Supplementary material

Table S1: List of study species selected from the EU-Forest species list. Only species with at least 50 occurrence records are included, and the number of records for each species is reported.

Species	Nr. of records	Species	Nr. of records
Abies alba	9251	Picea pungens	119
Abies grandis	431	Picea sitchensis	8905
Abies nordmanniana	299	Pinus cembra	343
Abies procera	418	Pinus contorta	2877
Acer campestre	5640	Pinus halepensis	12888
Acer monspessulanum	712	Pinus mugo	1605
Acer negundo	176	Pinus nigra	10557
Acer opalus	1003	Pinus pinaster	16196
Acer platanoides	1937	Pinus pinea	4218
Acer pseudoplatanus	11762	Pinus radiata	2262
Acer tataricum	166	Pinus strobus	332
Aesculus hippocastanum	272	Pinus sylvestris	71253
Ailanthus altissima	128	Pistacia terebinthus	77
Alnus cordata	147	Populus alba	539
Alnus glutinosa	9132	Populus canescens	527
Alnus incana	6088	Populus nigra	1997
Arbutus unedo	1653	Populus tremula	9535
Betula nana	58	Prunus avium	5458
Betula pendula	18871	Prunus cerasifera	138
Betula pubescens	24508	Prunus domestica	148
Buxus sempervirens	148	Prunus mahaleb	101
Carpinus betulus	12841	Prunus padus	1090
Carpinus orientalis	147	Prunus serotina	512
Castanea sativa	8868	Prunus spinosa	312
Cedrus atlantica	89	Pseudotsuga menziesii	5105
Celtis australis	146	Pyrus communis	154
Ceratonia siliqua	370	Pyrus pyraster	563
Chamaecyparis lawsoniana	259	Quercus canariensis	269
Cornus mas	258	Quercus cerris	3606
Cornus sanguinea	234	Quercus faginea	5054
Corylus avellana	3776	Quercus frainetto	309
Crataegus laevigata	189	Quercus ilex	22413
Crataegus monogyna	2366	Quercus petraea	16677
Cupressus arizonica	76	Quercus pubescens	8422
Cupressus sempervirens	178	Quercus pyrenaica	5886
Erica arborea	64	Quercus robur	29735
Eucalyptus camaldulensis	750	Quercus rubra	1642
Euonymus europaeus	153	Quercus suber	5877
Fagus sylvatica	34907	Rhamnus alaternus	86
Ficus carica	71	Rhamnus cathartica	61

Frangula alnus	1750
Fraxinus angustifolia	1011
Fraxinus excelsior	17009
Fraxinus ornus	2047
Fraxinus pennsylvanica	140
Ilex aquifolium	1225
Juglans nigra	621
Juglans regia	162
Juniperus communis	592
Juniperus oxycedrus	996
Juniperus phoenicea	288
Juniperus thurifera	1857
Laburnum anagyroides	105
Larix decidua	7991
Larix kaempferi	3197
Laurus nobilis	99
Ligustrum vulgare	163
Malus sylvestris	537
Morus alba	124
Olea europaea	1232
Ostrya carpinifolia	1471
Phillyrea latifolia	453
Picea abies	66952
Picea glauca	154
Picea omorika	126

Robinia pseudoacacia	4611
Salix alba	651
Salix atrocinerea	459
Salix aurita	96
Salix caprea	6252
Salix cinerea	311
Salix fragilis	117
Salix phylicifolia	149
Sambucus nigra	197
Sorbus aria	2080
Sorbus aucuparia	9861
Sorbus domestica	269
Sorbus intermedia	65
Sorbus torminalis	1588
Styphnolobium japonicum	300
Taxus baccata	399
Thuja plicata	183
Tilia cordata	2597
Tilia platyphyllos	1056
Tilia tomentosa	184
Tsuga heterophylla	334
Ulmus glabra	855
Ulmus laevis	154
Ulmus minor	1780

