

# JCU ePrints

This file is part of the following reference:

**Pohlman, Catherine Louise (2006) *Internal fragmentation in the rainforest: edge effects of highways, powerlines and watercourses on tropical rainforest understorey microclimate, vegetation structure and composition, physical disturbance and seedling regeneration*. PhD thesis, James Cook University.**

Access to this file is available from:

<http://eprints.jcu.edu.au/1349>

## 10. References

- Aide, T.M., 1987, Limbfalls: A Major Cause of Sapling Mortality for Tropical Forest Plants. *Biotropica*, **19**: 284 – 285.
- Aguilar, R. and Galetto, L., 2004, Effects of forest fragmentation on male and female reproductive success in *Cestrum parqui* (Solanaceae). *Oecologia*, **138**: 513 – 520.
- Agyeman, V.K., Swaine, M.D. and Thompson, J., 1999, Responses of tropical forest tree seedlings to irradiance and the derivation of a light response index. *Journal of Ecology*, **87**: 815 – 827.
- Andrews, S.B., 1990, *Ferns of Queensland*. Queensland Department of Primary Industries, Brisbane, Australia
- Anderson, E.M. and Boutin, S., 2002, Edge effects on survival and behaviour of juvenile red squirrels (*Tamiasciurus hudsonicus*). *Canadian Journal of Zoology*, **80**: 1038 – 1046.
- Antongiovanni, M. and Metzger, J.P., 2005, Influence of matrix habitats on the occurrence of insectivorous bird species in Amazonian forest fragments. *Biological Conservation*, **122**: 441 – 451.
- Aponte, C., Barreto, G.R. and Terborgh, J., 2003, Consequences of Habitat Fragmentation on Age Structure and Life History in a Tortoise Population. *Biotropica*, **35**: 550 – 555.
- Armesto, J.J., Diaz, I., Papic, C. and Willson, M.F., 2001, Seed rain of fleshy and dry propagules in different habitats in the temperate rainforests of Chiloe Island, Chile. *Austral Ecology*, **26**: 311 – 320.
- Asquith, N.M. and Mejia-Chang, M., 2005, Mammals, edge effects, and the loss of tropical forest diversity. *Ecology*, **86**: 379 – 390.
- Asquith, N.M., Wright, S.J. and Clauss, M.J., 1997, Does mammal community composition control recruitment in neotropical forests? Evidence from Panama. *Ecology*, **78**: 941 – 946.
- Augspurger, C.K., 1984, Seedling survival of tropical tree species: interactions of dispersal distance, light-gaps, and pathogens. *Ecology*, **65**: 1705 – 1712.
- Baker, T.R., Swaine, M.D. and Burslem, D.F.R.P., 2003, Variation in tropical forest growth rates: combined effects of functional group composition and resource

- availability. *Perspectives in Plant Ecology, Evolution and Systematics*, **6**: 21 – 36.
- Bendix, J. and Hupp, C.R., 2000, Hydrological and geomorphological impacts on riparian plant communities. *Hydrological Processes*, **14**: 2977 – 2990.
- Benitez-Malvido, J., 1998, Impact of Forest Fragmentation on seedling abundance in a Tropical Rain Forest. *Conservation Biology*, **12**: 380 – 389.
- Benitez-Malvido, J., 2001, Regeneration in Tropical Rainforest Fragments. Chapter 11 in Bierregaard, R.O., Gascon, C., Lovejoy, T.E. and Mesquita, R.C.G., (eds), 2001, *Lessons from Amazonia, The Ecology and conservation of a fragmented forest*. Yale University Press, New Haven, pages 136 – 145.
- Benitez-Malvido, J. and Lemus-Albor, A., 2005, The Seedling Community of Tropical Rain Forest Edges and Its Interaction with Herbivores and Pathogens. *Biotropica*, **37**: 301 – 313.
- Benitez-Malvido, J. and Martinez-Ramos, M., 2003a, Impact of Forest Fragmentation on Understorey Plant Species Richness in Amazonia. *Conservation Biology*, **17**: 389 – 400.
- Benitez-Malvido, J. and Martinez-Ramos, M., 2003b, Influence of Edge Exposure on Tree Seedling Species Recruitment in Tropical Rain Forest Fragments. *Biotropica* **35**: 530 – 541.
- Beuer, P., Van Drielen, M. and Kankam, B.O., 2002, Avifaunal Collapse in West African Forest Fragments. *Conservation Biology*, **16**: 1097 – 1111.
- Bhattacharya, M., Primack, R.B. and Gerwein, J., 2003, Are roads and railroads barriers to bumblebee movement in a temperate suburban conservation area? *Biological Conservation*, **109**: 37 – 45.
- Bohlman, S. and O'Brien, S., 2006, Allometry, adult stature and regeneration requirement of 65 tree species on Barro Colorado Island, Panama. *Journal of Tropical Ecology*, **22**: 123 – 136.
- Bonell, M., Gilmour, D.A. and Cassells, D.S., 1983, Runoff generation in tropical rainforests of northeast Queensland, Australia, and the implications for land use management, in Keller, R., (ed.), 1983, *Hydrology of Humid Tropical Regions with Particular Reference to the Hydrological Effects of Agriculture and Forestry Practice (Proceedings of the Hamburg Symposium, August 1983)*. IAHS, Washington, pages 287 – 297.

- Brienen, R.J.W. and Zuidema, P.A., 2006, Lifetime growth patterns and ages of Bolivarian rain forest trees obtained by tree ring analysis. *Journal of Ecology*, **94**: 481 – 493.
- Briggs, J.D. and Leigh, J.J., 1995, *Rare or Threatened Australian Plants*. Revised Edition. CSIRO Publishing, Collingwood, Australia.
- Brokaw, N.V.L., 1985, Gap-phase regeneration in a tropical forest. *Ecology*, **66**: 682 – 687.
- Brokaw, N. and Busing, R.T., 2000, Niche versus chance and tree diversity in forest gaps. *Trends in Ecology and Evolution*, **15**: 183 – 188.
- Brosnoff, K., Chen, J., Naiman, R.J. and Franklin, J.F., 1997, Harvesting effects on microclimatic gradients from small streams to uplands in western Washington. *Ecological Applications*, **7**: 1188 – 1200.
- Brook, B.W., Sodhi, N.S. and Ng, P.K.L., 2003, Catastrophic extinctions follow deforestation in Singapore. *Nature*, **424**: 420 – 423.
- Brooks, T.M., Pimm, S.L. and Oyugi, J.O., 1999, Time Lag between Deforestation and Bird Extinction in Tropical Forest Fragments. *Conservation Biology*, **13**: 1140 – 1150.
- Bruna, E.M., 2002, Effects of forest fragmentation on *Heliconia acuminata* seedling recruitment in central Amazonia. *Oecologia*, **132**: 235 – 243.
- Bruna, E.M., Nardy, O., Strauss, S.Y. and Harrison, S., 2002, Experimental assessment of *Heliconia acuminata* growth in a fragmented Amazonian landscape. *Journal of Ecology*, **90**: 639 – 649.
- Bunker, D.E. and Carson, W.P., 2005, Drought stress and tropical forest woody seedlings: effect on community structure and composition. *Journal of Ecology*, **93**: 794 – 806.
- Burnett, S.E., 1992, Effects of a Rainforest Road on Movements of Small Mammals: Mechanisms and Implications. *Wildlife Research*, **19**: 95 – 104.
- Burton, P.J., 2002, Effects of clearcut edges on trees in the sub-boreal spruce zone of Northwest-Central British Columbia. *Silva Fennica*, **36**: 329 – 352.
- Cadenasso, M.K. and Pickett, S.T.A., 2000, Linking forest edge structure to edge function: mediation of herbivore damage. *Journal of Ecology*, **88**: 31 – 44.
- Cadenasso, M.L. and Pickett, S.T.A., 2001, Effect of Edge Structure on the Flux of Species into Forest Interiors, *Conservation Biology*, **15**: 91-97.

- Camargo, J.L.C. and Kapos, V., 1995, Complex edge effects on soil moisture and microclimate in central Amazonian forest. *Journal of Tropical Ecology*, **11**: 205 – 221.
- Capers, R.S. and Chazdon, R.L., 2004, Rapid assessment of understorey light availability in a wet tropical forest. *Agricultural and Forest Meteorology*, **123**: 177 – 185.
- Capers, R.S., Chazdon, R.L., Brenes, A.R. and Alvarado, B.V., 2005, Successional dynamics of woody seedling communities in wet tropical secondary forests. *Journal of Ecology*, **93**: 1071 – 1084.
- Cause, M.L., Rudder, E.J. and Kynaston, W.T., 1989, *Queensland Timbers: Their Nomenclature, Density and Lyctid-susceptibility*. Technical pamphlet no. 2, Queensland Department of Forestry, Queensland, Indooroopilly.
- Chauvet, S. and Forget, P., 2005, Edge effects on post-dispersal seed removal in a fragmented rain forest in French Guiana. *Journal of Tropical Ecology*, **21**: 113 – 116.
- Chave, J., Andalo, C., Brown, S., Cairns, M.A., Chambers, J.Q., Eamus, D., Folster, H., Fromard, F., Higuchi, N., Kira, T., Lescure, J.P., Nelson, B.W., Ogawa, H., Puig, H., Riera, B. and Yakamura, T., 2005, Tree allometry and improved estimation of carbon stocks and balance in tropical forests. *Oecologia*, **145**: 87 – 99.
- Chazdon, R.L., 2003, Tropical forest recovery: legacies of human impact and natural disturbances. *Perspectives in Plant Ecology, Evolution and Systematics*, **6**: 51 – 71.
- Chazdon, R.L. and Fetcher, N., 1984, Photosynthetic light environments in a lowland rain forest in Costa Rica. *Journal of Ecology*, **72**: 553 – 564.
- Chen, J., Franklin, J.F. and Spies, T.A., 1993, Contrasting microclimates among clearcut, edge, and interior of old-growth Douglas-fir forest. *Agricultural and Forest Meteorology*, **63**: 219 – 237.
- Chen, J., Franklin, J.F. and Spies, T.A., 1995, Growing-season microclimatic gradients from clearcut edges into old-growth Douglas-fir forests. *Ecological Applications*, **5**: 74 – 86.
- Christen, D. and Matlack, G., 2006, The Role of Roadsides in Plant Invasions: a Demographic Approach. *Conservation Biology*, **20**: 385 – 391.

- Clark, D.B. and Clark, D.A., 1989, The role of physical damage in the seedling mortality of a Neotropical rain forest. *Oikos*, **55**: 225 – 230.
- Clark, D.B. and Clark, D.A., 1991, The impact physical damage on canopy tree regeneration in tropical rain forest. *Journal of Ecology*, **79**: 447 – 457.
- Clark, D.A. and Clark, D.B., 2001, Getting into the canopy: tree height growth in a Neotropical rain forest. *Ecology*, **82**: 1460 – 1472.
- Coley, P.D. and Barone, J.A., 1996, Herbivory and plant defences in tropical forests. *Annual Review of Ecology and Systematics*, **27**: 305 – 335.
- Condit, R., Hubbell, S.P. and Foster, R.B., 1996, Assessing the response of plant functional types to climatic change in tropical forests. *Journal of Vegetation Science*, **7**: 405 – 416.
- Connell, J.H., 1971, On the role of natural enemies in preventing competitive exclusion in some marine animals and in rain forest trees. In den Boer, P.J. and Gradwell, G.R. (eds), *Dynamics of populations*. Centre for Agricultural Publishing and Documentation, Wageningen, The Netherlands, pages 298 – 313.
- Connell, J.H., 1978, Diversity in Tropical Rain Forests and Coral Reefs. *Science*, **199**: 259 – 267.
- Connell, J.H., Debski, I., Gehring, C.A., Goldwater, L., Green, P.T., Harms, K.E., Juniper, P. and Theimer, T.C., 2005, Dynamics of Seedling Recruitment in an Australian Tropical Rainforest. Chapter 23 In Bermingham, E., Dick, C.W. and Moritz, C., (eds), 2005, *Tropical Rainforests, Past, Present and Future*. The University of Chicago Press, Chicago, U.S.A., pages 486 – 506.
- Connell, J.H., Lowman, M.D. and Noble, I.R., 1997, Subcanopy gaps in temperate and tropical forests. *Australian Journal of Ecology*, **22**: 163 – 168.
- Coomes, D.A., Duncan, R.P., Allen, R.B. and Truscott, J., 2003, Disturbances prevent stem size-density distributions in natural forests from following scaling relationships. *Ecology Letters*, **6**: 980 – 989.
- Cooper, W. and Cooper, W.T., 1994, *Fruits of the Rain Forest, A Guide to Fruits in Australian tropical Rain Forests*. GEO Productions, Chatswood, NSW, Australia.
- Cordeiro, N.J. and Howe, H.F., 2001, Low Recruitment of Trees Dispersed by Animals in African Forest Fragments. *Conservation Biology*, **15**: 1733 – 1741.

- Cordeiro, N.J. and Howe, H.F., 2003, Forest fragmentation severs mutualism between seed dispersers and an endemic African tree. *Proceedings of the National Academy of Sciences of the United States of America*, **100**: 14052 – 14056.
- Cowling, S.A., 2004, Tropical forest structure: a missing dimension to Pleistocene landscapes. *Journal of Quaternary Science*, **19**: 733 – 743.
- Cunningham, S.A., 2000a, Effects of Habitat Fragmentation on the Reproductive Ecology of Four Plant Species in Mallee Woodland. *Conservation Biology*, **14**: 758 – 768.
- Cunningham, S.A., 2000b, Depressed pollination in habitat fragments causes low fruit set. *Proceedings of the Royal Society of London, Series B, Biological Sciences*, **267**: 1149 – 1152.
- Cutrim, E.M.C., Martin D.W., Butzow, D.G., Silva, I.M. and Yulaeva, E., 2000, Pilot analysis of hourly rainfall in central and eastern Amazonia. *Journal of Climate*, **13**: 1326 – 1334.
- D'Angelo, S.A., Andrade, A.C.S., Laurance, S.G., Laurance, W.F. and Mesquita, R.C.G., 2004, Inferred causes of tree mortality in fragmented and intact Amazonian forests. *Journal of Tropical Ecology*, **20**: 243 – 246.
- Davies, K.F., Melbourne, B.A. and Margules, C.R., 2001, Effects of within- and between-patch processes on community dynamics in a fragmentation experiment. *Ecology*, **82**: 1830 – 1846.
- Davies R.G., 2002, Feeding group responses of a Neotropical termite assemblage to rain forest fragmentation. *Oecologia*, **133**: 233 – 242.
- Davies, S.J., 1998, Photosynthesis of nine pioneer *Macaranga* species from Borneo in relation to life history. *Ecology*, **79**: 2292 – 2308.
- deFries, R., Hansen, A., Newton, A.C. and Hansen, M.C., 2005, Increasing isolation of protected areas in tropical forest over the past twenty years. *Ecological Applications*, **15**: 19 – 26.
- Delgado, J.D., Arevalo, J.R. and Fernandez-Palacios, J.M., 2001, Road and topography effects on invasion: edge effects in rat foraging patterns in two oceanic island forests (Tenerife, Canary Islands). *Ecography*, **24**: 539 – 546.
- DeMattia, E.A., Rathcke, B.J., Curran, L.M., Aguilar, R. and Vargas, O., 2006, Effects of Small Rodent and Large Mammal Exclusion on Seedling Recruitment in Costa Rica. *Biotropica*, **38**: 196 – 202.

