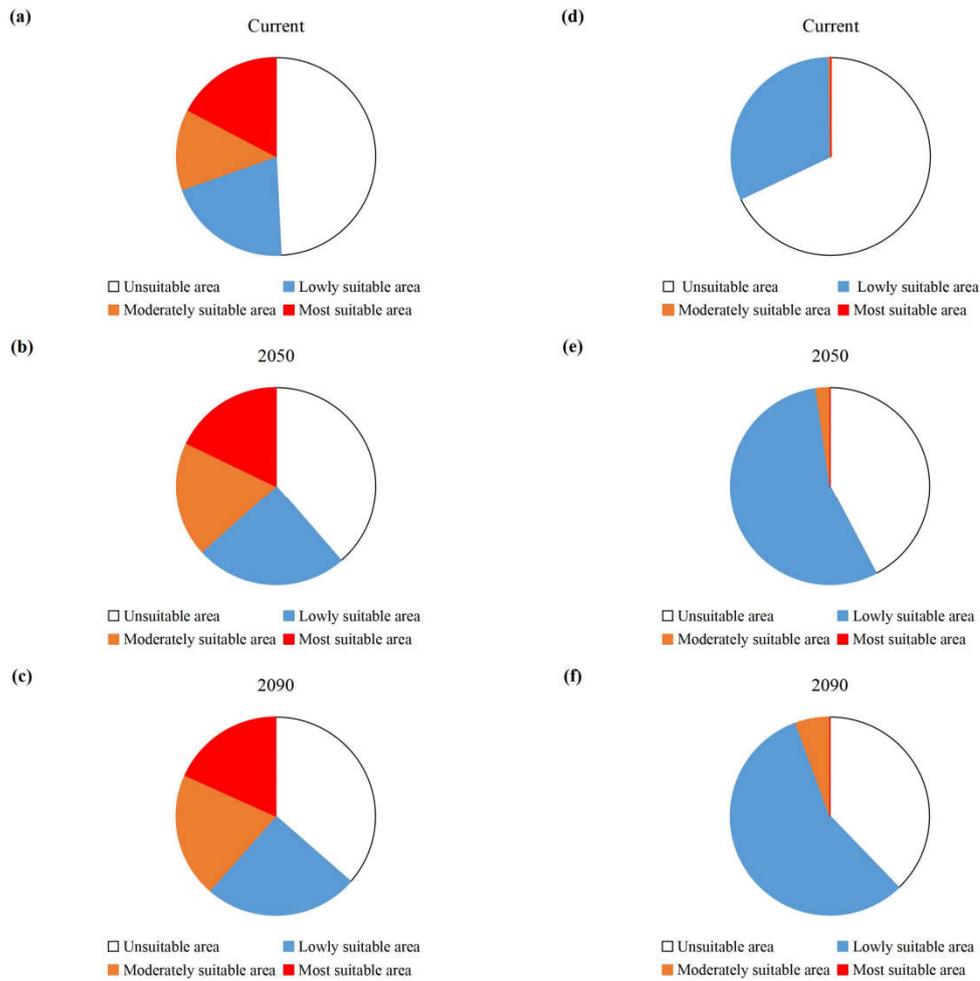
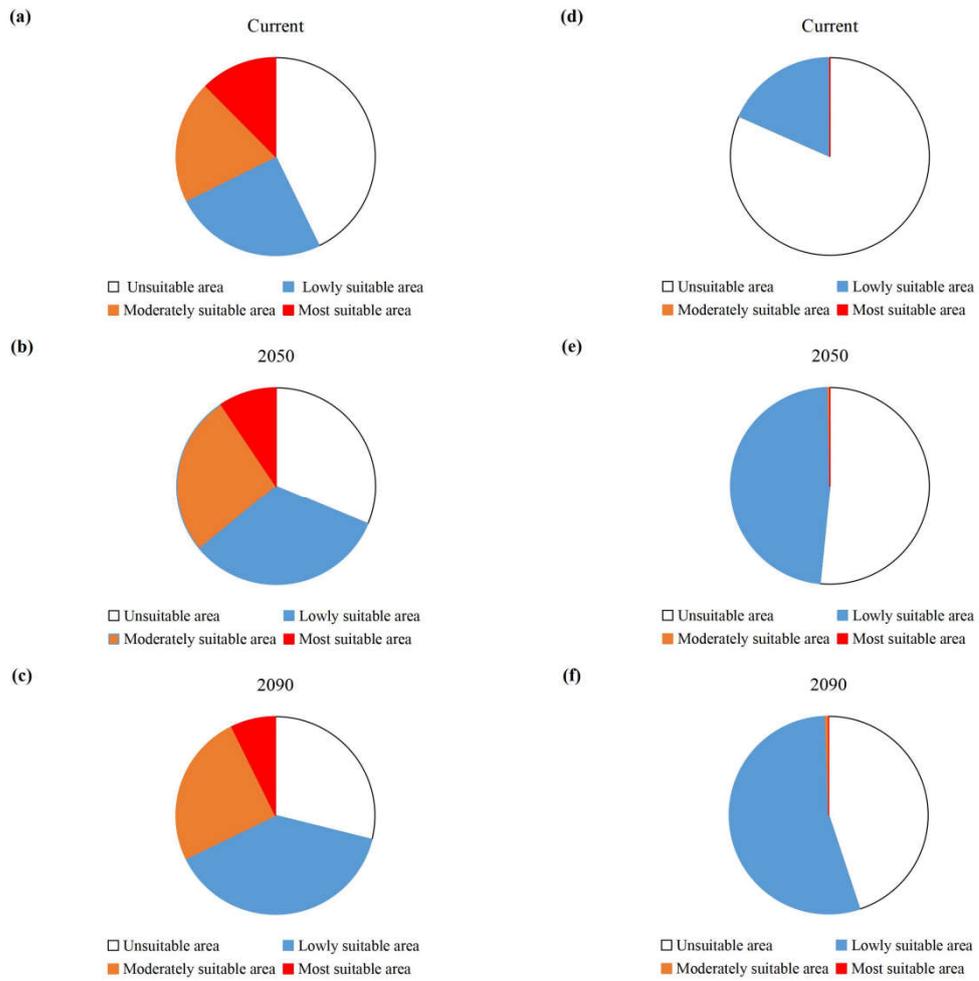


