



## HABITAT SUITABILITY MODELLING OF SPIKED PEPPER (*Piper aduncum* L.) IN MINDANAO, PHILIPPINES

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**ABSTRACT** – Invasive alien species is the biggest threat to biodiversity next to habitat destruction. In Mindanao, *Piper aduncum* L. is considered as the most invasive alien plant species that affects forest ecosystem and agricultural areas. This study provides insights in identifying suitable areas for *Piper aduncum* in Mindanao using a novel modelling method known as Maxent. Two models were generated: Full Model which is based on the 25 environmental variables and Final Model which is based on the final set of variables maintained after a series of variable reduction method. The relative predictive performance of the two models were evaluated using Receiver Operating characteristic (ROC)-Area under curve (AUC). Result showed that the Final Model performed best with AUC score of 0.825 compared to the Full model (AUC=0.749). The predicted suitable habitat of *Piper aduncum* was heavily influenced by these top five predictors: Soil type, Mean Temp of Warmest Quarter, Mean Diurnal Range, Max Temp of Warmest Month and Precipitation of Seasonality. Overall, this study will contribute to natural resource managers especially in setting priority areas for current management of the species and predict its potential spread in the future.

*Keywords: invasive species, Maxent, species distribution models*



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