

Knowledge Exchange records from 01/04/2014 – 31/03/2015

CATEGORY 2 - Peer-reviewed journal articles (66 records)

- Record ID 4010492
Title: **Short rotation forestry – Earthworm interactions: A field based mesocosm experiment.**
Author: Vanguelova, E.
Co-author: Rajapaksha, N.S.S.; Butt, K.R.; Moffat, A.J.
Imprint: 2014
Source: Applied Soil Ecology
Reference: 52-59
Main subject: SHORT ROTATION COPPICE
Subjects: EARTHWORM POPULATION; LEAF-LITTER DECOMPOSITION; PLANT NUTRIENT UPTAKE; SRF GROWTH; TREE BIOMASS; FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Short rotation forestry (SRF) which consists of planting rapidly growing native and non-native tree species has been introduced to the UK to increase woody biomass production. A largely unknown aspect of SRF species is their interaction with soil fauna, of which the earthworm community is a major component. Earthworms have a pronounced impact on litter decomposition, nutrient cycling and tree growth. Conversely, tree litter and root chemistry can impact on the associated earthworm community development. The aim of this study was to determine direct interactions between SRF species and earthworms. A field-based mesocosm experiment was conducted using *Betula pendula* (birch) and *Eucalyptus nitens* (eucalyptus) with two earthworm species *Lumbricus terrestris* and *Allolobophora chlorotica*...
Class: Electronic resource
WWW: <http://www.sciencedirect.com/science/article/pii/S0929139313003107>
Bib type: A
GMD: Periodical article
Entered: 07/04/2014 B00000115
- Record ID 4010514
Title: **A description of the symptoms of Acute Oak Decline in Britain and a comparative review on causes of similar disorders on oak in Europe.**
Author: Denman, S.
Co-author: Brown, N.; Kirk, S.; Jeger, M.; Webber, J.
Company: Forestry
Edition: doi: 10.1093/forestry/cpu010
Vol. 87, 535-551
Imprint: Oxford Journals, 2014
Source: Forestry
Reference: 535-551
Main subject: TREE HEALTH
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Acute Oak Decline (AOD) is a relatively new decline-disease affecting both native oak species (*Quercus robur* and *Q. petraea*) in Britain. The key aim of this study was to describe the symptoms, and signs of AOD, to set a baseline. The second aim was to compare and review the European literature on what appear to be similar disorders on oak. AOD is characterized by four key features: weeping patches more-or-less vertically aligned on oak tree trunks; cracks between bark plates from which dark fluid seeps; inner bark necrosis and the presence (in .90

per cent of cases) of larval galleries of the oak buprestid, *Agrilus biguttatus*, on the phloem–sapwood interface. In this study, it was noted that although larval galleries were present in the inner bark in 19 of 21 trees, the ‘D-shaped’ exit holes of the adult beetles were seen less frequently on bark plates of affected trees (33 per cent of cases). Similar disorders reported in Europe are compared with AOD in Britain and potential causes of the condition discussed. Based on the unmistakable symptoms, it is hypothesized that AOD is a distinctive, identifiable condition within the broader oak decline syndrome.

Class: electronic resource

WWW:

<http://forestry.oxfordjournals.org/content/early/2014/04/18/forestry.cpu010.full.pdf+html>

Country: uk

Bib type: A

GMD: Periodical article

Entered: 23/04/2014 B00000115

Updated: 27/11/2014 B00000115

Record ID 4010533

Title: Description of *Brenneria roseae* sp. nov. and two subspecies, *Brenneria roseae* subspecies *roseae* ssp. nov and *Brenneria roseae* subspecies *americana* ssp. nov. isolated from symptomatic oak.

Author: Denman, S.

Co-author: Brady, C.; Hunter, G.; Kirk, S.; Arnold, D.

Imprint: Science Direct, 2014

Source: Systematic and Applied Microbiology

Reference: 396-401

doi: 10.1016/j.syapm.2014.04.005

Main subject: TREE HEALTH

Subjects: ENTEROBACTERIACEAE; ACUTE OAK DECLINE; TAXONOMY; MLSA; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Gram-negative, facultatively anaerobic bacteria were isolated from symptomatic oak tissue in the UK and USA. Partial *gyrB* sequencing placed ten strains in the genus *Brenneria*, with *B. goodwinii* as the closest phylogenetic relative. The strains were investigated further using a polyphasic approach including MLSA (based on partial *gyrB*, *rpoB*, *infB* and *atpD* gene sequences), 16S rRNA gene sequencing, DNA-DNA relatedness studies and both phenotypic and chemotaxonomic assays. The MLSA and 16S rRNA gene analyses separated the strains into two groups based on origin, suggesting that they belong to *Brenneria* as two novel species. However, the DNA-DNA relatedness values revealed a closer relationship between the groups and indicated that they should belong to the same species. As the two groups of strains from the UK and USA can be differentiated from each other phenotypically and by ERIC PCR fingerprints, it is proposed to classify them as novel subspecies of a novel *Brenneria* species. The name *Brenneria roseae* sp. nov. (FRB 222T = LMG 27714T = NCPPB 4581T) is proposed, with *Brenneria roseae* subsp. *roseae* ssp. nov. (FRB 222T = LMG 27714T = NCPPB 4581T) for the strains from the UK and *Brenneria roseae* subsp. *americana* ssp. nov. (FRB 223T = LMG 27715T = NCPPB 4582T) for the strains from the USA.

Class: Electronic Resource

WWW: <http://www.sciencedirect.com/science/article/pii/S0723202014000757>

Bib type: A

GMD: Periodical article

Entered: 30/05/2014 B00000115

Updated: 27/03/2015 B00000115

Record ID 4010535
Title: **Research Spotlight: The ELUM project: Ecosystem Land-Use Modeling and Soil Carbon GHG Flux Trial.**
Author: James Morison
Co-author: By Zoe M Harris; Niall P McNamara; Rebecca Rowe; Marta Dondini; Jon Finch; Mike Perks; Iain Donnison; Kerrie Farrar; Saran Sohi; Phil Ineson; Jonathan C Oxley; Pete Smith and Gail Taylor
Imprint: Taylor & Francis, London, 2014
Source: Biofuels
Reference: 111-116
Main subject: LAND USE
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Abstract: There is increasing interest in the use of nonfood second-generation lignocellulosic feedstocks and a move away from food crops for bioenergy applications, but questions still remain on sustainability. Empirical data are needed to quantify the GHG balance of land-use transition to lignocellulosic bioenergy cropping systems, to inform lifecycle analyses and aid model validation. The aim of this project 'Ecosystem Land Use Modeling and Soil Carbon GHG Flux Trial' is to produce a framework for predicting the sustainability of bioenergy deployment across the UK. This GB£4m consortium project is commissioned and funded by the Energy Technologies Institute, UK.
Class: Electronic Resource
WWW: <http://www.tandfonline.com/loi/tbfu20>
Bib type: A
GMD: Periodical article
Entered: 16/06/2014 B00000115

Record ID 4010549
Title: **Tree mineral nutrition is deteriorating in Europe.**
Author: Jonard, M.
Co-author: Fürst, A.; Verstraeten, A.; Thimonier, A.; Timmermann, V.; Potoèiæ, N.; Benham, S.; Waldner, P.; Hansen, K.; Merilä, P.; Ponette, Q.; de la Cruz, A.; Roskams, P.; Nicolas, M.; Croisé, L.; Ingerslev, M.; Matteucci, G.; Decinti, B.; Bascietto, M. and Rautio, P.
Imprint: Wiley, 2014
Source: Global Change Biology
Reference: DOI: 10.1111/gcb.12657
Main subject: TREE HEALTH
Subjects: FOLIAR NUTRIENTS; TREND ANALYSIS; FOREST MONITORING; FAGUS SYLVATICA; QUERCUS PETRAEA; QUERCUS ROBUR; ABIES ALBA; PICEA ABIES; PINUS SYLVESTRIS; FCRA AUTHOR; 2015-FR-CAT-2
Abstract: The response of forest ecosystems to increased atmospheric CO₂ is constrained by nutrient availability. It is thus crucial to account for nutrient limitation when studying the forest response to climate change. The objectives of this study were to describe the nutritional status of the main European tree species, to identify growth limiting nutrients and to assess changes in tree nutrition during the past two decades. We analysed the foliar nutrition data collected during 1992-2009 on the intensive forest monitoring plots of the ICP Forests programme. Of the 22 significant temporal trends that were observed in foliar nutrient concentrations, 20 were decreasing and 2 were increasing. Some of these trends were alarming, amongst which the foliar P concentration in *F. sylvatica*, *Q. Petraea* and *P. sylvestris* that significantly deteriorated during the 1992-2009. In *Q. Petraea* and *P. sylvestris*, the decrease in foliar P concentration was more pronounced on plots with low foliar P status, meaning that trees with latent P deficiency could become deficient in the near future. Increased tree productivity, possibly resulting from high N deposition and from the global increase in atmospheric CO₂, has led

to higher nutrient demand by trees. As the soil nutrient supply was not always sufficient to meet the demands of faster growing trees, this could partly explain the deterioration of tree mineral nutrition. The results suggest that when evaluating forest carbon storage capacity and when planning to reduce CO₂ emissions by increasing use of wood biomass for bioenergy, it is crucial that nutrient limitations for forest growth are considered.

Class: Electronic resource
WWW: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.12657/abstract?campaign=wolacceptedarticle>
Bib type: A
GMD: Periodical article
Entered: 24/06/2014 B00000115
Updated: 12/08/2014 b00000115

Record ID 4010552

Title: High rates of gene flow by pollen and seed in oak populations across Europe.

Author: Cottrell, J.

Co-author: Gerber, S.; Chadœuf, J.; Gugerli, F.; Lascoux, M.; Buiteveld, J.; Dounavi, A.; Fineschi, S.; Forrest, L.; Fogelqvist, J.; Goicoechea, P.J.; Svejgaard, Jensen, J.; Salvini, D.; Vendramin, G.G.; Kremer, A.

