C01-2: Binominal analysis

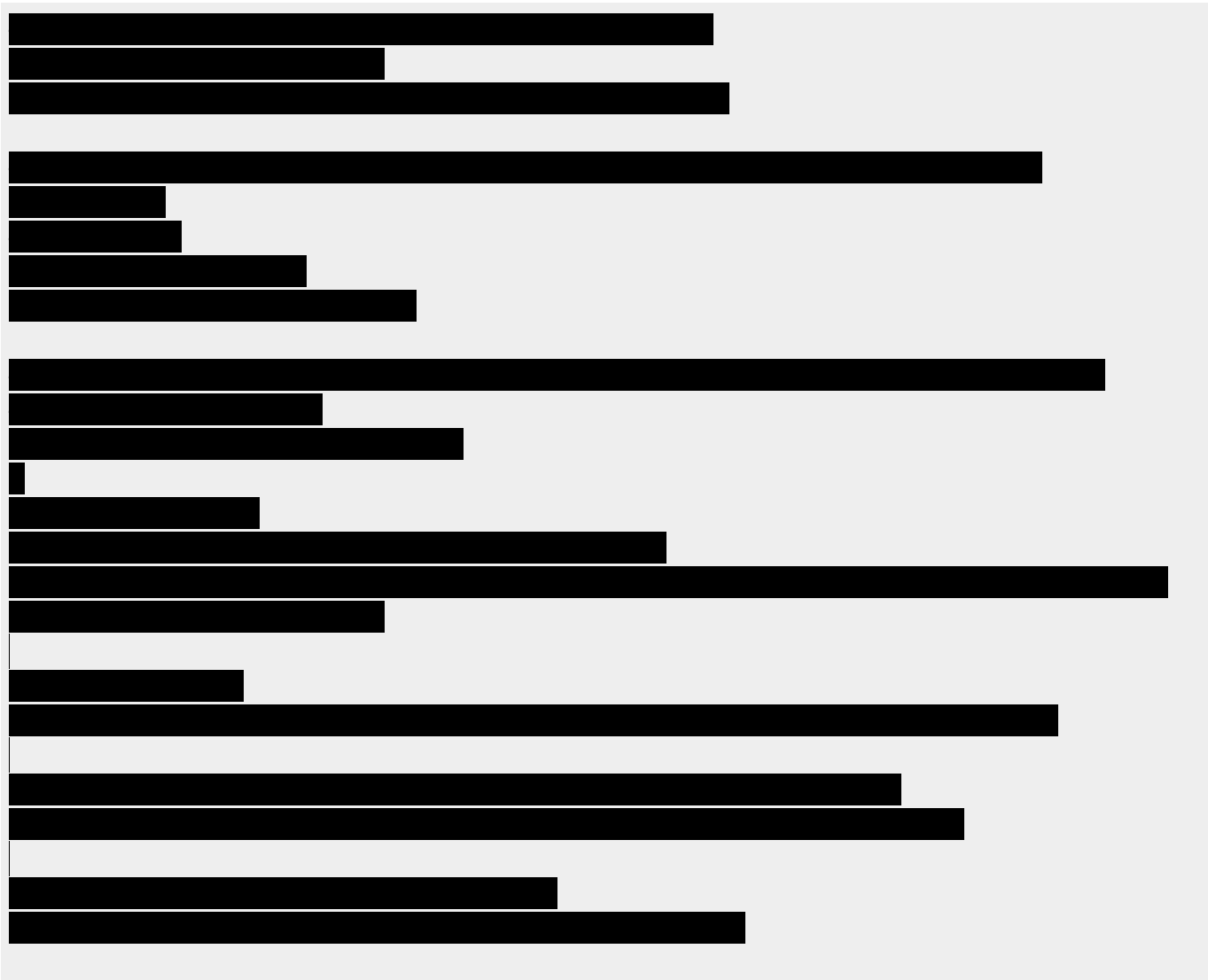
The following example uses data from a field survey of areas in the Fogo natural park in 2007 by K. Mauer. For more information, please refer to this report.