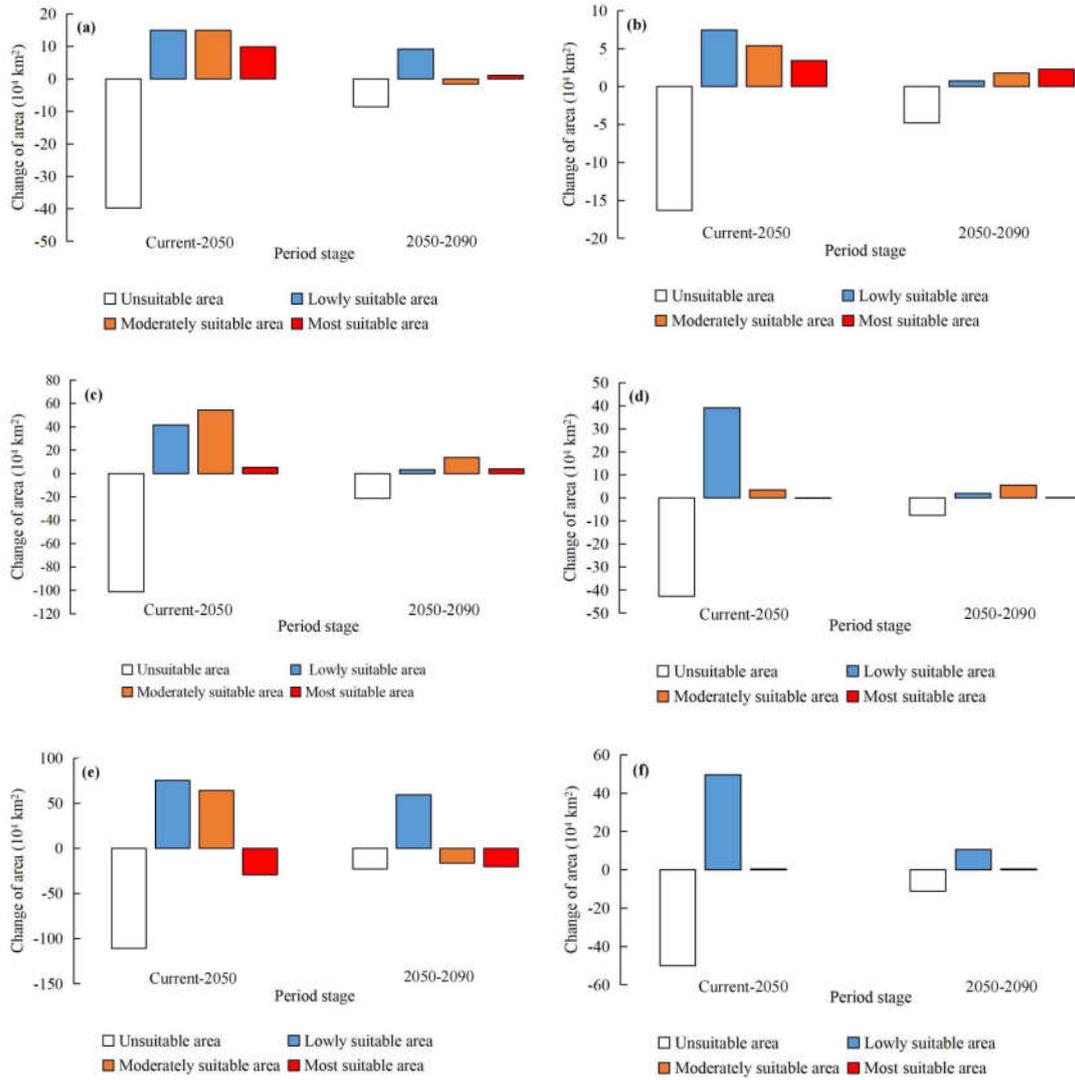
**Figure S1** Proportion of suitable area of *Anoplophora glabripennis* in (a–c) China and (d–e) Xinjiang.



