Andresen E, and Feer F (2005) The role of dung beetles as secondary seed dispersers and their effect on plant regeneration in tropical rainforests. In: Forget PM, Lambert JE, Hulme PE, and Vander Wall SB (eds.) *Seed Fate: Predation, Dispersal and Seedling Establishment.* CAB International, Wallingford, UK, pp 331-350

Bates D, Maechler M, Bolker B, and Walker S (2015) Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software* 67:1-48

Cambefort Y (1991) Dung beetles in tropical savannas. In: Hanski I, and Camberfort Y (eds.) *Dung Beetle Ecology*. Princeton University Press, Princeton, New Jersey, pp156-178

Davis AJ, Holloway JD, Huijbregts H, Krikken J, Kirk-Spriggs AH, and Sutton SL (2001) Dung beetles as indicators of change in the forests of northern Borneo. *J. Appl. Ecol.* 38:593–616

Davis ALV, Scholtz CH, Dooley PW, Bham N, and Kryger U (2004) Scarabaeine dung beetles as indicators of biodiversity, habitat transformation and pest control chemicals in agro-ecosystems. *South African Journal of Science* 100:415-424

Finn JA, and Gittings T (2003) A review of competition in north temperate dung beetle communities. *Ecological Entomology* 28:1-13

Giller PS, and Doube BM (1989) Experimental Analysis of Inter- and Intraspecific Competition in Dung Beetle Communities. *Journal of Animal Ecology* 58:129-142

Hanski I, and Camberfort Y (1991) *Dung Beetle Ecology*. Princeton Univeristy Press, Princeton, New Jersey

Hawkins CP, and MacMahon JA (1989) Guilds – the multiple meanings of a concept. *Annual Review of Entomology* 34:423-451

Hothorn T, Bretz F, and Westfall F (2008) Simultaneous Inference in General Parametric Models. *Biometrical Journal* 50(3):346-363

Krell F, Krell-Westerwalbesloh S, Weiß I, Eggleton P, and Linsenmair KE (2003) Spatial separation of Afrotropical dung beetle guilds: a trade-off between competitive superiority and energetic constraints (Coleoptera: Scarabaeidae). *Ecography* 26:210–222

Krell-Westerwalbesloh S, Krell F, and Linsenmair KE (2004) Diel separation of Afrotropical dung beetle guilds - avoiding competition and neglecting resources (Coleoptera: Scarabaeoidea). *Journal of Natural History* 38:2225-2249

Lesnoff M, and R Lancelot (2012) aod: Analysis of Overdispersed Data. R package version 1.3. URL: http://cran.r-project.org/package=aod

Lenth RV (2016) Least-Squares Means: The R Package lsmeans. *Journal of Statistical Software* 69:1-33.

Nummelin M, and Hanski I (1989) Dung beetles of the Kibale Forest, Uganda; comparison between virgin and managed forests. *Journal of Tropical Ecology* 5:349-352

R Core Team (2015) R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/

Root RB (1967) The niche exploration pattern of the blue-gray gnatcatcher. *Ecological Monographs* 37:317-350

Sánchez-de-Jesús HA, Arroyo-Rodríguez V, Andresen E, and Escobar E, (2015) Forest loss and matrix composition are the major drivers shaping dung beetle assemblages in a fragmented rainforest. *Landscape Ecology* 31:843-854.

da Silva PG, and Hernández MIM (2014) Local and Regional Effects on Community Structure of Dung Beetles in a Mainland-Island Scenario. *PLoS ONE* 9:e111883

Simmons LW, and Ridsdill-Smith TJ (2011) *Ecology and Evolution of Dung Beetles*. Wiley-Blackwell. Chichester, UK

Slade EM, Mann DJ, Villanueva JF, and Lewis OT (2007) Experimental evidence for the effects of dung beetle functional group richness and composition on ecosystem function in a tropical forest. *Journal of Animal Ecology* 76:1094-1104

Wickham H (2009) *ggplot2: elegant graphics for data analysis*. Springer, New York