

Editorial

Tropical Conservation Science begins its seventh year

Alejandro Estrada¹ and Rhett Butler²

¹Estación de Biología Tropical Los Tuxtlas, Instituto de Biología, Universidad Nacional Autónoma de México

²Mongabay.com

We launched Tropical Conservation Science in 2008 as an initiative to help researchers working in the tropical world publish and disseminate their research. Tropical Conservation Science presently is the only existing open-access journal dedicated to disseminating conservation research in the tropics and subtropics. Authors are asked to also submit a “popular” summary of their papers and these are published along with general-interest articles about the papers on the Mongabay.com News site. No publication fees were charged to authors for the first six years of operations. Currently, TCS charges a small publication fee of \$250.00USD for accepted manuscripts. This experiment has proven to be a success. With each paper averaging more than 500 downloads during its first three years, it is clear that TCS is reaching a much broader audience than most conservation journals.

2013 was another year of record growth for TCS. We published 6 issues covering 57 papers, bringing the total number of papers published in TCS over 250. Submissions to TCS have increased significantly, resulting in a parallel increase in acceptance of manuscripts, rising from four articles in our first issue to 12 in the current issue.

Readership of TCS has also increased. During 2013, papers were downloaded 72,000 times. Additionally, Mongabay News articles about TCS papers were visited 36,000 times.

Visitors to the TCS web site came from 176 countries during 2013. The U.S. accounted for 26 percent of visits, India 12 percent, Northern and Western Europe 11 percent, Brazil nine percent, Mexico six percent, Britain six percent, and Belize five percent.

TCS Impact factor has grown rapidly. Thomson Reuters latest Journal Citation Report indicates an impact factor for TCS of 1.092 for 2013, a significant increase from 0.541 in 2011; 5-year impact factor 1.242.

TCS is included in SCOPUS, Thomson-Reuters' Biology & Environmental Sciences, JCR (Journal Citation Reports), SCIE (Science Citation Index Expanded), Current Contents/Agriculture. TCS is also in Directory of Open Access Journals (DOAJ), CAB Abstracts, EBSCO Publishing Databases, Google Scholar, Open Access Net of Germany, Ulrich's Periodicals Directory

We're excited about what's in store for 2014.

The first issue of our seventh year includes one Review Article, one Conservation Letter, one Short communication and nine Research Articles. These papers cover studies conducted in the Neotropics, Africa and Asia. As a group they also show how diverse conservation research has become. Below is a general account of each paper in the current issue.

The Review Article by **Hernández-Ordóñez et al.**, reveals that although Mexico has one of the richest tropical rainforests in amphibian and reptile species, it is also one of the most deforested in Mesoamerica. Based on a revision of institutional databases and recent field surveys, the authors present an updated list of the diversity of amphibians and reptiles in the Lacandona region in southern Mexico. They report the existence of 89 reptiles and 35 amphibians for the region. They also stress that the region shares less than 60% of its species with neighboring Mexican tropical forests (e.g., Las Choapas region and Los Tuxtlas, Calakmul, and Sian-Ka'an Biosphere Reserves). They note that while Lacandona is of great importance for the conservation of the Mesoamerican herpetofauna, increasing deforestation levels may put this biological richness at risk.

The Conservation Letter by **Agostini et al.**, addresses the conservation plight of the brown howler monkey (*Alouatta guariba clamitans*), a primate species endemic to South America's Atlantic Forest. The authors, all Argentinian primatologists, are engaged in a collective effort to prevent the population of this primate from declining in numbers. Modeling population viability, the researchers discovered that yellow fever seems to be the main threat to brown howler population persistence in northern Argentina. This led the authors to develop a conservation strategy for this primate in Argentina.

Invasive species are one of the major causes of loss of biodiversity worldwide. In their Short Communication, **Padmanaba and Shield** examine how spiked pepper (*Piper aduncum* L., Piperaceae), a shade intolerant, animal-dispersed Neotropical tree, is spreading in the interior of Borneo. The authors argue that logging roads may be facilitating this spread in East Kalimantan, Borneo. They studied a network of existing roads between West Kutai and Malinau Districts and observed that *P. aduncum* was already well established on the oldest, southern portions of the logging road network, but was absent on the newest roads to the north. Based on road age, the authors estimate a minimum rate of spread between five and seven km per year and stress that prevention of this spread would require urgent, intensive

and coordinated control over the length of the road network, as well as major restrictions on how such roads are located and managed.

In their Research Article, **Moraes et al.**, modeled the distribution patterns of palms, particularly species richness along latitudinal and altitudinal gradients in Bolivia. The model was used to identify areas with potentially high palm species richness and endemism. Two areas were predicted to concentrate most of the potential palm species richness of Bolivia: the southwestern Amazonian moist forest, and the Yungas Andean forest of Bolivia. The potential distribution of Bolivia's endemic palm species appeared to be associated with the eastern side of the Andes. Most palms have Amazonian phytogeographic influences, followed by Andean. The authors point out that Bolivia represents the southern and western distribution limit of many palm species in terms of continental phytogeographic patterns.

Silva et al., combined distribution data of bryophyte (mosses, liverworts, etc.) species with protected areas in the Brazilian Atlantic Forest to model the potential distribution of species and to assess the effectiveness and representativeness of protected areas for bryophyte species. The modeling showed high environmental suitability for all species, but also showed significant gaps in knowledge about their distribution. The total potentially suitable area of distribution overlapped with only 27% of the protected areas in the sample. The authors emphasize the need for more inventories and for setting up priority areas for conservation of bryophytes.