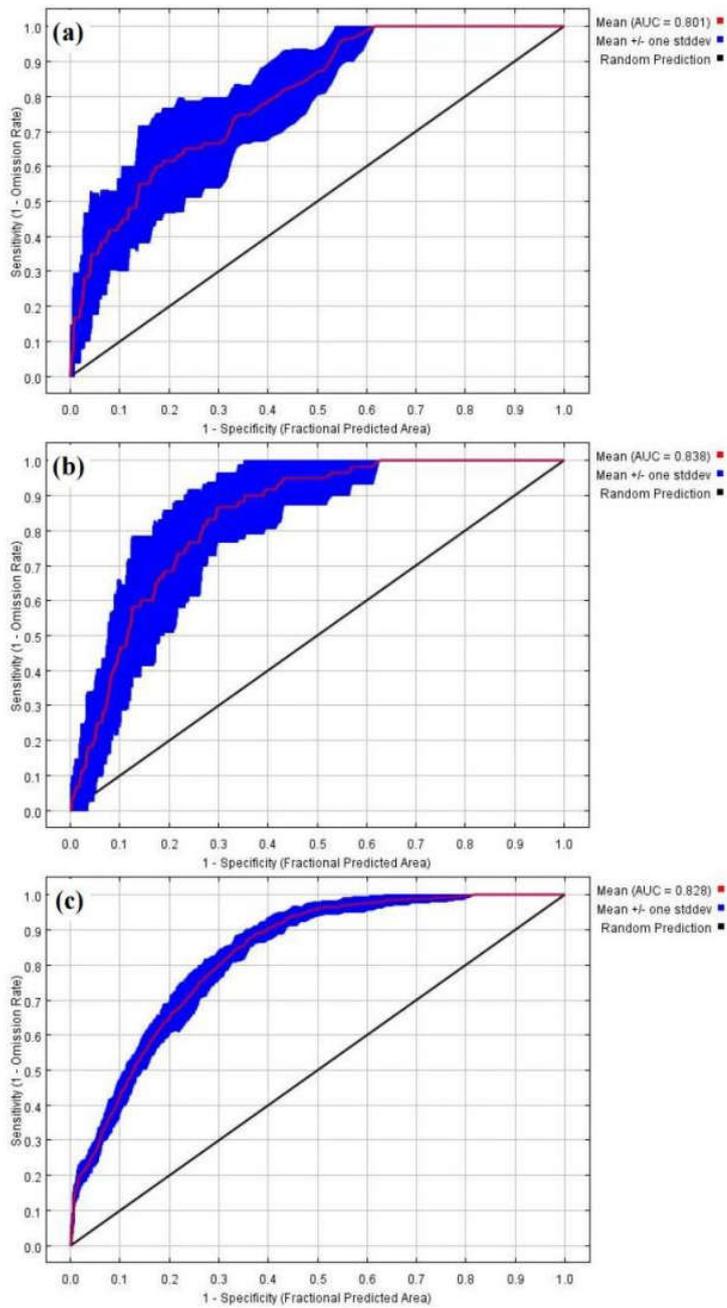
**Figure S2** Proportion of suitable area of *Dastarcus helophoroides* in (a–c) China and (d–e) Xinjiang.



