0	0	0	0	1	1.86
Thraupidae	*Pipraeidea*	*melanonota*	4	3	1	0	1	0	1	0	1	6.54
Cardinalidae	*Piranga*	*bidentata*	4	3	1	1	1	1	0	0	1	5.60
Cardinalidae	*Piranga*	*erythrocephala*	3	4	1	1	1	1	0	0	1	7.25
Cardinalidae	*Piranga*	*flava*	3	3	1	1	1	1	0	0	1	7.13
Cardinalidae	*Piranga*	*leucoptera*	3	3	1	1	1	1	0	0	1	7.91
Cardinalidae	*Piranga*	*ludoviciana*	3	3	1	1	1	1	0	0	1	8.02
Cardinalidae	*Piranga*	*olivacea*	3	4	1	1	1	1	0	0	1	4.11
Cardinalidae	*Piranga*	*roseogularis*	3	3	1	0	1	0	0	0	1	4.73
Cardinalidae	*Piranga*	*rubra*	3	2	1	0	1	0	0	0	1	5.49
Cardinalidae	*Piranga*	*rubriceps*	2	3	1	1	1	1	0	0	1	7.55
Thraupidae	*Platyspiza*	*crassirostris*	3	4	0	0	0	0	0	0	0	3.35
Thraupidae	*Poospiza*	*alticola*	3	—	1	—	0	—	0	—	0	—
Thraupidae	*Poospiza*	*boliviana*	4	4	1	0	0	0	0	0	0	3.14
Thraupidae	*Poospiza*	*caesar*	3	4	0	1	0	0	0	0	0	1.64
Thraupidae	*Poospiza*	*cinerea*	3	3	0	0	0	0	0	0	0	2.05
Thraupidae	*Poospiza*	*erythrophrys*	3	4	0	0	0	0	0	0	0	2.38
Thraupidae	*Poospiza*	*hispaniolensis*	4	4	0	0	0	0	0	0	1	2.44
Thraupidae	*Poospiza*	*hypochondria*	3	3	0	0	0	0	0	0	0	1.61
Thraupidae	*Poospiza*	*lateralis*	3	3	0	1	0	0	0	0	0	2.67
Thraupidae	*Poospiza*	*melanoleuca*	4	4	0	1	0	0	0	0	0	1.21
Thraupidae	*Poospiza*	*nigrorufa*	4	3	1	0	0	0	0	0	0	2.12
Thraupidae	*Poospiza*	*ornata*	4	4	0	1	0	0	0	0	1	3.56
Thraupidae	*Poospiza*	*thoracica*	3	3	0	0	0	0	0	0	0	1.39
Thraupidae	*Poospiza*	*torquata*	3	4	1	0	0	0	0	0	1	1.07
Thraupidae	*Poospiza*	*whitii*	4	4	1	1	0	0	0	0	0	1.53

(*continued*)

TABLE S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Porphyrospiza*	*caerulescens*	4	3	1	0	1	0	1	0	1	9.01
Thraupidae	*Pyrrhocoma*	*ruficeps*	2	3	0	0	0	0	0	0	1	5.88
Thraupidae	*Ramphocelus*	*bresilius*	1	1	1	0	0	0	0	0	1	10.21
Thraupidae	*Ramphocelus*	*carbo*	1	2	1	0	0	0	0	0	1	5.38
Thraupidae	*Ramphocelus*	*dimidiatus*	1	1	1	1	0	0	0	0	1	6.23
Thraupidae	*Ramphocelus*	*flammigerus*	1	2	0	1	0	1	0	0	1	9.17
Thraupidae	*Ramphocelus*	*melanogaster*	1	1	1	0	0	0	0	0	1	8.15
Thraupidae	*Ramphocelus*	*nigrogularis*	1	2	1	0	0	0	1	0	1	6.04
Thraupidae	*Ramphocelus*	*passerinii*	1	2	1	0	0	0	0	0	1	11.41