- Dennis, A.J., 2003, Scatter-hoarding by musky rat kangaroos, *Hypsiprymnodon moschatus*, a tropical rain-forest marsupial from Australia: implications for seed dispersal. *Journal of Tropical Ecology*, **19**: 619 – 627.
- Denslow, J.S., 1980, Gap Partitioning among Tropical Rainforest Trees. *Biotropica*, **12** (Suppl.): 47 – 55.
- Denslow, J.S., 1995, Disturbance and diversity in tropical rain forests: the density effect. *Ecological Applications*, **5**: 962 – 968.
- Devlaeminck, R., Bossuyt, B. and Hermy, M., 2005, Inflow of seeds through the forest edge: evidence from seed bank and vegetation patterns. *Plant Ecology*, **176**: 1 – 17.
- Dewalt, S.J., Schnitzer, S.T. and Denslow, J.S., 2000, Density and diversity of lianas along a chronosequence in a central Panamanian lowland forest. *Journal of Tropical Ecology*, **16**: 1 – 19.
- Didham, R.K., 1998, Altered leaf-litter decomposition rates in tropical forest fragments. *Oecologia*, **116**: 397 – 406.
- Didham, R.K. and Lawton, J.H., 1999, Edge Structure Determines the Magnitude of Changes in Microclimate and Vegetation Structure in Tropical Forest Fragments. *Biotropica*, **31**: 17 – 30.
- Drake, D.R. and Pratt, L.W., 2001, Seedling Mortality in Hawaiian Rain Forest: the Role of Small-Scale Physical Disturbance. *Biotropica*, **33**: 319 – 323.
- Dudash, M.R. and Fenster, C.B., 2000, Inbreeding and outbreeding depression in fragmented populations. Chapter 3 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 35 – 53.
- Engelbrecht, B.M.J. and Kursar, T.A., 2003, Comparative drought-resistance of seedlings of 28 species of co-occurring tropical woody plants. *Oecologia*, **136**: 383 – 393.
- Epps, C.W., Palsboll, P.J., Wehausen, J.D., Roderick, G.K., Ramey, R.R., McCullough, D.R., 2005, Highways block gene flow and cause a rapid decline in genetic diversity of desert bighorn sheep. *Ecology Letters*, **8**: 1029 – 1038.
- Evans, D.R. and Gates, J.E., 1997, Cowbird selection of breeding areas: the role of habitat and bird species abundance. *Wilson Bulletin*, **109**: 470 - 480.
- Fahrig, L., 2003, Effects of habitat fragmentation on biodiversity. *Annual Review of Ecology, Evolution and Systematics*, **34**: 487 – 515.



- Falster, D.S. and Westoby, M., 2005, Alternative height strategies among 45 dicot rain forest species from tropical Queensland, Australia. *Journal of Ecology*, **93**: 521 – 535.
- Ferraz, G., Russell, G.J., Stouffer, P.C., Bierregaard, R.O., Pimm, S.L. and Lovejoy, T.E., 2003, Rates of species loss from Amazonian forest fragments. *Proceedings of the National Academy of Sciences of the United States of America*, **100**: 14069 – 14073.
- Ferreira, L.V., 1997, Effects of the duration of flooding on species richness and floristic composition in three hectares in the Jau National Park in floodplain forests in central Amazonia. *Biodiversity and Conservation*, **6**: 1353 – 1363.
- Ferreira, L.V. and Stohlgren, T.J., 1999, Effects of river level fluctuation on plant species richness, diversity, and distribution in a floodplain forest in Central Amazonia. *Oecologia*, **120**: 582 – 587.
- Fine, P.V.A., 2002, The invasibility of tropical forests by exotic plants. *Journal of Tropical Ecology*, **18**: 687 – 705.
- Floyd, A.G., 1989, *Rainforest Trees of Mainland South-eastern Australia*. Inkata Press, Melbourne.
- Forman, R.T.T. and Alexander, L.E., 1998, Roads and their Major Ecological Effects, *Annual Review of Ecology and Systematics*, **29**, 207 – 231.
- Fox, B.J., Taylor, J.E., Fox, M.D. and Williams, C., 1997, Vegetation Changes Across Edges of Rainforest Remnants, *Biological Conservation*, **82**, 1-13.
- Freidenburg, L.K., 1998, Physical Effects of Habitat Fragmentation, Chapter 4 in Fiedler, P.L. and Kereiva, P.M., (eds), 1998, *Conservation biology for the coming decade* (Second Edition). Chapman and Hall, New York, pages 66 – 79.
- Garcia-Guzman, G. and Dirzo, R., 2001, Patterns of leaf-pathogen infection in the understorey of a Mexican rain forest: incidence, spatiotemporal variation, and mechanisms of infection. *American Journal of Botany*, **88**: 634 – 645.
- Gascon, C., Lovejoy, T.E., Bierregaard, R.O., Malcolm, J.R., Stouffer, P.C., Vasconcelos, H.L., Laurance, W.F., Zimmerman, B., Tocher, M. and Borges, S., 1999, Matrix habitat and species richness in tropical forest remnants. *Biological Conservation*, **91**: 223 – 229.
- Gascon, C., Williamson, G.B. and da Fonseca, G.A.B., 2000, Receding Forest Edges and Vanishing Reserves. *Science*, **288**: 1356 – 1358.

- Gates, J.E. and Evans, D.R., 1998, Cowbirds breeding in the Central Appalachians: Spatial and temporal patterns and habitat selection. *Ecological Applications*, **8**: 27 – 40.
- Gehlhausen, S. M., Schwartz, M.W. and Augspurger, C.K., 2000, Vegetation and microclimatic edge effects in two mixed-mesophytic forest fragments. *Plant Ecology*, **147**: 21 – 35.
- Gentle, C.B. and Duggin, J.A., 1997, Allelopathy as a competitive strategy in persistent thickets of *Lantana camara* L. in three Australian forest communities. *Plant Ecology*, **132**: 85 – 95.
- Giambelluca, T.W., Ziegler, A.D., Nullet, M.A., Truong, D.M. and Tran, L.T., 2003, Transpiration in a small tropical forest patch. *Agricultural and Forest Meteorology*, **117**: 1 – 22.
- Gillman, L.N., Ogden, J., Wright, S.D., Stewart, K.L. and Walsh, D.P., 2004, The influence of macro-litterfall and forest structure on litterfall damage to seedlings. *Austral Ecology*, **29**: 305 – 312.
- Gillman, L.N. and Ogden, J., 2005, Microsite heterogeneity in litterfall risk to seedlings. *Austral Ecology*, **30**: 497 – 504.
- Gillman, L.N., Wright, S.D. and Ogden, J., 2002, Use of artificial seedlings to estimate damage of forest seedlings due to litterfall and animals. *Journal of Vegetation Science*, **13**: 635 – 640.
- Gillman, L.N., Wright, S.D. and Ogden, J., 2003, Response of forest tree seedlings to simulated litterfall damage. *Plant Ecology*, **169**: 53 – 60.
- Goldingay, R.L. and Whelan, R.J., 1997, Powerline Easements: do They Promote Edge Effects in Eucalypt Forest for Small Mammals? *Wildlife Research*, **24**: 737 – 744.
- Gonzalez, A. and Chaneton, E.J., 2002, Heterotroph species extinction, abundance and biomass dynamics in an experimentally fragmented microecosystem. *Journal of Animal Ecology*, **71**: 594 – 602.
- Goosem, M., 1997, Internal Fragmentation: The Effects Roads, Highways, and Powerline Clearings on Movements and Mortality of Rainforest Vertebrates, Chapter 16 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 241-255.

- Goosem, M., 2000, Effects of tropical rainforest roads on small mammals: edge changes in community composition. *Wildlife Research*, **27**: 151 – 163.
- Goosem, M., 2001, Effects of tropical rainforest roads on small mammals: inhibition of crossing movements. *Wildlife Research*, **28**: 351 – 364.
- Goosem, M., 2002, Effects of tropical roads on small mammals: fragmentation, edge effects and traffic disturbance. *Wildlife Research*, **29**: 277 – 289.
- Goosem, M., 2004, Linear infrastructure in the tropical rainforests of far north Queensland: mitigating impacts on fauna of roads and powerline clearings. In Lunney, D., (ed.), 2004, *Conservation of Australia's Forest Fauna* (second edition). Royal Zoological Society of New South Wales, Mosman, Australia. Pages 418 – 434.
- Goosem, M. and Marsh, H., 1997, Fragmentation of a Small-mammal Community by a Powerline Corridor through Tropical Rainforest. *Wildlife Research*, **24**: 613 – 629.
- Gregory, S.V., Swanson, F.J., McKee, W.A. and Cummins, K.W., 1991, An Ecosystem Perspective of Riparian Zones. *BioScience*, **41**: 540 – 551.
- Guilherme, F.A.G., Oliveira-Filho, A.T., Appolinario, V. and Bearzoti, E., 2004, Effects of flooding regime and woody bamboos on tree community dynamics in a section of tropical semideciduous forest in South-Eastern Brazil. *Plant Ecology*, **174**: 19 – 36.
- Guariguata, M.R., 1998, Response of forest tree saplings to experimental mechanical damage in lowland Panama. *Forest Ecology and Management*, **102**: 103 – 111.
- Guimaraes, P.R. Jr. and Cogni, R., 2002, Seed cleaning of *Cupania vernalis* (Sapindaceae) by ants: edge effects in a highland forest in south-east Brazil. *Journal of Tropical Ecology*, **18**: 303 – 307.
- Guirado, M., Pino, J. and Roda, F., 2006, Understorey plant species richness and composition in metropolitan forest archipelagos: effects of forest size, adjacent land use and distance to the edge. *Global Ecology and Biogeography*, **15**: 50 – 62.
- Hansen, M.J. and Clevenger, A.P., 2005, The influence of disturbance and habitat on the presence of non-native plant species along transport corridors. *Biological Conservation*, **125**: 249 – 259.
- Harding, E.K. and Gomez, S., 2006, Positive edge effects for arboreal marsupials: an assessment of potential mechanisms. *Wildlife Research*, **33**: 121 – 129.

- Harper, K.A., Lesieur, D., Bergeron, Y. and Drapeau, P., 2004, Forest structure and composition at young fires and cut edges in black spruce boreal forest. *Canadian Journal of Forest Research*, **34**: 289 – 302.
- Harper, K.A. and Macdonald, S.E., 2002, Structure and composition of edges next to regenerating clear-cuts in mixed-wood boreal forest. *Journal of Vegetation Science*, **13**: 535 – 546.
- Harper, K.A., Macdonald, S.E., Burton, P.J., Chen, J., Brososke, K.D., Saunders, S.C., Euskirchen, E.S., Roberts, D., Jaiteh, M.S. and Esseen, P., 2005, Edge Influence on Forest structure and Composition in Fragmented Landscapes. *Conservation Biology*, **19**: 768 – 782.
- Harrington, G.N., Freeman, A.N.D. and Crome, F.H.J., 2001, The effects of fragmentation of an Australian tropical rain forest on populations and assemblages of small mammals. *Journal of Tropical Ecology*, **17**: 225 – 240.
- Harrington, G.N., Irvine, A.K., Crome, F.H.J. and Moore, L.A., 1997, Regeneration of Large-Seeded Trees in Australian Rainforest Fragments: A Study of Higher-Order Interactions, Chapter 19 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 292-303.
- Hartley, M.J. and Hunter, M.L. Jr., 1998, A Meta-Analysis of Forest Cover, Edge Effects, and Artificial Nest Predation Rates. *Conservation Biology*, **12**: 465 – 469.
- Haskell, D.G., 2000, Effects of forest roads on macroinvertebrate soil fauna of the southern Appalachian Mountains. *Conservation Biology*, **14**: 57 – 63.
- Hegarty, E.E., 1991, Leaf litter production by lianas and trees in a sub-tropical Australian rain forest. *Journal of Tropical Ecology*, **7**: 201 – 214.
- Hibbs, D.E. and Bower, A.L., 2001, Riparian forests in the Oregon Coast Range. *Forest Ecology and Management*, **154**: 201 – 213.
- Holsinger, K.E., 2000, Demography and extinction in small populations. Chapter 4 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 55 – 72.
- Honnay, O., Verhaeghe, W. and Hermy, M., 2001, Plant community assembly along dendritic networks of small forest streams. *Ecology*, **82**: 1691 – 1702.

- Honnay, O., Verheyen, K. and Hermy, M., 2002, Permeability of ancient forest edges for weedy plant species invasion. *Forest Ecology and Management*, **161**: 109 – 122.
- Hubbell, S.P., Foster, R.B., O'Brien, S.T., Harms, K.E., Condit, R., Wechsler, B., Wright, S.J. and Loo de Lao, S., 1999, Light-Gap Disturbances, Recruitment Limitation, and Tree Diversity in a Neotropical Forest. *Science*, **283**: 554 – 557.
- Hupp, C.R. and Osterkamp, W.R., 1996, Riparian vegetation and fluvial geomorphic processes. *Geomorphology*, **14**: 277 – 295.
- Hyland, B.P.M., 1989, A Revision of Lauraceae in Australia (excluding *Cassytha*), *Australian Systematic Botany*, **2**: 135 – 367.
- Hyland, B.P.M., Whiffin, T., Christophel, D.C., Gray, B. and Elick, R.W., 2003, *Australian Tropical Rain Forest Plants: Trees, Shrubs and Vines*. CSIRO Publishing, Collingwood, Australia.
- Jacks, B.R. and Cairns, A., 2001, *Plants of the Tropics; Rainforest to Heath; An Identification Guide*. James Cook University, Townsville, Australia.
- Jacquemyn, H., Butaye, J. and Hermy, M., 2001, Forest plant species richness in small, fragmented mixed deciduous forest patches: the role of area, time and dispersal limitation. *Journal of Biogeography*, **28**: 801 – 812.
- Jansson, R., Zinko, U., Merritt, D.M. and Nilsson, C., 2005, Hydrochory increases riparian plant species richness: a comparison between a free-flowing and a regulated river. *Journal of Ecology*, **93**: 1094 – 1103.
- Janzen, D.H., 1970, Herbivores and the number of tree species in tropical forests. *American Naturalist*, **104**: 501 – 528.
- Jones, D.L. and Clemesha, S.C., 1980, *Australian Ferns and Fern Allies*. Second Edition. The Currawong Press, Sydney, Australia.
- Jones, H. G., 1992, *Plants and microclimate: a quantitative approach to environmental plant physiology*. Second Edition. Cambridge University Press, Cambridge.
- Jules, E. S. and Rathcke, B.J., 1999, Mechanisms of Reduced Trillium Recruitment along Edges of Old-Growth forest Fragments. *Conservation Biology*, **13**: 784 – 793.
- Jules, E.S. and Shahani, P., 2003, A broader ecological context to habitat fragmentation: Why matrix habitat is more important than we thought. *Journal of Vegetation Science*, **14**: 459 – 464.