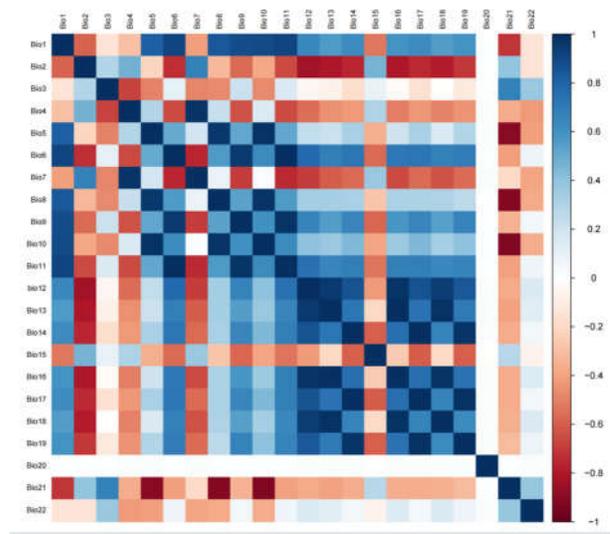
**Figure S3** Proportion of suitable area of *Dendrocopos major* in (a–c) China and (d–e) Xinjiang.



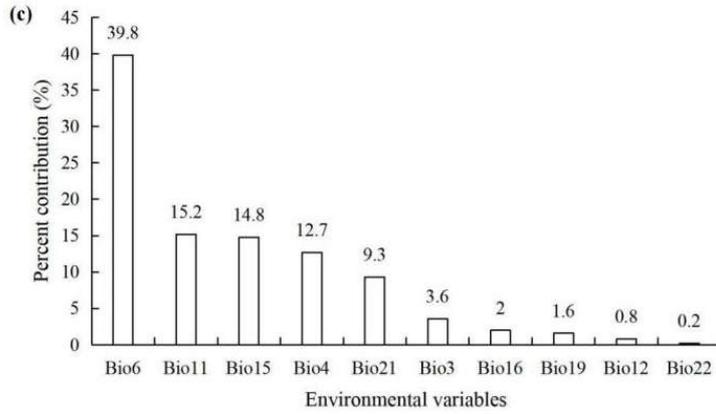
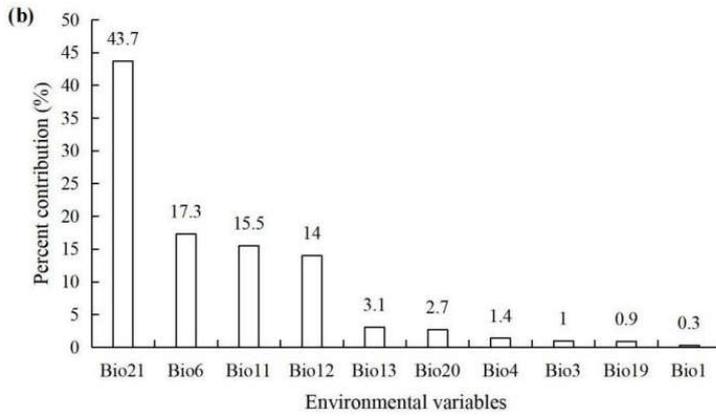
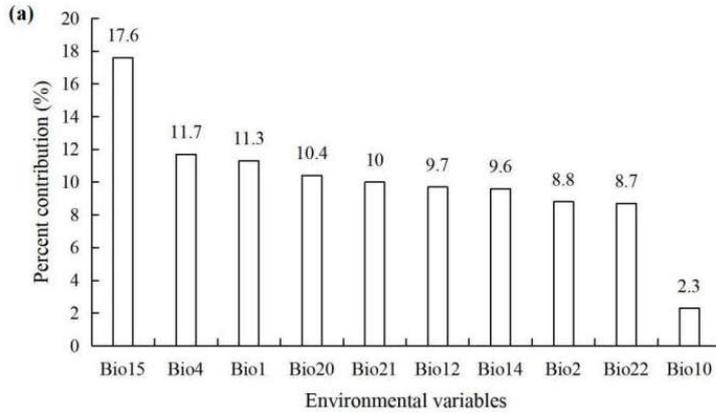
**Figure S4** In current–2050 and 2050–2090 stages, suitable area changes of **(a-b)** *Anoplophora glabripennis*, **(c-d)** *Dastarcus helophoroides*, and **(e-f)** *Dendrocopos major* in China and Xinjiang.