Imprint: 2014

Source: PLoS ONE

Reference: DOI: 10.1371/journal.pone.0085130

Main subject: GENETICS

Subjects: GENETIC CONSERVATION; QUERCUS; GENEFLOW; SEED; POLLEN; FCRA AUTHOR; 2015-FR-CAT-2

Abstract: Gene flow is a key factor in the evolution of species, influencing effective population size, hybridisation and local adaptation. We analysed local gene flow in eight stands of white oak (mostly *Quercus petraea* and *Q. robur*, but also *Q. pubescens* and *Q. faginea*) distributed across Europe. On average, the percentage of the wind-borne pollen from outside the stand was 60%, with large variation among stands (21–88%). Mean seed immigration into the stand was 40%, a high value for oaks that are generally considered to have limited seed dispersal. However, this estimate varied greatly among stands (20–66%). Gene flow was mostly intraspecific, with large variation, as some trees and stands showed particularly high rates of hybridisation. Our results show that mating success was unevenly distributed among trees. The high levels of gene flow suggest that geographically remote oak stands are unlikely to be genetically isolated, questioning the static definition of gene reserves and seed stands.

Class: Electronic resource
WWW: <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0085130>
<http://www.forestry.gov.uk/fr/geneticconservation>

ISSN: 1932-6203

Bib type: A

GMD: Periodical article

Entered: 26/06/2014 B00000115

Record ID 4010554

Title: Population genetics of *Formica aquilonia* in Scotland: the effects of long-term forest fragmentation and recent forestation.

Author: Cottrell, J.

Co-author: A'Hara, S.; Watts, K.; Vanhala, T.

Imprint: 2014

Source: Conservation Genetics
Reference: DOI 10.1007/s10592-014-0584-1
March 2014
Main subject: GENETICS
Subjects: FORMICA AQUILONIA; WOOD ANT; FOREST FRAGMENTATION; ANCIENT WOODLAND; MICROSATELLITE MARKERS; FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Formica aquilonia wood ants are forest specialists which play a key role in the ecology of forests in Europe. Many of the Scottish populations at the edge of the species distribution range occur in highly fragmented landscapes. We used ten microsatellite loci to study the genetic diversity and structure of populations from two contrasting regions (Inverpolly and the Trossachs) to set the Scottish populations in the context of conspecific populations in mainland Europe. Despite the long history of fragmentation, genetic diversity in the Scottish populations was greater than in the populations in mainland Europe. Genetic diversity was similar in the two Scottish regions and no evidence of inbreeding was detected. The ant populations in individual forests were genetically distinct and we detected no contemporary gene flow between forests. The most intensively studied forest where non-native conifer plantations now occupy the matrix between the remaining ancient woodland fragments showed evidence that admixture and gene flow between nests was reducing the past differentiation. This may reflect a dynamic response to the reconnection of previously isolated populations in forest fragments by recent reforestation.

Class: Electronic resource
WWW: <http://link.springer.com/article/10.1007%2Fs10592-014-0584-1#page-1>
<http://www.forestry.gov.uk/fr/geneticconservation>
ISSN: 1572-9737
Bib type: A
GMD: Periodical article
Entered: 27/06/2014 B00000115

Record ID 4010555
Title: Development and characterisation of ten polymorphic microsatellite markers for the pine-tree lappet moth *Dendrolimus pini* (Lepidoptera: Lasiocampidae).

Author: Cottrell, J.
Co-author: A'Hara, S.
Imprint: June 2013
Source: Conservation Genetics Resources
Reference: 1135-1137
Doi 10.1007/s12686-013-9977-6

Main subject: TREE CARE
Subjects: PROTECTION; FCRA AUTHORS; 2014-FR-CAT-2
Abstract: A total of ten novel microsatellite markers developed for the pine-tree lappet moth (*Dendrolimus pini*) are presented. The loci produce clear polymorphic banding patterns, exhibiting between 6 and 18 alleles, with observed heterozygosity values ranging from 0.6190 to 0.9524. These markers will be used to study the genetic diversity and population structure of a recently identified *D. pini* breeding population in the UK. The microsatellites were also tested in *Dendrolimus superans* and *Dendrolimus sibiricus* and produced clear banding patterns within the expected product size range and may therefore have utility in these species.

Class: Electronic resource
WWW: <http://link.springer.com/article/10.1007%2Fs12686-013-9977-6#page-2>
<http://www.forestry.gov.uk/fr/INFD-6XPF7B>
ISSN: 1877-7252 (Print)
1877-7260 (Online)

Bib type: A
GMD: Periodical article
Entered: 27/06/2014 B00000115
Updated: 05/09/2014 B00000115

Record ID 4010557

Title: Can we protect forests by harnessing variation in resistance to pests and pathogens?

Author: Cottrell, J.E.
Co-author: Telford, A.; Cavers, S.; Ennos, R.A.
Imprint: April 2014
Source: Forestry
Reference: 10.1093/forestry/cpu012
Main subject: PESTS
Subjects: PEST AND DISEASE; RESISTANCE MECHANISMS; GENETICS;
ENVIRONMENT; MAJOR-GENE AND POLYGENIC RESISTANCE;
QUANTITATIVE AND QUALITATIVE RESISTANCE; FCRA AUTHORS; 2015-
FR-CAT-2

Abstract: Our natural and commercially planted forests are currently facing an unprecedented threat from pests and pathogens. On the principle that 'prevention is better than cure', the policies and practices that influence forest management must aim to prevent epidemics rather than to fight them once they are established. One approach may be to harness the resistance mechanisms that are naturally present in trees to improve the long-term resistance and resilience of tree populations to infection or herbivory. Resistance trait variation may be genetically controlled and heritable. This review outlines the mechanisms that trees use to defend themselves, the genetic and environmental control of these mechanisms, the subsequent phenotypic variation that we observe and how best to measure and use this to develop and maintain resilient tree populations.

Class: Electronic resource

WWW: <http://forestry.oxfordjournals.org/content/early/2014/04/11/forestry.cpu012.full.pdf+html>
<http://www.forestry.gov.uk/fr/geneticconservation>

ISSN: 1464-3626

Bib type: A
GMD: Periodical article
Entered: 27/06/2014 B00000115

Record ID 4010567

Title: The Role of One Large Greenspace in Mitigating London's Nocturnal Urban Heat Island.

Author: Doick, K.J.
Co-author: Peace, A. and Hutchings, T.R.
Imprint: 2014
Source: Science of the Total Environment
Reference: 662–671
[dx.doi.org/10.1016/j.scitotenv.2014.06.048](https://doi.org/10.1016/j.scitotenv.2014.06.048)

Main subject: URBAN PLANNING

Subjects: GREEN INFRASTRUCTURE; TREES; PARKS; URBAN COOLING;
WOODLAND DESIGN; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Trees and greenspaces are recognised for their strong potential to regulate urban air temperatures and combat the UHI. We describe a 5-month study to measure the temperature profile of one of central London's large greenspaces to determine the extent to which the greenspace reduced night-time UHI intensity. The extent of cooling ranged from an estimated 20 m on some nights to 440 m on

other nights. The mean temperature reduction over these distances was 1.1 °C, with a maximum of 4 °C cooling. Our results lend support to claims that urban greenspace is an important component of UHI mitigation strategies.

Class: Electronic resource
WWW: <http://www.journals.elsevier.com/science-of-the-total-environment/>
Bib type: A
GMD: Periodical article
Entered: 28/07/2014 B00000115

Record ID 4010577

Title: **Gibbsiella greigii sp. nov., a novel species associated with oak decline in the USA.**

Author: Denman, S.
Co-author: Brady, C.; Hunter, G.; Kirk, S.; Arnold, D.
Imprint: 2014
Source: Systemic and Applied Microbiology
Reference: doi: <http://dx.doi.org/10.1016/j.syapm.2014.07.002>
417-422

Main subject: TREE HEALTH

Subjects: ENTEROBACTERIACEAE; ACUTE OAK DECLINE; QUERCUS KELLOGGII; MLSA; TAXONOMY; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: In 2010, cream-coloured, Gram-negative staining, facultatively anaerobic enterobacteria were isolated from a single black oak tree (*Quercus kelloggii*) exhibiting decline symptoms in southern California, USA. These 12 isolates were tentatively identified as *G. quercinecans* based on partial *gyrB* sequencing. Closer examination of the strains using multilocus sequence analysis, based on partial sequences of *gyrB*, *rpoB*, *infB* and *atpD* genes, and almost complete 16S rRNA gene sequencing suggested that the isolates belong to a novel taxon within the genus *Gibbsiella* with *G. quercinecans* as their closest phylogenetic relative. DNA-DNA relatedness studies confirmed that the strains belong to a single taxon in *Gibbsiella*, which can be differentiated from other members of the genus by several phenotypic traits. Therefore, the name *Gibbsiella greigii* sp. nov. is proposed for this novel species isolated from symptomatic *Q. kelloggii* in the USA with FRB 224T (= LMG 27716T = NCPPB 4583T) as the type strain.

Class: Electronic resource
WWW: <http://www.sciencedirect.com/science/article/pii/S0723202014001039>
Bib type: A
GMD: Periodical article
Entered: 29/07/2014 B00000115
Updated: 18/11/2014 B00000115

Record ID 4010581

Title: **Beauty, friends, power, money: navigating the impacts of community woodlands.**

Author: Ambrose-Oji, B.
Co-author: Lawrence, A.
Imprint: Wiley Online Library, July 2014
Source: The Geographical Journal
Reference: Online version available: 22 July 2014
doi: 10.1111/geoj.12094

Main subject: COMMUNITY WOODLANDS

Subjects: EVIDENCE BASED POLICY; EVALUATION; COMMUNITY FORESTRY; IMPACT ASSESSMENT; SOCIAL FORESTRY; UNITED KINGDOM; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Community forestry in the UK has developed rapidly over the last 25 years, and the wide range of drivers has resulted in a great variety of relationships between

communities and woodlands, and over 650 community woodlands. Given strong current policy interest, the study aims to assess existing evidence for the impact of these initiatives. The variety of models, evaluation purposes, and impacts requires a new approach to organising the evidence, including a new typology of community woodlands. The review identified more than 70 studies, covering 681 evaluation cases. Of these, 41% are 'urban regeneration' programmes, 32% are locally led 'community place' projects, and 22% are locally owned 'community resources'. Only 3% are 'economic partnerships' where the primary objective is enterprise; and 1% are 'lifestyle alternatives'. The majority of evaluations are conducted by the public sector. Evaluations tend to focus on the positive and the quantitative and relate predominantly to outputs (e.g. trees planted, meetings attended). Only 21% of cases identify outcomes (e.g. neighbourhoods enhanced, wellbeing enhanced), and there is little evidence of community empowerment or meaningful engagement in decisionmaking. Attention has shifted from biophysical to social and participation indicators in recent years, but evidence of change over time is lacking. The policy relevance of the evidence base will be greatly enhanced if cases distinguish between types of community woodland, consistently include comparable indicators, and link context, process, outputs and outcomes.