- Kapos, V., 1989, Effects of isolation on the water status of forest patches in the Brazilian Amazon. *Journal of Tropical Ecology*, **5**: 173 – 185.
- Kapos, V., Ganade, G., Matsui, E. and Victoria, R.L., 1993,  $\delta^{13}\text{C}$  as an indicator of edge effects in tropical rainforest reserves. *Journal of Ecology*, **81**: 425 – 432.
- Kapos, V., Wandelli, E., Camargo, J.L. and Ganade, G., 1997, Edge-Related Changes in Environment and Plant Resources Due to Forest Fragmentation in Central Amazonia, Chapter 3 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 33-44.
- Kellman, M., Tackaberry, R. and Rigg, L., 1998, Structure and function in two tropical gallery forest communities: implications for forest conservation in fragmented systems. *Journal of Applied Ecology*, **35**: 195 – 206.
- Kelly, D., Ladley, J.J., Robertson, A.W. and Norton, D.A., 2000, Limited forest fragmentation improves reproduction in the declining New Zealand mistletoe *Peraxilla tetrapetala* (Loranthaceae). Chapter 14 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 241 – 252.
- King, D.I. and DeGraaf, R.M., 2002, The Effect of Forest Roads on the Reproductive Success of Forest-Dwelling Passerine Birds. *Forest Science*, **48**: 391 – 396.
- Kira, T. and Yoda, K., 1989, Vertical Stratification in Microclimate, Chapter 3 In Lieth, H. and Werger, M.J.A., (eds), *Tropical Rain Forest Ecosystems*, Volume 2. Elsevier Science Publishing Company Inc., Amsterdam, The Netherlands, pages 55 – 71.
- Kitajima, K., 1994, Relative importance of photosynthetic traits and allocation patterns as correlates of seedling shade tolerance of 13 tropical trees. *Oecologia*, **98**: 419 – 428.
- Kobe, R.K., 1999, Light gradient partitioning among tropical tree species through differential seedling mortality and growth. *Ecology*, **80**: 187 – 201.
- Kolb, A. and Diekmann, M., 2005, Effects of Life-History Traits on Response of Plant Species to Forest Fragmentation. *Conservation Biology*, **19**: 929 – 938.
- Kollman, J. and Buschor, M., 2003, Edge effects on seed predation by rodents in deciduous forests of northern Switzerland. *Plant Ecology*, **164**: 249 – 261.

- Korning, J. and Balslev, H., 1994, Growth and mortality of trees in Amazonian tropical rain forest in Ecuador. *Journal of Vegetation Science*, **4**: 77 – 86.
- Kupfer, J.A., Malanson, G.P. and Franklin, S.B., 2006, Not seeing the ocean for the islands: the mediating influence of matrix-based processes on forest fragmentation effects. *Global Ecology and Biogeography*, **15**: 8 – 20.
- Larsen, T.H., Williams, N.M. and Kremen, C., 2005, Extinction order and altered community structure rapidly disrupt ecosystem functioning. *Ecology Letters*, **8**: 538 – 547.
- Laurance, W.F., 1991, Edge Effects in Tropical Forest Fragments: Applications of a Model for the Design of Nature Reserves. *Biological Conservation*, **57**: 205 – 219.
- Laurance, W.F., 1994, Rainforest fragmentation and the structure of small mammal communities in tropical Queensland. *Biological Conservation*, **69**: 23 – 32.
- Laurance, W.F., 1997a, Hyper-Disturbed Parks: Edge Effects and the Ecology of Isolated Rainforest Reserves in Tropical Australia, Chapter 6 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 71 – 82.
- Laurance, W.F., 1997b, Responses of Mammals to Rainforest Fragmentation in Tropical Queensland: a Review and Synthesis. *Wildlife Research*, **24**: 603 – 612.
- Laurance, W.F., 1998, Fragments of the forest. (A report from scientists studying forest fragmentation in the Amazonia, part of the Biological Dynamics of Forest Fragments Project). *Natural History*, **107**: 35 – 38.
- Laurance, W.F., 2001, Fragmentation and Plant Communities, Chapter 13 in Bierregaard, R.O., Gascon, C., Lovejoy, T.E. and Mesquita, R.C.G., (eds), 2001, *Lessons from Amazonia, The Ecology and conservation of a fragmented forest*. Yale University Press, New Haven, pages 158 – 167.
- Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago.
- Laurance, W.F., Laurance, S.G., Ferreira, L.V., Rankin-de Merona, J.M., Gascon, C. and Lovejoy, T.E., 1997, Biomass Collapse in Amazonian forest fragments. *Science*, **278**: 1117 – 1118.

- Laurance, W.F., Ferreira, L.V., Rankin-de Merona, J.M. and Laurance, S.G., 1998a, Rain forest fragmentation and the dynamics of Amazonian tree communities. *Ecology* **79**: 2032 – 2040.
- Laurance, W.F., Ferreira, L.V., Rankin-de Merona, J.M., Laurance, S.G., Hutchings, R.W. and Lovejoy, T.E., 1998b, Effects of Forest Fragmentation on Recruitment Patterns in Amazonian tree Communities. *Conservation Biology*, **12**: 460 – 464.
- Laurance, W.F., Delamonica, P., Laurance, S.G., Vasconcelos, H.L. and Lovejoy, T.E., 2000, Rainforest fragmentation kills big trees. *Nature*, **404**: 836.
- Laurance, W.F., Perez-Salicrup, D., Delamonica, P., Fearnside, P.M., D'Angelo, S., Jerozolinski, A., Pohl, L. and Lovejoy, T., 2001a, Rain forest fragmentation and the structure of Amazon liana communities. *Ecology*, **82**: 105 – 116.
- Laurance, W.F., Williamson, G.B., Delamonica, P., Oliveira, A., Lovejoy, T.E., Gascon, C. and Pohl, L., 2001b, Effects of a strong drought on Amazonian forest fragments and edges. *Journal of Tropical Ecology*, **17**: 771 – 785.
- Laurance, W.F., Lovejoy, T.E., Vasconcelos, H.L., Bruna, E.M., Didham, R.K., Stouffer, P.C., Gascon, C., Bierregaard, R.O., Laurance, S.G. and Sampaio, E., 2002, Ecosystem Decay of Amazonian forest Fragments: a 22-Year Investigation. *Conservation Biology*, **16**: 605 – 618.
- Laurance, W.F., Rankin-de Merona, J.M., Andrade, A., Laurance, S.G., D'Angelo, S., Lovejoy, T.E. and Vasconcelos, H.L., 2003, Rain-forest fragmentation and the phenology of Amazonian tree communities. *Journal of Tropical Ecology*, **19**: 343 – 347.
- Laurance, W.F., Nascimento, H.E.M., Laurance, S.G., Andrade, A.C., Fearnside, P.M., Ribeiro, J.E.L. and Capretz, R.L., 2006, Rain forest fragmentation and the proliferation of successional trees. *Ecology*, **87**: 469 – 482.
- Lazarides, M., Cowley, K. and Hohnen, P., 1997, *CSIRO Handbook of Australian Weeds*. CSIRO Publishing, Collingwood, Australia.
- Leigh, E.G., Wright, S.J., Herre, E.A. and Putz, F.E., 1993, The decline of tree diversity on newly isolated tropical islands: a test of a null hypothesis and some implications. *Evolutionary Ecology*, **7**: 76 – 102.
- Lewis, S.L., Malhi, Y. and Phillips, O.L., 2004, Fingerprinting the impacts of global change on tropical forests. *Philosophical Transactions of the Royal Society of London B*, **359**: 437 – 462.



- Lieberman, D., Lieberman, M., Hartshorn, G. and Peralta, R., 1985, Growth rates and age-size relationships of tropical wet forest trees in Costa Rica. *Journal of Tropical Ecology*, **1**: 97 – 109.
- Lindenmayer, D. and Peakall, R., 2000, The Tumut experiment – integrating demographic and genetic studies to unravel fragmentation effects: a case study of the native bush rat. Chapter 10 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 173 – 201.
- Lott, R.H., Harrington, G.N., Irvine, A.K. and McIntyre, S., 1995, Density-dependent Seed Predation and Plant Dispersion of the Tropical Palm *Normanbya normanbyi*. *Biotropica*, **27**: 87 – 95.
- Lovei, G.L., Magura, T., Tothmeresz, B. and Kodobocz, V., 2006, The influence of matrix and edges on species richness patterns of ground beetles (Coleoptera: Carabidae) in habitat islands. *Global Ecology and Biogeography*, **15**: 283 – 289.
- Lusk, C.H. and Del Pozo, A., 2002, Survival and growth of seedlings of 12 Chilean rainforest trees in two light environments: Gas exchange and biomass distribution correlates. *Austral Ecology*, **27**: 173 – 182.
- Mack, A.L., 1998, The Potential Impact of Small-Scale Physical Disturbance on Seedlings In a Papuan Rainforest. *Biotropica*, **30**: 547 – 552.
- Malcolm, J.R., 1994, Edge Effects in Central Amazonian Forest Fragments. *Ecology*, **75**: 2438 – 2445.
- Malcolm, J.R., 1998, A model of conductive heat flow in forest edges and fragmented landscapes. *Climatic Change*, **39**: 487 – 502.
- Malcolm, J.R. and Ray, J.C., 2000, Influence of Timber Extraction Routes on Central African Small-Mammal Communities, Forest Structure, and Tree Diversity. *Conservation Biology*, **14**: 1623 – 1638.
- Marrinan, M.J., Edwards, W. and Landsberg, J., 2005, Resprouting of saplings following a tropical rainforest fire in north-east Queensland, Australia. *Austral Ecology*, **30**: 817 – 826.
- Marsh, D.M., and Beckman, N.G., 2004, Effects of forest roads on the abundance and activity of terrestrial salamanders. *Ecological Applications*, **14**: 1882 – 1891.
- Martinez-Ramos, M., Alvarez-Buylla, E., Sarukhan, J. and Pinero, D., 1988, Treefall age determination and gap dynamics in a tropical forest. *Journal of Ecology*, **76**: 700 – 716.

- Matlack, G.R., 1993, Microenvironment variation within and among forest edge sites in the eastern United States. *Biological Conservation*, **66**: 185 – 194.
- Matlack, G.R., 1994, Vegetation dynamics of the forest edge – trends in space and successional time, *Journal of Ecology*, **82**: 113 – 123.
- McDonald, R.I. and Urban, D.L., 2004, Forest edges and tree growth rates in the North Carolina Piedmont. *Ecology*, **85**: 2258 – 2266.
- Meiners, S.J., Handel, S.N. and Pickett, S.T.A., 2000, Tree seedling establishment under insect herbivory: edge effects and inter-annual variation. *Plant Ecology*, **151**: 161-170.
- Mesquita, R.C.G., Delamonica, P. and Laurance, W.F., 1999, Effect of surrounding vegetation on edge-related tree mortality in Amazonian forest fragments. *Biological Conservation*, **91**: 129 – 134.
- Michalski, F. and Peres, C.A., 2005, Anthropogenic determinants of primate and carnivore extinctions in a fragmented forest landscape of southern Amazonia. *Biological Conservation*, **124**: 383 – 396.
- Moles, A.T. and Westoby, M., 2004, Seedling survival and seed size: a synthesis of the literature. *Journal of Ecology*, **92**: 372 – 383.
- Moles, A.T. and Westoby, M., 2006, Seed size and plant strategy across the whole life cycle. *Oikos*, **113**: 91 – 105.
- Mourelle, C., Kellman, M. and Kwon, L., 2001, Light occlusion at forest edges: an analysis of tree architectural characteristics. *Forest Ecology and Management*, **154**: 179 – 192.
- Murcia, C., 1995, Edge effects in fragmented forests: implications for conservation. *Trends in Ecology and Evolution*, **10**: 58-62.
- Murray, B.R., Kelaher, B.P., Hose, G.C. and Figueira, W.F., 2005, A meta-analysis of the interspecific relationship between seed size and plant abundance within local communities. *Oikos*, **110**: 191 – 194.
- Murren, C.J., 2002, Effects of habitat fragmentation on pollination: pollinators, pollinia viability and reproductive success. *Journal of Ecology*, **90**: 100 – 107.
- Murren, C.J., 2003, Spatial and demographic population genetic structure in *Catasetum viridiflavum* across a human-disturbed habitat. *Journal of Evolutionary Biology*, **16**: 333 – 342.

- Nagaike, T., 2003, Edge Effects on Stand Structure and Regeneration in a Subalpine Coniferous Forest on Mt. Fuji, Japan, 30 Years after Road Construction. *Arctic, Antarctic, and Alpine Research*, **35**: 454 – 459.
- Nakamura, F., Yajima, T. and Kikuchi, S., 1997, Structure and composition of riparian forests with special reference to geomorphic site conditions along the Tokachi River, northern Japan. *Plant Ecology*, **133**: 209 – 219.
- Nascimento, H.E., Andrade, A.C.S., Camargo, J.L.C., Laurance, W.F., Laurance, S.G. and Ribeiro, J.E.L., 2006, Effects of the Surrounding Matrix on Tree Recruitment in Amazonian Forest Fragments. *Conservation Biology*, **20**: 853 – 860.
- Nascimento, H.E.M. and Laurance, W.F., 2004, Biomass dynamics in Amazonian forest fragments. *Ecological Applications*, **14**: S127 – S138.
- Nascimento, H.E.M., Laurance, W.F., Condit, R., Laurance, S.G., D'Angelo, S. and Andrade, A.C., 2005, Demographic and life-history correlates for Amazonian trees. *Journal of Vegetation Science*, **16**: 625 – 634.
- Nelson, C.R. and Halpern, C.B., 2005, Edge-related responses of understory plants to aggregated retention harvest in the Pacific Northwest. *Ecological Applications*, **15**: 196 – 209.
- Ness, J.H., 2004, Forest edges and fire ants alter the seed shadow of an ant-dispersed plant. *Oecologia*, **138**: 448 – 454.
- Newmark, W.D., 2001, Tanzanian Forest Edge Microclimatic Gradients: Dynamic Patterns. *Biotropica*, **33**: 2-11.
- Newmark, W., 2005, Diel variation in the difference in air temperature between the forest edge and interior in the Usambara Mountains, Tanzania. *African Journal of Ecology*, **43**: 177 – 180.
- Nichol, J.E., 1994, An examination of tropical rain forest microclimate using GIS modelling. *Global Ecology and Biogeography Letters*, **4**: 69 – 78.
- Nicotra, A.B., Chazdon, R.L. and Iriarte, S.V.B., 1999, Spatial Heterogeneity of Light and Woody Seedling Regeneration in Tropical Wet Forests, *Ecology*, **80**: 1908 – 1926.
- Nilsson, C., Ekblad, A., Dynesius, M., Backe, S., Gardfjell, M., Carlberg, B., Hellqvist, S. and Jansson, R., 1994, A comparison of species richness and traits of riparian plants between a main river channel and its tributaries. *Journal of Ecology*, **82**: 281 – 295.

