**Supplementary material**

**Loss of suitable climatic areas for *Araucaria* forests over time**

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Table S1a: Comparison between the model predictions and pollen studies for the LGM (21 000 years before the present). Codes refer to the localities presented in Fig. 4a.



Table S1b: Comparison between the model predictions and pollen studies for the mid-Holocene (6 000 years before the present). Codes refer to the localities presented in Fig. 4b.



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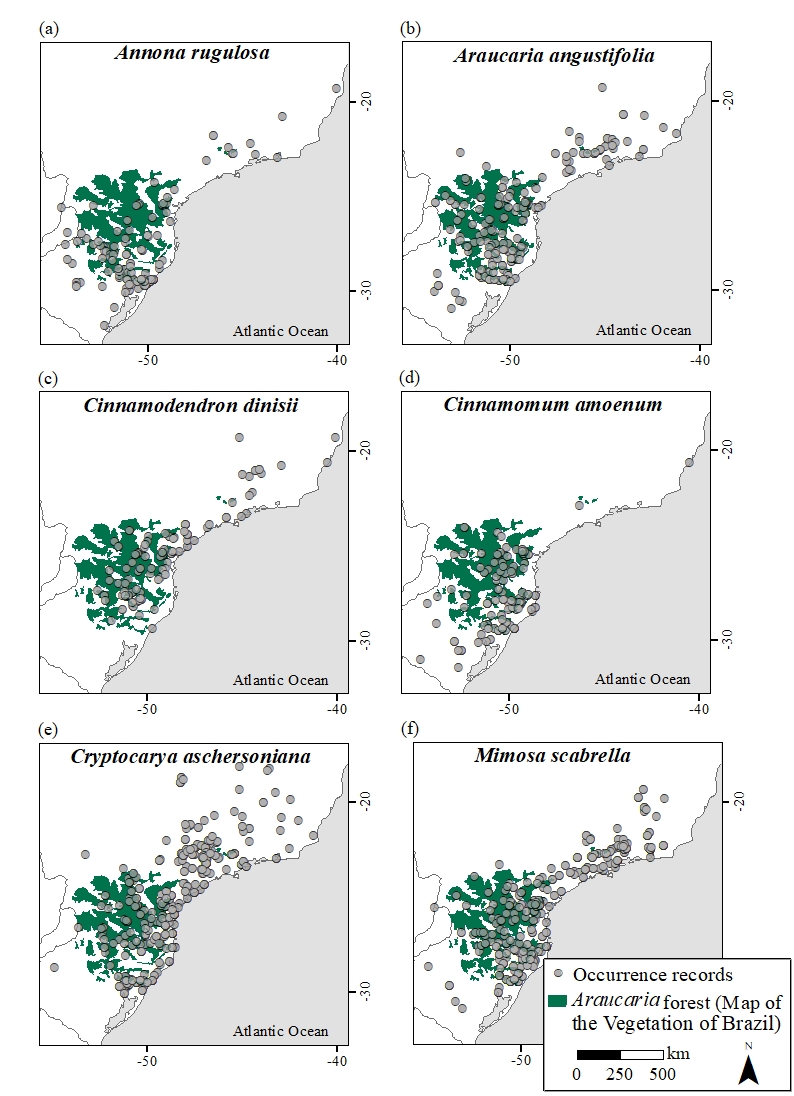
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Figure S1. Individual occurrence points of the indicator species: a) *Annona rugulosa*; b) *Araucaria angustifolia*; c) *Cinnnamodendron dinisii*; d) *Cinnamomum amoenum*; e) *Cryptocaria aschersoniana*; f) *Mimosa scabrella*; g) *Myrceugenia cucculate*; h) *Ocotea porosa*; i) *Piptocarpha angustifolia*; j) *Solanum compressum*; k) *Solanum corymbiflorum*, and; l) *Zanthoxyluma kleinii*.