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 31/07/2014 B00000115

Record ID 4010585

Title: A spatial and temporal drought risk assessment of three major tree species in Britain using probabilistic climate change projections.

Author: Petr, M.
Co-author: Boerboom, L.G.J.; van der Veen, A.; Ray, D.
Imprint: Springer online, 2014
Source: Climate Change
Reference: 791-803
doi 10.1007/s10584-014-1122-3

Main subject: CLIMATE CHANGE

Subjects: FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Probabilistic climate data have become available for the first time through the UK Climate Projections 2009, so that the risk of change in tree growth can be quantified. We assessed the drought risk spatially and temporally using drought probabilities calculated from the weather generator data and tree species vulnerabilities using Ecological Site Classification model across Britain. We evaluated the drought impact on the potential yield class of three major tree species (*Picea sitchensis*, *Pinus sylvestric*, and *Quercus robur*) which cover around 59% (400, 700 ha) of state-managed forests across the lowlands and uplands. We show that drought impacts result mostly in reduced tree growth over the next 80 years when using B1, A1B, and A1FI IPCC emissions scenarios, but varied spatially. We found a maximum reduction of 94% but also a maximum increase of 56% in potential stand yield class in the 2080s from the baseline climate (1961-1990). Furthermore, potential production over the state-managed forests for all three species in the 2080s is estimated to decrease due to drought by 42% in the lowlands and by 32% in the uplands in comparison to the baseline climate. Our results reveal that potential tree growth and forest production on the state-managed forests in Britain is likely to reduce, and indicate where and when adaptation measures are required.

Class: Electronic resource
WWW: <http://link.springer.com/article/10.1007%2Fs10584-014-1122-3#page-1>
Bib type: A

GMD: Periodical article
Entered: 04/08/2014 B00000115

Record ID 4010586

Title: **Unearthing the picturesque: The validity of the preference matrix as a measure of landscape aesthetics.**

Author: Van der Jagt, A. P. N.
Co-author: Craig, T.; Anable, J.; Brewer, M. B.; Pearson, D. G.
Imprint: Springer, 2014
Source: Landscape and Urban Planning
Reference: 1-13

DOI: 10.1016/j.landurbplan.2013.12.006

Main subject: LANDSCAPE PLANNING

Subjects: LANDSCAPE AESTHETICS; PREFERENCE MATRIX; NATURAL ENVIRONMENT; BUILT ENVIRONMENT; FAMILIARITY; FCRA AUTHOR; 2015-FR-CAT-2

Abstract: Previous research has provided inconclusive support for the preference matrix; a psychological framework of landscape aesthetics rooted in a long tradition of studying scenic quality. Given recent insights into the important implications that aesthetics have for health and well-being, the aim of the present study was to re-assess the validity of the preference matrix following the implementation of a series of methodological improvements. These entailed: a set of item definitions piloted for high comprehension; adequate statistical control for confounding influences by scene content and user experience; a substantially sized, highly varied image database; and the employment of statistical instruments to formally test for nonlinear relationships. An ordinal mixed effects model provides convergent evidence for our hypothesis that each of predictors in the preference matrix is independently predictive of scene aesthetics. In addition, we find support for an interaction between the constructs of Coherence and Complexity and show that levels of both natural and built character, as well as familiarity, are uniquely predictive of scene attractiveness. The present findings underline the role of the preference matrix as a potential tool in informing evidence-based design.

Class: Electronic resource
WWW: <http://www.sciencedirect.com/science/article/pii/S0169204613002375>
Bib type: A
GMD: Periodical article
Entered: 04/08/2014 B00000115

Record ID 4010591

Title: **Phytophthora austrocedrae emerges as a serious threat to juniper (Juniperus communis) in Britain.**

Author: Green, S.
Co-author: Elliott, M.; Armstrong, A.; Hendry, S.J.
Imprint: Wiley, July 2014
Source: Plant Pathology
Reference: 11 pp

DOI: 10.1111/ppa.12253

Main subject: PLANT HEALTH

Subjects: DISEASE SYMPTOMS;; FIELD SURVEY; JUNIPER; PATHOGENICITY TESTING; PHYTOPHTHORA AUSTROCEDRAE; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: From 2011 to 2013, *Phytophthora austrocedrae* was isolated from diseased *Juniperus communis* exhibiting dieback and mortality at eight geographically separate sites in Scotland and northern England. The pathogen was also confirmed present either by standard PCR of the ITS locus and sequencing or by

real-time PCR on *J. communis* with symptoms at a further 11 sites in northern Britain. Out of 167 *J. communis* sampled across the 19 sites, 154 had foliage dieback over all or part of the crown as a result of basal lesions, which extended up the stem. Thirteen sampled trees had aerial branch lesions or discrete stem lesions with no apparent connection to the base of the tree. At 13 sites, dieback was concentrated in areas of poor drainage and/or alongside streams and other watercourses. In artificial inoculation experiments, *P. austrocedrae* caused rapidly extending stem and root lesions on *J. communis* and was reisolated from these lesions. Lesions also developed on *Chamaecyparis lawsoniana* and *Chamaecyparis nootkatensis* but the pathogen was not reisolated. All *P. austrocedrae* isolates obtained from *J. communis* in Britain shared 100% identity across the ITS locus but were distinct at one sequence position from *P. austrocedrae* isolates collected in Argentina from diseased *Austrocedrus chilensis*. This study provides clear evidence that *P. austrocedrae* is a primary pathogen of *J. communis* and now presents a significant threat to this species in Britain. Pathways for the emergence of *P. austrocedrae* in Britain, and possible ways in which the pathogen may have spread within the country, are discussed.

Class: Electronic resource
WWW: <http://onlinelibrary.wiley.com/doi/10.1111/ppa.12253/abstract>
Bib type: A
GMD: Periodical article
Entered: 12/08/2014 B00000115

Record ID 4010592

Title: ***Phytophthora pachypleura* sp. nov., a new species causing root rot of *Aucuba japonica* and other ornamentals in the United Kingdom.**

Author: Henricot, B.
Co-author: Pérez Sierra, A. and Jung, T.
Imprint: Wiley online library, 2014
Source: Plant Pathology
Reference: DOI: 10.1111/ppa.12194
Main subject: TREE HEALTH
Subjects: PATHOGENICITY; PHYLOGENY: PHYTOPHTHORA CITRICOLA;
PHYTOPHTHORA MULTIVORA; PHYTOPHTHORA PLURIVORA; FCRA
AUTHOR; 2015-FR-CAT-2

Abstract: Isolates of an unknown *Phytophthora* species from the 'Phytophthora citricola complex' have been found associated with mortality of *Aucuba japonica* in the UK. Based on morphological characteristics, growth-temperature relationships, sequences of five DNA regions and pathogenicity assays, the proposed novel species is described as *Phytophthora pachypleura*. Being homothallic with paragynous antheridia and semipapillate sporangia, *P. pachypleura* resembles other species in the '*P. citricola* complex' but can be discriminated by its distinctively thick-walled oospores with an oospore wall index of 0.71. In the phylogenetic analysis based on three nuclear (ITS, α -tubulin, EF-1 α) and two mitochondrial (*cox1*, *nadh1*) DNA regions, *P. pachypleura* formed a distinct clade within the '*P. citricola* complex' with *P. citricola* s. str., *P. citricola* E and *P. acerina* as its closest relatives. *Phytophthora pachypleura* is more aggressive to *A. japonica* than *P. plurivora* and *P. multivora* and has the potential to affect other ornamental species.

Class: Electronic resource
WWW: <http://onlinelibrary.wiley.com/doi/10.1111/ppa.12194/abstract>
Bib type: A
GMD: Periodical article
Entered: 12/08/2014 b00000115

Record ID 4010593

Title: **New Phaeoacremonium species isolated from sandalwood trees in Western Australia.**
Author: Gramaje, D
Co-author: León, M.; Pérez-Sierra, A.; Burgess, T.; Armengol, J.
Imprint: 2014
Source: IMA Fungus
Reference: 67-77
doi:10.5598/imafungus.2014.05.01.08
Main subject: TREE HEALTH
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Abstract: Thirty-eight Phaeoacremonium isolates collected from pruning wounds of tropical sandalwood in Western Australia were studied with morphological and cultural characteristics as well as phylogenetic analyses of combined DNA sequences of the actin and α -tubulin genes. Three known Phaeoacremonium species were found, namely P. alvesii, P. parasiticum, and P. venezuelense. Phaeoacremonium venezuelense represents a new record for Australia. Two new species are described: P. luteum sp. nov. can be identified by the ability to produce yellow pigment on MEA, PDA, and OA, the predominance of subcylindrical to subulate type II phialides, and the mycelium showing prominent exudate droplets observed as warts; and P. santali sp. nov. which can be separated from other species producing pink colonies on MEA by the predominance of type I and II phialides, the distinct brownish olive colonies in OA, and slow growth.
Class: Electronic resource
WWW: <http://www.imafungus.org/IMAFungusDetails.aspx?Rec=51>
Bib type: A
GMD: Periodical article
Entered: 12/08/2014 b00000115

Record ID 4010594
Title: **First report of Alternaria black spot of pomegranate caused by Alternaria alternata in Spain.**
Author: Bergegal, M.
Co-author: L3pez-Cort3s, I.; Salazar, D.; Gramaje, D.; P3rez Sierra, A.; Garc3a-Jim3nez, J.; Armengol, J.
Imprint: 2014
Source: Plant Disease
689
Reference: doi.org/10.1094/PDIS-07-13-0717-PDN
Main subject: PLANT HEALTH
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Abstract: Since 2010, a new foliar and fruit disease was observed in pomegranate (*Punica granatum* L.) orchards in Alicante Province (eastern Spain). Symptoms included black spots on leaves and fruits, as well as chlorosis and premature abscission of leaves. Fungal isolates were obtained by surface-disinfecting small fragments of symptomatic leaf and fruit tissues in 0.5% NaOCl, double-rinsing in sterile water, and plating them onto potato dextrose agar (PDA) amended with 0.5 g/liter of streptomycin sulfate...
Class: Electronic resource
WWW: <http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-07-13-0717-PDN>
Bib type: A
GMD: Periodical article

Entered: 12/08/2014 b00000115

Record ID 4010595

Title: **Phytophthora niederhauserii sp. nov., a polyphagous species associated with ornamentals, fruit trees and native plants in 13 countries.**

Author: Abad, Z.G.