In their article, **Vidya et al.**, report the results of a study tracking the dispersal behavior of a tigress (*Panthera tigris*) fitted with a GPS-GSM. They indicate that the tigress moved a minimum distance of 454.65 km from the time of her release up to 25th March, 2012, using a total area of 726 km² (95% MCP). Between 30th December, 2011 and 25th March, 2012, after moving into the human-dominated forest-agricultural landscape, her home range was 431 km² (95% MCP). Her home range also encompassed villages, roads and croplands. Her activity was largely nocturnal and she rested in dense foliage inside forest patches during the day. About half of the tigress's prey were wild pigs (*Sus scrofa*). She was photographed in April 2013 in the same region about 40 km from the release site. The authors comment that even anthropogenic landscapes may be crucial for dispersal between protected areas.

Rhodolith beds formed by non-articulated calcareous algae in shallow sea beds are important habitats for a range of organisms. **Gondim et al.**, indicate that the Brazilian coast is home to one of the largest beds of the Southwestern Atlantic, but the lack of faunal studies in these habitats represents a major gap in the knowledge of Brazilian biodiversity. This study compared the composition, abundance and diversity of echinoderm species associated with rhodoliths in three different isobaths (10, 15 and 20 m) along the coast of the State of Paraíba, Northeastern Brazil. The rhodolith beds were species-rich, but abundance and species richness decreased with increasing depth. The authors point out that species richness and diversity of Brazil's rhodolith beds exceed those found in other coastal areas around the world.

Carbajal-Borges et al's study of Baird's tapir (*Tapirus bairdii*) at one remote protected area (El Triunfo) in southern Mexico was based on surveys using camera-traps. They applied a recently developed method (random encounter model) to estimate tapir density without the need for individual identification. They report tapir relative abundance as: 1.3 events/100 camera-trap days and density as: 0.12 ind./km². They also note that tapir activity concentrated around dusk and that mid-altitude areas were preferred. They emphasize that El Triunfo Biosphere reserve is one of the last strongholds for this species in southern Mexico.

The authors point out that the tapir is one of the most emblematic mammalian species from Mesoamerica with a high anthropogenic threat, and that this species was recently ranked 34th in terms of urgency for its conservation, among more than 4,000 species of mammals assessed by experts from the Zoological Society of London.

Bushmeat hunting is the primary cause of primate loss in West Africa. **Ryan Covey and W. Scott McGraw** investigated the impact of bushmeat hunting on primate species in Liberia. They surveyed one bushmeat market located on the Liberia – Ivory Coast border, visiting the market eight times over a four month period in 2009/2010. They counted 723 animals, including 264 primates of seven species (out of nine existing in Liberia). They estimated that a minimum of 9,500 primates are traded annually at this locale and suggest that primates in Liberia's Konobo District are likely being hunted at rates approaching unsustainable levels.

In the low altitude tropical forest region of south China, transition zones exist between tropical coniferous forest and tropical broadleaved forest. To understand the dynamic trends of the forest stands within the ecotones, **Junyan et al.**, compared the compositional and structural features of three stand zones (the pine forest zone, the ecotone zone and the broadleaved forest zone) at 13 sites. The authors note that stem abundance and species richness increased as the vegetation zones changed from pine forest to the ecotone and then to broadleaved forest. The authors indicate that their results further document this unique tropical coniferous forest ecosystem and stress the need for its conservation.

In their paper, **de Souza and Rômulo Nóbrega** note hunting of wild vertebrates is a widespread practice in Brazil. Their study used an ethnozoological perspective of hunting and use of wildlife in the municipality of Conde, in the Atlantic Forest area of the State of Paraíba, Brazil. Local hunters were interviewed and 68 hunted animal species were recorded in the following categories: mammals (24), birds (26) and reptiles (18). The motivations for hunting included the use of meat as food, zotherapy (use of parts of the animal's body for medicinal purposes), capture of animals for pets, control hunting of animals that threaten agriculture or domestic animals, and hunting of animals that may present a risk to the hunter's health. The authors argue that these kinds of data may contribute to the design and implementation of public policies that address sustainable use of wildlife management in biodiversity-rich regions.

Endemic species tend to be habitat specialists with low population densities, but densities may vary among sites and may be temporally dynamic. With this in mind, and aware that the Cauca Guan (*Penelope perspicax*) is an endangered species endemic to the mid-Cauca Valley in Colombia, **Kattan et al.**, assessed spatial variation in population densities of this bird in mature and secondary forest, early regeneration forest, and forest strips along streams in three sites. At the three sites, densities varied between 10 and 40 birds/km² in different habitats. The authors report that variation in population density may be related to forest area and habitat productivity, but that guans also move among locales and regions in response to temporal fluctuations in resource availability. They comment that although the Cauca Guan is not a habitat specialist and may reach high densities under some conditions, globally this guan remains rare and efforts for its conservation should be sustained.

Published: 24 March 2014

Copyright: © Estrada, A. and Butler, R. This is an open access paper. We use the Creative Commons Attribution 3.0 license <http://creativecommons.org/licenses/by/3.0/us/>. The license permits any user to download, print out, extract, archive, and distribute the article, so long as appropriate credit is given to the authors and source of the work. The license ensures that the published article will be as widely available as possible and that your article can be included in any scientific archive. Open Access authors retain the copyrights of their papers. Open access is a property of individual works, not necessarily journals or publishers.

Cite this paper as: Estrada, A. and Butler, R. 2014. **Tropical Conservation Science begins its seventh year of existence.** *Tropical Conservation Science* Vol.7 (1):i-v. Available online: www.tropicalconservationscience.org