Thraupidae	*Ramphocelus*	*sanguinolentus*	1	2	0	1	0	0	0	1	0	2.19
Thraupidae	*Rhodospingus*	*cruentus*	3	4	1	0	1	0	0	0	1	5.48
Cardinalidae	*Rhodothraupis*	*celaeno*	2	2	1	0	1	0	0	0	1	2.76
Thraupidae	*Rowettia*	*goughensis*	3	—	1	—	1	—	0	—	0	—
Thraupidae	*Saltator*	*albicollis*	4	3	1	1	0	0	0	0	0	2.50
Thraupidae	*Saltator*	*atriceps*	4	3	1	1	1	1	0	0	0	4.50
Thraupidae	*Saltator*	*atricollis*	3	3	0	0	0	0	0	0	0	1.25
Thraupidae	*Saltator*	*atripennis*	3	3	1	1	0	0	0	0	0	1.66
Thraupidae	*Saltator*	*aurantiirostris*	4	4	0	0	0	0	0	0	1	3.77
Thraupidae	*Saltator*	*cinctus*	4	—	0	—	0	—	0	—	0	—
Thraupidae	*Saltator*	*coerulescens*	3	2	0	1	0	0	0	0	0	1.75
Thraupidae	*Saltator*	*fuliginosus*	2	2	1	1	0	1	1	0	1	1.22
Thraupidae	*Saltator*	*grossus*	3	3	0	0	0	0	0	0	1	2.15
Thraupidae	*Saltator*	*maxillosus*	3	2	1	0	0	0	0	0	1	2.67
Thraupidae	*Saltator*	*maximus*	2	2	1	1	1	1	0	0	0	1.48
Thraupidae	*Saltator*	*nigriceps*	4	4	0	0	0	0	0	0	1	1.17
Thraupidae	*Saltator*	*orenocensis*	4	4	1	0	0	0	0	0	0	1.97
Thraupidae	*Saltator*	*rufiventris*	2	—	0	—	0	—	0	—	0	—
Thraupidae	*Saltator*	*similis*	4	4	1	1	1	1	0	0	0	1.46
Thraupidae	*Saltatricula*	*multicolor*	4	4	0	0	0	0	0	0	0	2.96
Thraupidae	*Schistochlamys*	*melanopis*	3	3	1	1	0	0	0	0	0	1.14
Thraupidae	*Schistochlamys*	*ruficapillus*	4	3	0	0	0	0	0	0	0	2.17
Thraupidae	*Sericossypha*	*albocristata*	4	4	1	1	1	0	1	0	1	5.85
Thraupidae	*Sicalis*	*auriventris*	3	2	1	0	1	0	0	0	1	2.93
Thraupidae	*Sicalis*	*citrina*	3	3	1	1	1	1	0	0	1	3.18
Thraupidae	*Sicalis*	*columbiana*	3	3	1	0	1	0	0	0	1	8.40
Thraupidae	*Sicalis*	*flaveola*	3	3	1	1	1	1	0	0	1	3.47
Thraupidae	*Sicalis*	*lebruni*	3	3	1	1	1	1	0	0	1	2.32
Thraupidae	*Sicalis*	*lutea*	3	2	1	1	1	1	0	0	1	1.60
Thraupidae	*Sicalis*	*luteiventris*	3	3	1	1	1	1	0	0	1	2.91
Thraupidae	*Sicalis*	*luteocephala*	3	3	1	1	1	1	0	0	1	2.28
Thraupidae	*Sicalis*	*luteola*	3	3	1	1	1	1	0	0	1	—
Thraupidae	*Sicalis*	*olivascens*	3	3	1	1	1	1	0	0	1	2.31
Thraupidae	*Sicalis*	*raimondii*	3	3	1	0	1	0	0	0	1	3.15
Thraupidae	*Sicalis*	*taczanowskii*	4	4	1	1	1	1	0	0	0	1.00
