SCIENCE COMMUNICATIONS

January 2003-March 2003

Science Division Mission: The provision of up-to-date and scientifically sound information to uphold effective conservation and land management in Western Australia http://calmweb.calm.wa.gov.au/drb/science/index.html

Science Communications lists titles of publications, reports etc prepared by Science Division staff. This issue is for the period January to March 2003. If you require a copy of a **submitted** paper please contact the author. For all other titles please contact Lisa Wright at Woodvale.

Neil Burrows Director

Journal Publications

- Abbott, I., Burbidge, T., Strehlow, K., Mellican, A. and Wills, A. (2003). Logging and burning impacts on cockroaches, crickets and grasshoppers, and spiders in jarrah forest, Western Australia. *Forest Ecology and Management* **174.** pp. 383-399.
- Bartle, J., Cooper, D., Olsen, G. and Carslake, J. (2002). *Acacia* species as large-scale crop plants in the Western Australian wheatbelt. *Conservation Science Western Australia* **4(3)**. pp. 96-108.
- Brand, J.E. (2002). Review of the influence of *Acacia* species on establishment of sandalwood (*Santalum spicatum*) in Western Australia. *Conservation Science Western Australia* **4(3)**. pp. 125-129.
- Brand, J.E. and Jones, P.J. (2002). The influence of landforms on sandalwood (Santalum spicatum (R.Br.) A.DC.) size structure and density in the north-eastern goldfields, Western Australia. Rangeland Journal 24. pp. 219-226.
- Buist, M.L., Coates, D.J. and Yates, C.J. (2002). Rarity and threat in relation to the conservation of *Acacia* in Western Australia. *Conservation Science Western Australia* **4(3).** pp. 36-53.
- Burrows, N.D. and Christensen, P.E.S. (2002). Long-term trends in native mammal capture rates in a jarrah forest in south-western Australia. *Australian Forestry* **65.** pp. 211-219.
- Byrne, M. (2002). Phylogenetics and the conservation and utilization of Acacia in Western Australia. *Conservation Science Western Australia* **4(3)**. pp. 10-18.

«Title»
«Company Name»
«Address Line 1»
«City»

- Cranfield, R.J. (2002). *Conostephium magnum* (Epacridaceae), a new species from Western Australia. *Nuytsia* **15.** pp. 21-25.
- Hayward, M.W., de Tores, P.J., Dillon, M.J. and Fox, B.J. (2003). Local population structure of a naturally occurring metapopulation of the quokka (*Setonix brachyurus*, Macropodidae: Marsupialia). *Biological Conservation* **110.** pp. 343-355.
- Keighery, G. (2002). A new species of *Blennospora* (Asteraceae: Gnaphalieae) from the Swan and Scott coastal plains of Western Australia. *Nuytsia* **15.** pp. 33-36.
- Keighery, G.J. (2002). A new species of Conostephium (Epacridaceae) from gypsum dunes in Western Australia. Nordic Journal of Botany 22. pp. 49-52.
- Keighery, G.J. (2002). A review of the genus *Pileanthus* (Myrtaceae). *Nuytsia* **15.** pp. 37-51.
- Keighery, G.J. (2002). Two new species of *Comesperma* (Polygalaceae) from Western Australia. *Nuytsia* **15.** pp. 53-57.
- Keighery, G. and Marchant, N. (2002). A new species of *Darwinia* (Myrtaceae) from Western Australia. *Nordic Journal of Botany* **22.** pp. 45-47
- Martin, G.R., Twigg, L.E., Marlow, N.J., Kirkpatrick, W.E., King, D.R. and Gaikhorst, G. (2002). The acceptability of three types of predator baits to captive non-target animals. *Wildlife Research* **29.** pp. 489-502.
- Maslin, B.R. (2002). The role and relevance of taxonomy in the conservation and utilisation of Australian acacias. *Conservation Science Western Australia* **4(3).** pp. 1-9.