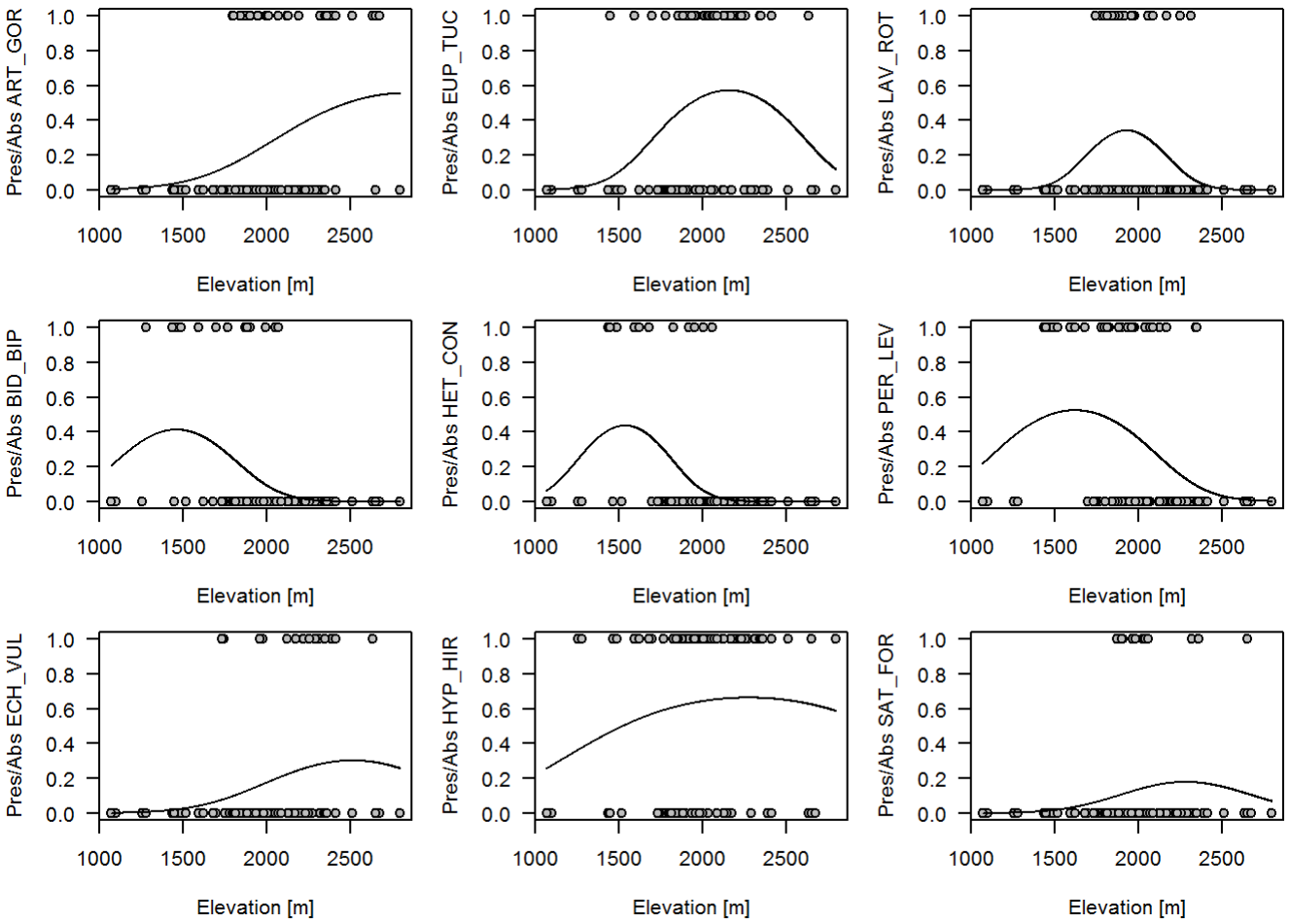
Occurrence of species as a function of elevation

Again, we assume that elevation has some explanatory power. This time, the elevational distribution of selected species should be analyzed.

To visualize the results, a binary plot (i.e. presence/absence) is computed for each species and a binominal generalized linear model is fitted to this distribution using elevation (and it's square) as explanatory variable.

In order to compute this for 8 species (defined in variable "species_considered"), a for-loop is used. Within each loop, a plot for the respective species is generated and a GLM model is fitted afterwards. To get the elevational function of species occurrence, the fitted model is used to predict the respective occurrence at height intervals of 1 meter between the minimum and maximum elevation for which species data has been recorded.




Pres/Abs ART_GOR
Pres/Abs EUP_TUC
Pres/Abs LAV_ROT
Pres/Abs BID_BIP
Pres/Abs HET_CON
Pres/Abs PER_LEV
Pres/Abs ECH_VUL
Pres/Abs HYP_HIR
Pres/Abs SAT_FOR
0.0
0.2
0.4
0.6
0.8
1.0
1000
1500
2000
2500
Elevation [m]