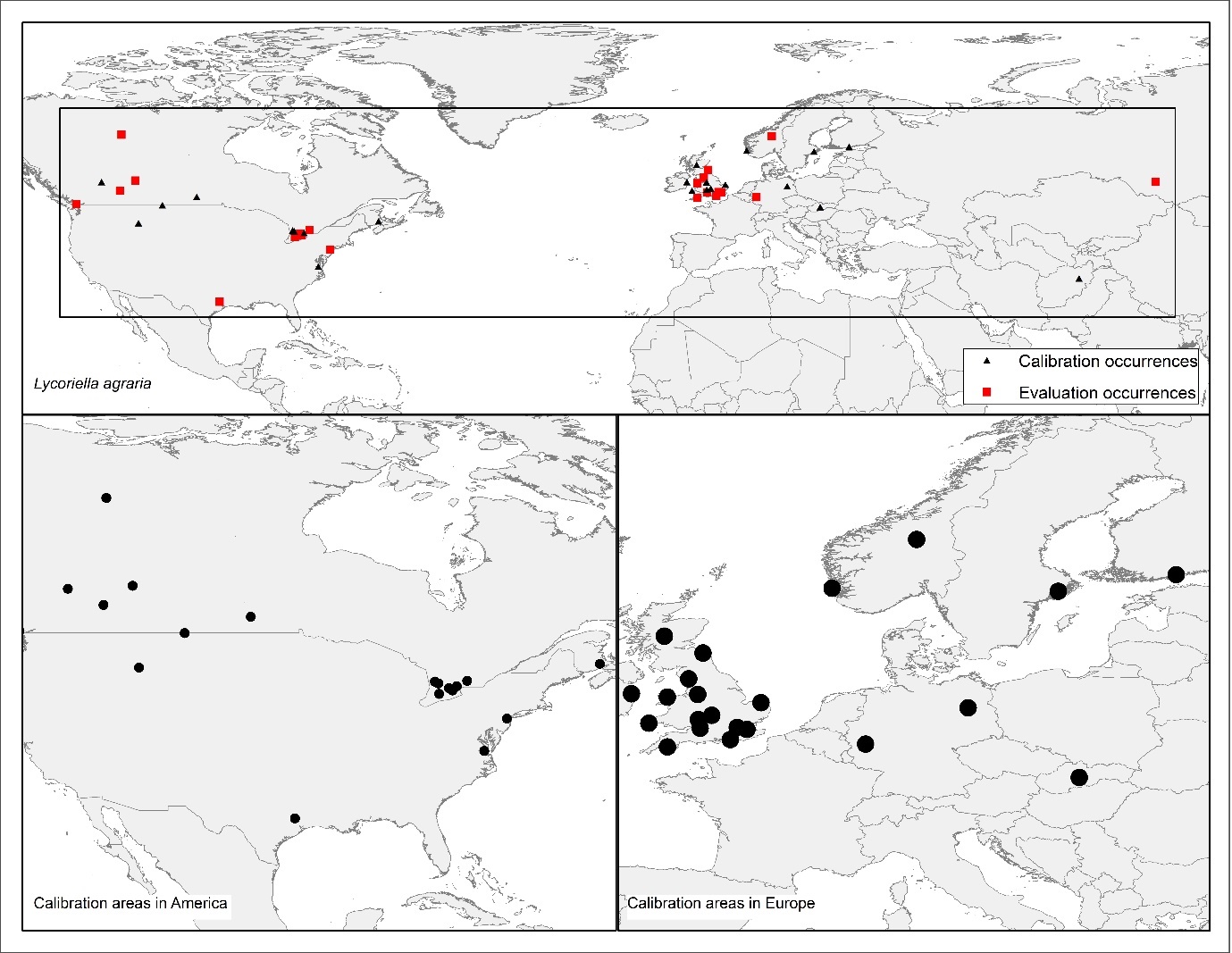
Supplementary information 1. General circulation models used in ecological niche model projections in RCP 4.5 and RCP 8.5 for 2050.

