To analyze the abundance of Eulaema nigrita and its associations with key environmental variables such as proportion of forest cover, mean annual precipitation (MAP), and mean annual temperature (MAT), the data was analysed for suitable regression model. Negative binomial regression model was fitted considering the overdispersion in the data. Eulaema nigrita abundance was considered as response variable and proportion of forest cover, MAP and MAT were considered as dependent variables.

Table 1

Statistics of impact of forest cover, MAP and MAT on abundance of Eulaema nigrita



The negative slope (Fig. 1 & Table 1) of the forest cover and MAP suggests that as the forest cover and MAP increases, the abundance of Eulaema nigrita tends to decrease. For every 1% increase in forest cover, the bee abundance decreases by 1.7109 units. Similarly, for every 1mm increase in MAP, the bee abundance decreases by 0.0016 units (Fig. 2 & Table 1). The P values and the Pseudo *r*2 values (Table 1) of both these dependent variables signifies their relationship with bee abundance. The positive slope of MAT suggests a linear relationship between bee abundance and MAT, but higher P-value and lower Pseudo *r*2 value suggests that MAT does not contributes towards explaining the observed variation in bee abundance (Fig. 3 & Table 1).

Fig. 1 Eulaema nigrita abundance based on forest cover (%)

Fig. 2 Eulaema nigrita abundance based on MAP (mm)

Fig. 3 Eulaema nigrita abundance based on MAT (degrees Celcius)