Thraupidae	*Sicalis*	*uropygialis*	3	3	1	1	1	1	0	0	1	1.99
Cardinalidae	*Spiza*	*americana*	3	3	1	0	1	0	0	0	1	6.86
Thraupidae	*Sporophila*	*albogularis*	4	2	0	0	0	0	0	0	1	3.70
Thraupidae	*Sporophila*	*americana*	4	2	1	0	0	0	0	0	1	3.60
Thraupidae	*Sporophila*	*bouvreuil*	4	3	0	0	0	0	0	0	1	3.50
Thraupidae	*Sporophila*	*bouvronides*	4	3	1	0	0	0	0	0	1	3.16
Thraupidae	*Sporophila*	*caerulescens*	4	2	0	0	0	0	0	0	1	4.42
Thraupidae	*Sporophila*	*castaneiventris*	3	3	1	0	0	0	0	0	1	4.72
Thraupidae	*Sporophila*	*cinnamomea*	2	3	0	0	0	0	0	0	1	3.73
Thraupidae	*Sporophila*	*collaris*	4	4	1	1	0	0	0	0	1	4.44
Thraupidae	*Sporophila*	*frontalis*	3	—	0	—	0	—	0	—	1	—
Thraupidae	*Sporophila*	*hypochroma*	3	2	1	0	0	0	0	0	1	2.99

(*continued*)

Table S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Sporophila*	*hypoxantha*	4	3	0	0	0	0	0	0	1	3.60
Thraupidae	*Sporophila*	*insulata*	3	—	0	—	0	—	0	—	1	—
Thraupidae	*Sporophila*	*intermedia*	3	2	1	0	0	0	0	0	1	4.10
Thraupidae	*Sporophila*	*leucoptera*	3	2	0	0	0	0	0	0	1	6.31
Thraupidae	*Sporophila*	*lineola*	4	3	0	0	0	0	0	0	1	2.84
Thraupidae	*Sporophila*	*luctuosa*	4	4	1	0	0	0	0	0	1	3.67
Thraupidae	*Sporophila*	*melanogaster*	4	2	0	0	0	0	0	0	1	4.41
Thraupidae	*Sporophila*	*melanops*	—	2	—	0	—	0	—	0	?	—
Thraupidae	*Sporophila*	*minuta*	3	2	0	0	0	0	0	0	1	2.87
Thraupidae	*Sporophila*	*nigricollis*	4	3	1	0	1	0	0	0	1	4.09
Thraupidae	*Sporophila*	*peruviana*	4	3	0	0	0	0	0	0	1	1.27
Thraupidae	*Sporophila*	*plumbea*	3	3	1	0	0	0	0	0	1	4.76
Thraupidae	*Sporophila*	*ruficollis*	2	3	1	0	0	0	0	0	1	3.67
Thraupidae	*Sporophila*	*schistacea*	3	—	0	—	0	—	0	—	1	—
Thraupidae	*Sporophila*	*simplex*	3	3	0	0	0	0	0	0	1	1.40
Thraupidae	*Sporophila*	*telasco*	4	4	1	0	0	0	0	0	1	2.75
Thraupidae	*Sporophila*	*torqueola*	3	2	0	0	0	0	0	0	1	—
Thraupidae	*Stephanophorus*	*diadematus*	4	4	1	1	1	1	1	1	0	3.65
Thraupidae	*Tachyphonus*	*coronatus*	4	2	1	0	1	0	0	0	1	7.08
Thraupidae	*Tachyphonus*	*cristatus*	3	2	1	0	0	0	0	0	1	5.16
Thraupidae	*Tachyphonus*	*delatrii*	1	2	1	0	0	0	0	0	1	6.31
Thraupidae	*Tachyphonus*	*luctuosus*	4	3	0	0	0	0	0	0	1	6.19
