

Review of: "Social and Environmental Drivers of Black-Necked Crane (BNC) Habitat Suitability in Bhutan: Insights from Maxent Modelling and Conservation Implications"

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Potential competing interests: No potential competing interests to declare.

Abstract

Since BNC is a species of high conservation value, I believe that the opening lines of the Abstract should be regarding the status of BNC in Bhutan. The rest of the Abstract is well structured.

Introduction:

The phrase "as elucidated" has been used frequently in the Introduction section during citations. I think you can omit this phrase and give the in-text citations in a simple way. Same goes for as delineated by XXX. It is better to use IUCN citation at the places where the conservation status of BNC is mentioned. At many places, there are long sentences with complex and rather fancy words that could be avoided. Split longer sentences into parts and try to use simple words.

Paragraph 4, lines 14-15: All SDMs do the same where they use occurrence data and relate those to environmental variables. So, it is not correct to say that unlike other SDM approaches Maxent incorporates both species occurrence records and environmental predictor variables to model suitable habitats.

Due to its nonparametric flexibility in handling complex species-environment relationships, resistance to overfitting, and overall high predictive performance validated across many habitat modelling applications, Maxent has rapidly become one of the most widely used niche modelling tools (Merow et al., 2013; Phillips & Dudík, 2008; Radosavljevic & Anderson, 2014).

Random Forest is also known to do the same and performs better when highly correlated variables and a smaller number of occurrence records are available. So, I think you should rephrase the above sentences taking into account that other modelling approaches may have produced better results such as Random Forest or ensemble modelling. You should also provide a simple justification in a couple of lines as to why you opted to use Maxent instead of other modelling approaches.

I also recommend combining the Introduction section and historical background into one if journal guidelines allow that. However, in doing so, you need to shorten this section. Keep the Introduction section short, informative, and avoid presenting information that is already available.

I also recommend reading a recently published book by Pankaj Chandan and Asad Rahmani entitled as "Black-necked

Crane - General Biology, Habitat, Migration, and Conservation.”

Study Area

Use a different color gradient such as red-blue to depict the elevation range of the study area, where blue may indicate low elevation and red high.

Presence Records

There are very few occurrence records that have been used in this study.

Did authors use GBIF for additional records?

Modelling approaches

It is good to know that authors used pre-model evaluation using the ENMeval package and ENMTools for post-model evaluation. The model-specific settings using different combination settings and choosing the model on the basis of AIC are appreciated. I also appreciate that authors used threshold values for suitability.

However, I think a correlation coefficient of 0.9 is extremely high, and authors should have used a smaller value, say 0.75, so that highly correlated variables could be dropped.

Discussion and Conclusion

The discussion and conclusion sections are relevant and do not require major changes. The results of this study could be related to other sites of BNC, such as in Leh. Authors should try to compare their findings with what other similar studies have found regarding the habitat preference of BNC at other places.