Co-author: Cacciola S.O.; Pane A.; Faedda R.; Moralejo E.; Pérez-Sierra A.; Abad-Campos P.; Alvarez-Bernaola L.A.; Bakonyi J.; Józsa A.; Herrero M.A.; Burgess T.I., Cunnington J.H., Smith I.W., Balci Y., Blomquist C.; Hericot B.; Denton G.; Spies C.; Mcleod A.; Belbahri L.; Cooke D.; Kageyama K.; Uematsu S.; Kurbetli I.; Degirmenci K.

Imprint: 2014

Source: Mycolgia

Reference: 431-447
DOI: 10.3852/12-119

Main subject: TREE HEALTH

Subjects: FCRA AUTHOR; 2015-FR-CAT-2

Abstract: A non-papillate, heterothallic *Phytophthora* species first isolated in 2001 and subsequently from symptomatic roots, crowns and stems of 33 plant species in 25 unrelated botanical families from 13 countries is formally described here as a new species. Symptoms on various hosts included crown and stem rot, chlorosis, wilting, leaf blight, cankers and gumming. This species was isolated from Australia, Hungary, Israel, Italy, Japan, the Netherlands, Norway, South Africa, Spain, Taiwan, Turkey, the United Kingdom and United States in association with shrubs and herbaceous ornamentals grown mainly in greenhouses...

Class: Electronic resource

WWW: <http://www.mycologia.org/content/106/3.author-index>

Bib type: A

GMD: Periodical article

Entered: 12/08/2014 b00000115

Record ID 4010609

Title: **Tree mineral nutrition is deteriorating in Europe.**

Author: Jonard, M.

Co-author: Fürst, A.; Verstraeten, A.; Thimonier, A.; Timmermann, V.; Potoèiæ, N.; Waldner, P.; Benham, S.; Hansen, K.; Merilä, P.; Ponette, Q.; de la Cruz, A.C.; Roskams, P.; Nicolas, M; Croisé, L.; Ingerslev, M.; Matteucci, G.; Decinti, B.; Bascietto, M.; Rautio, P.

Imprint: Wiley online library, 2014

Source: Global Change Biology

Reference: Online publication before inclusion in an issue
DOI: 10.1111/gcb.12657

Main subject: CLIMATE CHANGE

Subjects: ABIES ALBA; FAGUS SYLVATICA; FOLIAR NUTRIENTS; FOREST MONITORING; FOREST MONITORING; PICEA ABIES; PINUS SYLVESTRIS; QUERCUS PETRAEA; QUERCUS ROBUR; TREND ANALYSIS; FCRA AUTHOR; 2015-FR-CAT-2

Abstract: The response of forest ecosystems to increased atmospheric CO₂ is constrained by nutrient availability. It is thus crucial to account for nutrient limitation when studying the forest response to climate change. The objectives of this study were to describe the nutritional status of the main European tree species, to identify growth-limiting nutrients and to assess changes in tree nutrition during the past two decades. We analysed the foliar nutrition data collected during 1992–2009 on the intensive forest monitoring plots of the ICP Forests programme. Of the 22 significant temporal trends that were observed in foliar nutrient concentrations, 20 were decreasing and two were increasing. Some of these trends were alarming,

among which the foliar P concentration in *F. sylvatica*, *Q. Petraea* and *P. sylvestris* that significantly deteriorated during 1992–2009. In *Q. Petraea* and *P. sylvestris*, the decrease in foliar P concentration was more pronounced on plots with low foliar P status, meaning that trees with latent P deficiency could become deficient in the near future. Increased tree productivity, possibly resulting from high N deposition and from the global increase in atmospheric CO₂, has led to higher nutrient demand by trees. As the soil nutrient supply was not always sufficient to meet the demands of faster growing trees, this could partly explain the deterioration of tree mineral nutrition. The results suggest that when evaluating forest carbon storage capacity and when planning to reduce CO₂ emissions by increasing use of wood biomass for bioenergy, it is crucial that nutrient limitations for forest growth are considered.

Class: Electronic resource
WWW: <http://bit.ly/UpVrjE>
Bib type: A
GMD: Periodical article
Entered: 26/08/2014 B00000115

Record ID 4010616

Title: **New Sitka spruce breeding co-operative keen to promote quality.**

Parent Item: Quarterly Journal of Forestry

Author: Lee, S.

Imprint: Tring, Herts : Geerings of Ashford Ltd for Royal Forestry Society, August 2014

Source: Quarterly Journal of Forestry Vol: 108 (4)

Reference: 49. ill.

Main subject: BRITISH FORESTRY

Subjects: SITKA SPRUCE; BREEDING; SEED; SEED ORCHARD; ACOUSTIC TOOLS; PICEA SITCHENSIS; GREAT BRITAIN; UK; FCRA AUTHOR; 2014-FR-CAT-2

Abstract: The newly formed Sitka spruce breeding cooperative is keen to improve and promote the quality of material being harvested from both the seed orchards owned by its members, and the full-sibling families produced by the co-op for the vegetative propagation market. It intends to achieve this in a number of ways

Class: AH Serials 'Q' Room L12; NRS Library Serials

Bib type: A

GMD: Periodical article

Entered: 01/09/2014 0000008b

Updated: 01/09/2014 0000008b

Record ID 4010629

Title: **An Ecological Assessment of Community Forestry in Prey Lang Forest, Cambodia: Is community forestry in Cambodia effective?**

Author: Lambrick, F.H.

Co-author: Brown, N.D.; Lawrence, A.; Bebbber, D.P.

Imprint: Wiley online, April 2014

Source: Conservation Biology

Reference: 28 (2) 372-381

DOI: 10.1111/cobi.12217

Main subject: FORESTRY

Subjects: BIOMASS; DEFORESTATION; DEGRADATION; FOREST MANAGEMENT; PARTICIPATORY FORESTRY; FCRA AUTHOR; 2015-FR-CAT-2

Abstract: Cambodia has 57% forest cover, the second highest in the Greater Mekong region, and a high deforestation rate (1.2%/year, 2005–2010). Community forestry (CF) has been proposed as a way to reduce deforestation and support livelihoods through local management of forests. CF is expanding rapidly in Cambodia. The National Forests Program aims to designate one million hectares of forest to CF by 2030. However, the effectiveness of CF in conservation is not

clear due to a global lack of controlled comparisons, multiple meanings of CF, and the context-specific nature of CF implementation. We assessed the effectiveness of CF by comparing 9 CF sites with paired controls in state production forest in the area of Prey Long forest, Cambodia. We assessed forest condition in 18–20 randomly placed variable-radius plots and fixed-area regeneration plots.

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 04/09/2014 B00000115

Record ID 4010630

Title: **Arabidopsis HEAT SHOCK TRANSCRIPTION FACTOR1b over expression enhances water productivity, resistance to drought, and infection.**

Author: Bechtold, U.

Co-author: Albihlal, W.S.; Lawson, T.; Fryer, M.J.; Sparrow, P.A.C.; Richard, F.; Persad, R.; Bowden, L.; Hickman, R.; Martin, C.; Beynon, J.L.; Buchanan-Wollaston, V.; Baker, N.R.; Morison, J.I.L.; Schöffl, F.; Ott, S.; Mullineaux, P.M.

Imprint: Oxford Journals, 2013

Source: Journal of Experimental Botany

Reference: 3467-3481

doi:10.1093/jxb/ert185

Main subject: BOTANY

Subjects: ARABIDOPSIS THALIANA; BASAL RESISTANCE; BIOTIC AND ABIOTIC STRESS; BRASSICA NAPUS; DROUGHT STRESS; HEAT STRESS; HYALOPERONOSPORA PARASITICA; HYDROGEN PEROXIDE; PSEUDOMONAS SYRINGAE; TRANSCRIPTION FACTORS; WATER PRODUCTIVITY; FCRA AUTHOR; 2014-FR-CAT-2

Abstract: Heat-stressed crops suffer dehydration, depressed growth, and a consequent decline in water productivity, which is the yield of harvestable product as a function of lifetime water consumption and is a trait associated with plant growth and development. Heat shock transcription factor (HSF) genes have been implicated not only in thermotolerance but also in plant growth and development, and therefore could influence water productivity. Here it is demonstrated that *Arabidopsis thaliana* plants with increased HSFA1b expression showed increased water productivity and harvest index under water-replete and water-limiting conditions.

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 04/09/2014 B00000115

Record ID 4010631

Title: **Ash dieback in the UK: a review of the ecological and conservation implications and potential management options.**

Author: Mitchell, R.J.

Co-author: Beaton, J.K.; Bellamy, P.E.; Broome, A.; Chetcuti J.; Eaton, S.; Ellis, C.J.; Gimona A.; Harmer, R.; Hester, A.J.; Hewison, R.L.; Hodgetts, N.G.; Iason, G.R.; Kerr, G.; Littlewood N.A.; Newey, S.; Potts, J.M.; Pozsgai, G.; Ray, D.; Sim, D.A.; Stockan, J.A.; Taylor, A.F.S.; Woodward, S.

Imprint: Elsevier, 2014

Source: Biological Conservation

Reference: 95-109

DOI: 10.1016/j.biocon.2014.04.019

Main subject: TREE HEALTH

Subjects: BIODIVERSITY LOSS; CHALARA FRAXINEA; EXTINCTION; FOREST PATHOLOGY; FUNGAL PATHOGENS; TREE DISEASES; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: The death of native trees caused by non-native pathogens is a global problem. An assessment of the potential ecological and conservation impacts of any tree disease should identify: (1) ecosystem functions associated with the tree species; (2) which species use the tree and how; (3) the suitability of alternative tree species to replace the threatened tree species; and (4) potential management options to mitigate or reduce the impact of the disease.

We assess the potential ecological impact of *Hymenoscyphus pseudoalbidus* (ash dieback) on *Fraxinus excelsior* in the UK. 953 species were identified as associated with *F. excelsior* trees: 12 birds, 28 mammals, 58 bryophytes, 68 fungi, 239 invertebrates, 548 lichens. Forty-four 'obligate' species were identified: 11 fungi, 29 invertebrates and 4 lichens; and 62 'highly associated' species.