Thraupidae	*Tachyphonus*	*phoenicius*	4	3	1	1	1	1	1	0	1	5.43
Thraupidae	*Tachyphonus*	*rufiventer*	4	2	1	0	0	0	0	0	1	6.00
Thraupidae	*Tachyphonus*	*rufus*	4	2	1	0	1	0	0	0	1	5.97
Thraupidae	*Tachyphonus*	*surinamus*	4	2	1	0	1	0	1	0	1	6.85
Thraupidae	*Tangara*	*argyrofenges*	2	3	0	1	0	0	0	0	1	4.03
Thraupidae	*Tangara*	*arthus*	1	2	1	1	1	1	1	0	0	3.42
Thraupidae	*Tangara*	*cabanisi*	4u	4u	1u	1u	1u	1u	1u	1u	0	—
Thraupidae	*Tangara*	*callophrys*	4	—	1	—	1	—	1	—	0	—
Thraupidae	*Tangara*	*cayana*	2	2	0	0	0	0	0	0	1	2.11
Thraupidae	*Tangara*	*chilensis*	4	4	1	1	1	1	1	1	0	4.08
Thraupidae	*Tangara*	*chrysotis*	2	2	0	1	0	0	0	0	0	7.42
Thraupidae	*Tangara*	*cucullata*	2	2	1	0	0	0	0	0	1	2.97
Thraupidae	*Tangara*	*cyanicollis*	4	4	1	1	1	1	0	0	1	6.12
Thraupidae	*Tangara*	*cyanocephala*	4	4	1	1	1	1	0	0	1	5.22
Thraupidae	*Tangara*	*cyanoptera*	3	3	1	1	0	1	1	0	1	6.67
Thraupidae	*Tangara*	*cyanotis*	4	4	0	0	0	0	0	1	0	2.57
Thraupidae	*Tangara*	*cyanoventris*	4	4	1	1	1	1	0	0	0	2.33
Thraupidae	*Tangara*	*desmaresti*	4	4	1	1	1	1	1	0	0	2.95
Thraupidae	*Tangara*	*dowii*	4	3	1	0	0	0	0	0	0	3.56
Thraupidae	*Tangara*	*fastuosa*	4	4	1	1	1	1	1	1	0	2.91
Thraupidae	*Tangara*	*florida*	3	3	1	1	1	1	0	0	1	7.44
Thraupidae	*Tangara*	*fucosa*	4	—	0	—	0	—	0	—	0	—
Thraupidae	*Tangara*	*guttata*	4	4	1	1	1	1	0	0	0	2.61
Thraupidae	*Tangara*	*gyrola*	4	4	1	1	1	1	0	0	1	7.36
Thraupidae	*Tangara*	*heinei*	2	2	0	0	0	0	0	0	1	5.78
Thraupidae	*Tangara*	*icterocephala*	2	2	1	1	1	1	0	0	0	4.08
Thraupidae	*Tangara*	*inornata*	4	4	1	1	1	1	1	0	0	3.75
Thraupidae	*Tangara*	*johannae*	4	4	1	1	1	1	0	0	0	4.40
Thraupidae	*Tangara*	*labradorides*	3	2	0	0	0	0	0	0	0	3.69
Thraupidae	*Tangara*	*larvata*	4	4	1	1	1	1	1	1	0	4.13
Thraupidae	*Tangara*	*lavinia*	4	4	1	1	1	1	0	0	1	5.27
Thraupidae	*Tangara*	*mexicana*	4	4	1	1	1	1	1	1	0	2.13
Thraupidae	*Tangara*	*nigrocincta*	4	4	0	1	0	1	0	0	0	5.33
Thraupidae	*Tangara*	*nigroviridis*	3	3	1	0	0	0	0	0	0	1.86
Thraupidae	*Tangara*	*palmeri*	4	4	1	1	1	0	0	1	0	2.36
Thraupidae	*Tangara*	*parzudakii*	3	2	1	0	0	0	0	0	0	10.48

(*continued*)

TABLE S1. Continued.