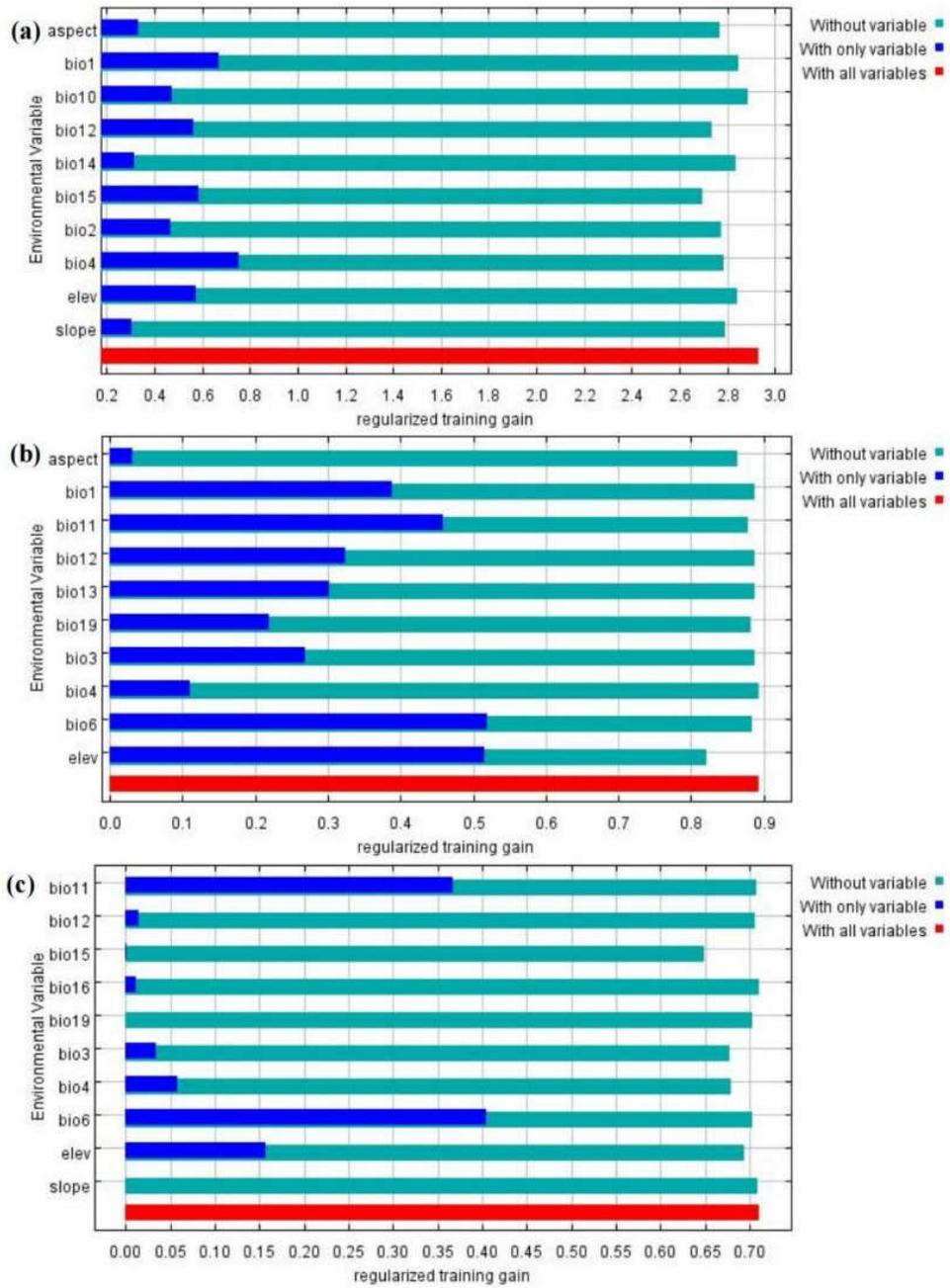
**Figure S5** ROC curve and AUC value for the MaxEnt model of (a) *Anoplophora glabripennis*, (b) *Dastarcus helophoroides*, and (c) *Dendrocopos major* distribution prediction.



