

Review of: "Human and Environmental Factors Shape Tree Species Assemblages in West African Tropical Forests"

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Potential competing interests: I have no potential competing interests to declare.

This is an interesting topic, and one not often addressed in the literature. To what extent is moist forest structure, as well as species composition - and this could equally apply to woodlands and savanna - shaped by past human activity? Evidence is available for the higher-than-expected frequency of tree species with edible fruits or other useful products in parts of the Amazon basin, and in southern and eastern Africa, it is commonly noted that this is the case with some woodlands. For example, the higher frequency of *Sclerocarya birrea* in old arable lands, remaining *Ficus* trees in landscapes, *Trichilia emetica* on the coastal plain, and, of course, baobabs (*Adansonia digitata*) in old settlement areas and along historic trading routes. The current paper looks at this phenomenon in an area of rich moist forest in West Africa but, more importantly, and more novel, it attempts to quantify it in what is a rather complex and environmentally mixed environment. As it points out, the positive findings, albeit not conclusive and rather caveated, could have important consequences for conservation planning.

One of the paper's limitations is that it confines itself to just tree species with edible or inedible fruits (although hunger or hardship tends to muddy that dichotomy) and does not also consider species with other known and important uses such as for household crafts and utensils or important medicinal plants. However, this would have made the analysis much more complex and perhaps given rise to even less definitive conclusions regarding human shaping of forest composition.

Although the selection, amalgamation, and metrics used for plots are outlined, there is no mention of the minimum size class of stem used in the analysis - the difference between using, for example, a 3 cm minimum dbh and an 8 cm minimum dbh can result in more than doubling the equivalent stem population per hectare.

I am not qualified to assess most of the analytic and modelling methods used, so will not comment on those.

There is a change in forest species composition across various gradients, which is not surprising. However, it is not clear to me if human use (edible or non-edible fruits) is a significant component of this difference, which was the initial premise of the paper. There is also no real attempt to ascribe what might be causing any suspected human-induced differences.

The analyses and results are rather complicated, thus the explanations of results and conclusions given are not as clear and concise as one would like. Given the caveats, any conclusions for those who may wish to base or shape decisions on the findings are too uncertain - inconclusive and not compelling. The discussion and caveats are not always convincing or illuminating. A more clear statement on the main premise of the paper would have helped.