- Nilsson, C. and Svedmark, M., 2002, Basic Principles and Ecological consequences of changing Water Regimes: Riparian Plant Communities. *Environmental Management*, **30**: 468 – 480.
- Oke, T.R., 1987, *Boundary Layer Climates*, Second Edition. Methuen, New York, USA.
- Olander, L.P., Scatena, F.N. and Silver, W.L., 1998, Impacts of disturbance initiated by road construction in a subtropical cloud forest in the Luquillo Experimental Forest, Puerto Rico. *Forest Ecology and Management*, **109**: 33 – 49.
- Ortega, Y.K. and Capen, D.E., 2002, Roads as edges: Effects on birds in forested landscapes. *Forest Science*, **48**: 381 – 390.
- Osunkoya, O.O., 1994, Postdispersal survivorship of north Queensland rainforest seeds and fruits: Effects of forest, habitat and species. *Australian Journal of Ecology*, **19**: 52 – 64.
- Osunkoya, O.O., 1996, Light requirements for regeneration in tropical forest plants: Taxon-level and ecological attribute effects. *Australian Journal of Ecology*, **21**: 429 – 441.
- Osunkoya, O.O., Ash, J.E., Hopkins, M.S. and Graham, A.W., 1992, Factors affecting the survival of tree seedlings in North Queensland rainforests. *Oecologia*, **91**: 569 – 578.
- Osunkora, O.O., Ash, J.E., Graham, A.W. and Hopkins, M.S., 1993, Growth of tree seedlings in tropical rain forests of North Queensland, Australia. *Journal of Tropical Ecology*, **9**: 1 – 18.
- Osunkoya, O.O., Ash, J.E., Hopkins, M.S. and Graham, A.W., 1994, Influence of seed size and seedling ecological attributes on shade-tolerance of rain-forest tree species in northern Queensland. *Journal of Ecology*, **82**: 149 – 163.
- Paciencia, M.L.B. and Prado, J., 2005, Effects of forest fragmentation on pteridophyte diversity in a tropical forest in Brazil. *Plant Ecology*, **180**: 87 – 104.
- Pallant, J.F., 2005, *SPSS Survival Manual: a step by step guide to data analysis using SPSS* (2<sup>nd</sup> Edition). Allen and Unwin, Crows Nest, Australia.
- Parendes, L.A. and Jones, J.A., 2000, Role of light availability and dispersal in exotic plant invasion along roads and streams in the H. J. Andrews Experimental Forest, Oregon. *Conservation Biology*, **14**: 64 – 75.
- Parsons, W.T. and Cuthbertson, E.G., 2001, *Noxious Weeds of Australia*. Second Edition. CSIRO Publishing, Collingwood, Australia.

- Pauw, A., Van Beel, S.A., Peters, H.A., Allison, S.D., Camargo, J.L.C., Cifuentes-Jara, M., Conserva, A., Restom, T.G., Heartsill-Scalley, T., Mangan, S.A., Nunez-Iturri, G., Rivera-Ocasio, E., Rountree, M., Vetter, S. and de Castilho, C.V., 2004, Physical Damage in Relation to Carbon Allocation Strategies of Tropical Forest Tree Saplings. *Biotropica*, **36**: 410 – 413.
- Peltonen, M., 1999, Windthrows and Dead-standing Trees as Bark Beetle Breeding Material at Forest-clearcut Edge. *Scandinavian Journal of Forest Research*, **14**: 505 – 511.
- Peters, H.A., Pauw, A., Silman, M.R. and Terborgh, J.W., 2004, Falling palm fronds structure Amazonian rainforest sapling communities. *Proceedings of the Royal Society B (Supplemental)*, **271**: S367 – S369.
- Pettit, N.E. and Froend, R.H., 2001, Availability of seed for recruitment of riparian vegetation: a comparison of a tropical and a temperate river ecosystem in Australia. *Australian Journal of Botany*, **49**: 515 – 528.
- Philips, O.L., Hall, P., Gentry, A.H., Sawyer, S.A. and Vasquez, R., 1994, Dynamics and species richness of tropical rain forests. *Proceedings of the National Academy of Sciences of the United States of America*, **91**: 2805 – 2809.
- Phillips, O.L., Martinez, R.V., Arroyo, L., Baker, T.R., Killeen, T., Lewis, S.L., Malhi, Y., Mendoza, A.M., Neill, D., Vargas, P.N., Alexiadea, M., Ceron, C., Di Fiore, A., Erwin, T., Jardim, A., Palacios, W., Saldias, M. and Vinceti, B., 2002, Increasing dominance of large lianas in Amazonian forests. *Nature*, **418**: 770 – 774.
- Phillips, O.L., Martinez, R.V., Mendoza, A.M., Baker, T.R. and Vargas, P.N., 2005, Large lianas as hyperdynamic elements of the tropical forest canopy. *Ecology*, **86**: 1250 – 1258.
- Poorter, L., 1999, Growth responses of 15 rain-forest tree species to a light gradient: the relative importance of morphological and physiological traits. *Functional Ecology*, **13**: 396 – 410.
- Potter, B.E., Teclaw, R.M. and Zasada, J.C., 2001, The impact of forest structure on near-ground temperatures during two years of contrasting temperature extremes. *Agricultural and Forest Meteorology*, **106**: 331 – 336.
- Primack, R.B., 1993, *Essentials of Conservation Biology*. Sinauer Associates, Inc., Massachusetts.

- Putz, F.E., 1984, The natural history of lianas on Barro Colorado Island, Panama. *Ecology*, **65**: 1713 – 1724.
- Putz, F.E., 1990, Growth Habits and Trellis Requirement of Climbing Palms (*Calamus* spp.) in North-eastern Queensland. *Australian Journal of Botany*, **38**: 603 – 608.
- Rankin-de Merona, J.M. and Hutchings, R.W.H., 2001, Deforestation Effects at the Edge of an Amazonian Forest Fragment. Chapter 9 in Bierregaard, R.O., Gascon, C., Lovejoy, T.E. and Mesquita, R.C.G., (eds), 2001, *Lessons from Amazonia, The Ecology and conservation of a fragmented forest*. Yale University Press, New Haven, pages 107 – 120.
- Rao, M., Terborgh, J. and Nunez, P., 2001, Increased Herbivory in Forest Isolates: Implications for Plant Community Structure and Composition. *Conservation Biology*, **15**: 624 – 633.
- Restrepo, C. and Gomez, N., 1998, Responses of understory birds to anthropogenic edges in a Neotropical montane forest. *Ecological Applications*, **8**: 170 – 183.
- Restrepo, C., Gomez, N. and Heredia, S., 1999, Anthropogenic edges, treefall gaps, and fruit-frugivore interactions in a Neotropical montane forest. *Ecology*, **80**: 668 – 685.
- Reynolds, B.E., 1994, *A study of weed (Lantana camara) infestation of tracks through rainforest on the Atherton Tableland, North Queensland*. Unpublished Honours Thesis, James Cook University.
- Rheault, H., Drapeau, P., Bergeron, Y. and Esseen, P.A., 2003, Edge effects on epiphytic lichen in managed black spruce forest of eastern North America. *Canadian Journal of Forest Research*, **33**: 23 – 32.
- Richards, C.M., 2000, Genetic and demographic influences on population persistence: gene flow and genetic rescue in *Silene alba*. Chapter 16 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 271 – 291.
- Ries, L., Fletcher, R.J. Jr., Battin, J. and Sisk, T.D., 2004, Ecological Responses to Habitat Edges: Mechanisms, Models, and Variability Explained. *Annual Review of Ecology, Evolution and Systematics*, **35**: 491 – 522.
- Robertson, K.M. and Augspurger, C.K., 1999, Geomorphic processes and spatial patterns of primary forest succession on the Bogue Chitto River, USA. *Journal of Ecology*, **87**: 1052 – 1063.

- Roldan, A.I. and Simonetti, J.A., 2001, Plant-Mammal Interactions in Tropical Bolivian Forests with Different Hunting Pressures. *Conservation Biology*, **15**: 617 – 623.
- Rubinstein, A. and Vasconcelos, H.L., 2005, Leaf-litter decomposition in Amazonian forest fragments. *Journal of Tropical Ecology*, **21**: 699 – 702.
- Russell, W.H. and McBride, J.R., 2001, The relative importance of fire and watercourse proximity in determining stand composition in mixed conifer riparian forests. *Forest Ecology and Management*, **150**: 259 – 265.
- Sabo, J.L., Sponseller, R., Dixon, M., Gade, K., Harms, T., Heffernan, J., Jani, A., Katz, G., Soykan, C., Watts, J. and Welter, J., 2005, Riparian zones increase regional species richness by harboring different, not more, species. *Ecology*, **86**: 56 – 62.
- Salo, J., Kalliola, R., Hakkinene, I., Makinen, Y., Niemela, P., Puhakka, M. and Coley, P.D., 1986, River dynamics and the diversity of Amazon lowland forest. *Nature*, **322**: 254 – 258.
- Scariot, A., 2000, Seedling Mortality by Litterfall in Amazonian Forest Fragments. *Biotropica*, **32**: 662 – 669.
- Scariot, A., 2001, Effects of Landscape Fragmentation on Palm Communities. Chapter 10 in Bierregaard, R.O., Gascon, C., Lovejoy, T.E. and Mesquita, R.C.G., (eds), 2001, *Lessons from Amazonia, The Ecology and conservation of a fragmented forest*. Yale University Press, New Haven, pages 121 – 135.
- Scatena, F.N. and Lugo, A.E., 1995, Geomorphology, disturbance, and the soil and vegetation of two subtropical wet steep-land watersheds of Puerto Rico. *Geomorphology*, **13**: 199 – 213.
- Schlaepfer, M.A. and Gavin, T.A. 2001, Edge Effects on Lizards and Frogs in Tropical forest Fragments. *Conservation Biology*, **15**: 1079 – 1090.
- Schnitzer, S.A., 2005, A Mechanistic Explanation for Global Patterns of Liana Abundance and Distribution. *The American Naturalist*, **166**: 262 – 276.
- Schnitzer, S.A. and Bongers, F., 2002, The ecology of lianas and their role in forests. *Trends in Ecology and Evolution*, **17**: 223 – 230.
- Schnitzer, S.A. and Carson, W.P., 2001, Treefall gaps and the maintenance of species diversity in a tropical forest. *Ecology*, **82**: 913 – 919.
- Schnitzer, S.A., Dalling, J.W. and Carson, W.P., 2000, The impact of lianas on tree regeneration in tropical forest canopy gaps: evidence for an alternative pathway of gap-phase regeneration. *Journal of Ecology*, **88**: 655 – 666.

- Schnitzer, S.A., Kuzee, M.E. and Bongers, F., 2005, Disentangling above-and below-ground competition between lianas and trees in a tropical forest. *Journal of Ecology*, **93**: 1115 – 1125.
- Siegenthaler, S.L., 1999, *Impacts of roads and powerline corridors on microclimate and understorey vegetation in the Wet Tropics of Queensland World Heritage Area*. Honours thesis, School of Tropical Environment Studies & Geography, James Cook University.
- Siegenthaler, S., and Turton, S.M., 2000, Edge effects of roads and powerlines on microclimate. In M. Goosem, and S. M. Turton, (Eds). *Impacts of Roads and Powerlines on the Wet Tropics of Queensland World Heritage Area*. Wet Tropics Management Authority and Rainforest CRC Report, James Cook University, pages 19 – 43. Available online at <http://www.rainforest-crc.jcu.edu.au/reports.htm>.
- Sizer, N.C., Tanner, E.V.J. and Kossmann Ferraz, I.D., 2000, Edge effects on litterfall mass and nutrient concentrations in forest fragments in central Amazonia, *Journal of Tropical Ecology*, **16**, 853-863.
- Sizer, N. and Tanner, E.V.J., 1999, Responses of woody plant seedlings to edge formation in a lowland tropical rainforest, Amazonia. *Biological Conservation*, **91**: 135 – 142.
- Skole, D. and Tucker, C., 1993, Tropical Deforestation and Habitat Fragmentation in the Amazon: Satellite Data from 1978 to 1988. *Science*, **260**: 1905 – 1910.
- Smith, W.J., Kynaston, W.T., Cause, M.L. and Grimmett, J.G., 1991, *Building Timbers: Properties and Recommendations for their Use in Queensland*. Technical Pamphlet No. 1. Queensland Forest Service, Department of Primary Industries, Indooroopilly.
- Strahan, R. (ed.), 1995, *The Mammals of Australia*. Second Edition. Reed Books Australia, Chatswood, New South Wales.
- Sturman, A.P. and Tapper, N.J., 1996, *The Weather and Climate of Australia and New Zealand*. Oxford University Press, Melbourne, Australia.
- Tabarelli, M., Mantovani, W. and Peres, C.A., 1999, Effects of habitat fragmentation on plant guild structure in the montane Atlantic forest of southeastern Brazil. *Biological Conservation*, **91**: 119 – 127.



