ASSESSING RESPONSES AND ADAPTABILITY OF GRASSLAND BIRD COMMUNITIES TO WIND FARM ESTABLISHMENT

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## INTRODUCTION

» Green energy infrastructure such as solar and wind parks are being established globally.

» In India, Tamil Nadu (TN) boasts the second-largest installed wind energy capacity.

» Studies specifically addressing wind farms' (WF) influence on avian guilds and assemblages in Tamil Nadu are scarce.

» This study evaluates whether the presence of wind farms in grasslands significantly alter avian community assemblages.
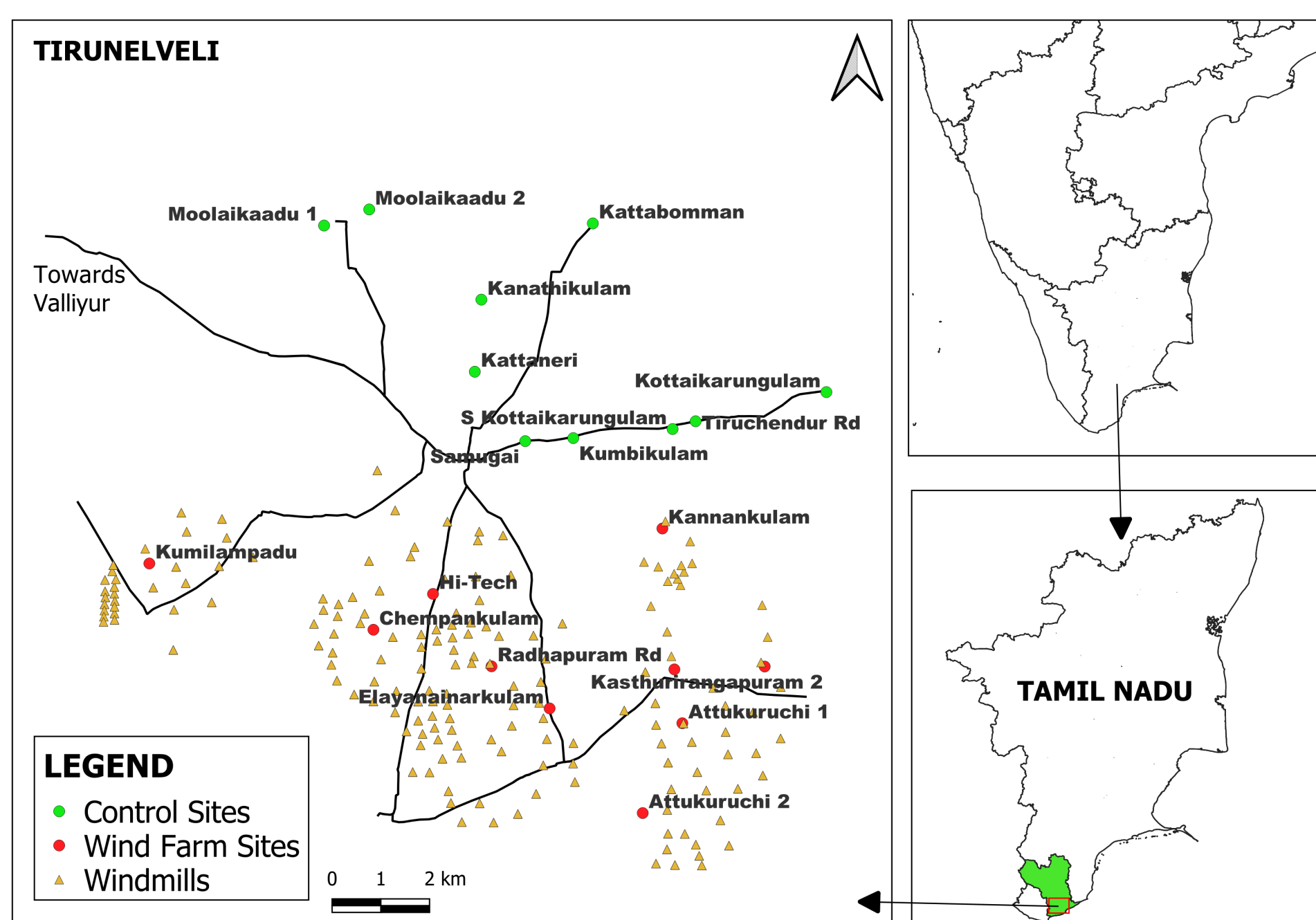

METHODS

» This study was conucted in semi-arid grasslands of southern Tirunelveli, Tamil Nadu.

