

SUPPLEMENTARY MATERIAL ONLINE

Sainz-Borgo, C. et al. (2018) On the adaptive characteristics of bird flocks: small birds form mixed flocks. *Ornitología Neotropical* 29: 289–296.

Table 1S. Average body mass of bird species included in the review (MF: mixed flock, MoF: monospecific flock, L: solitary or in pairs). W_{MF} : average mass of species that form mixed flocks, W_{MoF} : average mass of species that form monospecific flocks. Body masses and kinds of social behavior (MF, MoF, or L) were obtained from: Vuilleumier (1967), Greig-Smith (1978), Leck (1972), Morton (1979), Gochfeld & Burger (1981), Székely (1984), Sullivan (1984), Pearson 1989, Székely et al. (1989), With et al. (1990), Mahon et al. (1992), Hutto (1994), Gochfeld & Burger (1981), Metcalfe (1984), Hino (2000), Ragusa-Netto (2000), Ramos (2000), Kubota & Nakamura (2000), Nakamura & Shindo (2001), Hilty (2003), Bohórquez (2003), Remsen (2003 a, b), Remsen & Kirwan (2003) Marantz et al. (2003), Fitzpatrick et al. (2004), Mobley (2004), Snow (2004), Farnsworth & Lebbin (2004 a, b), Kroodsmá & Brewer (2005), Collar (2005), Hunt et al. (2005), Monticelli et al. (2006), Moeliker (2006), Gosler & Clement (2007), Canales-Delgadillo et al. (2008), Craig & Feare (2009), Arbelaez-Cortez et al. (2011), Hilty (2011 a, b, c), Brewer (2010), Brewer (2010), Rising (2011), Gochfeld et al. 2013, Jolles et al. (2013), Pizo (2013), Christie & de Juana (2014), Collar & Christie (2014), Donald & de Juana (2014), Farnsworth et al. (2014), Fitzpatrick et al. (2014), Remsen & Bonan (2014), Remsen & Kirwan (2014), Rising & Christie (2014), Hilty & de Juana (2015), Rao et al. (2015), Remsen & Kirwan (2015), Payne & Kirwan (2015), Winker et al. (2015).

| Family | N of genera by family | N of species by family | Body mass (g) | WMF/WMoF |
|------------------------|--------------------------|---------------------------|------------------|----------|
| Phalacrocoracidae | 1 | 1 | 2000 | |
| Anatidae (MoF) | 8 | 16 | 784.12 | |
| Cracidae (MoF) | 3 | 11 | 12015 | |
| Procellariidae (L) | 1 | 1 | 900 | |
| Ardeidae (L) | 1 | 3 | 459 | |
| Rallidae (L) | 1 | 1 | 85 | |
| Scolopacidae (L) | 3 | 3 | 136 | |
| Scolopacidae (MoF) | 5 | 9 | 60 | |
| Scolopacidae (MF) | 2 | 2 | 115 | 1.92 |
| Recurvirostridae (MoF) | 1 | 1 | 165 | |
| Alcidae (MF) | 4 | 6 | 346 | 0.35 |
| Alcidae (MoF) | 4 | 4 | 985 | |
| Laridae (MoF) | 3 | 8 | 115.87 | |
| Laridae (MF) | 6 | 7 | 471.53 | 3.82 |
| Columbidae (L) | 6 | 11 | 152 | |
| Columbidae (MoF) | 5 | 14 | 144.69 | |
| Columbidae (MF) | 5 | 11 | 64.75 | 0.33 |
| Musophagidae (MF) | 1 | 1 | 230 | |
| Leptosomidae (LF) | 1 | 1 | 250 | |
| Trogonidae (L) | 29 | 7 | 91.31 | 0.79 |
| Upupidae (L) | 1 | 1 | 70 | |
| Cuculidae (L) | 4 | 7 | 52.14 | |
| Cuculidae (MoF) | 2 | 5 | 88.6 | |
| Cuculidae (MF) | 4 | 4 | 82.25 | 0.97 |
| Apodidae (MoF) | 3 | 3 | 68.6 | |
| Trochilidae (L) | 12 | 14 | 6.56 | |
| Trochilidae (MoF) | 4 | 4 | 5.77 | 0.85 |
| Trochilidae (MF) | 5 | 5 | 4.54 | |
| Coraciidae (MoF) | 1 | 1 | 145 | |
| Coliidae (MoF) | 1 | 4 | 60 | |
| Meropidae (MoF) | 1 | 2 | 54.5 | |

