ABSTRACT BOOK

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explicit in the available predictive models will improve our ability to define sustainable management strategies both at the local and regional scale.

CONSERVATION TILLAGE MITIGATES THE NEGATIVE EFFECT OF LANDSCAPE SIMPLIFICATION ON BIOLOGICAL CONTROL

Giovanni Tamburini
University of Padova
Serena DE SIMONE, University of Udine ; Maurizia SIGURA, University of Udine ; Francesco BOSCUTTI, University of Udine ; Lorenzo MARINI, University of Padova

Pest biological control (BC) is a key ecosystem service and it depends on multiple factors acting from the local to the landscape scale. However, the effects of soil management on BC and its potential interaction with landscape are still poorly understood. In a field exclusion experiment, we explored the relative effect of tillage system (conservation vs. conventional tillage) on aphid BC in 15 pairs of winter cereal fields (barley and wheat) selected along a gradient of landscape complexity. We sampled the abundance of the main natural enemy guilds and we evaluated their relative contribution to aphid predation and parasitism. Conservation tillage was found to support more abundant predator communities and higher predation (16% higher than in the fields managed under conventional tillage). In particular, both the abundance and the predation of vegetation- and ground-dwelling arthropods were considerably increased under conservation tillage conditions. Conservation tillage also increased parasitism. High proportion of semi-natural habitats in the landscape enhanced both aphid parasitism and predation by vegetation-dwelling organisms but only in the fields managed under conventional tillage showing that the better local habitat quality provided by conservation tillage may compensate for a low-quality landscape. Our study stresses the importance of considering both soil management and landscape composition when planning strategies for maximize BC service in agro-ecosystems, highlighting the role played by conservation tillage in supporting natural enemy communities. The benefits obtained by introducing conservation tillage will, however, depend on landscape composition. In simple landscapes, the adoption of conservation tillage will locally improve the BC provided by both predators and parasitoids mitigating the negative effects of landscape simplification.

INSPIRING FUTURE GENERATIONS OF CONSERVATION LEADERS AND STEWARDS IN PRIMATE RANGE COUNTRIES

Chia Luen Tan
San Diego Zoo Institute for Conservation Research

Most nonhuman primate species are distributed in tropical and subtropical regions, and many countries in these regions, particularly Asia and Africa (Madagascar included), are densely populated by humans often living in impoverished conditions. As approximately 40% of nonhuman primate taxa in these geographic areas are threatened by human activities, we need more than hope to ensure a future for our closest relatives. Investing in in-country conservation talents and improving children's education are two important ways that can lead to meaningful, long-term conservation solutions. This presentation will feature two programs I created in Asia using a global partnership approach to cultivate range country conservation leaders and foster local conservation stewards. The Training in Primatology Series (TIPS) is a no-fee, professional development program with practical workshops and mentoring support tailored toward early career conservation practitioners for the purpose of elevating their core, leadership and professional competencies. The Little Green Guards (LGG) is an education program that fosters appreciation and understanding of wildlife in children, especially those living in and around critical habitats with threatened primate populations. As many TIPS alumni now serve as role models or "conservation heroes" for local children and lead in-country LGG initiatives, the synergistic effect created by these two programs cannot be overstated. Examples of both programs have been adopted in other geographic regions where primate species and habitat conservation are a top priority.

IMPROVING CAMERA TRAP PERFORMANCE ENHANCES LONG-TERM ECOLOGICAL STUDIES

Chia Luen Tan
San Diego Zoo Institute for Conservation Research
Rose Marie RANDRIANARISON, Groupe d'Etude et de Recherche sur les Primates de Madagascar ; Cristina GIACOMA, University of Turin ; John Andrew PHILLIPS, LVDI International