|  |  |
| --- | --- |
| **General circulation model acronym** | **Institution** |
| bnu\_esm | Beijing Normal University Earth System Model |
| cesm1\_bcg | National Center for Atmospheric Research – The University of Arizona |
| cesm1\_cam5 | National Center for Atmospheric Research – The University of Arizona – NSF-DOE-NCAR |
| csiro\_access1\_3 | Commonwealth Scientific and Industrial Research Organization (CSIRO) and Bureau of Meteorology (BOM), Australia |
| csiro\_access1 | Commonwealth Scientific and Industrial Research Organization (CSIRO) and Bureau of Meteorology (BOM), Australia |
| gfdl\_cm3 | NOAA Geophysical Fluid Dynamics Laboratory |
| gfdl\_esm2g | NOAA Geophysical Fluid Dynamics Laboratory |
| gfdl\_esm2m | NOAA Geophysical Fluid Dynamics Laboratory |
| giss\_e2\_r | NASA Goddard Institute for Space Studies USA |
| giss\_e2\_h | NASA Goddard Institute for Space Studies USA |
| inm\_cm4 | Russian Institute for Numerical Mathematics |
| miroc\_esm | University of Tokyo, National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology |
| miroc\_esm\_chem | University of Tokyo, National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology |
| miroc\_miroc5 | University of Tokyo, National Institute for Environmental Studies, and Japan Agency for Marine-Earth Science and Technology |
| mohc\_hadgem2\_cc | UK Met Office Hadley Centre |
| mohc\_hadgem2\_es | UK Met Office Hadley Centre |
| mri\_cgcm3 | Meteorological Research Institute |
| ncar\_ccsm4 | US National Centre for Atmospheric Research |
| ncc\_noresm1\_m | Norwegian Climate Centre |
| nimr\_hadgem2\_ao | UK Met Office Hadley Centre |
| cccma\_canesm2 | Canadian Centre for Climate Modelling and Analysis  Canada |
| mpi\_esm\_lr | Max Planck Institute for Meteorology, Germany |

Supplementary information figure 1. Known distribution areas of *Lycoriella agraria*. Occurrences used for calibration and evaluation of the model. Below is shown the accessible area (**M**): 50 km buffer around to all occurrences.



Supplementary information figure 2. Known distribution areas of *Lycoriella* *ingenua*: Occurrences used for calibration and evaluation of the model. Below is shown the accessible area (**M**): 50 km buffer around to all occurrences.