- Tallmon, D.A., Jules, E.S., Radke, N.J. and Mills, L.S., 2003, Of mice and men and trillium: cascading effects of forest fragmentation. *Ecological Applications*, **13**: 1193 – 1203.
- TASCO, 2001, *Infrared Thermometer, THI-700L, THI-700S, Instruction Manual*.  
TASCO Japan Co. Ltd., Osaka, Japan.
- Terborgh, J., Lopez, L., Nunez, P.V., Rao, M., Shahabuddin, G., Orihuela, G., Riveros, M., Ascanio, R., Adler, G.H., Lambert, T.D. and Balbas, L., 2001, Ecological Meltdown in Predator-Free Forest Fragment. *Science*, **294**: 1923 – 1926.
- Terborgh, J., Feeley, K., Silman, M., Nunez, P. and Balukjian, B., 2006, Vegetation dynamics of predator-free land-bridge islands. *Journal of Ecology*, **94**: 253 – 263.
- Theimer, T.C., 2001, Seed scatterhoarding by white-tailed rats: consequences for seedling recruitment by an Australian rain forest tree. *Journal of Tropical Ecology*, **17**: 177 – 189.
- Theimer, T.C. and Gehring, C.A., 1999, Effects of a litter-disturbing bird species on tree seedling germination and survival in an Australian tropical rain forest. *Journal of Tropical Ecology*, **15**: 737 – 749.
- Thomas, S.C., 1996, Asymptotic height as a predictor of growth and allometric characteristics in Malaysian rain forest trees. *American Journal of Botany*, **83**: 556 – 566.
- Tilman, D., May, R.M., Lehman, C.L. and Nowak, M.A., 1994, Habitat destruction and the extinction debt. *Nature*, **371**: 65 – 66.
- Tomimatsu, H. and Ohara, M., 2002, Effects of forest fragmentation on seed production of the understorey herb *Trillium camschatcense*. *Conservation Biology*, **16**: 1277 – 1285.
- Tomimatsu, H. and Ohara, M., 2003, Floral visitors of *Trillium camschatcense* (Trilliaceae) in fragmented forests. *Plant Species Biology*, **18**: 123 – 127.
- Tracey, J.G., 1982, *The Vegetation of the Humid Tropical Region of North Queensland*.  
CSIRO, Melbourne.
- Trombulak, S.C. and Frissell, C.A., 2000, Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology*, **14**: 18 – 30.

- Trott, L., Goosem, S. and the Wet Tropics Management Authority, 1996, *Wet Tropics in Profile, A Reference Guide to the Wet Tropics of Queensland World Heritage Area*. Wet Tropics Management Authority, Cairns, Australia.
- T.S.I. Incorporated, 2002, *Model 8345/8346/8347/8347A VelociCalc Air Velocity Meters, Operation and Service Manual, 1980277, Revision E*. T.S.I. Incorporated, Shoreview, U.S.A.
- Tucker, N.I.J., 2001, *Vegetation recruitment in a restored habitat linkage in tropical North Queensland*. Masters Thesis, James Cook University.
- Tucker, N.I.J. and Murphy, T.M., 1997, The effects of ecological rehabilitation on vegetation recruitment: some observations from the Wet Tropics of North Queensland. *Forest Ecology and Management*, **99**: 133 – 152.
- Turner, I.M., 2001, *The Ecology of Trees in the Tropical Rain Forest*. Cambridge University Press, Cambridge, U.K.
- Turner, M.G., Gergel, S.E., Dixon, M.D. and Miller, J.R., 2004, Distribution and abundance of trees in floodplain forests of the Wisconsin River: Environmental influences at different scales. *Journal of Vegetation Science*, **15**: 729 – 738.
- Turton, S. and Freiburger, H.J., 1997, Edge and Aspect Effects on the Microclimate of a Small Tropical Forest Remnant on the Atherton Tableland, Northeastern Australia, Chapter 4 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 45-54.
- Turton, S. M., Hutchinson, M. F., Accad, A., Hancock, P. E. and Webb, T., 1999, Producing fine-scale rainfall climatology surfaces for Queensland's wet tropics region. In Kesby, J.A., Stanley, J.M., McLean, R.F. and Olive, L.J., (eds), 1999, *Geodiversity: Readings in Australian Geography at the close of the 20th Century*. Special Publication Series No. 6, School of Geography and Oceanography, University College, ADFA, Canberra, ACT, Australia, pages 415 – 428.
- Uhl, C., Clark, K., Dezzio, N. and Maquirino, P., 1988, Vegetation dynamics in Amazonian treefall gaps. *Ecology*, **69**: 751 – 763.
- Van Pelt, R., O'Keefe, T.C., Latterell, J.J. and Naiman, R.J., 2006, Riparian forest stand development along the Queets River in Olympic National Park, Washington. *Ecological Monographs*, **76**: 277 – 298.

- van Raders, R., 1999, *Rainforest Vines of the Atherton Tablelands; a Field Guide*. Malanda, Australia.
- Vasconcelos, H.L. and Laurance, W.F., 2005, Influence of habitat, litter type, and soil invertebrates on leaf-litter decomposition in a fragmented Amazonian landscape. *Oecologia*, **144**: 456 – 462.
- Vasconcelos, H.L. and Luizao, F.J., 2004, Litter production and litter nutrient concentrations in a fragmented Amazonian landscape. *Ecological Applications*, **14**: 884 – 892.
- Vernes, K., Dennis, A. and Winter, J., 2001, Mammalian Diet and Broad Hunting Strategy of the Dingo (*Canis familiaris dingo*) in the Wet Tropical Rain Forests of Northeastern Australia. *Biotropica*, **33**: 339 – 345.
- Vernes, K., Marsh, H. and Winter, J., 1995, Home-range Characteristics and Movement Patterns of the Red-legged Pademelon (*Thylogale stigmatica*) in a Fragmented Tropical Rainforest. *Wildlife Research*, **22**: 699 – 708.
- Vitousek, P.M., 1984, Litterfall, nutrient cycling, and nutrient limitation in tropical forests. *Ecology*, **65**: 285 – 298.
- Vos, C.C. and Chardon, J.P., 1998, Effects of habitat fragmentation and road density on the distribution pattern of the moor frog *Rana arvalis*. *Journal of Applied Ecology*, **35**: 44 – 56.
- Wahungu, G.M., Catterall, C.P. and Olsen, M.F., 1999, Selective herbivory by red-necked pademelon *Thylogale thetis* at rainforest margins: factors affecting predation rates. *Australian Journal of Ecology*, **24**: 577 – 586.
- Wahungu, G.M., Catterall, C.P. and Olsen, M.F., 2002, Seedling predation and growth at a rainforest – pasture ecotone, and the value of shoots as seedling analogues. *Forest Ecology and Management*, **162**: 251 – 260.
- Warburton, N.H., 1997, Structure and Conservation of Forest Avifauna in Isolated Rainforest Remnants in Tropical Australia, Chapter 13 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 190 – 206.
- Watkins, R.Z., Chen, J., Pickens, J. and Brosfokske, K.D., 2003, Effects of Forest Roads on Understorey Plants in a Managed Hardwood Landscape. *Conservation Biology*, **17**: 411 – 419.

- Watson, C.J.J., 1951, *North Queensland Building Timbers and Specifications for Their Use*. Queensland Forest Service Pamphlet No. 1. Government Printer, Brisbane.
- Webb, C.O. and Peart, D.R., 2000, Habitat associations of trees and seedlings in a Bornean rain forest. *Journal of Ecology*, **88**: 464 – 478.
- Westcott, D.A., Bentrupperbaumer, J., Bradford, M.G. and McKeown, A., 2005, Incorporating patterns of disperser behaviour into models of seed dispersal and its effects on estimated dispersal curves. *Oecologia*, **146**: 57 – 67.
- Weston, N., and Goosem, S., 2004, *Sustaining the Wet Tropics: A Regional Plan for Natural Resource Management*. Volume 2A Condition Report: Biodiversity Conservation. Rainforest CRC and FNQ NRM Ltd, Cairns, Australia.
- Whelan, R.J., Ayre, D.J., England, P.R., Llorens, T. and Beyon, F., 2000, Ecology and genetics of *Grevillea* (Proteaceae): implications for conservation of fragmented populations. Chapter 15 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 253 – 269.
- White, E., Tucker, N., Meyers, N. and Wilson, J., 2004, Seed dispersal to revegetated isolated rainforest patches in North Queensland. *Forest Ecology and Management*, **192**: 409 – 426.
- White, G.M. and Boshier, D.H., 2000, Fragmentation in Central American dry forests: genetic impacts on *Swietenia humilis* (Meliaceae). Chapter 17 in Young, A.G. and Clarke, G.M., (eds), 2000, *Genetics, Demography and Viability of Fragmented Populations*. Cambridge University Press, Cambridge, pages 293 – 311.
- Whitmore, T.C., 1996, A review of some aspects of tropical rain forest seedling ecology with suggestions for further enquiry. Chapter 1 in Swaine, M.D., (ed.), 1996, *The ecology of tropical forest tree seedlings*. UNESCO Paris and the Parthenon Publishing Group, Paris and New York, pages 3 – 39.
- Whitmore, T.C., 1997, Tropical Forest Disturbance, Disappearance and Species Loss, Chapter 1 in Laurance, W.F. and Bierregaard, R.O., (eds), 1997, *Tropical Forest Remnants, Ecology, Management, and Conservation of Fragmented Communities*. The University of Chicago Press, Chicago, pages 3-12.
- Williams, K.A.W., 1984, *Native Plants of Queensland, Volume 2*. National Library of Australia, Canberra, Australia.

- Williams, K.A.W., 1987, *Native Plants of Queensland, Volume 3*. National Library of Australia, Canberra, Australia.
- Williams-Linera, G., 1990a, Vegetation structure and environmental conditions of forest edges in Panama. *Journal of Ecology*, **78**: 356 – 373.
- Williams-Linera, G., 1990b, Origin and Early Development of Forest Edge Vegetation in Panama. *Biotropica*, **22**: 235 – 241.
- Wittmann, F., Junk, W.J. and Piedade, M.T.F., 2004, The varzea forests in Amazonia: flooding and the highly dynamic geomorphology interact with natural forest succession. *Forest Ecology and Management*, **196**: 199 – 212.
- Worbes, M., Klinge, H., Revilla, J.D. and Martius, C., 1992, On the dynamics, floristic subdivision and geographical distribution of varzea forests in Central Amazonia. *Journal of Vegetation Science*, **3**: 553 – 564.
- Wright, S.J., Calderon, O., Hernandez, A. and Paton, S., 2004, Are lianas increasing in importance in tropical forests? A 17-year record from Panama. *Ecology*, **85**: 484 – 489.
- Wright, S.J. and Duber, H.C., 2001, Poachers and Forest Fragmentation Alter Seed Dispersal, Seed Survival, and Seedling Recruitment in the Palm *Attalea butyraceae*, with Implications for Tropical Tree Diversity. *Biotropica*, **33**: 583 – 595.
- Wright, S.J., Muller-Landau, H.C., Condit, R. and Hubbell, S.P., 2003, Gap-dependent recruitment, realized vital rates, and size distributions of tropical trees. *Ecology*, **84**: 3174 – 3185.
- Wunderle, J.M., Willig, M.R. and Henriques, L.M.P., 2005, Avian distribution in treefall gaps and understorey of *terra firme* forest in the lowland Amazon. *Ibis*, **147**: 109 – 129.
- Young, A. and Mitchell, N., 1994, Microclimate and vegetation edge effects in a fragmented podocarp – broadleaf forest in New Zealand. *Biological Conservation*, **67**: 63 – 72.
- Young, A., Boyle, T. and Brown, T., 1996, The population genetic consequences of habitat fragmentation for plants. *Trends in Ecology and Evolution*, **11**: 413 – 418.
- Zar, J.H., 1999, *Biostatistical Analysis*. Fourth Edition. Prentice Hall International, Inc. and Pearson Education, Upper Saddle River, New Jersey.

Zartman, C.E. and Shaw, A.J., 2006, Metapopulation Extinction thresholds in Rain Forest Remnants. *The American Naturalist*, **167**: 177 – 189.

## Appendix 1

Wood densities of tree species encountered in the vegetation survey (Chapter 5). Data obtained from Osunkoya (1996), Cause *et al.* (1989), Hyland (1989) and from expert advice (Dr Steve Goosem, *pers. comm.*, citing Floyd 1989 and Watson 1951). Wood specific gravity = wood density ( $\text{kg m}^{-3}$ )/1000.

Species	Family	Wood Density ( $\text{kg m}^{-3}$ )
<b><u>Trees</u></b>		
<i>Aceratium megalospermum</i>	Eleoocarpaceae	625
<i>Acmena graveolens</i>	Myrtaceae	595
<i>Acronychia vestita</i>	Rutaceae	705
<i>Aglaia meridionalis</i>	Meliaceae	700 (47)*
<i>Aglaia tomentosa</i>	Meliaceae	700 (47)*
<i>Alangium villosum</i>	Alangiaceae	705
<i>Alphitonia petriei</i>	Rhamnaceae	515
<i>Alstonia scholaris</i>	Apocynaceae	400
<i>Antirrhea tenuiflora</i>	Rubiaceae	805 (58)*
<i>Apodytes brachystylis</i>	Icacinaceae	655
<i>Archidendron whitei</i>	Mimosaceae	705 (74)*‡
<i>Argyrodendron peralatum</i>	Sterculiaceae	800
<i>Argyrodendron trifoliolatum</i>	Sterculiaceae	925
<i>Austromyrtus bidwillii</i>	Myrtaceae	775 (21)*¶
<i>Austromyrtus dallachiana</i>	Myrtaceae	775 (21)* ¶
<i>Austromyrtus shepherdii</i>	Myrtaceae	775 (21)* ¶
<i>Beilschmedia bancroftii</i>	Lauraceae	640
<i>Beilschmedia recurva</i>	Lauraceae	620
<i>Beilschmedia tooram</i>	Lauraceae	850
<i>Beilschmedia volckii</i>	Lauraceae	545
<i>Bischofia javanica</i>	Euphorbiaceae	655
<i>Breynia stipitata</i>	Euphorbiaceae	690 (37)*
<i>Brombya platynema</i>	Rutaceae	710
<i>Cananga odorata</i>	Annonaceae	465

