Ecological Restoration

Volume 38, Number 1 March 2020 **Editorial** 1 Crawling Across a Meadow Steven N. Handel RESTORATION NOTES Remnant Prairies and Organic Gardens Provide Complementary Habitat for Native Bees 3 Within a Midwestern Urban Matrix Karin R. Gastreich and Laura Presler Restoring Wetlands Dominated by Phalaris arundinacea (Reed Canary Grass) with Multiple Treatments: 6 Haying, Spraying, and Establishing Aggressive Competitors Olivia Clark and Meredith Thomsen Potential of Soil Seed Bank and Ungulate-mediated Endozoochory in Old Field Restoration 9 Sheunesu Ruwanza **ARTICLES** Soil Microbial Communities in Long-Term Soil Storage for Sand Mine Reclamation 13 Monika Gorzelak, Breanne M. McAmmond, Jonathan D. Van Hamme, Christina Birnbaum, Corrina Thomsen and Miranda Hart Effect of Oak Barren Restoration on Carabidae (Coleoptera) within a Kame-Kettle Bog System 24 David J. Kriska, Harry J. Lee and Robert A. Krebs 32 Trade-off's in Restoration: Using Soil Amendments to Address Restoration Challenges for Plants Madeline Nolan, Carina Bilodeau and Lisa Stratton 42 Persistent Agricultural Legacy in Soil Influences Plant Restoration Success in a Great Basin Salt Desert Ecosystem Sarrah M. Dunham-Cheatham, Stephanie M. Freund, Shauna M. Uselman, Elizabeth A. Leger and Benjamin W. Sullivan 54 Biocultural Restoration of Sacred Sites, Earth Day, and Restoration Ecology's Patron Saint Gary Paul Nabhan

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Erratum for Vol. 37, No. 3, 2019

Two author affiliations on Coutinho et al., were mislabeled. We apologize for any inconvenience this caused. The correct affiliations are:

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Front Cover Feature: Well-managed, spatially small, landscapes in urban areas can be important for pollinator conservation. As baseline data for a developing project, Gastreich and Presler report an assessment of native bee abundance and diversity in habitat remnants and organic gardens embedded in the Kansas City, MO metropolitan area. Their research documents that these landscapes mosaics support diverse and unique insect communities, some of which include *Bombus griseocollis* (bumble bees) and Augochlorini, (green sweat bees), both pictured here visiting a *Dalea purpurea* flower. Image credit: Matt Kelly

Back Cover Features:

Top: Soil microbial communities form the foundation of ecosystems. Understanding their dynamics in the materials used for restoration can increase the success of ecosystem restoration following mining. Working in Western Australian sand mining sites, Gorzelak et al. measured the response of bacterial and fungal communities to the stress of topsoil stockpiling. They found microbial community changes associated with the time (in years) topsoil remains in stockpiles. Image credit: Laura Bradshaw

Middle: Carabid beetle diversity may provide remarkable indicators of habitat type. In the black oak barrens of Ohio, Kriska, Lee and Krebs tested whether habitat affinities of ground beetles corresponded to restoration success previously assessed for understory flora. Three restoration treatments were applied to open the oak understory: fire, canopy removal, and leaf litter removal. Carabid beetle assemblages compared before and after the treatments showed that certain restoration treatments more effectively shifted carabid communities to those species associated with grasslands. Image credit: David Kriska

Bottom: *Phalaris arundinacea* (Reed canary grass) is a wetland invader that is difficult to eradicate. Herbicide treatments to control it often also limit the growth of desirable resident species. Clark and Thomsen conducted a study along the Mississippi River floodplain in southeastern Minnesota comparing treatment effect of haying to those of haying plus spring glyphosate application on Reed canary grass and on other resident species. Results from the first year of the study suggest that that certain native plants can survive in areas treated with herbicide, giving them a competitive edge and potentially aiding in suppression of Reed canary grass. Image Credit: Olivia Clark