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acidity and anaerobic conditions, microbial litter decomposition is also inhibited by the toxic sclerophyllous leaves of peat swamp flora (adaptations to avoid herbivory in the low nutrient habitat), hence leading to peat accretion. Our results suggest that bacteria are the key to carbon and nutrient cycling within tropical peat swamps, however they respire carbon leached from the leaves, rather than decomposing leaves. We have found that acidity and waterlogging cause plants to increase in phenolics and plants recycle low molecular phenolic acids (leached from the leaf litter) by absorbing them from the water. Apart from releasing sequestered CO_2 via logging and burning, agricultural conversion (mostly to oil palm) involves drainage, aerating the peat and thus accelerating microbial activity causing rapid decomposition and high CO_2 emissions.

139: Effects of nutrient supply on leaf litter arthropod community in an Andean tropical forest
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Andean tropical forests are important biodiversity hotspot, yet generally sustained on nutrient-poor soils. However, little is known about the effects of nutrient supply on the leaf litter arthropod community, due to the lack of experimental studies. We performed a 6-month nutrient addition experiment (+CN, +CNP) in an Andean tropical forest to study the effects of nutrient supply on the arthropod community, from microbivores to predators, in terms of density and composition. We distinguished different trophic groups of ants, based on their isotopic signature and on literature, to compare the response of predaceous ants with the response of other trophic groups. Due to an increased microbial activity, litter volume in the enriched plots decreased significantly compared to control, leading to a loss of habitat. Among the mesofauna, Collembola density was enhanced by the +CNP treatment. Stable isotope analysis highlighted a clear trophic relationship between mesofauna and predaceous ants. Nevertheless, predaceous ant species in general and specialized collembolan hunters were negatively affected by both treatments (+CN and +CNP) in spite of higher prey availability. Isotopic approach used to trace carbon fluxes revealed that all taxa (except fungus-growing ants) integrated the nutrient input to some extent, even the groups that did not respond numerically. To the contrary, the density of other predators of the megafauna, spiders in particular, generally increased. Our results show that predaceous ants were more affected by the loss of habitat than their prey and other ant trophic groups. In addition, some competition may have appeared with other predaceous taxa of the megafauna (e.g. spiders). Furthermore, spiders may have particularly benefited from the nutrient treatments as the demand for nitrogen is very high for this silk-spinning taxon. Our experimental approach shows that environmental changes, like nutrient supply, have an impact on the structure of the whole leaf litter arthropod community, at each level of the trophic web. The impact is specially strong at the predator level with an opposite change in predaceous ant and spider densities, both taxa playing a key role as top predators in the leaf litter system.

140: Crop distribution in relation to the effect of distance from forest edges on pests in an agroecosystem of Southwest Ethiopia
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Ecosystem disservices may affect the farmers' agricultural practices differently in different sites of the landscape. The aim of this study was to examine the distribution of field and homegarden crops in relation to distance to forest edges and the impact of crop raiding by baboons and bush pigs. We also assessed the infestation level of maize stem borers on maize crop close to and far away from forest edges. Thirty transects of 1-km in length were laid out in a pair-wise design of 15 close to and 15 far away from forest edges. We measured the cover of the field crops and also assessed crop species abundance in 4-6 homegardens along each transect. We also conducted a survey for the occurrence of baboons and pigs in homegardens and in maize fields. The result indicated that the distribution and species composition of field crops were not significantly different close to and far away from forest edges. However, we found a significantly higher species richness of homegarden crops far away from forest edges than close to the forest edges. Although it was not a strong pattern, an indicator species analysis showed that the difference in species richness might be due to a lower frequency of some tuber and root crops, such as taro, ensete, and potato close to the forest edges. These crops are the ones which are severely raided and the result of the survey also showed that the occurrence of baboons and pigs in both maize field and in homegardens was significantly higher at the forest–agriculture ecotone. The proportion of infested maize plants by stem borer was significantly decreased with distance from forest edges. The strong impact of crop raiding close to forests may develop a negative attitude on farmers towards the forest conservation. We suggest the essence of further exploration of how ecosystem services and disservices are distributed across landscapes in order to guide the development of sustainable management of forest-agricultural mosaic landscapes.

