

Supplementary information

Additional file 1: Figure S1. The Pearson correlation analysis among 19 climatic variables using the R package ggpairs.

Additional file 2: Figure S2. The delta K value of STRUCTURE analysis.

Additional file 3: Figure S3. The response curve of the three most dominant climatic variables generated by the MaxEnt model.

Additional file 4: Figure S4. Dynamic changes in the distribution of *L. japonicus* at different suitability levels.

Additional file 5: Figure S5. Phylogram type of Figure 1.

Additional file 6: Table S1. Detailed information on the 59 *L. japonicus* accessions in this study.

Additional file 7: Table S2. Detailed information on the GenBank sequences involved in this study.

Additional file 8: Table S3. The description and contribution weight of nine selected climatic variables.

Additional file 9: 49 haplotypes for network analysis.nex