Clade	Genus	Species	UV Reflectance Percentage Male	UV Reflectance Percentage Female	Peak UV >5% Male	Peak UV >5% Female	Peak UV >10% Male	Peak UV >10% Female	Max UV Male	Max UV Female	Human Perceived Dichromatism	Highest ΔS
Thraupidae	*Tangara*	*peruviana*	3	3	1	0	0	0	0	0	1	5.88
Thraupidae	*Tangara*	*phillipsi*	2	3	0	1	0	0	0	0	1	7.32
Thraupidae	*Tangara*	*preciosa*	3	3	0	0	0	0	0	0	1	5.56
Thraupidae	*Tangara*	*punctata*	4	4	1	1	1	1	0	0	0	1.65
Thraupidae	*Tangara*	*ruficervix*	4	4	1	1	1	1	0	0	0	5.91
Thraupidae	*Tangara*	*rufigenis*	3	3	1	0	0	0	0	0	0	2.02
Thraupidae	*Tangara*	*rufigula*	3	3	1	1	0	0	0	0	0	1.63
Thraupidae	*Tangara*	*schrankii*	3	3	1	1	1	0	0	0	1	5.11
Thraupidae	*Tangara*	*seledon*	4	4	1	1	1	1	0	0	0	7.95
Thraupidae	*Tangara*	*varia*	4	3	1	1	1	1	0	0	1	4.51
Thraupidae	*Tangara*	*vassorii*	4	4	1	0	1	0	1	1	0	3.31
Thraupidae	*Tangara*	*velia*	4	4	0	1	0	0	0	1	0	5.82
Thraupidae	*Tangara*	*viridicollis*	2	2	0	1	0	0	1	0	1	8.22
Thraupidae	*Tangara*	*vitriolina*	3	3	1	0	0	0	0	0	0	2.73
Thraupidae	*Tangara*	*xanthocephala*	3	3	1	1	1	1	0	0	0	1.89
Thraupidae	*Tangara*	*xanthogastra*	4	4	1	1	1	1	0	0	0	2.46
Thraupidae	*Tersina*	*viridis*	4	4	1	1	1	1	1	0	1	5.46
Thraupidae	*Thlypopsis*	*fulviceps*	4	4	0	0	0	0	0	0	0	2.37
Thraupidae	*Thlypopsis*	*inornata*	2	2	0	0	0	0	0	0	0	1.27
Thraupidae	*Thlypopsis*	*ornata*	4	4	0	1	0	0	0	0	0	2.12
Thraupidae	*Thlypopsis*	*pectoralis*	3	3	0	0	0	0	0	0	0	4.03
Thraupidae	*Thlypopsis*	*ruficeps*	3	3	1	1	1	1	0	0	0	2.01
Thraupidae	*Thlypopsis*	*sordida*	3	3	1	1	1	0	0	0	0	1.90
Thraupidae	*Thraupis*	*abbas*	4	4	1	1	1	1	1	1	0	2.89
Thraupidae	*Thraupis*	*bonariensis*	3	3	1	0	1	0	0	0	1	6.80
Thraupidae	*Thraupis*	*cyanocephala*	4	4	1	1	1	1	1	1	0	3.61
Thraupidae	*Thraupis*	*cyanoptera*	4	4	1	1	1	1	0	1	0	2.44
Thraupidae	*Thraupis*	*episcopus*	4	4	1	1	0	1	0	0	0	1.71
Thraupidae	*Thraupis*	*glaucocolpa*	4	4	1	1	0	0	0	0	0	1.20
Thraupidae	*Thraupis*	*ornata*	4	4	1	1	1	1	1	1	0	3.44
Thraupidae	*Thraupis*	*palmarum*	4	3	1	1	1	1	1	1	1	2.59
Thraupidae	*Thraupis*	*sayaca*	4	3	1	1	1	1	0	0	0	1.91
Thraupidae	*Tiaris*	*bicolor*	2	3	1	0	0	0	0	0	1	1.61
Thraupidae	*Tiaris*	*canorus*	3	3	1	1	1	1	0	0	1	1.87
Thraupidae	*Tiaris*	*fuliginosus*	2	3	1	0	0	0	0	0	1	2.90
Thraupidae	*Tiaris*	*obscurus*	3	4	0	0	0	0	0	0	0	1.53
Thraupidae	*Tiaris*	*olivaceus*	2	3	1	1	1	1	0	0	1	3.12
Thraupidae	*Trichothraupis*	*melanops*	2	2	1	1	0	1	0	0	1	4.06
Thraupidae	*Urothraupis*	*stolzmanni*	3	3	0	0	0	0	0	0	0	1.72
Thraupidae	*Volatinia*	*jacarina*	1	3	0	1	0	0	1	0	1	6.26
Thraupidae	*Wetmorethraupis*	*sterrhopteron*	4u	4u	1u	1u	1u	1u	1u	1u	0	—
Thraupidae	*Xenodacnis*	*parina*	2	3	0	1	0	1	0	1	0	7.45
Thraupidae	*Xenospingus*	*concolor*	3	2	0	1	0	0	0	0	0	0.93

The percentage of UV reflectance (mean reflectance between 340 and 380 nm) is reported for the most UV reflective patch.