(Continued on page 2)

(Continued from page 1)

- McDonald, M.W., Maslin, B.R. and Thomson, L.A.J. (2002). Domestication of wattles with edible seeds for the wheatbelt of Western Australia. *Conservation Science Western Australia* **4(3)**. pp. 170-180.
- Miller, J.T., Andrew, R.A. and Maslin, B.R. (2002). Towards an understanding of variation in the mulga complex (*Acacia aneura* and relatives). *Conservation Science Western Australia* **4(3)**. pp. 19-35.
- Monks, L. and Coates, D. (2002). The translocation of two critically endangered *Acacia* species. *Conservation Science Western Australia* **4(3).** pp. 54-61.
- Patrick, S. (2002). Flora and vegetation of Burnerbinmah Station: a study of the plant communities in the mulga shrublands of the Murchison region, Western Australia. *Conservation Science Western Australia* **4(3)**. pp. 72-93.
- Pearson, D., Shine, R. and Williams, A. (2003). Thermal biology of large snakes in cool climates: a radio-telemetric study of carpet pythons (*Morelia spilota imbricata*) in southwestern Australia. *Journal of Thermal Biology* **28.** pp. 117-131.
- Pinder, A.M. (2003). First Australian records of three species and two genera of aquatic oligochaetes (Clitellata: Annelida). *Proceedings of the Linnean Society of New South Wales* **124.** pp. 109-114.
- Ritson, P. and Sochacki, S. (2003).

 Measurement and prediction of biomass and carbon content of *Pinus pinaster* trees in farm forestry plantations, south-western Australia.

 Forest Ecology and Management 175. pp. 103-117
- Robinson, R.M. (2003). Short-term impact of thinning and fertilizer application on *Armillaria* root disease in a regrowth karri (*Eucalyptus diversicolor* F.Muell.) in Western Australia. *Forest Ecology and Management* **176.** pp. 417-426.
- Robinson, R.M. and Smith, R.H. (2002). Fumigation of regrowth karri stumps with metham-sodium to control *Armillaria luteobubalina*. *Australian Forestry* **64**. pp. 209-215.
- Ryan, P.J., Harper, R.J., Laffan, M., Booth, T.H. and McKenzie, N.J. (2002). Site assessment for farm forestry in Australia and its relationship to scale, productivity and sustainability. *Forest Ecology and Management* **171.** pp. 133-152.

- Rye, B.L. (2002). A revision of south-western Australian species of *Micromyrtus* (Myrtaceae) with five antisepalous ribs on the hypanthium. *Nuytsia* **15.** pp. 101-122.
- Science Division, Department of Conservation and Land Management, Western Australia (2002). Conservation science Western Australia. Vol. 4, no. 3. Department of Conservation and Land Management, Western Australia, pp. 1-191.
- Science Division, Department of Conservation and Land Management, Western Australia (2002). Nuytsia. Vol. 15, no. 1. Department of Conservation and Land Management, Western Australia, pp. 1-156.
- Wheeler, J.R. (2002). Lectotypification of two Western Australian species of *Micromyrtus* (Myrtaceae). *Nuytsia* **15.** pp. 153-154.
- Wheeler, J.R. (2002). Miscellaneous new species of *Hibbertia* (Dilleniaceae) from the wheatbelt and pastoral areas of Western Australia. *Nuytsia* **15.** pp. 139-152.
- Wheeler, J.R. (2002). A revision of *Hibbertia* depressa and its allies (Dilleniaceae) from Western Australia. *Nuytsia* **15.** pp. 127-138.
- Wildy, D.T. and Pate, J.S. (2002). Quantifying above- and below-ground growth responses of the Western Australian oil mallee *Eucalyptus kochii* subsp. *plenissima*, to contrasting decapitation regimes. *Annals of Botany* **90.** pp. 185-197.

Books

Fletcher, T. and Morris, K. (2003). Captive breeding and predator control: a successful strategy for conservation in Western Australia. *In: Reproductive Science and Integrated Conservation* (eds W.V. Holt, A.R. Pickard, J.C. Rodger & D.E. Wildt). Cambridge University Press, Cambridge. pp. 232-248.

Conference/Workshop Papers

- Algar, D., Burbidge, A.A. and Angus, G.J. (2002). Cat eradication on Hermite Island, Montebello Islands, Western Australia. *In: Turning the Tide: the Eradication of Invasive Species: Proceedings of the International Conference on Eradication of Island Invasives* (eds C.R. Veitch & M.N. Clout). IUCN, Gland. pp. 14-18.
- Burbidge, A.A. and Morris, K.D. (2002). Introduced mammal eradications for nature conservation on Western Australian islands: a review. *In: Turning the Tide: the Eradication of Invasive Species: Proceedings of the International Conference on Eradication of Island Invasives* (eds C.R. Veitch & M.N. Clout). IUCN, Gland. pp. 64-70.