Class: Electronic resource
WWW: <http://www.elsevier.com/journals/biological-conservation/0006-3207/open-access-options>
<http://www.journals.elsevier.com/biological-conservation/>

Bib type: A
GMD: Periodical article
Entered: 05/09/2014 B00000115

Record ID 4010632
Title: Atmospheric deposition of phosphorus to land and freshwater.
Author: Tipping, E.
Co-author: Benham, S.; Crow, P.
Imprint: Elsevier, 2014
Source: Environmental Science Processes and Impacts
Reference: DOI 10.1039/c3em00641g
Main subject: ENVIRONMENTAL SCIENCES
Subjects: FCRA AUTHORS; 2014-FR-CAT-2
Abstract: We compiled published and newly-obtained data on the directly-measured atmospheric deposition of total phosphorus (TP), filtered total phosphorus (FTP), and inorganic phosphorus (PO₄-P) to open land, lakes, and marine coasts. The resulting global data base includes data for c. 250 sites, covering the period 1954 to 2012. Most (82%) of the measurement locations are in Europe and North America, with 44 in Africa, Asia, Oceania, and South-Central America. The deposition rates are log-normally distributed, and for the whole data set the geometric mean deposition rates are 0.027, 0.019 and 0.14 g m⁻² a⁻¹ for TP, FTP and PO₄-P respectively.

Class: Electronic resource
WWW: <http://pubs.rsc.org/en/journals/journalissues/em#!recentarticles&all>
http://www.rsc.org/Publishing/Journals/OpenScience/Open_Access_RSC.asp

Bib type: A
GMD: Periodical article
Entered: 09/09/2014 B00000115

Record ID 4010633
Title: Biomass and carbon accumulation in the herb layer of representative forest ecosystems in Bulgaria.
Author: Dimitrova, V.
Co-author: Lyubenová, M.; Vanguelova, E.
Imprint: 2014
Series: Journal of Balkan Ecology 17 (1) 55-71

Main subject: BIOMASS
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://en.ecobalk.com/>
Bib type: A
GMD: Periodical article
Entered: 09/09/2014 B00000115
Updated: 09/09/2014 B00000115

Record ID 4010634

Title: **Comparing the provision of ecosystem services in plantation forests under alternative climate change adaptation management options in Wales.**

Author: Ray, D.
Co-author: Bathgate, S.; Moseley, D.; Taylor, P.; Nicoll, B.; Pizzirani, S.; Gardiner, B.
Imprint: Springer, 2014
Source: Regional Environmental Change
Reference: DOI 10.1007/s10113-014-0644-6
Main subject: ECOSYSTEMS
Subjects: FCRA AUTHORS; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://www.springer.com/environment/global+change+-+climate+change/journal/10113>
Bib type: A
GMD: Periodical article
Entered: 09/09/2014 B00000115

Record ID 4010635

Title: **Detection of temporal trends in atmospheric deposition of inorganic nitrogen and sulphate to forests in Europe.**

Author: Wadner, P.
Co-author: Marchetto, A.; Thimonier A.; Schmitt, M.; Rogora, M.; Granke, O.; Mues, V.; Hansen, K.; Karlsson, G.P.; Zlindra, D.; Clarke, N.; Verstraeten, A.; Lazdins, A.C.; Schimming, C.; Iacoban, Lindroos, A.-J.; Vanguelova, E.; Benham, S.; Meesenburg, H.; Nicolas, M.; Kowalska, A.; Apuhtin, V. Nappa, U.; Lachmanova, Z.; Kristoefel, F.; Bleeker, A.; Ingerslev, M.; L. Vesterdal, J. Molina, U. Fischer, W.Seidling, Jonard,M. O'Dea, P.; Johnson, J.; Fischer, R.; Lorenz, M.
Imprint: 2014
Source: British Ecological Society Forest ecology bulletin
Reference: <http://dx.doi.org/10.1016/j.atmosenv.2014.06.054>
Main subject: ATMOSPHERE
Subjects: FCRA AUTHORS; 2014-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 09/09/2014 B00000115

Record ID 4010640

Title: **Suitability of close-to-nature silviculture for adapting temperate European forests to climate change.**

Author: Spathelf, P.
Co-author: Bo Larsen, J.; Bauhus, J.; Boncina, A.; Chauvin, C.; Drössler, L.; García-Güemes, C.; Heiri, C.; Kerr, G.; Lexer, M.J.; Mason, B.; Mohren, F.; Mühlethaler, U.; Nocentini, S.; Svoboda, M.
Imprint: 2014
Source: Forestry
Reference: [doi:10.1093/forestry/cpu018](https://doi.org/10.1093/forestry/cpu018)

Main subject: CLIMATE CHANGE
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 09/10/2014 B00000115

Record ID 4010641
Title: The politics of numbers in forest and climate change policies in Australia and the UK.

Author: Buizer M.
Co-author: Lawrence A.
Imprint: Elsevier, 2014
Source: Environmental Science and Policy
Reference: 57-66

Main subject: CLIMATE CHANGE
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
WWW: <http://www.journals.elsevier.com/environmental-science-and-policy/>
<http://www.elsevier.com/journals/environmental-science-and-policy/1462-9011/open-access-options>

Bib type: A
GMD: Periodical article
Entered: 09/10/2014 B00000115

Record ID 4010642
Title: Tree species is the major factor explaining C:N ratios in European forest soils.

Author: Cools, N.
Co-author: Vesterdal, L.; De Vos, B.; Vanguelova, E.I.; Hansen, K.
Imprint: 2014
Source: Forest Ecology and Management
Reference: 3-16

Main subject: FOREST SOILS
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 09/10/2014 B00000115

Record ID 4010643
Title: The ELUM Project: Ecosystem Land Use Modelling & Soil Carbon GHG Flux Trial.

Author: Harris, Z.
Co-author: McNamara, N.P.; Rowe, R.; Dondini, M.; Finch, J.; Perks, M.; Morison, J.; Donnison, I.; Farrar, K.; Sohi, S.; Ineson, P.; Smith, P.; Taylor, G.

Imprint: Future Science, 2014
Source: Biofuels
Reference: 111-116
doi.org/10.4155/bfs.13.79

Main subject: SOIL SCIENCE
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://www.future-science.com/loi/bfs>
Bib type: A
GMD: Periodical article

Entered: 09/10/2014 B00000115

Record ID 4010644
Title: **Modelling the long-term response of stream water chemistry to forestry in Galloway, Southwest Scotland.**

Author: Helliwell, R.C.
Co-author: Aherne, J.; Nisbet, T.R.; MacDougall, G.; Broadmeadow, S.; Sample, J.; Jackson-Blake, L; Doughty, R.

Imprint: Elsevier, 2014
Source: Ecological Indicators
Reference: 396-411
Main subject: CHEMICAL ECOLOGY
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Class: Electronic resource
WWW: <http://www.journals.elsevier.com/ecological-indicators/>
Bib type: A
GMD: Periodical article
Entered: 09/10/2014 B00000115

Record ID 4010646
Title: **The first field experiment in the world to use a randomised experimental design: history, results and interpretation.**

Author: Kerr, G.
Imprint: 2014
Source: Forest Science
Reference: doi:10.5849/forsci/13-166
Main subject: FOREST SCIENCE
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 10/10/2014 B00000115

Record ID 4010647
Title: **The management of silver fir forests: de Liocourt (1898) revisited.**

Author: Kerr, G.
Imprint: 2014
Source: Forestry
Reference: 29-38
Main subject: FOREST MANAGEMENT
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 10/10/2014 B00000115

Record ID 4010648
Title: **Private landowners' approaches to planting and managing forests in the UK: what's the evidence?**

Author: Lawrence, A.
Co-author: Dandy, N.
Imprint: Elsevier, 2014
Source: Land Use Policy
Reference: 351-360
Main subject: FOREST MANAGEMENT
Subjects: FCRA AUTHORS; 2015-FR-CAT-2

Class: Electronic resource
WWW: <http://www.journals.elsevier.com/land-use-policy/>
Bib type: A
GMD: Periodical article
Entered: 10/10/2014 B00000115

Record ID 4010649
Title: Engaging with Peri-Urban Woodlands in England: the contribution to people's health and well-being and implications for future management.

Author: O'Brien, L.
Co-author: Morris, J.; Stewart, A.
Imprint: MDPI, 2014
Source: Int. J. Environ. Res. Public Health
Main subject: URBAN FORESTRY
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Class: Electronic resource
WWW: <http://www.mdpi.com/journal/ijerph>
Bib type: A
GMD: Periodical article
Entered: 10/10/2014 B00000115

Record ID 4010651
Title: A description of the symptoms of Acute Oak Decline in Britain and a comparative review on causes of similar disorders on oak in Europe.

Author: Denman, S.
Co-author: Brown, N.; Kirk, S.; Jeger, M.; Webber, J.
Imprint: Oxford Journals, 2014
Source: Forestry
Reference: 535-551
doi: 10.1093/forestry/cpu010

Main subject: TREE HEALTH
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 13/10/2014 B00000115

Record ID 4010652
Title: Protecting our forests: variation in resistance to pests and pathogens.

Author: Telford, A.
Co-author: Cavers, S.; Ennos, R.A.; Cottrell, J.E.
Imprint: 2014
Source: Forestry
Reference: DOI 10.1093/forestry/cpu012
Main subject: FOREST PATHOLOGY
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 13/10/2014 B00000115

Record ID 4010653
Title: Early weed control can increase long-term growth, yield and carbon sequestration of Sitka spruce stands in Britain.

Author: Stokes, V.J.
Co-author: Willoughby, I.H.

Imprint: 2014
Source: Forestry
Reference: 425-435.
DOI: 10.1093/forestry/cpu001
Main subject: WEEDS
Subjects: 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 13/10/2014 B00000115

Record ID 4010654
Title: Improving the science-policy dialogue to meet the challenges of biodiversity conservation: having conversations rather than talking at one-another.

Author: Young, J.C.
Co-author: Waylen, K.A.; Sarkki, S.I.; Albon, S.; Bainbridge, I.; Balian, E.; Davidson, J.; Edwards, D.; Fairley, R.; Margerison, C., McCracken, D., Owen, R., Quine, C.P., Stewart-Roper, C.; Thompson, D.; Tinch, R.; Van den Hove, S.; Watt, A.