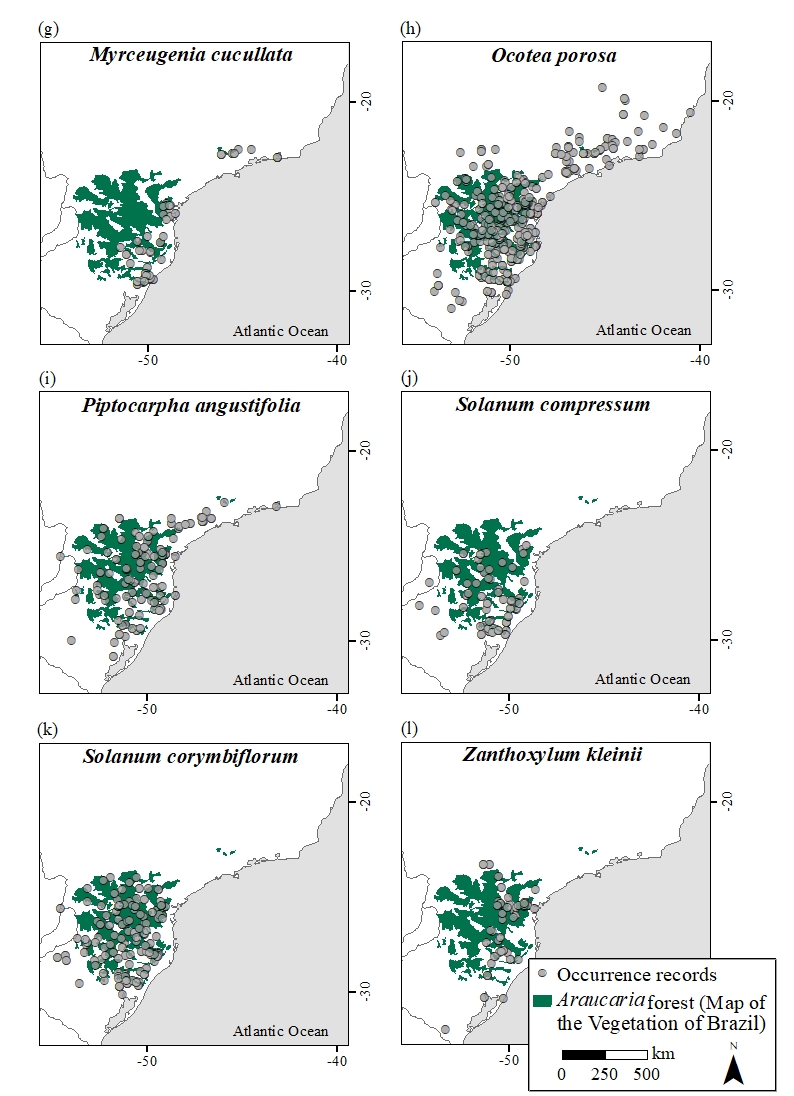


Figure S2: Modelled climatic suitability of *Annona rugulosa*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

