APPENDIX C: DISADVANTAGE OF SOLITARY BREEDING

Figure C1 shows stable conflict efforts ($x$, $y$) as a function of $\lambda$, the disadvantage of solitary breeding. We find that the level of within-group conflict increases as $\lambda$ decreases, i.e., as the future fitness associated with becoming a lone breeder decreases. Thus decreased future fitness selects for higher levels of (current) conflict. This effect is opposed, however, by the negative fitness consequences conflict has on survival. As a consequence, if selection against conflict is strong (and the level of conflict low, e.g., if relatedness and/or survival is high), the effect of $\lambda$ becomes negligible.

Qualitatively similar results are obtained if lone breeders suffer from reduced survival rather than from reduced resource value.

**Figure C1.** Stable conflict efforts of dominants ($x$, solid line) and subordinates ($y$, dashed line) as a function of $\lambda$ for different levels of relatedness ($r$, as indicated). In panel (a), $S_B = 0.5$, in panel (b), $S_B = 0.7$. In both panels, $a = 0.5$, $b = 0.5$. 