Scientific field studies aimed at remotely monitoring natural animal populations frequently employ camera trap technology. The reliability of data derived from such studies is often dependent upon continuous operation of commercially available trail cameras originally designed for short-term use by hunters. Limited battery life and camera malfunction caused by moisture accumulation inside the camera housing are common issues reported. To overcome these technical problems, we tested if simple, inexpensive modifications to a commercially available model would allow cameras to operate continuously and untended for periods of over 12 months, even in high humidity, low temperature environments. First, under controlled but variable conditions, we examined the effects of ambient temperature on battery life and length of

operation of cameras, as well as how moisture infiltrates the camera housing. We then devised solutions that eliminate moisture incursion in the camera housing, and designed an inexpensive subterranean external battery pack that increases battery performance by relying on the nominal annual fluctuations in ambient ground temperature. We subsequently tested 5 camera traps incorporating these modifications in a 12-month study in a rainforest in Madagascar. All cameras operated continuously throughout the study period with no degradation in image quality when powered by our specially designed external battery pack (LVDI-4F). Also, the external battery setup extended the lifespan of the cameras while simultaneously minimizing human disturbance at each camera trap location. Accordingly, our camera trap data have identified long-term ecological trends among potentially competing species, as well as captured glimpses of elusive species and rare predation events. Our technical improvements are applicable to most brands of camera traps and should lead to successful long-term, continuous research and monitoring of wildlife under varied field conditions.

REPRESENTATION OF THE PROTECTED AREA SYSTEMS IN THE INDO-BURMA HOTSPOT: INCREASING COMPLETENESS

Naruemon Tantipisanuh
KMUTT
Tommaso SAVINI, KMUTT ; George GALE, KMUTT

The designation of protected areas in the past has been clearly biased toward specific habitat types, resulting in insufficient representation of several habitats and their associated species. This study identified gaps in current protected area systems of the Indo-Burma Hotspot, proposed additional areas which could be included in such systems to increase their overall representation, and identified high priority areas. Representations of habitat types and 199 threatened species were assessed using gap analysis. Areas which could be potentially added to improve the current protected area system were identified using MARXAN software, while high priority areas were selected based on irreplaceability and vulnerability. From the gap analysis, the representations of biodiversity in the Indo-Burma Hotspot were notably skewed for both habitats and species. To achieve the representation targets for all conservation features, 21% of the hotspot's entire land area would need to be included in a protected area system. Approximately two-third of the proposed additional areas were smaller than 10 sq.km., while most of the large (>1,000 sq.km.) proposed areas were located in Myanmar and Cambodia. Many of the suggested additional areas are located along the borders between multiple countries. Four of the five largest high priority areas are located in Thailand. In conclusion, protected areas in the Indo-Burma Hotspot can be significantly improved by focusing on maintaining as well as restoring linkages between smaller patches to create and sustain larger protected area networks. As part of this, transboundary collaboration among countries within this hotspot will be particularly important.

BUILDING CAPACITY FOR BIODIVERSITY CONSERVATION IN UKRAINE: NETWORK AND TRAINING SUPPORT

Olena Tarasova-Krasiieva
National University of Kyiv-Mohyla Academy
Natalia GUDKOVA, State Environmental Academy of Postgraduate Education and Management at the Ministry of Ecology ; Natalia GOZAK, National University of Kyiv-Mohyla Academy

The project was implemented co-financed by MAVA FONDATION POUR LA NATURE and MATRA Programme Embassy of the Netherlands in cooperation with the Centre of Biodiversity and Conservation at the American Museum of Natural History in New York (09.2012 - 09.2014). The overall goal of the project was to assist Ukraine in fulfillment of its obligations under the Convention on Biodiversity, especially Articles 12 and 13 on setting educational programmes.The target group included students, conservation practitioners, managers and educators who represent both governmental and non-governmental sectors (protected areas, universities, NGOs, business and local authorities in charge of coordination of conservation activities). A core set of 24 modular educational resources on key topics in biodiversity conservation were developed, adapted, and disseminated among academic institutions (78 universities), protected areas (148 representatives), business companies (80 members of Global Compact), and local relevant authorities. A case study competition was held, and 3 Ukrainian case studies on biodiversity conservation were included into the educational modules as examples of good practicies. As a result of project Ukrainian Network of Conservation Educators and Practitioners was established. As project activities were highly evaluated by Ministry of Ecology and Natural Resources in Ukraine, a training on biodiversity conservation will be conducted in the State Environmental Academy of Postgraduate Education and Management at the Ministry of Ecology. The course was also recommended by National University of Kyiv-Mohyla Academy, Deaprtment of Ecology for Master level.

ORAL PRESENTATION

Kanuma Nathan Taremwa
University of Rwanda
Thimmayiah RANGANATHAN, Gandhigram Rural University (GRU) ; Jean Lambert SEBAREZE, World Vision Rwanda

Protected Areas in Rwanda have continued to face serious problems and are at the risk of declining despite efforts