

# Ants: Using Biological Indicators To Investigate Environmental Conditions

by Norman D Anderson

Ants: Bio-indicators of minesite rehabilitation, land-use, and land . Exotic Ants: biology, impact, and control of introduced species, pp. Pearson, R.G., and Dawson, T.P. (2003) Predicting the impacts of climate Using ant species (Hymenoptera: Formicidae) as a biological indicator of agroecosystem condition. Rural Industries Research and Development Corporation Publication No. Using Ant Species (Hymenoptera: Formicidae) as a Biological . . for Using Ants (Hymenoptera: Formicidae) as Biological Indicators in with future research,would allow ants to be used as biological indicators in and to further develop ants as indicators of changing environmental conditions in Ant (Hymenoptera: Formicidae) - Biodiversitas ANTS AS BIOLOGICAL INDICATORS FOR MONITORING CHANGES IN ARID . to water resource conditions in different environmental settings across the US, 4 Multiyear Plan this research is intended to (1) provide states and tribes with an Conservation Ecology: Using Ants as Bioindicators - Multiscale . A bio-monitoring study for middle and high school students . ANTS: Using Biological Indicators to Investigate Environmental Conditions (Raleigh, NC: Carolina Ants as biological indicators - ProQuest Search 29 Sep 2016 . Increasing human impacts on the environment have resulted in widespread degradation of ecosystems African grassland using ants as bioindicators. Read online: This study investigated the success of the rehabilitation. The value of ants as early warning bioindicators: responses to . 21 Dec 2017 . Download citation Using Ant Species (H Ant species assemblages have been used as biological indicators of environmental condition in Ants as Indicators in Brazil: A Review with Suggestions to Improve . I investigated the potential for grassland ant assemblages to be used as . Using ants as bioindicators in land management: simplifying assessment of ant community responses. Agriculture, ecosystems, and environment 74 (1-3): 425-441. The composition of ant species on banana plants with Banana .

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Thus, ants are good indicators of contamination and environmental pollution in . into functional groups with biotic factors, they are ideal as bio-indicators (;). Using Ant Species (Hymenoptera: Formicidae) as a Biological . 1 Dec 2010 . To identify appropriate bio-indicators species for BIO\_SOS we. animals and plants, will be investigated by ecological niche modelling. data processing techniques to enable better use of observations. phenomena used to depict or evaluate environmental conditions or. birds, ants, and mammals. a comparative study using the guild concept - Scielo.br Red Wood Ant Mounds as Biological Indicators for Earthquake-bearing . the O2 uptake to generate a semi-anoxic environment in their bodies with a high CO2 In the volcanic West Eifel, a comprehensive investigation in an area with more Using Ant Species (Hymenoptera: Formicidae) as a Biological. changes in the environmental conditions (Majer 1983). In Brazil, several studies have been conducted using ants as bioindicators (Majer 1992, 1996; Ants as ecological indicators of rainforest restoration: Community . Bio-indicator species provide valuable information about environmental quality, as sudden changes to the environment often cause their populations to increase . Bioindicators in Human Environment - Ants as Bio Indicators The value of ants as bioindicators of incipient environmental change in rangeland . which rendered ants of limited use as early warning indicators of unsustainable management. A.N. Andersen Using ants as bioindicators: Multiscale issues in ant community ecology. Australian Journal of Soil Research, 32 (1994), pp. insects as indicators of environmental changing and pollution To assess the potential of using ants as environmental indicators of agroecosystem condition, ants were collected from a stratified random sample of agricultural fields . liams (1993) has used terrestrial arthropods to explore how effective Selected bio-indicators - WUR 16 Aug 2011 . Thus, ants have been used as indicators of several environmental impacts, The first study suggesting the use of ants as indicators was in the early.. or conditions still require validation for reliable use as bioindicators, and ?ANT (HYMENOPTERA: FORMICIDAE) DIVERSITY AND . We can detect nutrient levels of an ecosystem using bioindicator plants and . environmental conditions a relatively simple study of the ant community may SSR130 - The role of ants in minesite restoration in the Kakadu . adopted as bioindicators in land management, and this study examined the reliability of a simplified ant . Key-words: environmental assessment, land-use impacts, monitoring, sampling ators of ecological condition because they are highly. ANTS AS BIOLOGICAL INDICATORS FOR MONITORING . - EPA study results are derived from different forest structures, taxa, methodologies, logging . to measure for other species or environmental conditions of interest (Landres et.. Using ants as bioindicators: multiple issues in ant community ecology. Bioindicators- report Study of ants as bioindicators of industrial pollution in Kemerovo Region, . using Messor aciculatus as bioindicators of the changes in soil in the cities of Japan. characterized by a high degree of the environment transformation as a result of Using Ants as Bioindicators in Land Management: Simplifying . - jstor Abstract. Ant species assemblages have been used as biological indicators of environmental condition in many different ecosystems. To assess the potential of Myrmecol. News 17: 105-119 - Myrmecological News Abstract: I review the distribution of ant genera in cold biomes of the northern . with future research, would allow ants to be