Percentage reflectance is indicated on a scale of 1 to 4, with 1 meaning reflectance <5, 2 meaning reflectance ≥ 5 and < 10, 3 meaning reflectance ≥ 10 and < 20, and 4 meaning reflectance > 20.
A "u" next to one of these numbers indicates that the specimen measured was of unknown sex.
A 1 indicates the presence and 0 indicates the absence of Peak UV > 10% and Max UV.
A 1 indicates a human perceived dichromatic species, and a 0 indicates a human perceived monochromatic species.
A "-" indicates that there was no specimen available to measure, or that avian-perceived sexual dichromatism could not be calculated.
Species-level taxonomy largely follows Clements checklist of birds of the world, vers. 6.5, except we also report data for the following species not currently recognized by this taxonomy:
Sporophila melanops, Sporophila insulata, Sicalis luteiventris, Poospiza whitii
Missing species: Ramphocelus costaricensis, Loxigilla barbadensis, Poospiza cabanisi, Conirostrum tamarugense, Conothraupis mesoleuca, Nemosia rourei, Oryzoborus atrirostris, Oryzoborus funereus, Poospiza rubecula, Saltator stratipectus, Sporophila falcirostris, Sporophila murallae, Sporophila nigrorufa, Sporophila palustris, Tangara meyerdeschauenseei, and Amaurospiza carrizalensis

Node	ML Estimate	95% CI
26	5.95	4.32-7.57
27	5.90	4.58-7.23
28	5.90	4.65-7.14
29	5.90	4.65-7.15
30	6.48	5.15-7.81
31	5.79	4.49-7.09
32	4.18	2.78-5.57
33	6.08	4.68-7.48
34	7.52	6.25-8.79
35	7.14	5.86-8.41
36	7.56	7.08-8.04
37	5.89	4.47-7.30
38	5.82	4.43-7.21
39	5.77	4.41-7.13
40	6.06	4.73-7.39
41	6.11	4.78-7.44
42	7.71	6.57-8.84
43	7.15	6.41-7.89
44	7.71	6.97-8.44
45	7.31	6.87-7.75
46	6.60	6.00-7.20
47	9.00	8.00-10.0(
48	6.05	4.74-7.36
49	6.34	5.11-7.57

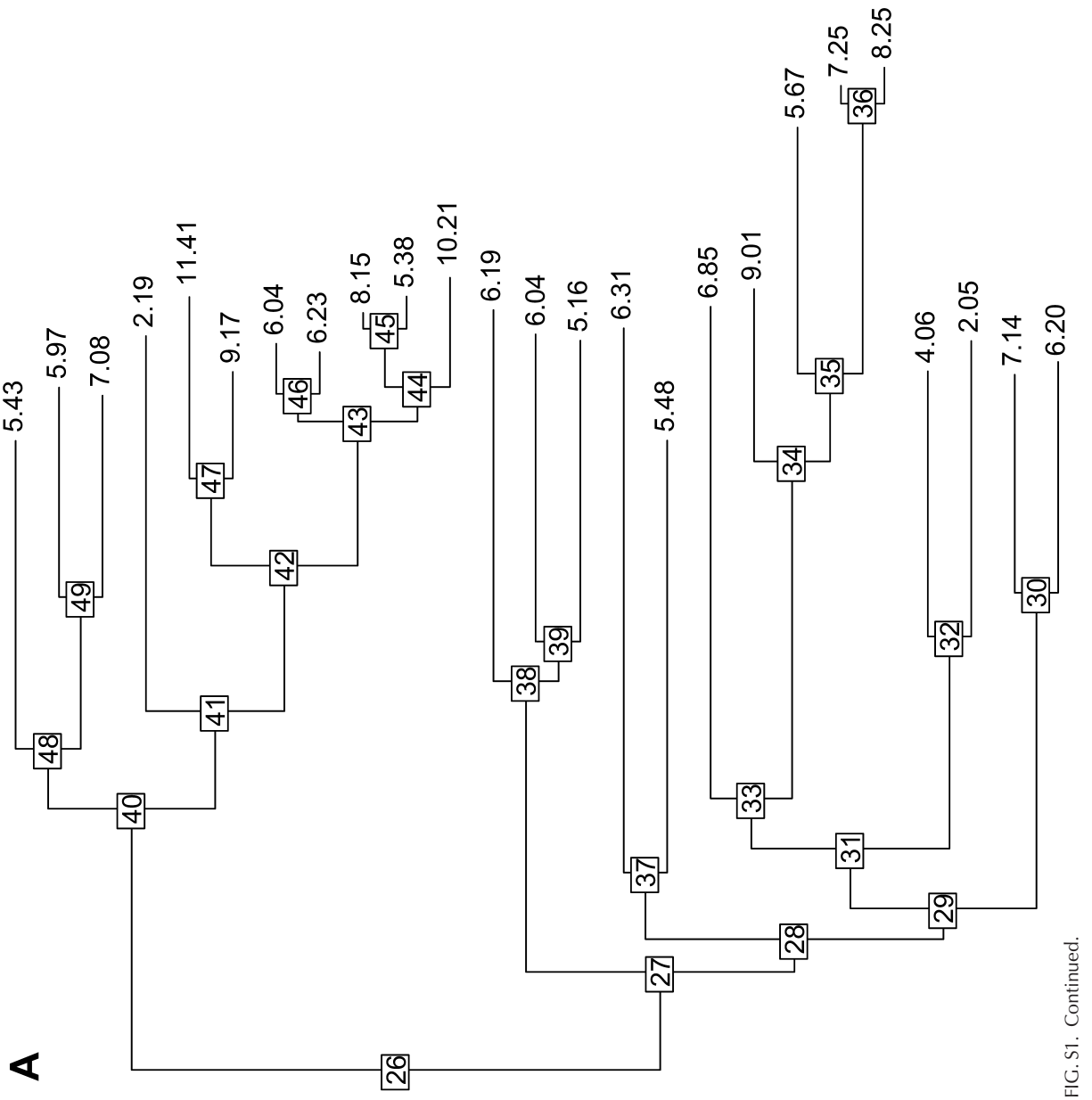
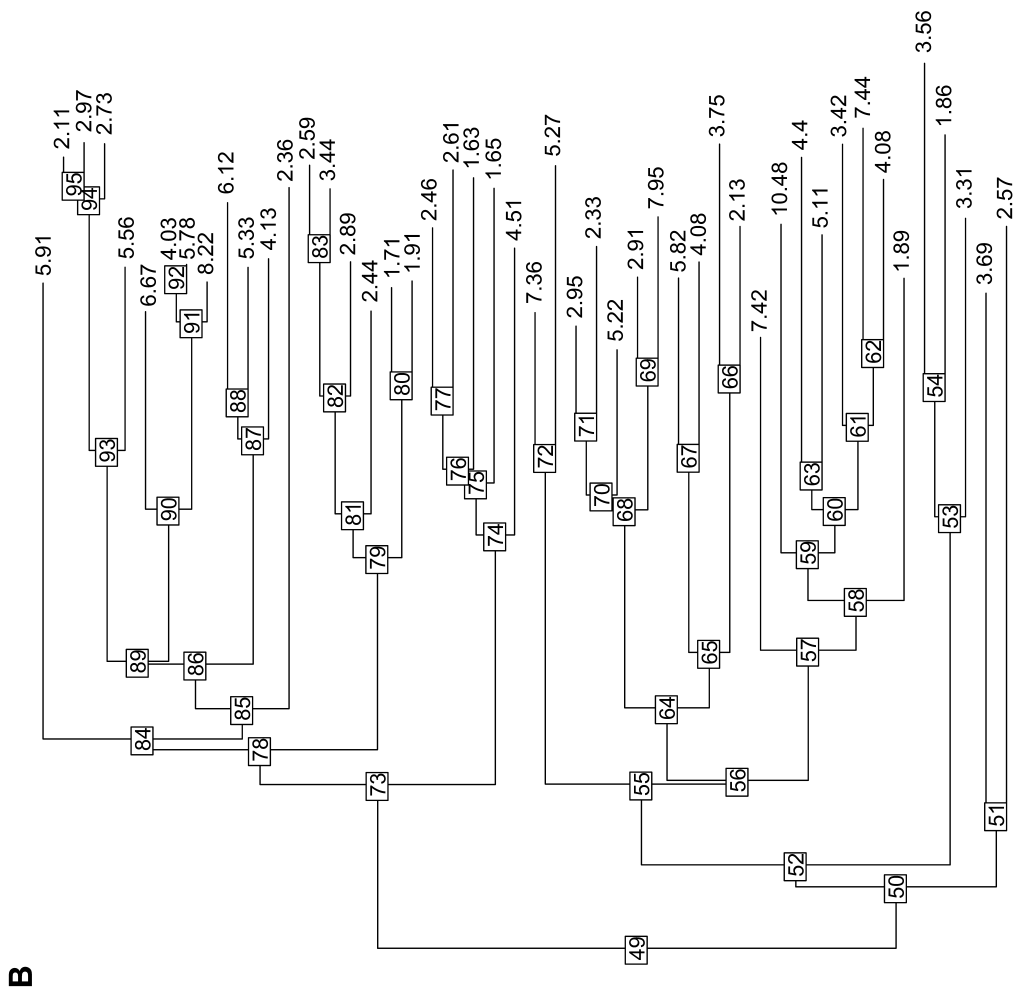


FIG. S1. Continued.



Node	ML Estimate	95% CI
49	4.09	2.80-5.39
50	4.14	3.00-5.28
51	3.94	2.61-5.27
52	4.21	3.09-5.33
53	3.30	1.96-4.65
54	2.96	1.69-4.24
55	4.70	3.69-5.72
56	4.71	3.70-5.72
57	5.34	4.27-6.41
58	5.24	4.21-6.27
59	5.64	4.64-6.65
60	5.37	4.40-6.35