(Continued on page 3)

- Keighery, G., Halse, S. and McKenzie, N. (2002). Why wheatbelt valleys are valuable and vulnerable: the ecology of wheatbelt valleys and threats to their survival. *In: Dealing With Salinity in Wheatbelt Valleys: Processes, Prospects and Practical Options: Papers, Proceedings and Outcomes of the Field Tour/ Conference/Workshop, July 30-August 01, 2001, Merredin, Western Australia Water & Rivers Commission, Perth. pp. 1-8.*
- Maslin, B.R. and George, A.S. (2002). The Conservation and Utilisation Potential of Australian Dryland Acacias: symposium held at Dalwallinu, Western Australia, 13-14th July, 2001. Conservation Science Western Australia 4(3). pp. 1-191.
- Morris, K.D. (2002). The eradication of the black rat (*Rattus rattus*) on Barrow and adjacent islands off the north-west coast of Western Australia. *In: Turning the Tide: the Eradication of Invasive Species: Proceedings of the International Conference on Eradication of Island Invasives* (eds C.R. Veitch & M.N. Clout). IUCN, Gland. pp. 219-225.

Abstracts

- Dobrowolski, M.P., Hardy, G.E. St. J., Tommerup, I.C., Shearer, B.L., Colquhoun, I. and O'Brien, P.A. (2003). Genetic maps of *Phytophthora cinnamomi* based on microsatellite fragment length polymorphisms (MFLP) (ABSTRACT). *In: Abstracts of Offered Papers: 8th International Congress of Plant Pathology: Christchurch, New Zealand, 2-7 February 2003* pp. 146.
- Dobrowolski, M.P., Tommerup, I.C., O'Brien, P.A., Shearer, B.L., Colquhoun, I. and Hardy, G.E. St. J. (2003). The potential of *Phytophthora cinnamomi* to develop resistance to chemical control by phosphite (ABSTRACT). *In: Abstracts of Offered Papers: 8th International Congress of Plant Pathology: Christchurch, New Zealand, 2-7 February 2003* pp. 70.
- Paap, T., McComb, J., Shearer, B. and Hardy, G. (2003). Canker disease of marri (*Corymbia calophylla*) in the south west of Western Australia (ABSTRACT). *In: Abstracts of Offered Papers: 8th International Congress of Plant Pathology: Christchurch, New Zealand, 2-7 February 2003* pp. 163.
- Wheeler, M.A., Byrne, M. and McComb, J.A. (2002). Genetic diversity and phylogenetic relationships within *Eucalyptus marginata* (ABSTRACT). *In: Abstracts: Molecular Evolution: Evaluation, Genomics, Bioinformatics: Sorrento (Naples), June 13-16, 2002* Conference Organising Committee,

Reports

- English, V., Blyth, J., Gibson, N., Pember, D., Davis, J., Tucker, J., Jennings, P. and Walker, B. (2002). Sedgelands in Holocene dune swales: interim recovery plan, 2002-2007. Department of Conservation and Land Management, Western Australia, pp. 1-31.
- Hingston, R.A. and Jenkins, D.S. (2002). Interim report for the Tree Measurement Project: under the Master TreeGrower Program. Department of Conservation and Land Management, Western Australia, pp. 1-142.
- Kabay, E.D. (2002). Salinity Action Plan: wetland vegetation monitoring, 2001/2002: appendices. Kabay Consultants, Tuart Hill. pp. 1-173.
- Kabay, E.D. (2002). Salinity Action Plan: wetland vegetation monitoring, 2001/2002: report. Kabay Consultants, Tuart Hill. pp. 1-79.
- Lane, J., Clarke, A. and Pearson, G. (2002). Waterbirds of Peel-Harvey estuary in 1996-97. Department of Conservation and Land Management, Western Australia, pp. 1-41.
- Lane, J., Clarke, A. and Pearson, G. (2002).Waterbirds of Peel-Harvey estuary in 1998-99.Department of Conservation and LandManagement, Western Australia, pp. 1-40.
- Liddelow, G., Ward, B. and Bragg, T. (2002).
 Buckshot and breakaways: plants and animals of the Gibson Desert, 2001. Department of Conservation and Land Management, Western Australia, Landscope Expeditions 44. pp. 1-12.
- Limpus, C.J. (2002). Western Australian marine turtle review. Department of Conservation and Land Management, Western Australia, pp. 1-59.
- Mann, J., Jokovich, S. and Williamson, K. (2002). Woodvale Nature Reserve fauna survey 2002. Department of Conservation and Land Management, Western Australia, pp. 1-20.
- Morris, K., Burbidge, A.A., Drew, M. and Kregor, G. (2002). Mammal monitoring, Barrow Island Nature Reserve, October 2002. Department of Conservation and Land Management, Western Australia, pp. 1-36.
- Morris, K., Pearson, D., Liddelow, G., Ward, B., Himbeck, K. and Smith, J. (2002). Beyond the dreaming: Project Eden, 2001. *Department of Conservation and Land Management, Western Australia, Landscope Expeditions* **45.** pp. 1-16.
- Patrick, S. and Biggs, J. (2002). Night and day under an outback sky: an astronomical adventure, 2001. *Department of Conservation*