<b>Species</b>	<b>Family</b>	<b>Wood Density (kg m<sup>-3</sup>)</b>
<i>Cardwellia sublimis</i>	Proteaceae	560
<i>Carnarvonia araliifolia</i>	Proteaceae	690
<i>Castanospermum australe</i>	Fabaceae	755
<i>Castanospora alphanthii</i>	Sapindaceae	705
<i>Celtis paniculata</i>	Ulmaceae	705
<i>Chionanthus axillaris</i>	Oleaceae	935 (40)*
<i>Chisocheton longistipitatus</i>	Meliaceae	545
<i>Cinnamomum laubatii</i>	Lauraceae	480
<i>Citronella smythii</i>	Icacinaceae	675
<i>Clerodendron grayi</i>	Verbenaceae	585 (37)*
<i>Corynocarpus cribbianus</i>	Corynocarpaceae	690
<i>Cryptocarya angulata</i>	Lauraceae	755
<i>Cryptocarya corrugata</i>	Lauraceae	800
<i>Cryptocarya grandis</i>	Lauraceae	830
<i>Cryptocarya mackinnoniana</i>	Lauraceae	880
<i>Cryptocarya melanocarpa</i>	Lauraceae	775
<i>Cryptocarya murrayi</i>	Lauraceae	785
<i>Cryptocarya oblata</i>	Lauraceae	560
<i>Cryptocarya pleurosperma</i>	Lauraceae	690
<i>Daphnandra repandula</i>	Monimiaceae	675
<i>Davidsonia pruriens</i>	Davidsoniaceae	875
<i>Diospiros cupulosa</i>	Ebenaceae	1010 (122)*
<i>Diospiros</i> sp. "twice as flat"	Ebenaceae	1010 (122)*
<i>Diploglottis bracteata</i>	Sapindaceae	995
<i>Diploglottis smithii</i>	Sapindaceae	830 (22)*
<i>Doryphora aromatica</i>	Monimiaceae	560
<i>Dysoxylum klanderii</i>	Meliaceae	945
<i>Dysoxylum oppositifolium</i>	Meliaceae	880
<i>Dysoxylum papuanum</i>	Meliaceae	735
<i>Dysoxylum pettigrewianum</i>	Meliaceae	865
<i>Elaeocarpus grandis</i>	Elaeocarpaceae	495
<i>Elaeocarpus largiflorens</i>	Elaeocarpaceae	450



<b>Species</b>	<b>Family</b>	<b>Wood Density (kg m<sup>-3</sup>)</b>
<i>Endiandra bessaphila</i>	Lauraceae	665
<i>Endiandra compressa</i>	Lauraceae	995
<i>Endiandra globosa</i>	Lauraceae	915
<i>Endiandra insignis</i>	Lauraceae	750
<i>Endiandra leptodendron</i>	Lauraceae	870
<i>Endiandra monothyra</i>	Lauraceae	800
<i>Endiandra palmerstonii</i>	Lauraceae	690
<i>Endiandra sankeyana</i>	Lauraceae	755
<i>Endiandra sideroxylon</i>	Lauraceae	800
<i>Ficus congesta</i>	Moraceae	350
<i>Ficus copiosa</i>	Moraceae	350
<i>Ficus crassipes</i>	Moraceae	350
<i>Ficus leptoclada</i>	Moraceae	560
<i>Ficus pleurocarpa</i>	Moraceae	470
<i>Ficus septica</i>	Moraceae	350
<i>Ficus variegata</i>	Moraceae	400
<i>Ficus virens</i> var. <i>virens</i>	Moraceae	400
<i>Flindersia acuminata</i>	Rutaceae	530
<i>Flindersia brayleyana</i>	Rutaceae	575
<i>Franciscodendron laurifolium</i>	Sterculiaceae	450
<i>Gardenia ovularis</i>	Rubiaceae	850
<i>Gessios biagiana</i>	Cunoniaceae	640
<i>Gillbeea adenopetala</i>	Cunoniaceae	530
<i>Glochidion harveyanum</i>	Euphorbiaceae	785
<i>Glochidion sumatrum</i>	Euphorbiaceae	705
<i>Guioa lasioneura</i>	Sapindaceae	830 (22)*
<i>Haplostichanthus</i> sp. Johnstone River LWJ 471	Annonaceae	565 (38)*
<i>Helicia nortoniana</i>	Proteaceae	725 (33)* †
<i>Hollandaea sayeriana</i>	Proteaceae	725 (33)* †
<i>Hylandia dockrillii</i>	Euphorbiaceae	560

<b>Species</b>	<b>Family</b>	<b>Wood Density (kg m<sup>-3</sup>)</b>
<i>Irvingbaileya australis</i>	Icacinaceae	495
<i>Levieria acuminata</i>	Monimiaceae	435
<i>Litsea leefeana</i>	Lauraceae	480
<i>Macaranga inamoena</i>	Euphorbiaceae	560
<i>Mallotus paniculatus</i>	Euphorbiaceae	690 (37)*
<i>Melicope bonwickii</i>	Rutaceae	465
<i>Melicope elleryana</i>	Rutaceae	610
<i>Melicope vitiflora</i>	Rutaceae	625
<i>Melicope xanthoxyloides</i>	Rutaceae	495
<i>Mischocarpus lachnocarpus</i>	Sapindaceae	830 (22)*
<i>Myristica insipida</i>	Myristicaceae	560
<i>Neolitsea dealbata</i>	Lauraceae	680
<i>Niemeyera prunifera</i>	Sapotaceae	610
<i>Omаланthus novo-guineensis</i>	Euphorbiaceae	320
<i>Opistheolepis heterophylla</i>	Proteaceae	610
<i>Ostrearia australiana</i>	Hamamelidaceae	755
<i>Palaquium galatoxylon</i>	Sapotaceae	560
<i>Phaleria clerodendron</i>	Thymelaeaceae	655 (16)§
<i>Pilidiostigma tropicum</i>	Myrtaceae	775 (21)*
<i>Pitiviaster haplophylla</i>	Rutaceae	835
<i>Podocarpus dispermus</i>	Podocarpaceae	580 (45)*
<i>Polyalthia michaelii</i>	Annonaceae	625
<i>Polyosma hirsute</i>	Grossulariaceae	720 (na)*
<i>Polyscias australiana</i>	Araliaceae	575
<i>Polyscias elegans</i>	Araliaceae	480
<i>Polyscias murrayi</i>	Araliaceae	400
<i>Pouteria castanosperma</i>	Sapotaceae	975
<i>Prunus turneriana</i>	Rosaceae	530
<i>Pseuduvaria villosa</i>	Annonaceae	565 (38)*
<i>Rhodamnia sessiliflora</i>	Myrtaceae	975
<i>Rhodomertus pervigata</i>	Myrtaceae	775 (21)*
<i>Rhysotoechia robertsonii</i>	Sapindaceae	830 (22)*

<b>Species</b>	<b>Family</b>	<b>Wood Density (kg m<sup>-3</sup>)</b>
<i>Rockinghamia angustifolia</i>	Euphorbiaceae	800
<i>Sarcotoechia protracta</i>	Sapindaceae	830 (22)*
<i>Schefflera actinophylla</i>	Araliaceae	480
<i>Siphonodon membranaceus</i>	Celastraceae	835
<i>Sloanea australis</i>	Eleaocarpaceae	625
<i>Sloanea macbrydei</i>	Eleaocarpaceae	575
<i>Symplocus cochinchinensis</i>	Symplocaceae	545
<i>Symplocus paucistaminea</i>	Symplocaceae	585 (40)*
<i>Synima cordierorum</i>	Sapindaceae	945
<i>Synima macrophylla</i>	Sapindaceae	830 (22)*
<i>Synuom glandulosum</i> ssp. <i>paniculosum</i>	Meliaceae	675
<i>Synuom muelleri</i>	Meliaceae	625
<i>Syzygium alliiligneum</i>	Myrtaceae	610
<i>Syzygium cormiflorum</i>	Myrtaceae	770
<i>Syzygium gustavioides</i>	Myrtaceae	690
<i>Syzygium sayeri</i>	Myrtaceae	840
<i>Tetrasynandra laxiflora</i>	Monimiaceae	640
<i>Toechima erythrocarpum</i>	Sapindaceae	785
<i>Toechima monticola</i>	Sapindaceae	830 (22)*
<i>Xanthophyllum octandrum</i>	Xanthophyllaceae	800
<b><u>Tree Ferns</u></b>		
<i>Cyathea cooperi</i>	Cyatheaceae	Excluded
<b><u>Lianas</u></b>		
<i>Austrobaileya scandens</i>	Austrobaileyaceae	Excluded
<i>Austrosteenisia stipularis</i>	Fabaceae	Excluded
<i>Cardiopteris moluccana</i>	Cardiopteraceae	Excluded
<i>Carronia protensa</i>	Menispermaceae	Excluded
<i>Cissus sterculiifolia</i>	Vitaceae	Excluded
<i>Cissus vinosa</i>	Vitaceae	Excluded
<i>Connarus conchocarpus</i>	Connaraceae	Excluded

Species	Family	Wood Density (kg m <sup>-3</sup> )
<i>Eleagnus triflora</i>	Eleagnaceae	Excluded
<i>Faradaya splendida</i>	Verbenaceae	Excluded
<i>Ichnocarpus frutescens</i>	Apocynaceae	Excluded
<i>Maclura cochinchinensis</i>	Moraceae	Excluded
<i>Melodinus australis</i>	Apocynaceae	Excluded
<i>Mucuna gigantea</i>	Fabaceae	Excluded
<i>Neosepicaea jucunda</i>	Bignoniaceae	Excluded
<i>Omphalea queenslandiae</i>	Euphorbiaceae	Excluded
<i>Palmeria scandens</i>	Monimiaceae	Excluded
<i>Parsonsia latifolia</i>	Apocynaceae	Excluded
<i>Piper novaehollandiae</i>	Piperaceae	Excluded
<i>Rhamnella vitiensis</i>	Rhamnaceae	Excluded
<i>Sageretia hamosa</i>	Rhamnaceae	Excluded
<i>Salacia dispela</i>	Hippocrataceae	Excluded
<i>Tetracera nordtiana</i>	Dilleniaceae	Excluded

\* Family average used (obtained from Cause *et al.* 1989 and Smith *et al.* 1991).

Standard deviation is shown in parentheses.

‡ Mimosaceae average excludes the genus *Acacia*.

¶ Myrtaceae average excludes the genera *Corymbia*, *Eucalyptus*, *Leptospermum*, *Lophostemon* and *Melaleuca*.

† Proteaceae average excludes the genera *Banksia* and *Grevillea*.

§ No data available on the family Thymelaeaceae; dataset mean used instead.

## Appendix 2.

Species encountered in the vegetation survey (Chapter 5). Successional status (E = early, I = intermediate, L = late), growth habit (C = canopy tree, U = understorey tree, S = shrub, H = herb, G = grass, F = fern, V = large woody vine, V-s = slender vine, V-h = climbing herb) and propagule size (S = diameter < 1.0 cm, I = diameter 1.0 – 2.0 cm, L = diameter > 2.0 cm) and dispersal mode (B = biotic or A = abiotic) are given for each species.

Species	Family	Successional Status	Habit	Propagule Size	Dispersal Mode
<i>Aceratium megalospermum</i>	Eleocarpaceae	I	C	S	B
<i>Acmena graveolens</i>	Myrtaceae	L	C	L	B
<i>Acronychia parviflora</i>	Rutaceae	I	S	S	B
<i>Acronychia vestita</i>	Rutaceae	I	U	I	B
<i>Adiantum diaphanum</i>	Adiantaceae	L	F	S	A
<i>Ageratum conyzoides</i>	Asteraceae	W	W	S	A
<i>Aglaia australiensis</i>	Meliaceae	L	U	L	B
<i>Aglaia meridionalis</i>	Meliaceae	L	U	L	B
<i>Aglaia sapindina</i>	Meliaceae	L	U	I	B
<i>Aglaia tomentosa</i>	Meliaceae	L	U	I	B
<i>Alangium villosum</i>	Alangiaceae	L	C	S	B
<i>Alocasia brisbanensis</i>	Araceae	E	H	S	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Alphitonia petriei</i>	Rhamnaceae	E	C	S	B
<i>Alphitonia whitei</i>	Rhamnaceae	E	C	S	B
<i>Alpinia arctiflora</i>	Zingiberaceae	E	H	L	A
<i>Alpinia modesta</i>	Zingiberaceae	I	H	S	B
<i>Alstonia scholaris</i>	Apocynaceae	E	C	L	A
<i>Aneilema acuminatum</i>	Commelinaceae	E	H	S	A
<i>Antidesma erostre</i>	Euphorbiaceae	I	U	S	B
<i>Antirrhea tenuiflora</i>	Rubiaceae	I	U	S	B
<i>Apodytes brachystylis</i>	Icacinaceae	L	U	S	B
<i>Archidendron whitei</i>	Mimosaceae	I	U	L	B
<i>Archontophoenix alexandrae</i>	Arecaceae	I	C	I	B
<i>Ardisia brevipedata</i>	Myrsinaceae	L	S	S	B
<i>Ardisia pachyrrhachis</i>	Myrsinaceae	I	U	S	B
<i>Argyrodendron peralatum</i>	Sterculiaceae	L	C	L	A
<i>Argyrodendron trofoliolatum</i>	Sterculiaceae	L	C	L	A
<i>Arthropteris palasotii</i>	Nephrolepidaceae	L	V-f	S	A
<i>Arytera pauciflora</i>	Sapindaceae	L	U	S	B
<i>Asplenium australasicum</i>	Aspleniaceae	L	F	S	A
<i>Attractocarpus hirtus</i>	Rubiaceae	L	S	S	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Austrobaileya scandens</i>	Austrobaileyaceae	L	V	L	B
<i>Austromyrtus bidwillii</i>	Myrtaceae	L	U	I	B
<i>Austromyrtus dallachiana</i>	Myrtaceae	L	U	I	B
<i>Austromyrtus shepherdii</i>	Myrtaceae	L	U	I	B
<i>Austrosteenisia stipularis</i>	Fabaceae	I	V	S	
<i>Balanophora fungosa</i>	Balanophoraceae	L	H	S	
<i>Beilschmedia bancroftii</i>	Lauraceae	L	C	L	B
<i>Beilschmedia collina</i>	Lauraceae	L	C	L	B
<i>Beilschmedia recurva</i>	Lauraceae	L	C	I	B
<i>Beilschmedia tooram</i>	Lauraceae	L	C	L	B
<i>Beilschmedia volckii</i>	Lauraceae	L	C	L	B
<i>Bischofia javanica</i>	Euphorbiaceae	L	C	S	B
<i>Bleasdalea bleasdalei</i>	Proteaceae	L	U	I	
<i>Blechnum cartiliganum</i>	Blechnaceae	E	F	S	A
<i>Bowenia spectabilis</i>	Zamiaceae	I	H	L	B
<i>Breynia cernua</i>	Euphorbiaceae	E	S	S	B
<i>Breynia stipitata</i>	Euphorbiaceae	E	C	S	B
<i>Brombya platynema</i>	Rutaceae	L	U	S	B
<i>Bubbia semecarpoides</i>	Winteraceae	L	U	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Caesalpinia traceyi</i>	Caesalpinaceae	E	V	S	
<i>Calamus australis</i>	Arecaeae	I	V-s	S	B
<i>Calamus caryotoides</i>	Arecaeae	I	V-s	S	B
<i>Calamus motii</i>	Arecaeae	I	V-s	S	B
<i>Callicarpa pedunculata</i>	Verbenaceae	E	S	S	B
<i>Cananga odorata</i>	Annonaceae	L	C	I	B
<i>Cardiopteris moluccana</i>	Cardiopteridaceae	L	V		
<i>Cardwellia sublimis</i>	Proteaceae	E	C	S	A
<i>Carnavonia araliifolia</i>	Proteaceae	L	C	I	A
<i>Carronia protensa</i>	Menispermaceae	I	V	I	B
<i>Casearia dallachii</i>	Flacourtiaceae	L	U	S	B
<i>Castanospermum australe</i>	Fabaceae	I	C	L	B
<i>Castanospora alphandii</i>	Sapindaceae	I	C	L	B
<i>Cayratia saponaria</i>	Vitaceae	E	V	S	B
<i>Celastrus subspicata</i>	Celastraceae	I	V	S	B
<i>Celtis paniculata</i>	Ulmaceae	I	C	S	B
<i>Cephaloralea cephalobottridge</i>	Araliaceae	E	V	S	B
<i>Chionanthus axillaris</i>	Oleaceae	L	U	I	B
<i>Chisocheton longistipitatus</i>	Meliaceae	L	C	L	B