» Fixed radius point counts were done every 200 m in a 1 km transect with 10-min observations at each point.

» 10 wind farm sites and 10 control sites with no wind turbines

» The study was conducted from Sep'23 to Apr'24.

RESULTS

» A total of 10,747 individual birds were counted across 20 sites. We detected 130 species of which 103 species found commonly in wind farm and control sites.

» The Shannon index was marginally higher in wind farm sites (3.78) than in control sites (3.69).

» The Simpson index was marginally higher in wind farm sites (0.04) than in control sites (0.03).

» There was no statistically significant difference observed between mean total abundance of species found in wind farm and control sites (U = 2.1981E+06, p = 0.84228).
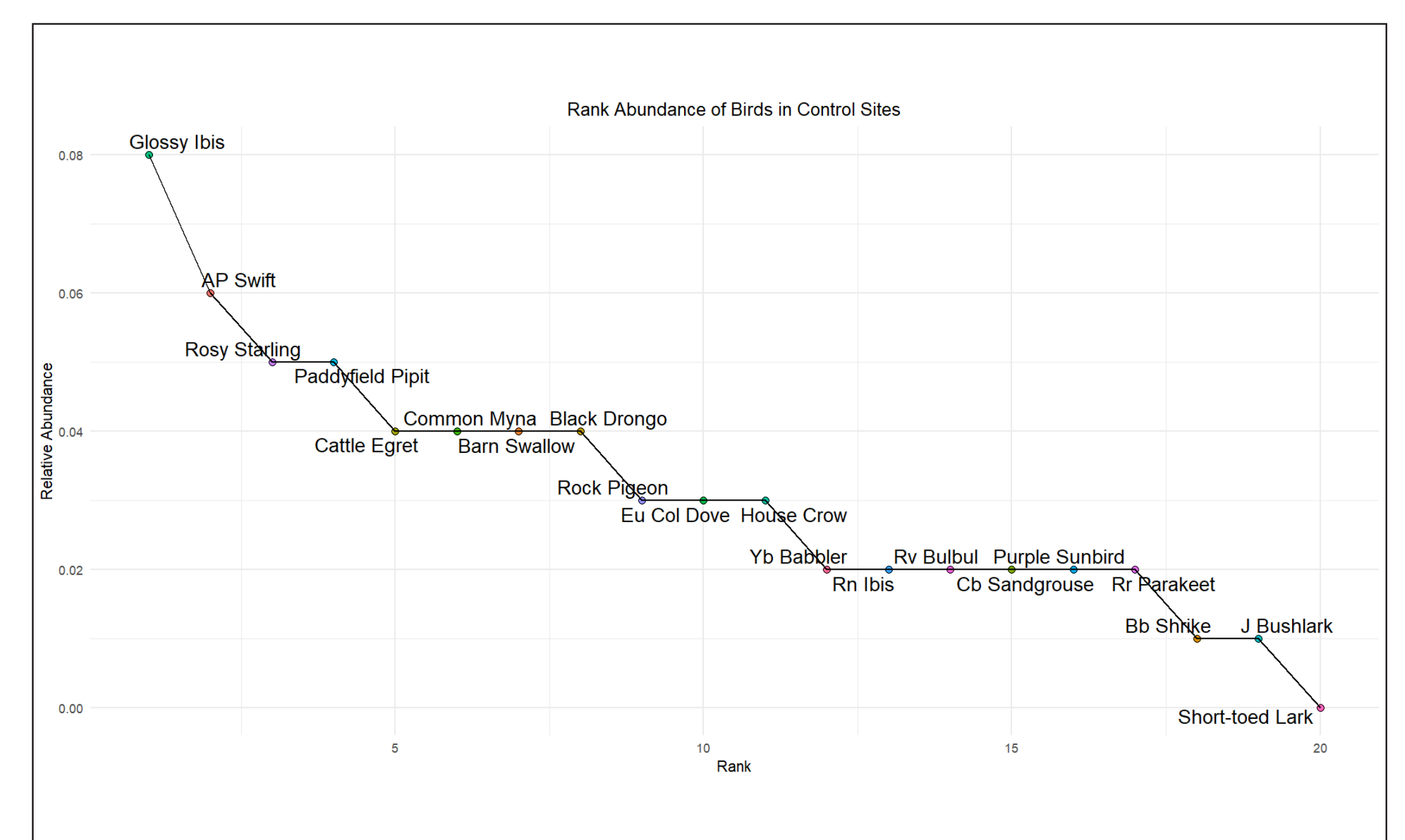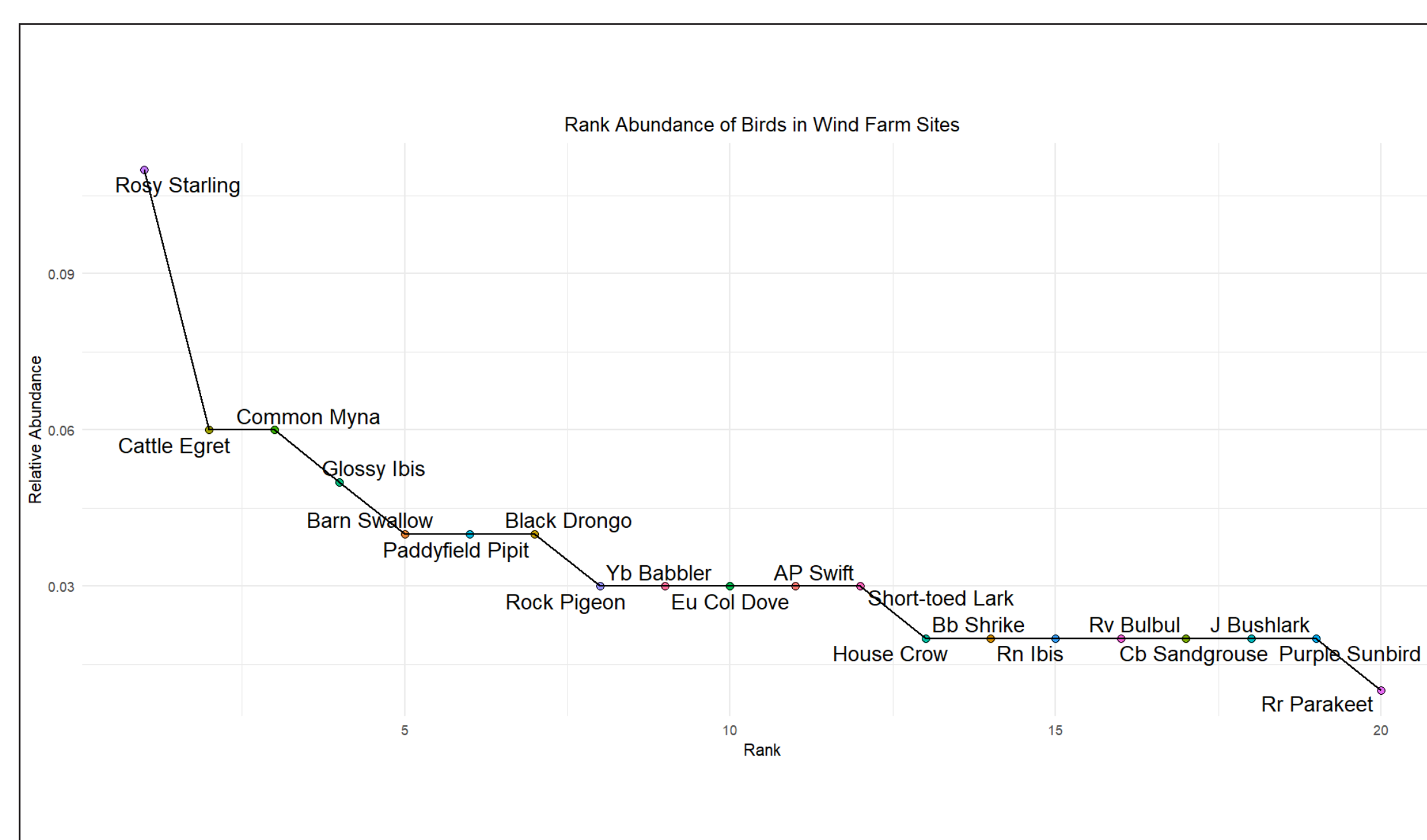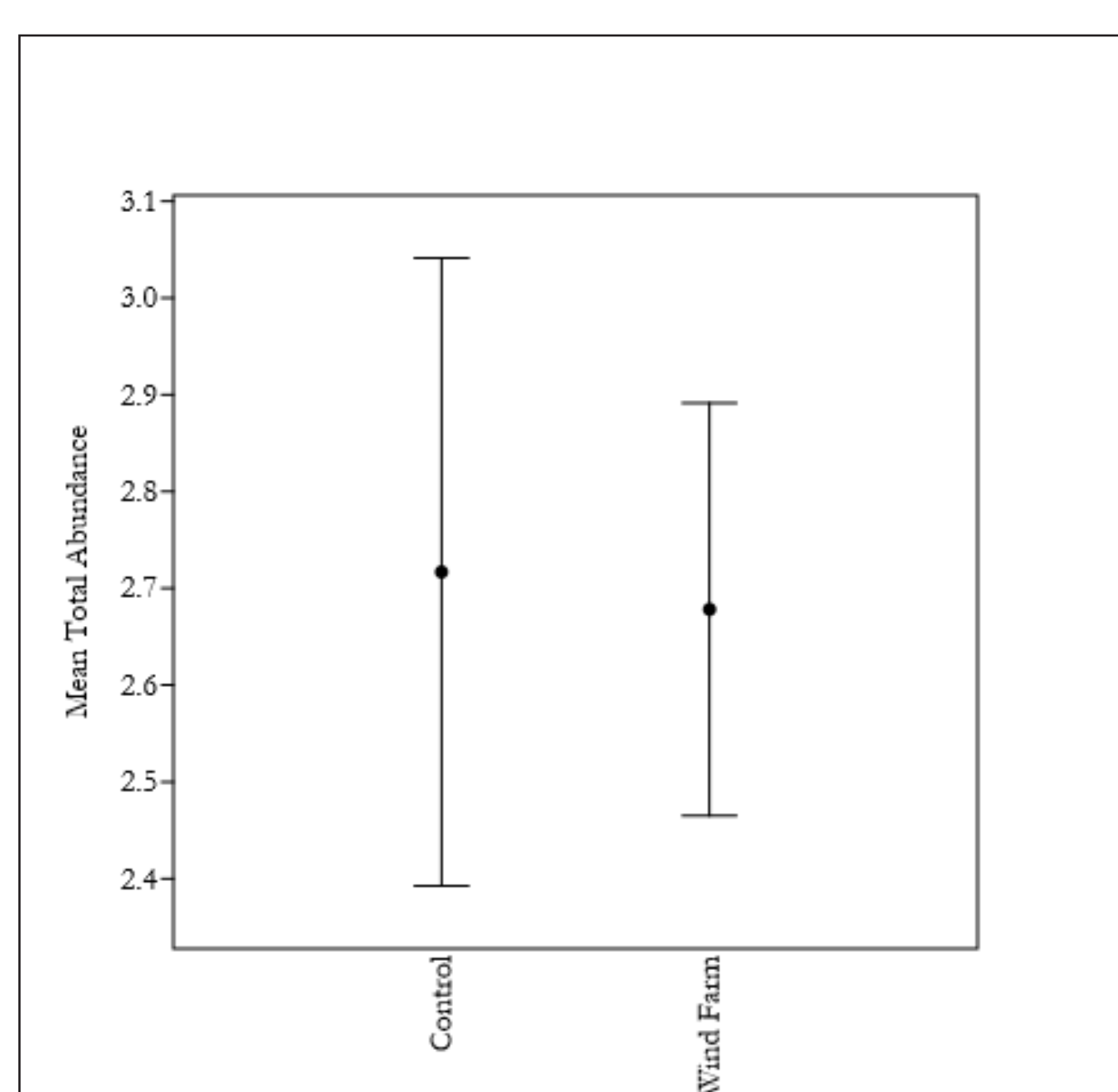
DISCUSSION

» The preliminary results suggests that there is no real shift in avian assemblage from wind farm sites.

» Similar studies from India report higher species richness in control sites.

» More robust analysis are underway to analyse whether habitat, weather and vegetation could impact the presence and dominance of certain species.