Uma imagem contendo Diagrama

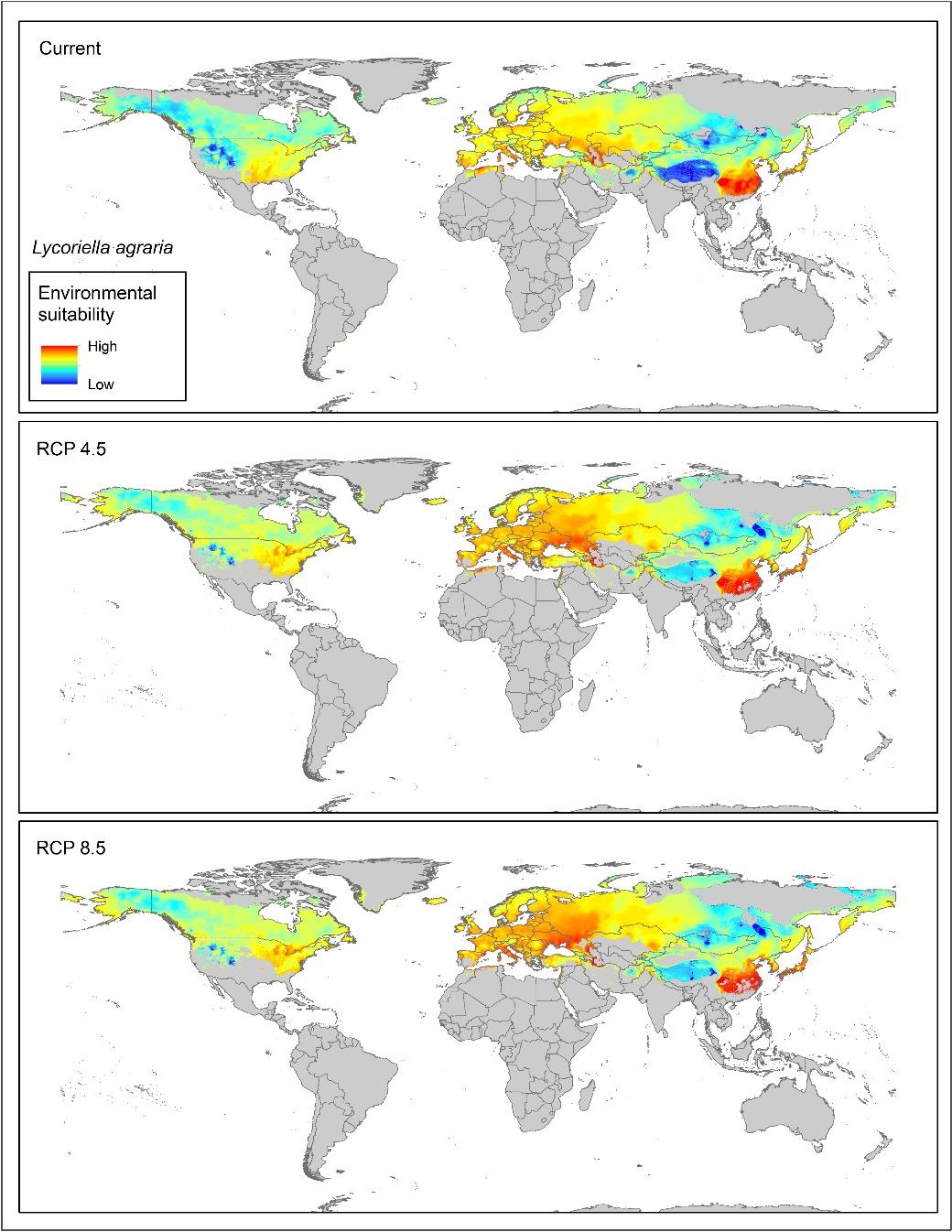
Descrição gerada automaticamente

Supplementary information figure 3. Known distribution areas of *Lycoriella* *sativae*: Occurrences used for calibration and evaluation of the model. Below is shown the accessible area (**M**): 50 km buffer around to all occurrences.