Imprint: Springer, 2014
Source: Biodiversity Conservation
Reference: 387-404
Main subject: BIODIVERSITY
Subjects: FCRA AUTHOR; 2015-FR-CAT-2
Class: Electronic resource
WWW: <http://www.springer.com/life+sciences/evolutionary+%26+developmental+biology/journal/10531>

Bib type: A
GMD: Periodical article
Entered: 13/10/2014 B00000115

Record ID 4010655
Title: Emotional conflicts in rational forestry: Towards a research agenda for understanding emotions in environmental conflicts.

Author: Buijs, A.
Co-author: Lawrence, A.
Imprint: Elsevier, 2013
Source: Forest Policy and Economics
Reference: <http://dx.doi.org/10.1016/j.forpol.2012.09.002>
Main subject: SOCIAL SCIENCES
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://www.journals.elsevier.com/forest-policy-and-economics/>
Bib type: A
GMD: Periodical article
Entered: 13/10/2014 B00000115

Record ID 4010656
Title: Past acidification and recovery of surface waters, soils and ecology in the United Kingdom: Prospects for the future under current deposition and land use protocols.

Author: Helliwell, R.C.
Co-author: Aherne, J.; MacDougall, G.; Nisbet, T.R., Lawson, D.; Cosby, B.J.; Evans, C.D
Imprint: 2013
Source: Ecological Indicators

Reference: 381-395
Main subject: LAND USE
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Bib type: A
GMD: Periodical article
Entered: 23/10/2014 B00000115

Record ID 4010657
Title: Urban health and urban forestry: how can forest management agencies help?

Author: Williams, K.
Co-author: O'Brien, L.; Stewart, A.
Imprint: Arboricultural Association, 2013
Source: Arboricultural Journal
Reference: 119-133
Main subject: URBAN FORESTRY
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://www.trees.org.uk/publications/Arboricultural-Journal>
Bib type: A
GMD: Periodical article
Entered: 23/10/2014 B00000115

Record ID 4010658
Title: The native forests of New Zealand: time to review timber production and sustainable management.

Author: Kerr, G.
Co-author: Stewart, G.
Imprint: 2013
Source: Quarterly Journal of Forestry
Reference: 138-143
Main subject: SUSTAINABLE FOREST MANAGEMENT
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010659
Title: Fish and Trees: implications for climatic warming.

Author: Langford, T.
Co-author: Broadmeadow, S.; Jones, J.; Shaw, P.; Nisbet, T.
Imprint: 2013
Source: Quarterly Journal of Forestry
Reference: 57-61
Main subject: CLIMATE CHANGE
Subjects: FCRA AUTHORS; 2014-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010663
Title: Managing European-fisheries conflicts: problems, practicalities and policy.

Author: Marzano, M.
Co-author: Carss, D.N., Cheyne, I.
Imprint: Wiley, 2014

Source: Fisheries Management & Ecology
Reference: 401-413
Main subject: ENVIRONMENTAL MANAGEMENT
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1365-2400](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2400)
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010665
Title: Distribution, impact and rate of spread of emerald ash borer *Agrilus planipennis* (Coleoptera: Buprestidae) in the Moscow region of Russia.

Author: Straw, N.
Co-author: Williams, D.; Kulinich, O.; Gninenko, Y.
Imprint: 2013
Source: Forestry
Reference: 515-522
Main subject: TREE HEALTH
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010666
Title: The impacts of commercial woodland management on woodland butterfly biodiversity in Morecambe Bay, UK.

Author: Taylor, D.L.
Co-author: Ramsey, A.; Convery, I.; Lawrence A.; Weatherall, A.
Imprint: 2013
Source: Conservation Evidence
Reference: 10-15
Main subject: WOODLAND MANAGEMENT
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
WWW: <http://www.conservationevidence.com/collection/view>
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010667
Title: Toward improved drought tolerance in bioenergy crops: QTL for carbon isotope composition and stomatal conductance in *Populus*.

Author: Viger, M.
Co-author: Rodriguez-Acosta, M.; Rae, A.M.; Morison, J.I.L.; Taylor, G.
Imprint: 2013
Source: Food and Energy Security
Reference: 220-239
Main subject: CARBON
Subjects: FCRA AUTHOR; 2014-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 24/10/2014 B00000115

Record ID 4010676
Title: **Detection of temporal trends in atmospheric deposition of inorganic nitrogen and sulphate to forests in Europe.**
Author: Wadner, P.
Co-author: Marchetto, A.; Thimonier A.; Schmitt, M.; Rogora, M.; Granke, O.; Mues, V.; Hansen, K.; Karlsson, G.P.; Zindra, D.; Clarke, N.; Verstraeten, A.; Lazdins, A.C.; Schimming, C.; Iacoban, Lindroos, A.-J.; Vanguelova, E.; Benham, S.; Meesenburg, H.; Nicolas, M.; Kowalska, A.; Apuhtin, V. Nappa, U.; Lachmanova, Z.; Kristoefel, F.; Bleeker, A.; Ingerslev, M.; L. Vesterdal, J. Molina, U. Fischer, W.Seidling, Jonard,M. O'Dea, P.; Johnson, J.; Fischer, R.; Lorenz, M.
Imprint: 2014
Source: Atmospheric Environment
Reference: 363-374
Main subject: ATMOSPHERE
Subjects: FCRA AUTHORS; 2014-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 18/11/2014 B00000115

Record ID 4010681
Title: **Mixture B New Formulation adjuvant increases the rainfastness and hence effectiveness of glyphosate for rhododendron control.**
Author: Willoughby, I.H.
Co-author: Stokes, V.J.
Imprint: 2014
Source: Forestry
Reference: 10.1093/forestry/cpu041
8pp
Main subject: PLANT HEALTH
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Rhododendron ponticum (L.) is a highly invasive and competitive weed on many forest sites in Britain and can act as a host for the pathogens *Phytophthora ramorum* (Werres) and *P. kernoviae* (Brasier). Control of rhododendron can be difficult due in part to its thick waxy leaf surfaces, which discourage the absorption of foliar-applied herbicides. The adjuvant Mixture B has been used for many years to improve efficacy, absorption and rainfastness of glyphosate used for rhododendron control, but the formulation has changed, and the new product, 'Mixture B NF', has not been independently tested. An experiment was therefore set up to test the effect of adding one of three adjuvants (Mixture B, Mixture B NFor Break-Thru S240), to two example glyphosate products (Roundup Pro Biactive and Clinic Ace) and one triclopyr product (Timbrel) on the control of rhododendron plants. Treatments were applied as foliar sprays and then subjected to four different artificial rainfall regimes to examine rainfastness. Rainfall had no effect on the efficacy of Timbrel, which performed well with or without adjuvants. Rainfall after application reduced the efficacy of both Roundup Pro Biactive and Clinic Ace, but it made no difference if the rainfall occurred 1, 3 or 6 h after application. There were no differences between the effectiveness of the different glyphosate formulations, but the rainfastness of both products were substantially increased by both Mixture B and Mixture B NF. The adjuvant Break-ThruS240 gave little benefit. It is recommended that when foliar sprays of rhododendron bushes are required, if triclopyr is not available, an equivalent of 2.88 kg a.i. ha⁻¹ glyphosate should be used (e.g. as 8 l ha⁻¹ Roundup Pro Biactive or Clinic Ace) and Mixture B NF adjuvant added at a rate of 2 per cent of final spray volume.
Class: Electronic resource - online

WWW: <http://forestry.oxfordjournals.org/cgi/reprint/cpu041?ijkey=sD3LaHvbefdkvZb&keytype=ref>
Bib type: A
GMD: Periodical article
Entered: 20/11/2014 B00000115

Record ID 4010684
Title: A review of *Agrilus biguttatus* in UK forests and its relationship with acute oak decline.

Author: Brown, N.
Co-author: Inward, D.J.G.; Jeger, M.; Denman, S.
Imprint: Oxford Journals, 2015
Source: Forestry
Reference: 53-63
doi:10.1093/forestry/cpu039

Main subject: TREE HEALTH

Subjects: FCRA AUTHORS; 2015-FR-CAT-2

Abstract: *Agrilus biguttatus* Fab. (Coleoptera: Buprestidae) is a European bark-boring beetle whose larvae feed in the vascular tissue of oak trees. Until recently, it was considered rare in Britain, but sightings have become more frequent and it is often found on weakened trees suffering from Acute Oak Decline (AOD). This rapidly acting syndrome is characterized by patches of dark sticky fluid exuding from cracks on the trunk, with areas of necrotic tissue beneath, probably caused by a pathogenic bacterial component. However, the frequent association of AOD with the larval galleries and distinctive adult exit holes of *A. biguttatus* has raised concerns that the beetle may be contributing to the AOD syndrome or hastening the mortality of affected trees. This review evaluates the potential role of *A. biguttatus* in the AOD complex. Information on the beetle's life cycle and ecology is assessed along with the apparent increase in its abundance and distribution in the UK, and likely mechanisms of host selection. Oak tree defences against the beetle are discussed, as well as risk factors influencing susceptibility. Research on related *Agrilus* species is reviewed so that insights into the relationship between the beetle, the bacteria and the host tree can be made through comparisons with more extensively studied species. Possible management options in an AOD context are considered, and priority areas for future research are identified.

Class: Electronic resource - first published online November 5, 2014. The most recent article was published on January 7 2015.

WWW: <http://forestry.oxfordjournals.org/content/early/2014/11/05/forestry.cpu039.abstract>

ISSN: Online ISSN 1464-3626 - Print ISSN 0015-752X
Bib type: A
GMD: Periodical article
Entered: 21/11/2014 B00000115
Updated: 07/04/2015 B00000115

Record ID 4010692
Title: Environmental drivers of ectomycorrhizal communities in Europe's temperate oak forests.