61	5.09	4.05-6.13
62	5.28	4.26-6.31
63	5.26	4.22-6.29
64	4.47	3.40-5.54
65	4.36	3.20-5.51
66	3.16	2.05-4.27
67	4.79	3.70-5.89
68	4.25	3.34-5.16
69	4.66	3.79-5.53
70	4.19	3.32-5.07
71	3.42	2.57-4.28
72	6.21	5.07-7.36
73	3.98	2.90-5.06
74	3.15	2.04-4.25
75	2.73	1.72-3.74
76	2.67	1.67-3.67
77	2.61	1.59-3.62
78	4.08	3.08-5.07
79	2.89	1.84-3.94
80	2.05	1.21-2.89
81	2.83	1.81-3.86
82	2.92	1.95-3.89
83	3.06	2.35-3.76
84	4.17	3.17-5.16
85	4.31	3.31-5.32
86	4.68	3.69-5.68
87	4.96	3.98-5.95
88	5.19	4.25-6.12
89	4.70	3.71-5.70
90	5.86	4.78-6.95
91	6.51	5.92-7.09
92	4.77	4.51-5.03
93	4.47	3.32-5.62
94	2.69	2.13-3.25
95	2.58	2.11-3.05

Fig. S1. Ancestral state reconstruction of sexual dichromatism using maximum likelihood for (A) the *Ramphocelus* and allies clade and (B) the *Tangara* clade. ΔS values are shown at the tips of the phylogeny, and identification numbers are given at the nodes. Maximum likelihood estimates and 95% confidence intervals associated with these numbers are given in corresponding tables next to each phylogeny.