Sex-bias coalitions results

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Contrary to our first prediction, females did not cooperate more in within-group coalitions than males (Fig. 1, Model 1, see also supplement). In fact, the probability of a female bias in coalitions (median = 0.28, 90% credible interval = 0.07 – 0.54) was virtually the same as the probability of a male bias (0.28, 0.05 – 0.55) and the most likely state was unbiased coalition formation (0.38, 0.17 – 0.58). Thus, only 51% of the posterior probability supports our prediction of female bias being more likely than male bias, and none of the three possible states was greater than chance (female bias: 39%; male bias: 39%; unbiased: 66%). The phylogenetic signal was weak (median λ = 0.11, 90% CI = 0.04 – 0.2)). This general pattern did not change appreciably when comparing species living in mixed-sex groups (n = 46 species) with sex-segregated ones (n = 4 species; Model 2), or primates (n= 33 species) with non-primates (n= 17 species; Model 3). Specifically, the odds of female bias and male bias were essentially the same in sex-segregated species compared to mixed-sex species (female bias: median odds ratio = 1.07, 90% CI = 0.31 - 2.04, probability OR>1 = 56%; male bias: median OR = 1.15, 90% CI = 0.35 - 2.22, probability OR>1 = 61%) or primates compared to non-primates (female bias: median odds ratio = 0.82, 90% CI = 0.27 - 1.6, probability OR>1 = 34%; male bias: median OR = 0.87, 90% CI = 0.26 - 1.68, probability OR>1 = 39%). We therefore did not stratify our subsequent analyses by these variables. To test our socio-ecological predictors we included philopatry, sexual dimorphism, and food defensibility in the same model (Model 4). As a robustness check, we also modeled each of these competing causes on its own. Contra our predictions, the probability of female-biased coalitions was not greater in female philopatric species, compared to species where both sexes disperse (OR = 1.49, 90% CI = 0.5 - 2.7, probability OR>1 = 82%), nor in species with defensible food resources compared to species with non-defensible food resources (OR = 1.21, 90% CI = 0.43 - 2.22, probability OR>1 = 67%). Male bias in coalitions was also not greater in species with male philopatry compared to species in which both sexes disperse (OR = 1.08, 90% CI = 0.37 - 2.04, probability OR>1 = 56%); however, as predicted the probability of male bias did increase with increasing sexual dimorphism (OR for 1SD change in dimorphism = 1.73, 90% CI = 0.77 - 2.92, probability OR>1 = 93%).