Author: Suz, Laura M.
Co-author: Barsoum, N.; Benham, S.; Dietrich, H.-P.; Fetzner, K.D.; Fischer, R.; García, P.; Gehrman, J.; Kristöfe, F.; Manninger, M.; Neagu, S.; Nicolas, M.; Oldenburger, J.; Raspe, S.; Sánchez, G.; Schröck, H. W.; Schubert, A.; Verheyen, K., Verstraeten, A.; Bidartondo, M. I.
Imprint: Wiley, 2014

Source: Molecular Ecology
Reference: Article first published online: 7 NOV 2014
DOI: 10.1111/mec.12947

Main subject: ECOLOGICAL SCIENCES
Subjects: BIOINDICATOR; CRITICAL LOAD; EXPLORATION TYPE; ICP FORESTS;
MYCORRHIZAS; POLLUTION; QUERCUS; FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Ectomycorrhizal fungi are major ecological players in temperate forests, but they are rarely used in measures of forest condition because large-scale, high-resolution, standardized and replicated belowground data are scarce. We carried out an analysis of ectomycorrhizas at 22 intensively monitored long-term oak plots, across nine European countries, covering complex natural and anthropogenic environmental gradients. We found that at large scales, mycorrhizal richness and evenness declined with decreasing soil pH and root density, and with increasing atmospheric nitrogen deposition. Shifts in mycorrhizas with different functional traits were detected; mycorrhizas with structures specialized for long-distance transport related differently to most environmental variables than those without. The dominant oak-specialist *Lactarius quietus*, with limited soil exploration abilities, responds positively to increasing nitrogen inputs and decreasing pH. In contrast, *Tricholoma*, *Cortinarius* and *Piloderma* species, with medium-distance soil exploration abilities, show a consistently negative response. We also determined nitrogen critical loads for moderate (9.5–13.5 kg N/ha/year) and drastic (17 kg N/ha/year) changes in belowground mycorrhizal root communities in temperate oak forests. Overall, we generated the first baseline data for ectomycorrhizal fungi in the oak forests sampled, identified nitrogen pollution as one of their major drivers at large scales and revealed fungi that individually and/or in combination with others can be used as belowground indicators of environmental characteristics.

Class: Electronic resource
WWW: <http://onlinelibrary.wiley.com/doi/10.1111/mec.12947/abstract>
Bib type: A
GMD: Periodical article
Entered: 24/11/2014 B00000115
Updated: 24/11/2014 B00000115

Record ID 4010693

Title: **Ash dieback and loss of biodiversity. Can management make broadleaved woodlands more resilient?**

Author: Broome, A.
Co-author: Mitchell, R.; Harmer, R.
Imprint: The Royal Forestry Society, 2014
Source: Quarterly Journal of Forestry
Reference: 241-248

Main subject: BROADLEAVED TREES
Subjects: FCRA AUTHORS; 2015-FR-CAT-2
Abstract: Ash dieback is a serious tree disease caused by an invasive fungus from East Asia that has spread quickly across northern Europe where it has killed many ash trees during the last decade. We know the fungus as *Chalara fraxinea*, but rather confusingly it is called *Hymenoscyphus pseudoalbidus* in other countries, the reasons for which are related to the complicated biology of the species, which can exist in sexual and asexual forms. Recently, taxonomists have been recommending that the correct name for both forms is *Hymenoscyphus fraxineus*. The disease was first confirmed in the UK in 2012 and at the

time of writing has been found at 649 sites across the country with most infected, established woodland sites being in the east and south of England (Forestry Commission, 2014). Ash trees are an important and widespread component of our broadleaved woodlands, occurring as occasional groups of trees through to being the dominant species in the canopy.

Ash trees provide a significant timber resource. There are about 150,000ha of woodland composed of ash in UK with a standing volume of 34 million m³ that comprises about 11% of total broadleaved woodland area and 14% of broadleaved standing volume, the majority of which is in the southern half of the country (Table 1). If the progress of the disease follows the same pattern as it has on the continent then large numbers of trees will die, which will obviously have a major effect on timber production. In addition to its role in timber production, ash is a native tree species common in many broadleaved woodlands that are habitats for a wide variety of other plant and animal species.

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 24/11/2014 B00000115

Record ID 4010694

Title: Defining landscape resistance values in least-cost connectivity models for the invasive grey squirrel: a comparison of approaches using expert-opinion and habitat suitability modelling.

Author: Stevenson-Holt, C.D.
Co-author: Watts, K.; Bellamy, C.; Nevin, O.T.; Ramsey, A.D.
Imprint: 2014
Source: PLOS ONE
Reference: Published: November 07, 2014
DOI: 10.1371/journal.pone.0112119

Main subject: HABITATS

Subjects: FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Least-cost models are widely used to study the functional connectivity of habitat within a varied landscape matrix. A critical step in the process is identifying resistance values for each land cover based upon the facilitating or impeding impact on species movement. Ideally resistance values would be parameterised with empirical data, but due to a shortage of such information, expert-opinion is often used. However, the use of expert-opinion is seen as subjective, human-centric and unreliable. This study derived resistance values from grey squirrel habitat suitability models (HSM) in order to compare the utility and validity of this approach with more traditional, expert-led methods. Models were built and tested with MaxEnt, using squirrel presence records and a categorical land cover map for Cumbria, UK.

Class: Electronic resource
WWW: <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0112119>
Bib type: A
GMD: Periodical
Entered: 24/11/2014 B00000115

Record ID 4010695

Title: What can studies of woodland fragmentation and creation tell us about ecological networks? A literature review and synthesis.

Author: Humphrey, J.W.

Co-author: Watts, K.; Fuentes-Montemayor, E.; Macgregor, N.A.; Peace, A.J.; Park, K.J.
Imprint: Springer, 2014
Source: Landscape Ecology
Reference: 21-50
10.1007/s10980-014-0107-y

Main subject: ECOLOGICAL SCIENCES
Subjects: BIODIVERSITY; LANDSCAPE ECOLOGY; PLANT ECOLOGY; FORESTRY MANAGEMENT; FORESTRY; ECOLOGY; PLANT SCIENCES; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: The development of ecological networks could help reverse the effects of habitat fragmentation on woodland biodiversity in temperate agricultural landscapes. However, efforts to create networks need to be underpinned by clear evidence of the relative efficacy of local (e.g. improving or expanding existing habitat patches) versus landscape-scale actions (e.g. creating new habitat or corridors in the landscape matrix). Using cluster analyses we synthesised the findings of 104 studies, published between 1990 and 2013 focusing on the responses of woodland vascular plant, vertebrate, cryptogam and invertebrate species to local and landscape variables. Species responses (richness, diversity, occurrence) were strongly influenced by patch area, patch characteristics (e.g. stand structure) and isolation (e.g. distance between habitat patches). Patch characteristics were of overriding importance for all species groups, especially cryptogams. Many studies recording significant species responses to patch characteristics did not record significant responses to patch area and vice versa, suggesting that patch area may sometimes act as a surrogate for patch characteristics (i.e. larger patches being of 'better quality'). Ecological continuity was important for vascular plants, but assessed in only a few vertebrate and invertebrate studies. Matrix structure (e.g. presence of corridors) was important for vertebrates, but rarely assessed for other species groups. Actions to develop ecological networks should focus on enhancing the quality and/or size of existing habitat patches and reducing isolation between patches. However, given that very few studies have assessed all local and landscape variables together, further information on the relative impacts of different attributes of ecological networks in temperate agricultural landscapes is urgently needed.

Class: Electronic resource
WWW: <http://link.springer.com/article/10.1007%2Fs10980-014-0107-y>
ISSN: Online 1572-9761
Print 0921-2973

Bib type: A
GMD: Periodical article
Entered: 24/11/2014 B00000115
Updated: 07/04/2015 B00000115

Record ID 4010696
Title: Climatic drivers of oak growth over the past one hundred years in mixed and monoculture stands in southern England and northern France.

Author: Barsoum, N.
Co-author: Eaton, E.L.; Levanic, T.; Pargade, J.; Bonnart, X.; Morison, J.I.L.
Imprint: Springer, 2014
Source: European Journal of Forest Research
Reference: Online from August 20114
DOI: 10.1007/s10342-014-0831-5

Main subject: PLANT ECOLOGY
Subjects: CLIMATE; DENDROCHRONOLOGY; INTER-ANNUAL GROWTH; POINTER YEARS; MIXED WOODS; MONOCULTURE; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: In southern England and northern France, pedunculate oak (*Quercus robur* L.) and sessile oak (*Quercus petraea* (Matt.) Liebl.) are keystone native species,

supporting a substantial diversity of associated species, as well as being a valuable hardwood timber. Future environmental change may require modifications to the ways in which oaks are managed if they are to retain these important roles in forests. Such future management may be informed by past growth patterns using dendrochronological techniques. Oak radial growth between 1900 and 2010 was investigated in five regions in southern England and northern France, together with the impacts of past temperature and precipitation. Additionally, oak growth in monoculture stands and in stands where oak is mixed with Scots pine (*Pinus sylvestris* L.) was assessed in two forested regions (the New Forest and Thetford Forest) in southern England. This study suggests that oaks in these areas of England and France have shown substantial resilience to past climatic and other environmental factors, with oak growth rates increasing significantly over the twentieth century. Oaks grown in monocultures appeared to grow better than those in mixed stands in the New Forest in southern England; there was no difference in Thetford Forest. Pointer years of unusually good or poor radial growth very rarely coincided between regions in the study area, suggesting that drivers of extreme growth are localised to the region and site-specific drivers, rather than climatic trends in common across the wider area.

Class: Electronic resource

WWW: <http://link.springer.com/article/10.1007%2Fs10342-014-0831-5>

ISSN: Online 1612-4677

Print 1612-4669

Bib type: A

GMD: Periodical article

Entered: 24/11/2014 B00000115

Record ID 4010697

Title: *Rahnella victoriana* sp. nov., *Rahnella bruchi* sp. nov., *Rahnella woolbedingensis* sp. nov., classification of *Rahnella* genomospecies 2 and 3 as *Rahnella varigena* sp. nov. and *Rahnella inusitata* sp. nov., respectively and emended description of the genus *Rahnella*.

Author: Brady, C.

Co-author: Hunter, G.; Kirk, S.; Arnold, D.; Denman, S.