(Continued on page 4)

- and Land Management, Western Australia, Landscope Expeditions **43.** pp. 1-8.
- Science Division, Department of Conservation and Land Management, Western Australia (2002). Business plan: January 2001-June 2002. Department of Conservation and Land Management, Western Australia, pp. 1-23.
- Science Division, Department of Conservation and Land Management, Western Australia (2002). ForestCheck: report of progress, 2001-2002. Department of Conservation and Land Management, Western Australia, pp. 1-96.
- Science Division, Department of Conservation and Land Management, Western Australia (2002). Operations plan, January 2001-June 2002. Department of Conservation and Land Management, Western Australia, pp. 1-91.
- Snowdon, P., Raison, J., Keith, H., Ritson, P., Grierson, P., Adams, M., Montagu, K., Hi, H.-Q. Burrows, W. and Eamus, D. (2002). Protocol for sampling tree and stand biomass. Australian Greenhouse Office, Canberra. pp. 1-66.
- Williams, M.R. (2002). Effect of fire on day-flying Lepidoptera in Koondoola Regional Bushland reserve: progress report 1, April 2002. Department of Conservation and Land Management, Western Australia, pp. 1-14.

Popular (Landscope, Newsletters, Letters, etc.)

- Brand, J. (2002). Sandalwood research newsletter. - Issue 16. Department of Conservation and Land Management, Western Australia, pp. 1-8.
- Burbidge, A. and Comer, S. (2003). Western ground parrot. *Landscope* **18(3).** pp. 35.
- Cooper, D. (2003). Using our native trees and shrubs to supply new industries. Western Wildlife: Newsletter of the Land for Wildlife Scheme 7(1). pp. 11.
- Cranfield, R. and Robinson, R. (2003). Lichens: the poor little peasants of Lake Muir Nature Reserve. *Landscope* **18(3).** pp. 43-47.
- Friend, T. (2003). Gilbert's potoroo eight years on. *Landscope* **18(3).** pp. 28-34.
- Guthrie, N. (2003). Australian ground beetles: little predators with big potentials. *Newsletter of the Western Australian Insect Study Society* **Dec.** pp. 1-3.
- Marchant, N. (2003). Botanic guardian. *Landscope* **18(3).** pp. 36-42.
- Pearson, G. (2002). A community-based collaborative project in Roebuck Bay. *Marine*

- Conservation Matters 9. pp. 8.
- Start, T. and Done, C. (2003). Poison in paradise: cane toads hop west. *Landscope* **18 (3).** pp. 10-15.
- Vernes, T. (2002). Indian sandalwood industry in Australia. *Sandalwood Research Newsletter* **16.** pp. 1-4.
- Williams, A.A.E. and Williams, M.R. (2003). In search of the elusive western flat. *Landscope* **18(3).** pp. 48-53.
- Wright, L. (2003). Library volunteers do the job. *Conservation News* **Jan.** pp. 4.