**Figure S6** Correlation analysis of environmental factors in the MaxEnt model.



**Figure S7** Environmental variables used in the simulation for the distribution of potential suitable areas of **(a)** *Anoplophora glabripennis*, **(b)** *Dastarcus helophoroides*, and **(c)** *Dendrocospos major* and their percentage contributions.



**Figure S8** Jackknife test for variable importance of (a) *Anoplophora glabripennis*, (b) *Dastarcus helophoroides*, and (c) *Dendrocopos major* suitability distribution.

Table S1 Environment variables for MaxEnt modeling

| Environment variable | Variable type   |
|----------------------|---|
| Bio_1                | Annual mean temperature/°C                            |
| Bio_2                | Mean diurnal range/°C                                 |
| Bio_3                | Isothermally $[(\text{Bio}2/\text{Bio}7) \times 100]$ |
| Bio_4                | Temperature seasonality                               |
| Bio_5                | Maximum temperature of the warmest month/°C           |
| Bio_6                | Minimum temperature of the coldest month/°C           |
| Bio_7                | Temperature annual range (Bio5–Bio6)/°C               |
| Bio_8                | Mean temperature of the wettest quarter/°C            |
| Bio_9                | Mean temperature of the driest quarter/°C             |
| Bio_10               | Mean temperature of the warmest quarter/°C            |
| Bio_11               | Mean temperature of the coldest quarter/°C            |
| Bio_12               | Annual precipitation/mm                               |
| Bio_13               | Precipitation of the wettest period/mm                |
| Bio_14               | Precipitation of the driest period/mm                 |
| Bio_15               | Precipitation seasonality (CV)                        |
| Bio_16               | Precipitation of the wettest quarter/mm               |
| Bio_17               | Precipitation of the driest quarter/mm                |
| Bio_18               | Precipitation of the warmest quarter/mm               |
| Bio_19               | Precipitation of the coldest quarter/mm               |
| Bio_20               | Aspect  |
| Bio_21               | Elevation   |
| Bio_22               | Slope   |

Table S2 Environment variables for *Anoplophora glabripennis* distribution model

| Environment variable | Variable type                              |
|----------------------|--|
| Bio_1                | Annual mean temperature/°C                 |
| Bio_2                | Mean diurnal range/°C                      |
| Bio_4                | Temperature seasonality                    |
| Bio_10               | Mean temperature of the warmest quarter/°C |
| Bio_12               | Annual precipitation/mm                    |
| Bio_14               | Precipitation of the driest period/mm      |
| Bio_15               | Precipitation seasonality (CV)             |
| Bio_20               | Aspect                                     |
| Bio_21               | Elevation                                  |
| Bio_22               | Slope                                      |

Table S3 Environment variables for *Dastarcus helophoroides* distribution model

| Environment variable | Variable type   |
|----------------------|---|
| Bio_1                | Annual mean temperature/°C                            |
| Bio_3                | Isothermally $[(\text{Bio}2/\text{Bio}7) \times 100]$ |
| Bio_4                | Temperature seasonality                               |
| Bio_6                | Minimum temperature of the coldest month/°C           |
| Bio_11               | Mean temperature of the coldest quarter/°C            |
| Bio_12               | Annual precipitation/mm                               |
| Bio_13               | Precipitation of the wettest period/mm                |
| Bio_19               | Precipitation of the coldest quarter/mm               |
| Bio_20               | Aspect  |
| Bio_21               | Elevation   |

Table S4 Environment variables for *Dendrocopos major* distribution model

| Environment variable | Variable type   |
|----------------------|---|
| Bio_3                | Isothermally $[(\text{Bio}2/\text{Bio}7) \times 100]$ |
| Bio_4                | Temperature seasonality                               |
| Bio_6                | Minimum temperature of the coldest month/°C           |
| Bio_11               | Mean temperature of the coldest quarter/°C            |
| Bio_12               | Annual precipitation/mm                               |
| Bio_15               | Precipitation seasonality (CV)                        |
| Bio_16               | Precipitation of the wettest quarter/mm               |
| Bio_19               | Precipitation of the coldest quarter/mm               |
| Bio_21               | Elevation   |
| Bio_22               | Slope   |