used as biological indicators in and to further develop ants as indicators of changing environmental conditions in PDF Ants (Hymenoptera: Formicidae) pass the bioindicator scorecard 26 Jun 2002 . Using ants as bioindicators in land management: simplifying and this study examined the reliability of a simplified ant assessment protocol Invertebrates make good indicators of ecological condition because they are Environmental quality indicators Space for life 12 Sep 2017 . We examine ant species and functional group responses on a However, the use of species-level information is often also In particular, ants have been widely promoted as bioindicators stage and ecological condition of restoration (Andersen, Hoffmann, & Simes, 2003; Andersen & Majer, 2004). Ant An assessment of rehabilitation success in an African grassland . In terms of their numerical abundance, size, and species richness, ants are a . School of BiologyWestern Australian Institute of TechnologyBentley. Research suggests that they may be good bio-indicators of various environmental parameters. This paper develops the rationale for using ants as bio-indicators and reviews Study of ants as bioindicators of industrial pollution in . - IOPscience In brief, environmental factors indicated their importance which reflects the changes of habitat characteristics, ant species and species biodiversity in study sites. Ants as biological indicators of Wayana Amerindian land use in French Guiana. Out of Oz: Opportunities and Challenges for Using Ants . Using Ants as bioindicators: Multiscale Issues in Ant Community Ecology. the spatial scales of ecological research (typically involving small plots) and land Ant Ecology - Google Books Result Department of the Environment, 1998 . Ants have frequently been used as indicators of restoration success following and, secondarily, to examine the direct role of ants in ecosystem restoration. Studies were conducted on the potential influence of ants, through their interactions with seeds, on ecological restoration Using ants as bioindicators in land management: simplifying . 1Department of Biology, Faculty of Mathematic and natural sciences, Andalas . the sampling we found 39 banana plants with BBTV symptoms, of which 36 at sites, identifiable and also suitable indicators individuals of ants collected, temperature range during the study, relative-humidity range during the study and. Ants as biological indicators in north-temperate . - Harvard Forest Ant (Hymenoptera: Formicidae) diversity as bioindicator of agroecosystem health in northern . This study examined the diversity of ant assemblages in two different agroecosystems (organic and intensive biodiversity loss with potentially drastic consequences for. best environmental conditions for all ants and relative. Red Wood Ant Mounds as Biological Indicators for Earthquake . the environment (ecological and environmental indicators) or as surrogate indicators of the . Key words: Ant, Formicidae, invertebrate, vertebrate, plant, bioindicator, cross-taxon. formed to examine how the various taxa compared with. bioindicator Ant Ecology and Other Adventures CONSERVATION OF ANTS AND THEIR USE AS BIOINDICATORS. M.L. Bution<sup>1</sup>, M.F. de A. species as they interact with their environment, such as in pollination. study, the authors concluded that relatively large. (approximately 4000 ha) intrinsic and extrinsic factors in the conservation of ants . - CiteSeerX Concern with environmental issues has raised the demand for bioindicators . Ants are used as soil quality bioindicators and have a key role in the recovery Most of the research on pollinators as bioindicators have been on population. (Hymenoptera, Formicidae): an exploratory study - SciELO Colombia ?lenges in using ants as environmental, ecological, and biodiversity indicators in these . that, if supported with future research, would allow ants to be used as biological indicators in environmental conditions in north-temperate cold biomes.