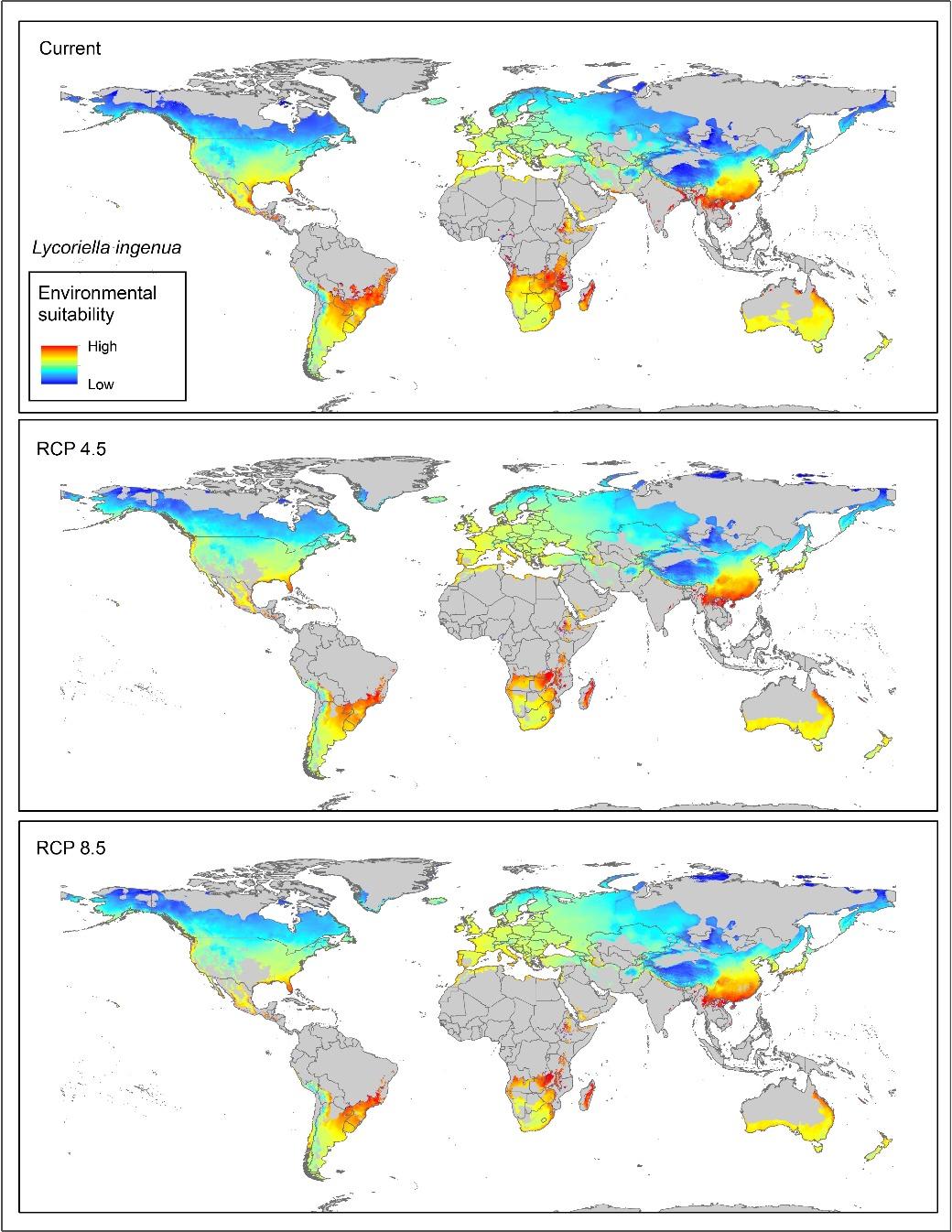
Mapa

Descrição gerada automaticamente

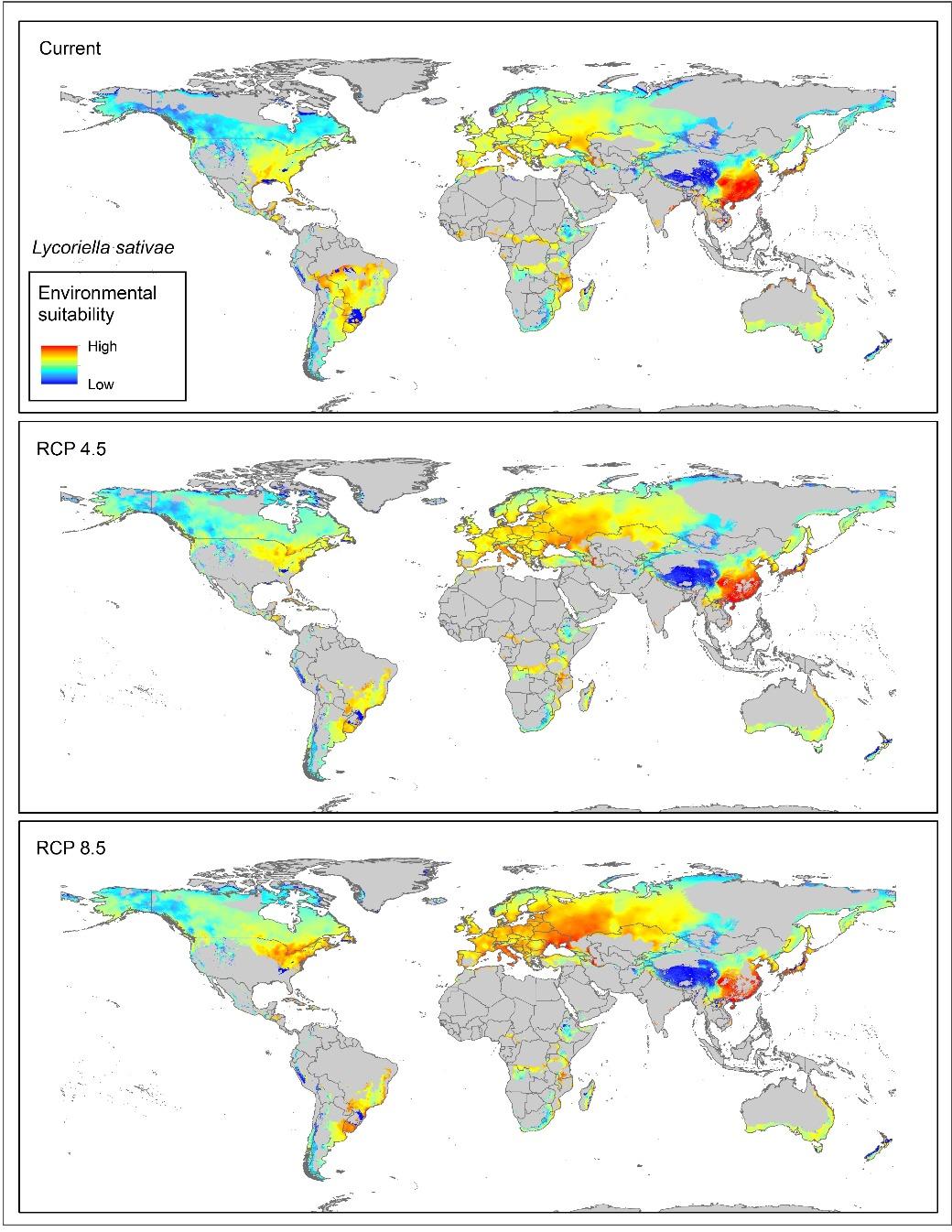
Supplementary information figure 4. Projections of environmental suitability for *Lycoriella* *agraria* in current and future scenarios (RCP 4.5 and RCP 8.5) for 2050 in low extrapolation risk areas.