<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal</b>
<i>Cinnamomum laubatii</i>	Lauraceae	L	C	I	B
<i>Cissus hypoglauca</i>	Vitaceae	I	V	S	B
<i>Cissus repens</i>	Vitaceae	I	V	S	B
<i>Cissus sterculiifolia</i>	Vitaceae	I	V	S	B
<i>Cissus vinosa</i>	Vitaceae	I	V	I	B
<i>Citronella moorei</i>	Icacinaceae	L	C	I	B
<i>Citronella smythii</i>	Icacinaceae	L	C	S	B
<i>Clematis glycinoides</i>	Ranunculaceae	I	V	S	A
<i>Clerodendron grayi</i>	Verbenaceae	E	S	S	B
<i>Cnesmocarpon dasyantha</i>	Sapindaceae	L	U	I	B
<i>Codiaeum variegatum</i> var. <i>moluccanum</i>	Euphorbiaceae	E	S	S	B
<i>Connarus conchocarpus</i>	Connaraceae	L	V	I	B
<i>Cordyline cannifolia</i>	Agavaceae	E	H	S	B
<i>Corymborkis veratrifolia</i>	Orchidaceae	L	S	S	A
<i>Corynocarpus cribbianus</i>	Corynocarpaceae	L	C	L	B
<i>Coveniella poecilophlebia</i>	Aspidiaceae	E	F	S	A
<i>Cryptocarya angulata</i>	Lauraceae	L	C	I	B
<i>Cryptocarya corrugata</i>	Lauraceae	L	C	I	B
<i>Cryptocarya grandis</i>	Lauraceae	L	C	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Cryptocarya hypospodia</i>	Lauraceae	L	C	I	B
<i>Cryptocarya mackinnoniana</i>	Lauraceae	L	C	I	B
<i>Cryptocarya melanocarpa</i>	Lauraceae	L	C	I	B
<i>Cryptocarya murrayi</i>	Lauraceae	L	C	I	B
<i>Cryptocarya oblata</i>	Lauraceae	L	C	L	B
<i>Cryptocarya pleurosperma</i>	Lauraceae	L	C	L	B
<i>Cryptocarya triplinervis</i>	Lauraceae	L	U	S	B
<i>Cryptocarya vulgaris</i>	Lauraceae	E	U	S	B
<i>Cupaniopsis flagelliformis</i>	Sapindaceae	I	U	I	B
<i>Cyathea cooperi</i>	Cyatheaceae	E	F	S	A
<i>Daphnandra repandula</i>	Monimiaceae	I	C	L	A
<i>Darlingia ferruginea</i>	Proteaceae	I	C	L	A
<i>Davidsonia pruriens</i>	Davidsoniaceae	L	U	L	B
<i>Delarbrea michieana</i>	Araliaceae	L	U	I	B
<i>Derris trifoliolata</i>	Fabaceae	I	V	L	A
<i>Desmos gozeanus</i>	Annonaceae	L	V	S	B
<i>Dichapetalum papuanum</i>	Dichapetalaceae	L	V	S	B
<i>Dicranopteris linearis</i>	Gleicheniaceae	E	V-f	S	A
<i>Diospiros cupulosa</i>	Ebenaceae	I	C	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Diospiros</i> sp. "twice as flat"	Ebenaceae	L	U	S	B
<i>Diospiros</i> sp. Millaa Millaa LJW 515	Ebenaceae	L	U	S	B
<i>Diplazium dilatatum</i>	Athyriaceae	L	F	S	A
<i>Diploglottis bracteata</i>	Sapindaceae	L	U	L	B
<i>Diploglottis smithii</i>	Sapindaceae	L	U	L	B
<i>Diploglottis smithii</i>	Sapindaceae	I	C	L	B
<i>Doryphora aromatica</i>	Monimiaceae	L	C	I	A
<i>Dysoxylum alliaceum</i>	Meliaceae	L	C	L	B
<i>Dysoxylum klanderi</i>	Meliaceae	I	U	L	B
<i>Dysoxylum mollisimum</i>	Meliaceae	L	C	L	B
<i>Dysoxylum oppositifolium</i>	Meliaceae	L	U	S	B
<i>Dysoxylum papuanum</i>	Meliaceae	L	C	S	B
<i>Dysoxylum parasiticum</i>	Meliaceae	L	C	I	B
<i>Dysoxylum pettigrewianum</i>	Meliaceae	I	C	L	B
<i>Eleagnus triflora</i>	Eleagnaceae	E	V	S	B
<i>Elaeocarpus grandis</i>	Elaeocarpaceae	E	C	I	B
<i>Elaeocarpus largiflorens</i>	Elaeocarpaceae	E	C	I	B
<i>Embelia grayi</i>	Myrsinaceae	I	V	S	B
<i>Endiandra bessaphila</i>	Lauraceae	L	C	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Endiandra compressa</i>	Lauraceae	L	U	L	B
<i>Endiandra cowleyana</i>	Lauraceae	L	C	L	B
<i>Endiandra globosa</i>	Lauraceae	L	C	L	B
<i>Endiandra hypotephra</i>	Lauraceae	L	U	I	B
<i>Endiandra insignis</i>	Lauraceae	L	C	L	B
<i>Endiandra leptodendron</i>	Lauraceae	L	U	I	B
<i>Endiandra monothyra</i>	Lauraceae	L	C	I	B
<i>Endiandra montana</i>	Lauraceae	L	C	L	B
<i>Endiandra palmerstonii</i>	Lauraceae	L	C	L	B
<i>Endiandra sankeyana</i>	Lauraceae	L	C	L	B
<i>Endiandra sideroxylon</i>	Lauraceae	L	C	L	B
<i>Endiandra wolfei</i>	Lauraceae	L	C	I	B
<i>Epipremnum pinnatum</i>	Araceae	I	V		B
<i>Erycibe coccinea</i>	Convolvulaceae	L	V	I	B
<i>Erythroxylum ecarinatum</i>	Erythroxylaceae	L	C	S	B
<i>Eupomatia barbatra</i>	Eupomatiaceae	I	U		B
<i>Eupomatia laurina</i>	Eupomatiaceae	I	U	L	B
<i>Eupomatia</i> sp. Noah Head	Eupomatiaceae	I	U		B
<i>Faradaya splendida</i>	Verbenaceae	I	V	L	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Ficus congesta</i>	Moraceae	E	U	S	B
<i>Ficus copiosa</i>	Moraceae	I	U	S	B
<i>Ficus crassipes</i>	Moraceae	L	SF	I	B
<i>Ficus destruens</i>	Moraceae	L	SF	I	B
<i>Ficus leptoclada</i>	Moraceae	E	U	S	B
<i>Ficus pantoniana</i>	Moraceae	L	V	I	B
<i>Ficus pleurocarpa</i>	Moraceae	L	SF	I	B
<i>Ficus septica</i>	Moraceae	I	U	S	B
<i>Ficus variegata</i>	Moraceae	L	C	L	B
<i>Ficus virens</i> var. <i>virens</i>	Moraceae	L	SF	I	B
<i>Flagellaria indica</i>	Flagellariaceae	E	V-s	S	B
<i>Flindersia acuminata</i>	Rutaceae	I	C	L	A
<i>Flindersia bourjotiana</i>	Rutaceae	I	C	I	A
<i>Flindersia brayleyana</i>	Rutaceae	I	C	S	A
<i>Fontainea picrosperma</i>	Euphorbiaceae	I	U	L	B
<i>Franciscodendron laurifolium</i>	Sterculiaceae	L	C	I	B
<i>Freycinetia excelsa</i>	Pandanaceae	L	V-h	S	B
<i>Freycinetia scandens</i>	Pandanaceae	L	V-h	S	B
<i>Gardenia merikin</i>	Rubiaceae	L	S	L	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Gardenia ovularis</i>	Rubiaceae	L	U	L	B
<i>Geissois biagiana</i>	Cunoniaceae	L	C	S	A
<i>Gilbeea adenopetala</i>	Cunoniaceae	I	C	I	A
<i>Glochidion harveyanum</i>	Euphorbiaceae	E	C	S	B
<i>Glochidion hylandii</i>	Euphorbiaceae	E	C	S	B
<i>Glochidion philippicum</i>	Euphorbiaceae	E	C	S	B
<i>Glochidion sumatranum</i>	Euphorbiaceae	E	C	S	B
<i>Gmelina fasciculiflora</i>	Verbenaceae	L	C	I	B
<i>Guioa acutifolia</i>	Sapindaceae	E	U	S	B
<i>Guioa lasioneura</i>	Sapindaceae	E	U	S	B
<i>Gymnostachys anceps</i>	Araceae	L	S	S	
<i>Haplostichanthus</i> sp. Johnstone River LWJ 471	Annonaceae	L	U	I	B
<i>Haplostichanthus</i> sp. Topaz LWJ 520	Annonaceae	L	U	S	B
<i>Harpullia frutescens</i>	Sapindaceae	L	U	I	B
<i>Harpullia rhyticarpa</i>	Sapindaceae	L	U	I	B
<i>Hedycarya loxocarya</i>	Monimiaceae	I	C	S	
<i>Helicia nortoniana</i>	Proteaceae	L	U	S	B
<i>Hibbertia scandens</i>	Dilleniaceae	E	V	S	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Hollandaea sayeriana</i>	Proteaceae	L	U	L	B
<i>Hylandia dockrillii</i>	Euphorbiaceae	I	C	L	B
<i>Hypserpa decumbens</i>	Menispermaceae	E	V	S	B
<i>Hypserpa laurina</i>	Menispermaceae	L	V	S	B
<i>Hyptis capitata</i>	Lamiaceae	W	S	S	A
<i>Ichnocarpus frutescens</i>	Apocynaceae	I	V		A
<i>Irvingbaileya australis</i>	Icacinaceae	L	C	L	B
<i>Ixora baileyana</i>	Rubiaceae	L	S	S	B
<i>Jasminum didymum</i>	Oleaceae	E	V	S	B
<i>Lantana camara</i>	Verbenaceae	W	S	S	B
<i>Lasianthus strigosus</i>	Rubiaceae	L	S	I	B
<i>Lastreopsis rufescens</i>	Aspidiaceae	L	F	S	A
<i>Leea indica</i>	Leeaceae	E	S	S	B
<i>Levieria acuminata</i>	Monimiaceae	L	U	S	B
<i>Linospadix microcarya</i>	Arecaceae	L	H	S	B
<i>Linospadix minor</i>	Arecaceae	L	H	I	B
<i>Litsea connorsii</i>	Lauraceae	E	C	S	B
<i>Litsea leefeana</i>	Lauraceae	I	C	I	B
<i>Macaranga inamoena</i>	Euphorbiaceae	E	U	S	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Macaranga subdentata</i>	Euphorbiaceae	E	U	S	B
<i>Macaranga tanarius</i>	Euphorbiaceae	E	C	S	B
<i>Maclura cochinchinensis</i>	Moraceae	E	V	S	B
<i>Maesa dependens</i> var. <i>dependens</i>	Myrsinaceae	E	V	S	B
<i>Mallotus paniculatus</i>	Euphorbiaceae	E	C	S	B
<i>Mallotus polyadenos</i>	Euphorbiaceae	E	C	S	B
<i>Marattia oreades</i>	Marattiaceae	E	F	S	A
<i>Marsdenia</i> unidentified species	Asclepiadaceae	L	V		A
<i>Meiogyne</i> sp. Henrietta Creek LWJ 512	Annonaceae	L	S	I	B
<i>Melicope bonwickii</i>	Rutaceae	E	C	S	B
<i>Melicope broadbentiana</i>	Rutaceae	E	U	S	B
<i>Melicope elleryana</i>	Rutaceae	E	C	S	B
<i>Melicope vitiflora</i>	Rutaceae	E	C	S	B
<i>Melicope xanthoxyloides</i>	Rutaceae	E	C	S	B
<i>Melinis minutiflora</i>	Poaceae	W	G	S	A
<i>Melodinus acutifolius</i>	Apocynaceae	I	V	L	B
<i>Melodinus australis</i>	Apocynaceae	I	V	S	B
<i>Melodinus bacellianus</i>	Apocynaceae	I	V	L	B
<i>Melodorum uhrii</i>	Annonaceae	L	V	S	B



Species	Family	Successional Status	Habit	Propagule Size	Dispersal Mode
<i>Mischocarpus exangulatus</i>	Sapindaceae	I	U	I	B
<i>Mischocarpus grandissimus</i>	Sapindaceae	I	U	S	B
<i>Mischocarpus lachnocarpus</i>	Sapindaceae	I	U	S	B
<i>Mischocarpus macrocarpus</i>	Sapindaceae	I	U	I	B
<i>Mischocarpus stipitatus</i>	Sapindaceae	I	U	I	B
<i>Morinda hypotethra</i>	Rubiaceae	I	V	S	B
<i>Morinda umbellata</i>	Rubiaceae	I	V	S	B
<i>Motherwellia haplosciadea</i>	Araliaceae	E	V		B
<i>Mucuna gigantea</i>	Fabaceae	E	V	I	A
<i>Myristica insipida</i>	Myristicaceae	L	U	I	B
<i>Neiosperma poweri</i>	Apocynaceae	L	U	I	B
<i>Neolitsea dealbata</i>	Lauraceae	E	C	S	B
<i>Neosepicaea jucunda</i>	Bignoniaceae	I	V	L	B
<i>Nephrolepsis cordifolia</i>	Nephrolepidaceae	E	F	S	A
<i>Nephrolepsis obliterated</i>	Nephrolepidaceae	E	V-f	S	A
<i>Niemeyera prunifera</i>	Sapotaceae	L	U	L	B
<i>Omаланthus novo-guineensis</i>	Euphorbiaceae	E	C	S	B
<i>Omphalea queenslandiae</i>	Euphorbiaceae	I	V	L	B
<i>Opisteolepis heterophylla</i>	Proteaceae	L	C	L	A