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|-------------------------|----|----|--------|------|
| Bucerotidae (MF) | 1 | 2 | 70 | 1.35 |
| Momotidae (L) | 4 | 13 | 112.31 | |
| Bucconidae (L) | 4 | 10 | 53 | |
| Lybiidae (LF) | 1 | 1 | 50 | |
| Megalaimidae (MF) | 1 | 1 | 40 | |
| Capitonidae (MF) | 1 | 1 | 37 | |
| Picidae (L) nearctic | 5 | 10 | 68.72 | |
| Picidae (L) neotropical | 4 | 6 | 128.74 | |
| Picidae (MoF) | 1 | 1 | 58 | |
| Picidae (MF) | 4 | 20 | 52.22 | 0.45 |
| Pandionidae (L) | 1 | 1 | 1550 | |
| Psittacidae (L) | 1 | 1 | 250 | |
| Psittacidae (MoF) | 17 | 42 | 170.91 | |
| Psittacidae (MF) | 8 | 10 | 127.35 | 0.75 |
| Philepittidae (MF) | 1 | 2 | 9.33 | |
| Formicariidae (MoF) | 2 | 7 | 64.58 | |
| Pittidae (L) | 1 | 21 | 102.14 | |
| Furnariidae (L) | 16 | 23 | 30.47 | |
| Furnariidae (MoF) | 2 | 2 | 20 | |
| Furnariidae (MF) | 24 | 61 | 35 | 1.29 |
| Tyrannidae (L) | 13 | 20 | 13.08 | |
| Tyrannidae (MoF) | 9 | 14 | 24.8 | |
| Tyrannidae (MF) | 37 | 77 | 13.82 | 1.03 |
| Tityridae (MF) | 1 | 1 | 16 | |
| Platysteiridae (L) | 1 | 1 | 25 | |
| Pomatostomidae (L) | 1 | 1 | 40 | |
| Pomatostomidae (MoF) | 1 | 4 | 50.75 | |
| Epthianuridae (MoF) | 1 | 4 | 11.25 | |
| Pachycephalidae (L) | 4 | 6 | 27.83 | |
| Pachycephalidae (MF) | 8 | 8 | 38.25 | 1.37 |
| Laniidae (L) | 1 | 3 | 39.67 | |
| Cotingidae (L) | 6 | 8 | 84.93 | |
| Cotingidae (MoF) | 7 | 7 | 178.29 | |
| Cotingidae (MF) | 3 | 5 | 64.75 | 0.54 |
| Artamidae (MF) | 1 | 4 | 18 | 0.80 |
| Cracticidae (L) | 4 | 1 | 127 | |
| Neosittidae (L) | 1 | 1 | 11 | |
| Menuridae (L) | 1 | 2 | 965 | |
| Malaconotidae (L) | 1 | 1 | 130 | |
| Ptilonorhynchidae (L) | 6 | 21 | 154.76 | |
| Climacteridae (MF) | 1 | 1 | 20 | |
| Maluridae (MF) | 2 | 2 | 13 | |
| Pardalotidae (MF) | 1 | 2 | 11 | |
| Meliphagidae (MF) | 3 | 5 | 21.7 | |
| Acanthizidae (MF) | 4 | 7 | 8.3 | |
| Vangidae (MF) | 2 | 2 | 24 | |
| Orthonychidae (L) | 1 | 1 | 65 | |
| Campephagidae (MF) | 4 | 9 | 26 | 0.16 |
| Vireonidae (MF) | 5 | 20 | 14.19 | |
| Oriolidae (MF) | 1 | 1 | 70 | |