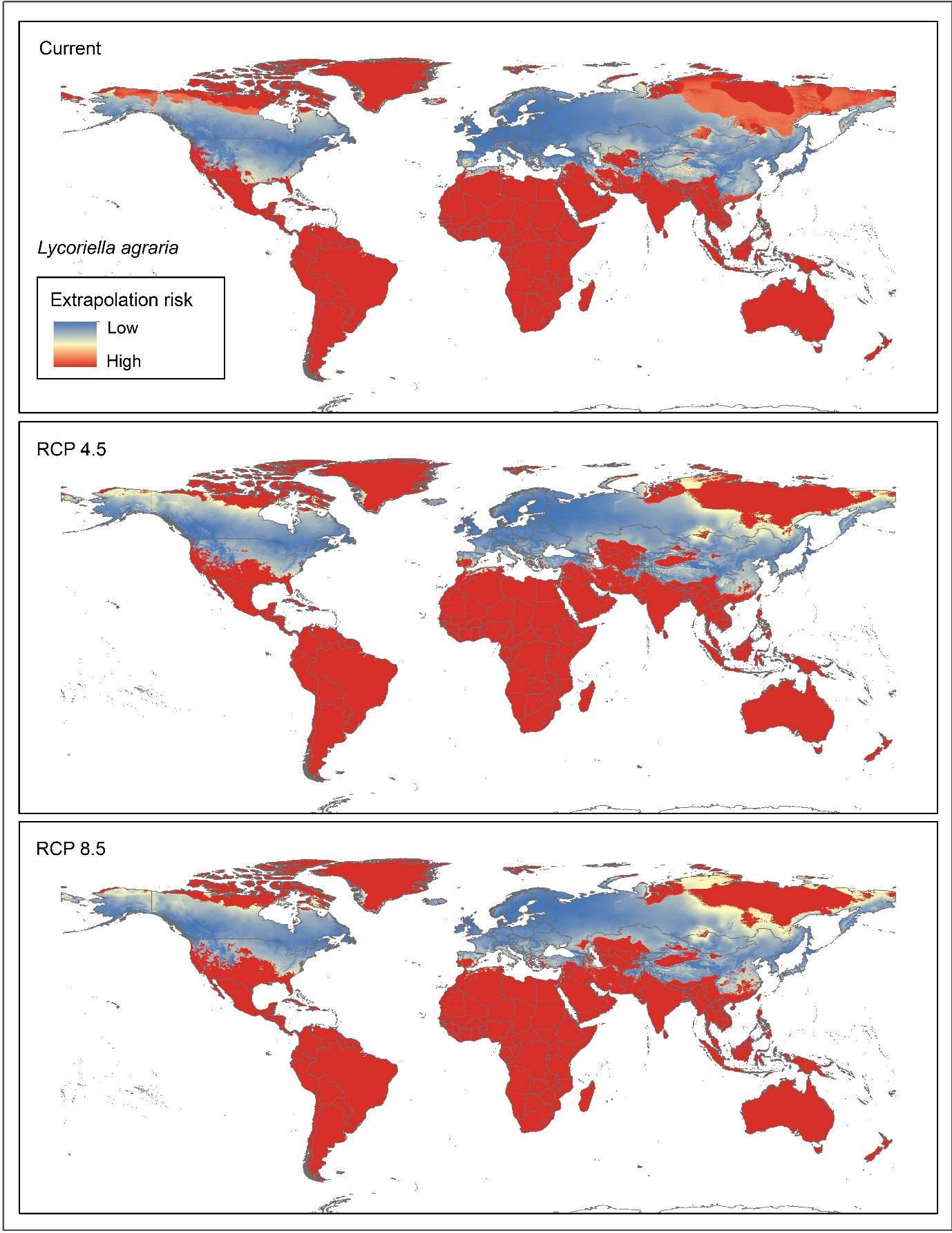
Supplementary information figure 5. Projections of environmental suitability for *Lycoriella* *ingenua* in current and future scenarios (RCP 4.5 and RCP 8.5) for 2050 in low extrapolation risk areas.