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Oplismenis compositus</i>	Poaceae	E	G	S	A
<i>Oplismenis undulatafolius</i>	Poaceae	E	G	S	A
<i>Ostrearia australiana</i>	Hamamelidaceae	L	C	I	B
<i>Ottochloa nodosa</i>	Poaceae	E	G	S	A
<i>Palaquium galatoxylon</i>	Sapotaceae	L	C	I	B
<i>Palmeria scandens</i>	Monimiaceae	E	V	S	B
<i>Pandanus monticola</i>	Pandanaceae	L	S	L	B
<i>Pandorea nervosa</i>	Bignoniaceae	I	V	S	A
<i>Pararistolochia australopithecus</i>	Aristolochiaceae	L	V	S	A
<i>Parsonsia latifolia</i>	Apocynaceae	E	V	L	A
<i>Passiflora edulis</i>	Passifloraceae	W	V	S	B
<i>Phaleria clerodendron</i>	Thymeliaceae	L	U	L	B
<i>Pilidiostigma tetramerum</i>	Myrtaceae	L	S	I	B
<i>Pilidiostigma tropicum</i>	Myrtaceae	L	U	S	B
<i>Piper caninum</i>	Piperaceae	I	V	S	B
<i>Piper macropiper</i>	Piperaceae	I	V	S	B
<i>Piper novaehollandiae</i>	Piperaceae	I	V	S	B
<i>Pitiviaster haplophylla</i>	Rutaceae	L	U	S	B
<i>Pittosporum rubiginosum</i>	Pittosporaceae	I	U	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Pittosporum trilobum</i>	Pittosporaceae	I	U	S	B
<i>Podocarpus dispermus</i>	Podocarpaceae	L	U	I	B
<i>Pollia macrophylla</i>	Commelinaceae	E	H	S	
<i>Polyalthia michaelii</i>	Annonaceae	L	U	L	B
<i>Polyosma hirsuta</i>	Grossulariaceae	L	U	I	B
<i>Polyscias australiana</i>	Araliaceae	E	U	S	B
<i>Polyscias elegans</i>	Araliaceae	E	C	S	B
<i>Polyscias mollis</i>	Araliaceae	E	U	S	B
<i>Polyscias murrayi</i>	Araliaceae	E	C	S	B
<i>Polyscias purpurea</i>	Araliaceae	E	S	S	B
<i>Pothos longipes</i>	Araceae	I	V-h	I	B
<i>Pouteria brownlessiana</i>	Sapotaceae	L	C	I	B
<i>Pouteria castanosperma</i>	Sapotaceae	L	C	L	B
<i>Pouteria obovoidea</i>	Sapotaceae	L	C	I	B
<i>Pouteria xerocarpa</i>	Sapotaceae	I	U	I	B
<i>Prunus turneriana</i>	Rosaceae	E	C	L	B
<i>Pseuderanthemum variable</i>	Acanthaceae	I	H	B	A
<i>Pseuduvaria villosa</i>	Annonaceae	L	S	I	B
<i>Psychotria dallachiana</i>	Rubiaceae	L	S	S	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Psychotria nematopoda</i>	Rubiaceae	L	S	S	B
<i>Psychotria</i> sp. Utchee Creek Flecker NQNC 5313	Rubiaceae	L	S	S	B
<i>Psychotria submontana</i>	Rubiaceae	L	S	S	B
<i>Randia tuberculosa</i>	Rubiaceae	L	U	I	B
<i>Rhamnella vitiensis</i>	Rhamnaceae	L	V	S	
<i>Rhaphidophora australasica</i>	Araceae	L	V-h	S	B
<i>Rhaphidophora petriei</i>	Araceae	L	V-h	S	B
<i>Rhodamnia sissiliflora</i>	Myrtaceae	E	U	S	B
<i>Rhodomyrtus macrocarpa</i>	Myrtaceae	E	U	I	B
<i>Rhodomyrtus pervigata</i>	Myrtaceae	E	U	I	B
<i>Rhysotoechia robertsonii</i>	Sapindaceae	L	U	I	B
<i>Ripogonum album</i>	Smilacaceae	I	V	S	B
<i>Rockinghamia angustifolia</i>	Euphorbiaceae	I	U	I	B
<i>Rubus alceifolius</i>	Rosaceae	W	S	S	B
<i>Rubus rosifolius/queenslandicum</i>	Rosaceae	E	S	S	B
<i>Sageretia hamosa</i>	Rhamnaceae	I	V	S	A
<i>Salacia dispela</i>	Hippocrataceae	L	V	L	
<i>Sanchezia parvibracteata</i>	Acanthaceae	W	S	S	

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Sarcopetalum harveyanum</i>	Menispermaceae	I	V	I	
<i>Sarcopterix martyana</i>	Sapindaceae	E	U	S	B
<i>Sarcotoechia protracta</i>	Sapindaceae	L	U	L	B
<i>Saurauia andreana</i>	Actinidiaceae	I	U	I	B
<i>Scaevola anantophylla</i>	Goodeniaceae	E	V	S	B
<i>Schefflera actinophylla</i>	Araliaceae	E	U	S	B
<i>Selaginella australiensis</i>	Selaginaceae	L	F	S	A
<i>Selaginella longipinna</i>	Selaginaceae	L	F	S	A
<i>Setococcus</i> sp.	Poaceae	W	G	S	A
<i>Siphonodon membranaceous</i>	Celastraceae	L	C	L	B
<i>Sloanea australis</i>	Eleocarpaceae	L	C	S	B
<i>Sloanea langii</i>	Eleocarpaceae	L	C	L	B
<i>Sloanea macbrydei</i>	Eleocarpaceae	L	C	S	B
<i>Smilax calophylla</i>	Smilacaceae	E	V-s	S	B
<i>Steghanthera australianum</i>	Monimiaceae	L	S	S	B
<i>Stephania japonica</i>	Menispermaceae	I	V	S	B
<i>Stylosanthes humilis</i>	Fabaceae	W	H	S	
<i>Symplocos cochinchinensis</i>	Symplocaceae	E	U	S	B
<i>Symplocos hayesii</i>	Symplocaceae	L	S	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Symplocus paucistaminea</i>	Symplocaceae	L	U	S	B
<i>Synima cordierorum</i>	Sapindaceae	L	U	I	B
<i>Synima macrophylla</i>	Sapindaceae	L	U	S	B
<i>Synuom glandulosum</i> ssp. <i>paniculosum</i>	Meliaceae	E	U	S	B
<i>Synuom muelleri</i>	Meliaceae	I	U	I	B
<i>Syzygium alliiligneum</i>	Myrtaceae	L	C	L	B
<i>Syzygium cormiflorum</i>	Myrtaceae	L	C	L	B
<i>Syzygium gustavioides</i>	Myrtaceae	L	C	L	B
<i>Syzygium johnsonii</i>	Myrtaceae	L	C	I	B
<i>Syzygium papyraceum</i>	Myrtaceae	L	C	L	B
<i>Syzygium sayeri</i>	Myrtaceae	L	C	I	B
<i>Tectaria confluence</i>	Aspidiaceae	L	F	S	A
<i>Ternstroemia cherryi</i>	Theaceae	L	U	L	B
<i>Tetracera nordtoniana</i>	Dilleniaceae	E	V	S	B
<i>Tetrastigma nitens</i>	Vitaceae	I	V	S	B
<i>Tetrasynandra laxiflora</i>	Monimiaceae	L	U	I	B
<i>Timonius singularis</i>	Rubiaceae	E	U	I	B
<i>Toechima erythrocarpum</i>	Sapindaceae	L	U	I	B
<i>Toechima monticola</i>	Sapindaceae	L	U	I	B

<b>Species</b>	<b>Family</b>	<b>Successional Status</b>	<b>Habit</b>	<b>Propagule Size</b>	<b>Dispersal Mode</b>
<i>Trophis scandens</i>	Moraceae	I	V	S	B
<i>Tylophora colorata</i>	Asclepiadaceae	I	V		A
<i>Urochloa maxima</i>	Poaceae	W	G	S	A
<i>Ventilago ecorollata</i>	Rhamnaceae	E	V	S	A
<i>Wilkiea</i> sp. Berong	Monimiaceae	I	U	S	B
<i>Wilkiea</i> sp. Boonjee BG 5413	Monimiaceae	I	S	S	B
<i>Xanthophyllum octandrum</i>	Xanthophyllaceae	L	C	S	B

### Appendix 3

Post hoc Mann-Whitney U tests to compare edge type effects for the proportion of individuals from different successional categories of understorey and canopy tree species. Significant contrasts (at the Bonferroni-corrected level of  $p < 0.0042$ ) are highlighted in bold and marginally-significant comparisons are highlighted in italics.

Parameter	Size Class	Comparison	Z	p-value
Understorey tree species, % early-successional	Trees	Powerline – highway	-2.065	0.039
		Powerline – creek	-1.274	0.203
		Highway – creek	-3.049	<b>&lt; 0.001</b>
	Saplings	Powerline – highway	-0.625	0.532
		Powerline – creek	-2.446	0.014
		Highway – creek	-2.313	0.021
	Seedlings	Powerline – highway	-0.161	0.872
		Powerline – creek	-3.070	<b>0.002</b>
		Highway – creek	-2.984	<b>0.003</b>
	All	Powerline – highway	-0.684	0.494
		Powerline – creek	-3.648	<b>&lt; 0.001</b>
		Highway – creek	-4.410	<b>&lt; 0.001</b>
Understorey tree species, % late-successional	Trees	Powerline – highway	-2.057	0.040
		Powerline – creek	-0.513	0.608
		Highway – creek	-2.403	0.016
	Saplings	Powerline – highway	-0.265	0.791
		Powerline – creek	-1.872	0.061
		Highway – creek	-2.365	0.018
	Seedlings	Powerline – highway	-0.362	0.718
		Powerline – creek	-2.683	<i>0.007</i>
		Highway – creek	-2.575	0.010
	All	Powerline – highway	-1.281	0.200
		Powerline – creek	-2.808	<i>0.005</i>
		Highway – creek	-4.171	<b>&lt; 0.001</b>
Canopy tree species, % early-successional	Trees	Powerline – highway	-1.177	0.239
		Powerline – creek	-1.481	0.138



<b>Parameter</b>	<b>Size Class</b>	<b>Comparison</b>	<b>Z</b>	<b>p-value</b>
Canopy tree species, % early-successional (continued)	Saplings	Highway – creek	-0.339	0.735
		Powerline – highway	-0.766	0.444
		Powerline – creek	-0.328	0.743
	Seedlings	Highway – creek	-0.355	0.723
		Powerline – highway	-2.230	0.026
		Powerline – creek	-1.205	0.228
	All	Highway – creek	-0.927	0.354
		Powerline – highway	-2.018	0.044
		Powerline – creek	-1.641	0.101
			Highway – creek	-0.263

## Appendix 4

Frugivorous bird species observed in small fragments on the Atherton Tablelands (Warburton 1997) or within 30 m of the Kuranda Highway, between Smithfield and Kuranda (Mr Greg Dawe, unpublished data). Species common to both lists are highlighted in bold. Birds dispersed fruit either regularly, occasionally (or intermediate between the two) or were seed predators and the maximum fruit width is the average width of the fruit of the largest-fruited plant species dispersed by each bird species (Dr Andrew Dennis *pers. comm.*). Data on seed dispersal characteristics and maximum widths of fruit dispersed were obtained from Dr Andrew Dennis (*pers. comm.*) at CSIRO, Atherton, Queensland.

Common Name	Scientific Name	Seed/Fruit Dispersal	Maximum Fruit Width (mm)
Australian Brush-turkey	<i>Alectura lathamii</i>	Predator	–
Barred Cuckoo-shrike	<i>Coracina lineata</i>	Regular	15
Black Butcherbird	<i>Cracticus quoyi</i>	Occasional	8.5
Bridled Honeyeater	<i>Lichenostomus frenatus</i>	Intermediate	7
<b>Brown Cuckoo-dove</b>	<i>Macropygia amboinensis</i>	Predator	–
<b>Dusky Honeyeater</b>	<i>Myzomela obscura</i>	Occasional	10.4
<b>Emerald Dove</b>	<i>Chalcophaps indica</i>	Predator	–
<b>Figbird</b>	<i>Specothes viridis</i>	Regular	22
Graceful Honeyeater	<i>Meliphaga gracilis</i>	Occasional	6
Helmeted Friarbird	<i>Philemon buceroides</i>	Occasional	6.2
Lewin's Honeyeater	<i>Meliphaga lewinii</i>	Regular	15
Little Cuckoo-shrike	<i>Coracina papuensis</i>	Occasional	5.25
<b>Macleay's Honeyeater</b>	<i>Xanthotis macleayana</i>	Intermediate	8
<b>Metallic Starling</b>	<i>Aplonis metallica</i>	Regular	14
Mistletoebird	<i>Dicaeum hirundinaceum</i>	Regular	9.5
Pied Currawong	<i>Strepera graculina</i>	Regular	24
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	Predator	–
Silvereye	<i>Zosterops lateralis</i>	Regular	8

<b>Common Name</b>	<b>Scientific Name</b>	<b>Seed/Fruit Dispersal</b>	<b>Maximum Fruit Width (mm)</b>
<b>Spangled Drongo</b>	<i>Dicrurus hottentottus</i>	Occasional	10.1
<b>Spotted Catbird</b>	<i>Ailuroedus melanotis</i>	Regular	17.5
Tooth-billed Catbird	<i>Ailuroedus dentiostriis</i>	Regular	17
<b>Topknot Pigeon</b>	<i>Lopholaimus antarcticus</i>	Regular	27.9
Varied Triller	<i>Lalage leucomela</i>	Intermediate	10.5
<b>Victoria's Riflebird</b>	<i>Ptiloris vistoriae</i>	Regular	24.5
<b>Wompoo Pigeon</b>	<i>Ptilinopus magnificus</i>	Regular	27.1
Yellow-spotted Honeyeater	<i>Meliphaga notata</i>	Occasional	7.4

## 11. Papers Arising From the Thesis

Pohlman, C.L., Turton, S.M. and Goosem, M., *In Press*, Edge Effects of Linear Canopy Openings on Tropical Rainforest Understorey Microclimate. *Biotropica*.

This paper was accepted for publication by the journal *Biotropica* on 27<sup>th</sup> March 2006. This paper is based on Chapter 4 (Section 4.2) and Chapter 3. The galley proofs provided by *Biotropica* for correction have been presented here.

THIS ARTICLE HAS BEEN REMOVED DUE  
TO COPYRIGHT RESTRICTIONS