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|-------------------------|---|----|-------|------|
| Dicruridae (MF) | 3 | 14 | 51 | |
| Grallinidae (MoF) | 1 | 1 | 230 | |
| Grallaridae (L) | 1 | 7 | 78 | |
| Rhinocryptidae (L) | 2 | 4 | 18.75 | |
| Monarchidae (MF) | 2 | 6 | 52.83 | |
| Corvidae (MoF) | 7 | 15 | 283.4 | |
| Corvidae (MF) | 1 | 2 | 255 | 0.63 |
| Alaudidae (L) | 1 | 1 | 40 | |
| Hirundinidae (MoF) | 4 | 5 | 21 | |
| Eupetidae (MoF) | 2 | 3 | 86.67 | |
| Corcoracidae (MF) | 2 | 2 | 195 | |
| Petroicidae (MF) | 2 | 4 | 15.38 | |
| Paridae (MF) | 3 | 20 | 19.4 | |
| Remizidae (MF) | 1 | 1 | 7 | |
| Aegithalidae (MF) | 3 | 3 | 6 | |
| Sittidae (MF) | 1 | 8 | 13.93 | |
| Picathartidae (L) | 1 | 2 | 225 | |
| Certhiidae (MF) | 2 | 9 | 9.5 | 0.10 |
| Tichodromadidae (L) | 1 | 1 | 15 | |
| Troglodytidae (L) | 8 | 14 | 20.01 | |
| Troglodytidae (MoF) | 2 | 2 | 18 | |
| Troglodytidae (MF) | 3 | 3 | 22.1 | 1.06 |
| Cinclidae (L) | 1 | 2 | 55 | |
| Pycnonotidae (L) | 1 | 4 | 49.5 | |
| Pycnonotidae (MF) | 7 | 12 | 28.58 | 0.67 |
| Regulidae (MF) | 1 | 2 | 6.8 | |
| Irenidae (MF) | 1 | 1 | 68 | |
| Zosteropidae (L) | 1 | 1 | 8 | |
| Zosteropidae (MF) | 1 | 6 | 10.33 | |
| Acrocephalidae (L) | 1 | 1 | 27 | |
| Sylviidae (MF) | 4 | 8 | 9.31 | 0.77 |
| Timaliidae (L) | 4 | 5 | 37.98 | |
| Timaliidae (MF) | 6 | 9 | 38.19 | 1.46 |
| Paradoxornithidae (MoF) | 1 | 1 | 11 | |
| Paradoxornithidae (MF) | 2 | 15 | 17.75 | 0.47 |
| Leiothrichidae (MF) | 1 | 1 | 21 | |
| Donacobidae (L) | 1 | 1 | 33 | |
| Turdidae (L) | 3 | 3 | 80.67 | |
| Turdidae (MoF) | 2 | 2 | 68 | |
| Turdidae (MF) | 4 | 10 | 77.05 | 1.13 |
| Chloropseidae (MF) | 1 | 2 | 46 | |
| Sturnidae (MF) | 1 | 1 | 74 | |
| Nectariniidae (L) | 1 | 1 | 8 | |
| Nectariniidae (MF) | 5 | 18 | 11.56 | |
| Dulidae (MF) | 1 | 1 | 46 | |
| Peucedramidae (MF) | 1 | 1 | 11 | |
| Prunellidae (MF) | 1 | 11 | 21.91 | |
| Muscicapidae (L) | 1 | 1 | 30 | |
| Muscicapidae (MF) | 7 | 11 | 13.18 | |
| Motacillidae (LF) | 1 | 1 | 20 | |

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|--------------------------------|----|----|--------|------|
| Motacillidae (MoF) | 1 | 1 | 21 | |
| Motacillidae (MF) | 1 | 1 | 30 | 1.43 |
| Thraupidae (MoF) | 4 | 11 | 31.7 | |
| Thraupidae (MF) | 16 | 36 | 21.51 | 0.68 |
| Emberizidae (L) | 1 | 4 | 35.75 | |
| Emberizidae (Mo) | 3 | 4 | 55.25 | |
| Emberizidae (MF) | 5 | 9 | 18.6 | 0.34 |
| Cardinalidae (L) | 2 | 2 | 46.5 | |
| Cardinalidae (Mo) | 3 | 4 | 36.25 | |
| Cardinalidae (MF) | 2 | 2 | 29.5 | 0.81 |
| Parulidae (MF) Nearctic | 13 | 40 | 10.02 | |
| Parulidae (MF) Neotropical | 3 | 15 | 12 | |
| Icteridae (MoF) Neotropical | 2 | 4 | 117.08 | |
| Icteridae (MoF) migratory | 2 | 2 | 35 | |
| Icteridae (MoF) Nearctic | 6 | 11 | 86.63 | |
| Icteridae (MF) Nearctic | 2 | 4 | 43.75 | 4.37 |
| Icteridae (MF) Neotropical | 2 | 4 | 159.67 | 1.84 |
| Fringillidae (MF) | 1 | 9 | 13.4 | 1.13 |
| Fringillidae (MoF) | 4 | 8 | 11 | |
| Passeridae (MoF) | 1 | 1 | 30 | |
| Ploceidae (MoF) | 1 | 1 | 9.33 | |
| Estrildidae (MoF) | 3 | 3 | 14 | |
| Estrildidae (MF) | 1 | 1 | 12 | 0.86 |