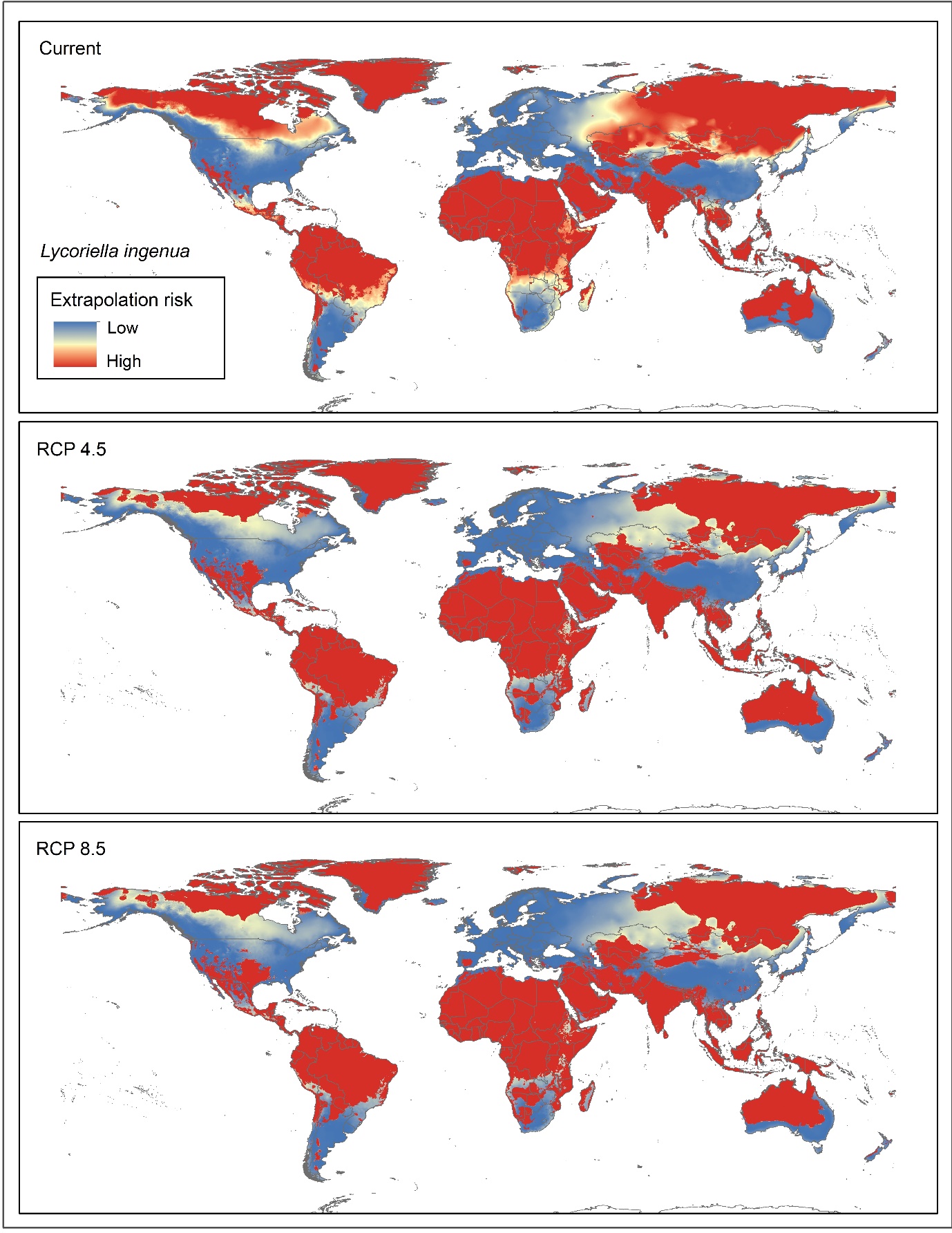
Supplementary information figure 6. Projections of environmental suitability for *Lycoriella* *sativae* in current and future scenarios (RCP 4.5 and RCP 8.5) for 2050 in low extrapolation risk areas.



Supplementary information figure 7. MOP analysis of extrapolation risk from the calibration area under projection current and future conditions for *Lycoriella agraria*. Red areas represent strict extrapolation. Blue areas represent similarity between the calibration area (M) and the RCPs scenarios of projections.



Supplementary information figure 8. MOP analysis of extrapolation risk from the calibration area under projection current and future conditions for *Lycoriella ingenua*. Red areas represent strict extrapolation. Blue areas represent similarity between the calibration area (M) and the RCPs scenarios of projections.



Supplementary information figure 9. MOP analysis of extrapolation risk from the calibration area under projection current and future conditions for *Lycoriella sativae*. Red areas represent strict extrapolation. Blue areas represent similarity between the calibration area (M) and the RCPs scenarios of projections.