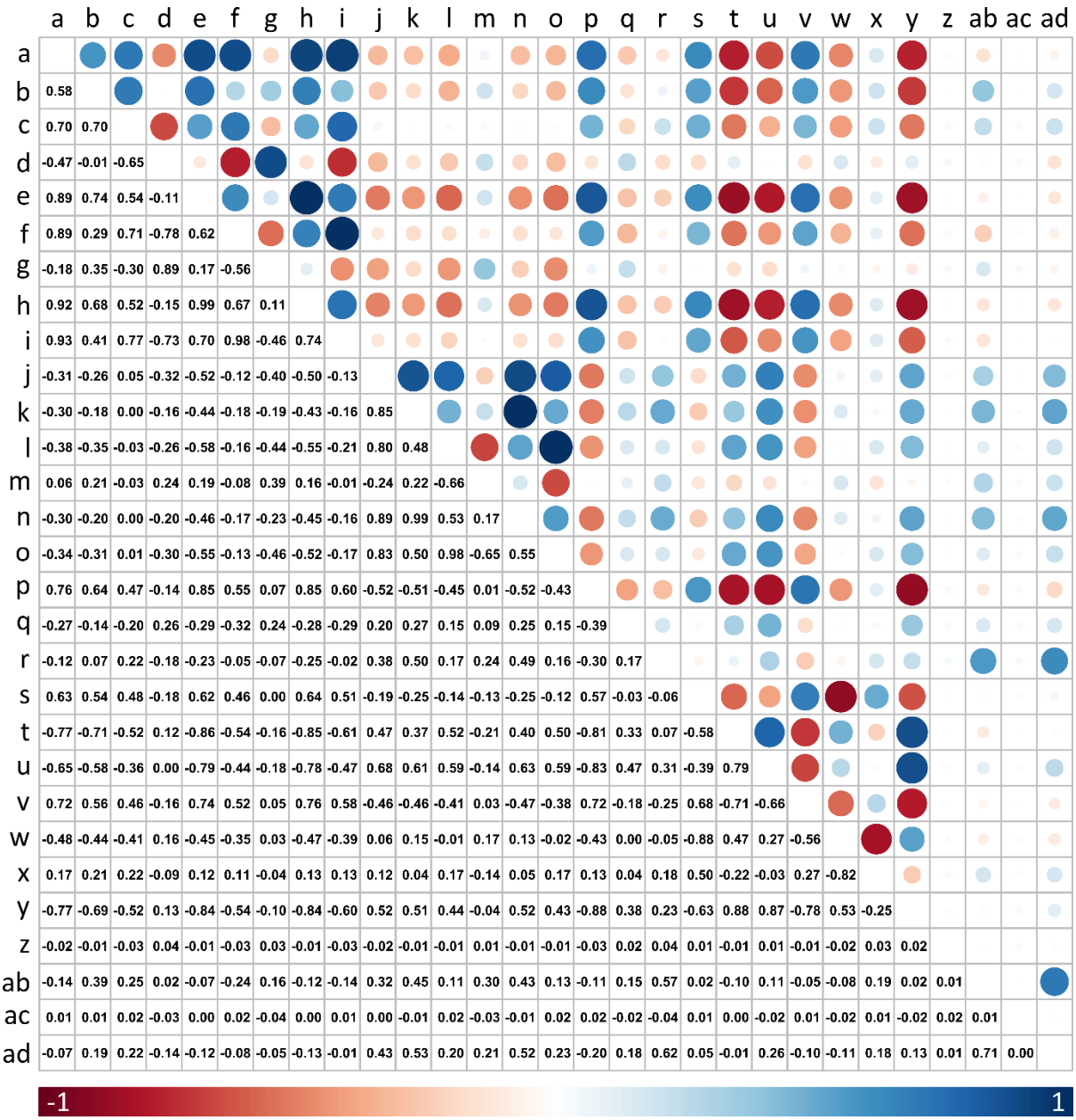

Figure S1: Correlation matrix containing all Spearman correlation coefficients (r^2) between all combinations of quantitative variables: (a) mean annual temperature; (b) mean diurnal range; (c) isothermality; (d) temperature seasonality; (e) maximum temperature of the warmest month; (f) minimum temperature of the coldest month; (g) temperature annual range; (h) mean temperature of the warmest quarter; (i) mean temperature of the coldest quarter; (j) annual precipitation; (k) precipitation of the wettest month; (l) precipitation of the driest month; (m) precipitation seasonality; (n) precipitation of the wettest quarter; (o) precipitation of the driest quarter; (p) bulk density; (q) cation exchange capacity; (r) coarse fragments; (s) clay content; (t) nitrogen content; (u) organic carbon density; (v) soil pH; (w) sand content; (x) silt content; (y) soil organic carbon; (z) eastness; (ab) elevation; (ac) northness; and (ad) slope.