Submitted

- Broadhurst, L., Byrne, M., Craven, L. and Lepschi, B. Phylogenetic patterns within the *Melaleuca uncinata* R.Br. complex (Myrtaceae) are congruent with the recognition of several new species. *Journal of Evolutionary Biology*
- Byrne, M., Yates, C., Elliott, C. and Coates, D. Genetic and ecological consequences of population fragmentation in *Eucalyptus* wandoo in Western Australia (ABSTRACT). *In:* International Genetics Congress
- Cale, D., Halse, S. and Walker, C. Wetlands monitoring in the wheatbelt of south west Western Australia: site descriptions, waterbird, aquatic invertebrate and groundwater data. Conservation Science Western Australia
- Coates, D.J., Yates, C., Elliott, C. and Byrne, M. Genetic and ecological consequences of population fragmentation in the bird pollinates woody shrub *Calothamnus quadrifidis* (ABSTRACT). *In: International Genetics Congress*
- Craven, L.A., Lepschi, B.J., Broadhurst, L. and Byrne, M. Taxonomic revision of the broombush complex in Western Australia (Myrtaceae: *Melaleuca uncinata* s.l.). *Australian Systematic Botany*
- De Tores, P., Hayward, M., Dillon, M. and Brazell, R. Review of the distribution and conservation status of the quokka, *Setonix brachyurus* (Macropodidae: Marsupialia), and endemic macropod marsupial from south-west Western Australia. *Journal of Biogeography*
- Hayward, M., de Tores, P., Augee, M. and Banks, P. Mortality and survivorship of the quokka, *Setonix brachyurus* (Macropodidae: Marsupialia), in the northern jarrah forest of Australia. *Wildlife Research*
- Hayward, M., de Tores, P. and Banks, P. Habitat and and preferences of the quokka (*Setonix brachyurus*) (Macropodidae: Marsupialia) in the

(Continued on page 5)

(Continued from page 4)

northern jarrah forest of Australia. *Journal of Animal Ecology*

- Hayward, M., de Tores, P., Dillon, M. and Banks, P. Modelling the occurrence of the quokka (*Setonix brachyurus*) (Macropodidae: Marsupialia) Australia's northern jarrah forest. *Journal of Wildlife Management*
- Hayward, M., de Tores, P. and Fox, B. Post-fire succession in *Agonis linearifolia* swamps in the northern jarrah forest of Western Australia. *Austral Ecology*
- Keighery, B.J. and Keighery, G.J. Vernal pools of southern Western Australia.
- Keighery, G. The Albany pitcher plant. Landscope
- Keighery, G.J. and Keighery, B.J. Juncaginaceae in Western Australia: centre of species diversity of family in a mega-diverse region.
- Knott, B., Bruce, L., Lane, J., Konishi, Y. and Burke, C. Is the salinity of Lake Clifton (Yalgorup National Park) increasing?. *Journal* of the Royal Society of Western Australia
- Lane, J.A.K. and Pearson, G.B. Waterbirds of Peel-Harvey estuary in the mid 1970s.
- Monks, L. and Matthes, M. Threatened flora translocations. *In: Plant Conservation Techniques Manual* Australian Network for Plant Conservation, Canberra.
- Patrick, S. Conservation status of rare and poorly know Western Australian flora: project no. 12807: annual report to Natural Heritage Trust.
- Patrick, S. and Polomka, L. Conservation status of rare and poorly know Western Australian flora: project no. 12807: final report to Natural Heritage Trust.
- Radke, L.C., Juggins, S., Halse, S.A., De Deckker, P. and Finston, T. Chemical diversity in south-eastern Australian saline lakes. II, biotic implications. *Marine and Freshwater Research*
- Start, A.N. Dams on the Ord River: a photohistory. *Landscope*
- Wheeler, M. and Byrne, M. Differentiation of two clades in cpDNA of *Eucalyptus marginata* is consistent with geomorphological features in Western Australia (ABSTRACT). *In:*International Genetics Congress
- Wills, A. and Abbott, I. Landscape-scale species richness of earthworms in the Porongurup Range, Western Australia: influence of aspect, soil fertility and vegetation type. *Biology and Fertility of Soils*

Subject Area Contacts:

Sustainable Resources Group Manager: John McGrath

jmcgrath@calm.wa.gov.au

Ph: 93340303

Biodiversity Conservation Group Manager:

Keith Morris

keithm@calm.wa.goc.au

Ph: 94055143

W.A. Herbarium Group Manager:

Neville Marchant

nevillem@calm.wa.gov.au

Ph: 93340505

Perth Observatory Manager:

James Biggs

jamesbi@calm.wa.gov.au

Ph: 92938255

Science Adviser:

Ian Abbott

iana@calm.wa.gov.au Ph: 93340526

Library Contacts:

Lisa Wright, Woodvale lisaw@calm.wa.gov.au

Ph: 94055132

Terry McGowan (Acting), Kensington

terrymc@calm.wa.gov.au

Ph: 93340324

Beng Siew Mahon, Herbarium bengm@calm.wa.gov.au

Ph: 93340494