141: Floristic identity and relationships of the Arboreal Caatinga among the seasonally dry tropical forests (SDTF) of eastern Brazil
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We analyzed the tree species composition of 179 areas of seasonally dry tropical forests (SDTF) of the Caatinga, Atlantic Forest, and Cerrado Domains, in central-eastern Brazil, with the purpose of: (a) seeking for correlations between variations of the tree flora composition of SDTF areas and biogeoclimatic variables and spatial variables (b) assessing the floristic consistency of the Arboreal Caatinga, a tall deciduous forest occurring in northern Minas Gerais and southwestern Bahia, so that it may be characterized as a phytogeographic unit and, in case this is confirmed, (c) assessing the floristic relationships between the Arboreal Caatinga and other phytogeographic units of SDTF emerging from the analyses. To this end, we used two techniques of ordination to the matrix of species composition of the 179 areas: (a) canonical correspondence analyses (CCAs) correlating the species matrix to biogeoclimatic and spatial variables, the latter obtained by principal coordinates of neighboring matrices (PCNM) (b) a detrended correspondence analysis (DCA) followed by a posteriori correlations with biogeoclimatic and spatial variables. The analyses indicated that the distribution of the SDTF's tree flora is primarily influenced by climate and, secondarily, by variations of the substrate, although the spatial proximity also contributes significantly to the floristic cohesion among areas. The emerging patterns discriminated the Arboreal Caatinga as a consistent floristic unit, as well as other four main floristic units of SDTF: Crystalline Caatinga, Sandy Caatinga, Rocky Caatinga and Dry Forests. A cluster analysis of the five units indicated that the Arboreal Caatinga has stronger floristic links with the other Caatinga units, as a whole, although the link is particularly stronger with the Rocky Caatinga. The Dry Forest appeared as a more distinct unit, probably because of its stronger floristic links with the seasonal forests of the Atlantic Forest and Cerrado Domains.

142: Condemned Podostemaceae on the Sanaga River?
Jean-Paul GHOGUE

Dams usually constitute the most important threats to freshwater biodiversity downstream, especially Podostemaceae. The Sanaga waterfalls at Edea (Cameroon) are reputed to be amongst the world's most prolific in terms of Podostemaceae diversity. Nevertheless, a dam has been built there since 1953. So how many Podostemaceae species are still there and what is their current conservation status? Which conservation measures can we propose to save them from extinction? For ex-situ assessment, we used all existing documents as well as the IUCN Red List Criteria and Categories. For the in-situ assessment, from 2006-2010 and from August-December each year, we carried out repeated botanical surveys of all the rapids around the Edea dam. The results are as follow: six Podostemaceae species are mentionned into the literature for the Sanaga waterfalls. Three of them are Critically Endangered (CR), one is Endangered (EN) and two are Least Concerned (LC). Out of the six species, only four have so far been collected in the field. At the same time, the riverside population's fishing place has totally disappeared. In conclusion, no environmental and social measure seem to have been implemented during the dam construction's process. Two Podostemaceae species (33% of the site's species) have not been found yet. The first, *Zehnderia microgyna* (CR) is endemic to these waterfalls and might be extinct. The second, *Leiothylax quangensis* (EN), if extinct in this site, might upgrade to CR. This situation can be explained by the fact that to solve the recent energetic crisis, power-upgrading works have been undertaken by the dam's authorities, draining any remaining drop of water inside the turbines. This situation still exists now. Our conservation advice is that stakeholders (administratives, dam's authorities, riverside populations and NGO) meet, discuss and have an agreement signed for the environmental flows restoration.

144: Species identification through bushmeat taste by local communities around Serengeti ecosystem, Tanzania
Angela R MWAKATOBE, Eivin Røskaft, and Julius W Nyahongo

Species identification is essential in monitoring of illegal bushmeat trade and within biological science. Data on species identification of bushmeat was collected by offering each respondent four items of sundried and four items of cooked bushmeat. Four species were used: wildebeest, zebra, impala, and beef. A total of two hundred and twenty five persons of different age, sex, tribes from selected villages were invited to test the meat. Sundried and cooked meat samples were tabled for tasting and each respondent requested to identify species whose meat was tasted. Recognition of dried and cooked meat correlated highly significant (Spearman's rho test) and were therefore pooled in analyses. The meat taste recognition was thereafter tested against the independent variables: villages, gender, age of respondents and ethnic background, which might influences species identification of sundried and cooked meat. Results indicated that communities around Serengeti ecosystem use different factors in the identification of bushmeat species in the market. Recognition of sundried and cooked meat differed significantly by the distance of the village from the protected areas, tribes (hunters and non-hunters), gender and age classes. The most frequently mentioned animal species by respondent when they identified the test meat wrongly was wildebeest, followed by impala, topi, zebra, eland and buffalo. We recommend involvement of local communities around protected areas in planning and implementation of conservation strategies. Support local communities around protected areas with projects which will supplement bushmeat protein in their diet like poultry and livestock keeping projects to reduce pressure on wild animals. Lastly, we do recommend a further study on identified factors used by local communities to identify animal species and find ways to incorporate them in monitoring techniques of illegal bushmeat trade.