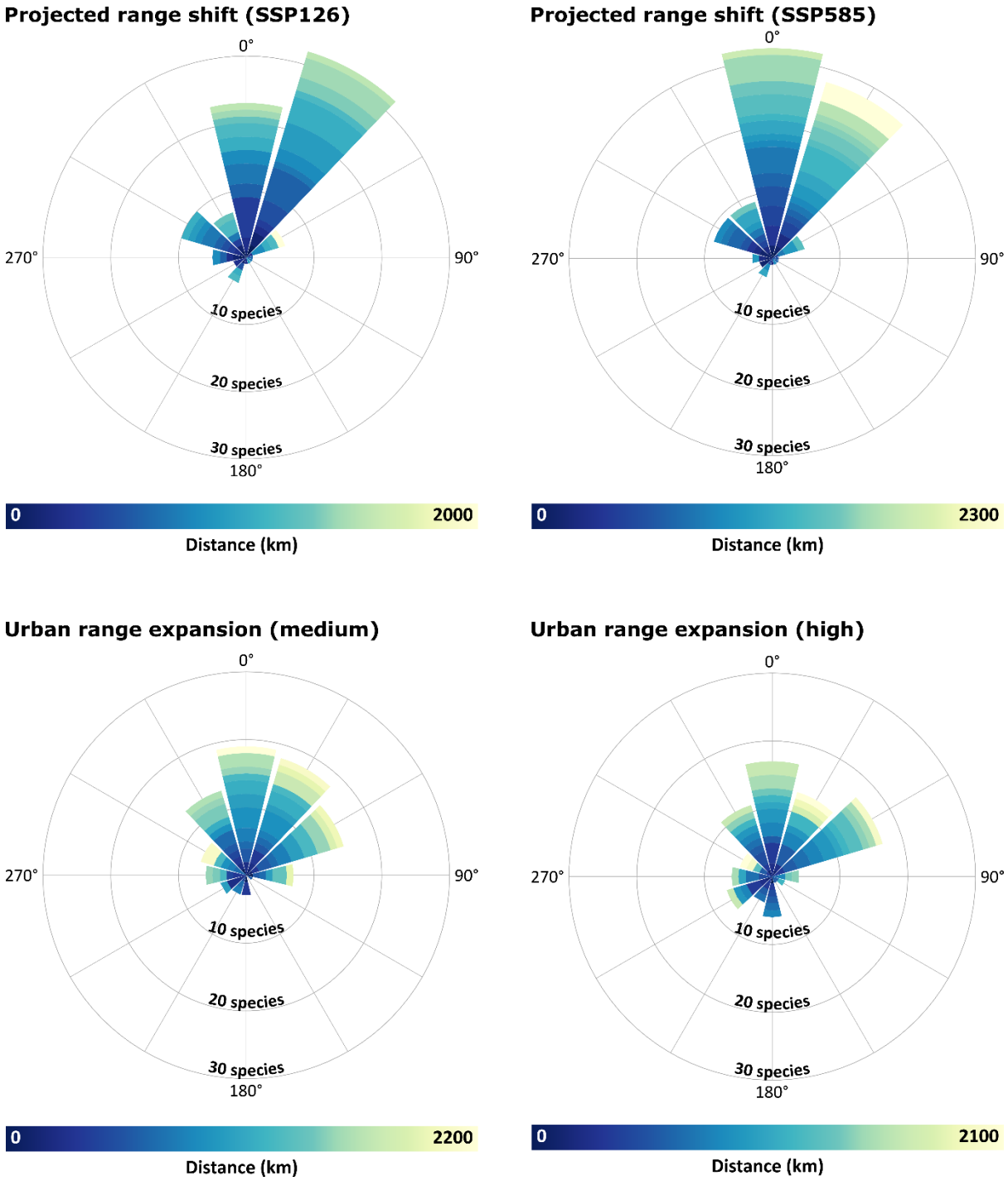

Figure S2: ***Projected species range shifts & urban range expansion.*** *(a) The distance (km) and direction (°) of projected range shifts required for tree species to track climate change (SSP126 and SSP585, 2071–2100) and (b) the distance (km) and direction (°) between the northernmost urban occurrences of each species and the centroid of their current natural distribution under medium and high urbanization rates, respectively. The number of distinct species is indicated on the circular axis.*