Imprint: 2014

Source: Systematic and Applied Microbiology

Reference: 545-552

doi: 10.1016/j.syapm.2014.09.001

Main subject: TREE HEALTH

Subjects: ACUTE OAK DECLINE; AGRILUS BIGUTTATUS; ENTEROBACTERIACEAE; MLSA; TAXONOMY; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: Isolations from oak symptomatic of Acute Oak Decline, alder and walnut log tissue, and buprestid beetles in 2009-2012 yielded 32 Gram-negative bacterial strains showing highest *gyrB* sequence similarity to *Rahnella aquatilis* and *Ewingella americana*. Multilocus sequence analysis (using partial *gyrB*, *rpoB*, *infB* and *atpD* gene sequences) delineated the strains into six MLSA groups. Two MLSA groups contained reference strains of *Rahnella* genomospecies 2 and 3, three groups clustered within the *Rahnella* clade with no known type or reference strains and the last group contained the type strain of *E. americana*. DNA-DNA relatedness assays using both the microplate and fluorometric methods, confirmed that each of the five *Rahnella* MLSA groups formed separate taxa. *Rahnella* genomospecies 2 and 3 were previously not formally described due to a lack of distinguishing phenotypic characteristics. In the present study, all five *Rahnella* MLSA groups were phenotypically differentiated from each other and from *R. aquatilis*. Therefore we propose to classify the strains from symptomatic oak, alder and walnut and buprestid beetles as: *Rahnella victoriana* sp. nov. (type strain FRB 225T=LMG 27717T=DSM 27397T), *Rahnella varigena* sp. nov.

(previously *Rahnella genomosp.* 2, type strain CIP 105588T=LMG 27711T), *Rahnella inusitata* sp. nov. (previously *Rahnella genomosp.* 3, type strain DSM 30078T=LMG 2640T), *Rahnella bruchi* sp. nov. (type strain FRB 226T=LMG 27718T=DSM 27398T) and *Rahnella woolbedingensis* sp. nov. (type strain FRB 227T=LMG 27719T=DSM 27399T).

Class: Electronic resource
WWW: <http://www.ncbi.nlm.nih.gov/pubmed/25264035>
Bib type: A
GMD: Periodical article
Entered: 24/11/2014 B00000115
Updated: 07/04/2015 B00000115

Record ID 4010704

Title: **Community based forest enterprises in Britain: Two organising typologies.**

Author: Ambrose-Oji, B.
Co-author: Lawrence, A.; Stewart, A.
Imprint: Science Direct, 2014
Source: Forest Policy and Economics
Reference: doi:10.1016/j.forpol.2014.11.005
available online from 4th December 2014

Main subject: COMMUNITY FORESTRY

Subjects: COMMUNITY ENTERPRISE; SOCIAL ENTERPRISE; COMMUNITY BASED FOREST ENTERPRISE; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: The research investigates an area of contemporary interest in British forest policy: community-based and social enterprises. A systematic framework was used to collect and organise qualitative and quantitative evidence from thirty three case studies across Wales, Scotland and England. Two descriptive typologies emerged from an iterative analysis of the case study data: one identifies five different business models and one deals with community involvement in governance and benefit distribution and finds four different enterprise types. Testing detailed financial data against the typologies demonstrates the limitations of current definitions of social and community enterprises in the forestry sector. The balance of traded and grant income used to distinguish between enterprise types is not a satisfactory device in forestry contexts. Three main barriers to enterprise development were identified as start-up costs, woodland and business management skills, and bureaucracy. Evidence supporting the popular hypothesis that social and community enterprises produce more and diverse benefits from woods was elusive. Policy responses should recognise a broad spectrum of woodland enterprise types rather than social enterprise alone, focus on the potential of different business models, and enable communities to find innovative solutions to securing the capital, technical and legal advice they require.

Class: Electronic resource
WWW: <http://www.sciencedirect.com/science/article/pii/S1389934114001920>
Bib type: A
GMD: Periodical article
Entered: 12/12/2014 B00000115

Record ID 4010710

Title: **Community based forest enterprises in Britain: Two organising typologies.**

Author: Ambrose-Oji, B.
Co-author: Lawrence, A.; Stewart, A.
Imprint: Elsevier, 2014
Source: Forest Policy and Economics

Reference: Special Issue: Community Forestry.
Available online 4 December 2014
doi:10.1016/j.forpol.2014.11.005

Main subject: COMMUNITY FORESTRY
Subjects: COMMUNITY ENTERPRISE; SOCIAL ENTERPRISE; COMMUNITY BASED
FOREST ENTERPRISE; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: The research investigates an area of contemporary interest in British forest policy: community-based and social enterprises. A systematic framework was used to collect and organise qualitative and quantitative evidence from thirty three case studies across Wales, Scotland and England. Two descriptive typologies emerged from an iterative analysis of the case study data: one identifies five different business models and one deals with community involvement in governance and benefit distribution and finds four different enterprise types. Testing detailed financial data against the typologies demonstrates the limitations of current definitions of social and community enterprises in the forestry sector. The balance of traded and grant income used to distinguish between enterprise types is not a satisfactory device in forestry contexts. Three main barriers to enterprise development were identified as start-up costs, woodland and business management skills, and bureaucracy. Evidence supporting the popular hypothesis that social and community enterprises produce more and diverse benefits from woods was elusive. Policy responses should recognise a broad spectrum of woodland enterprise types rather than social enterprise alone, focus on the potential of different business models, and enable communities to find innovative solutions to securing the capital, technical and legal advice they require.

Class: Electronic resource
WWW: <http://www.sciencedirect.com/science/article/pii/S1389934114001920>
Bib type: A
GMD: Periodical article
Entered: 06/01/2015 B00000115

Record ID 4010722
Title: Does variable intensity thinning enhance capercaillie brook habitat in Scots pine plantations?

Author: Broome, A.C.
Co-author: Connolly, T.; Quine, C.P.
Imprint: 2014
Source: Forest Ecology and Management
Reference: 314
Main subject: FORESTRY
Subjects: 2015-FR-CAT-2
Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 03/03/2015 B00000115

Record ID 4010723
Title: Sustainable forest management in a time of ecosystem services frameworks: common ground and consequences.

Author: Quine, C.P.
Co-author: Bailey, S.A.; Watts, K.
Imprint: 2013
Source: Journal of Applied Ecology
Reference: 863-867
Main subject: SUSTAINABLE FOREST MANAGEMENT
Subjects: FCRA AUTHORS; 2014-FR-CAT-2

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 03/03/2015 B00000115

Record ID 4010763

Title: **Gibbsiella greigii sp. nov., a novel species associated with oak decline in the USA.**

Author: Brady, C.
Co-author: Hunter, G.; Kirk, S.; Arnold, D.; Denman, S.
Imprint: Science Direct, 2014
Source: Systematic and Applied Microbiology
Reference: 417-422
Main subject: TREE HEALTH
Subjects: ENTEROBACTERIACEAE; ; ACUTE OAK DECLINE; QUERCUS KELLOGGII; MLSA; TAXONOMY; FCRA AUTHORS; 2015-FR-CAT-2

Abstract: In 2010, cream-coloured, Gram-negative staining, facultatively anaerobic enterobacteria were isolated from a single black oak tree (*Quercus kelloggii*) exhibiting decline symptoms in southern California, USA. These 12 isolates were tentatively identified as *Gibbsiella quercinecans* based on partial *gyrB* sequencing. Closer examination of the strains using multilocus sequence analysis, based on partial sequences of *gyrB*, *rpoB*, *infB* and *atpD* genes, and almost complete 16S rRNA gene sequencing suggested that the isolates belong to a novel taxon within the genus *Gibbsiella* with *G. quercinecans* as their closest phylogenetic relative. DNA–DNA relatedness studies confirmed that the strains belong to a single taxon in *Gibbsiella*, which can be differentiated from other members of the genus by several phenotypic traits. Therefore, the name *Gibbsiella greigii* sp. nov. is proposed for this novel species isolated from symptomatic *Q. kelloggii* in the USA with FRB 224T (=LMG 27716T = NCPPB 4583T) as the type strain.

Class: Electronic resource
WWW: <http://dx.doi.org/10.1016/j.syapm.2014.07.002>
Bib type: A
GMD: Periodical article
Entered: 31/03/2015 B00000115

Record ID 4010773

Title: **RangeShifter: a platform for modelling spatial eco-evolutionary dynamics and species' responses to environmental changes.**

Author: Bocedi, G.
Co-author: Palmer, S.C.F.; Pe'er, G.; Heikkinen, R.K.; Matsinos, Y.G.; Watts, K.; Travis, J.M.J.
Imprint: Wiley, 2014
Source: Methods in Ecology and Evolution
Reference: 388-396
Article first published online: 9 APR 2014
[doi.org/10.1111/2041-210X.12162](http://dx.doi.org/10.1111/2041-210X.12162)
Main subject: ECOLOGY
Subjects: DYNAMIC MODELLING; INDIVIDUAL-BASED MODELLING; ENVIRONMENTAL CHANGE; DISPERSAL; POPULATION DYNAMICS; CONNECTIVITY; POPULATION VIABILITY; FCRA AUTHOR; 2015-FR-CAT-2

Abstract: Summary
Rapid environmental changes are threatening biodiversity and exposing species to novel ecological and evolutionary pressures. The scientific community increasingly recognizes the need for dynamic models integrating sufficient complexity both to improve our understanding of species' responses to

environmental changes and to inform effective management strategies. Using three illustrative examples, we introduce a novel modelling platform, RangeShifter, which integrates complex population dynamics and dispersal behaviour, includes plastic and evolutionary processes and simulates scenarios on spatially explicit landscapes. The software provides functionality for a wide variety of modelling applications ranging from applied questions, where it can be parameterized for real landscapes and species to compare alternative potential management interventions, to purely theoretical studies of species' eco-evolutionary dynamics and responses to different environmental pressures. RangeShifter provides an important tool for facilitating the advancement of ecological theory on species' spatial dynamics in response to environmental changes, and linking it directly to application in biodiversity conservation.

Class: Electronic resource
WWW: <http://onlinelibrary.wiley.com/doi/10.1111/2041-210X.12162/abstract>
Bib type: A
GMD: Periodical article
Entered: 09/04/2015 B00000115

Record ID 4010774

Title: Studying past landscape change to inform future conservation.

Author: Macgregor, N.A.

Co-author: Watts, K.; Park, K.; Fuentes-Montemayor, E.; Duffield, S.

Imprint: 2014

Source: ECOS

Reference: 53-59

Main subject: CONSERVATION

Subjects: FCRA AUTHOR; 2015-FR-CAT-2

Abstract: The WrEN project, led by the University of Stirling, Forest Research and Natural England, is taking advantage of the opportunities offered by Britain's landscapes to study the ecological networks concept. The results will improve our understanding of how different species respond to different characteristics of habitat patches and the wider landscape, and so inform the design of future conservation landscapes.

Class: Electronic resource
Bib type: A
GMD: Periodical article
Entered: 09/04/2015 B00000115