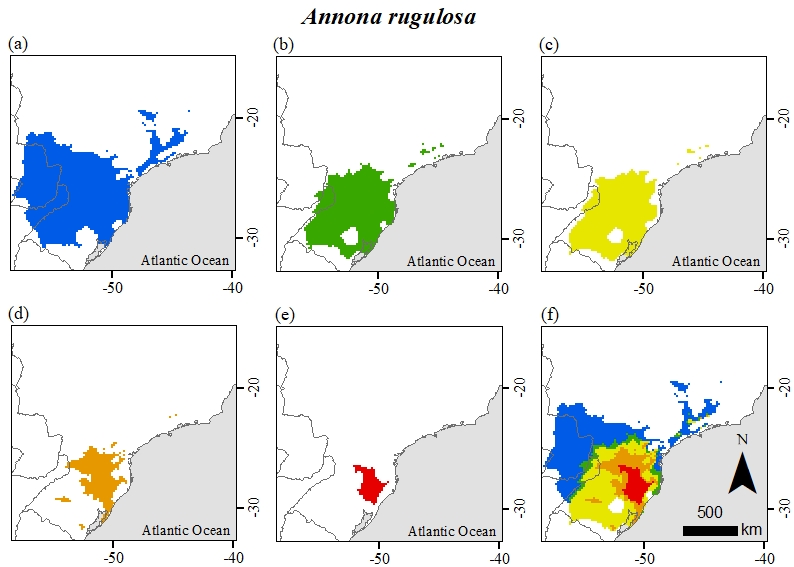


Figure S3: Modelled climatic suitability of *Araucaria angustifolia*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

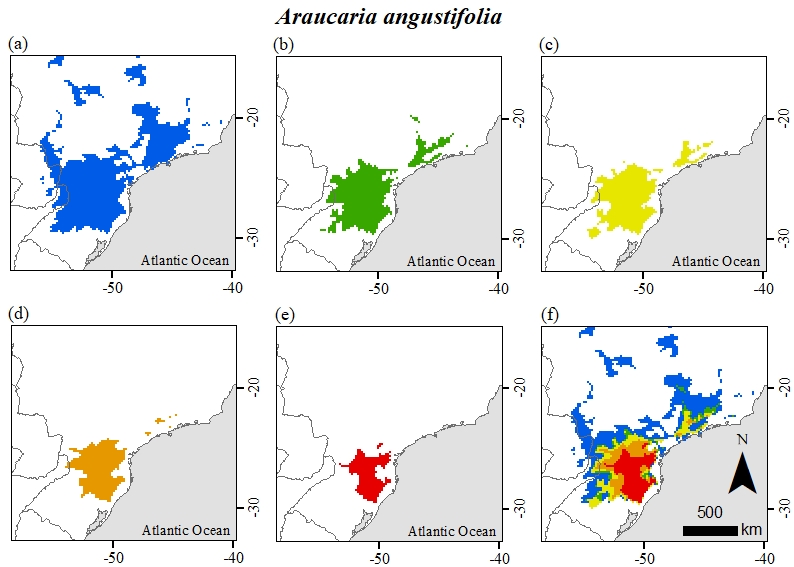


Figure S4: Modelled climatic suitability of *Cinnamodendron dinisii*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

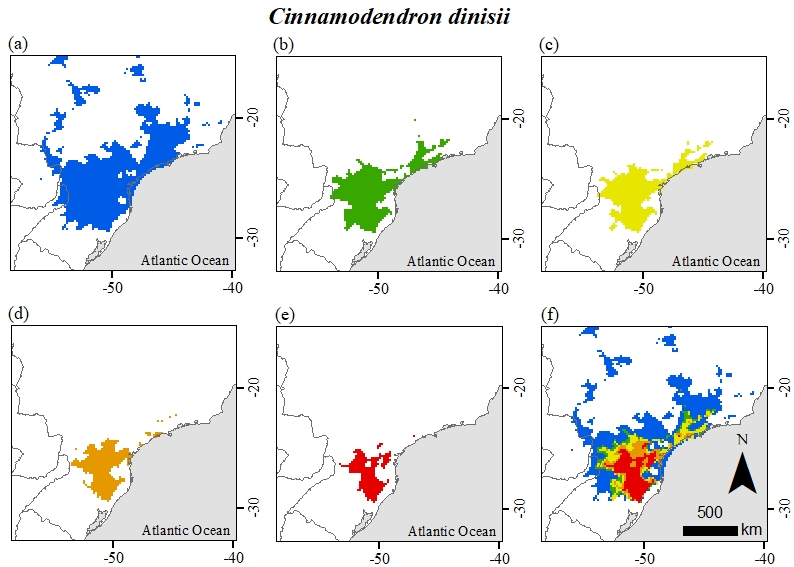


Figure S5: Modelled climatic suitability of *Cinnamomum amoenum*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

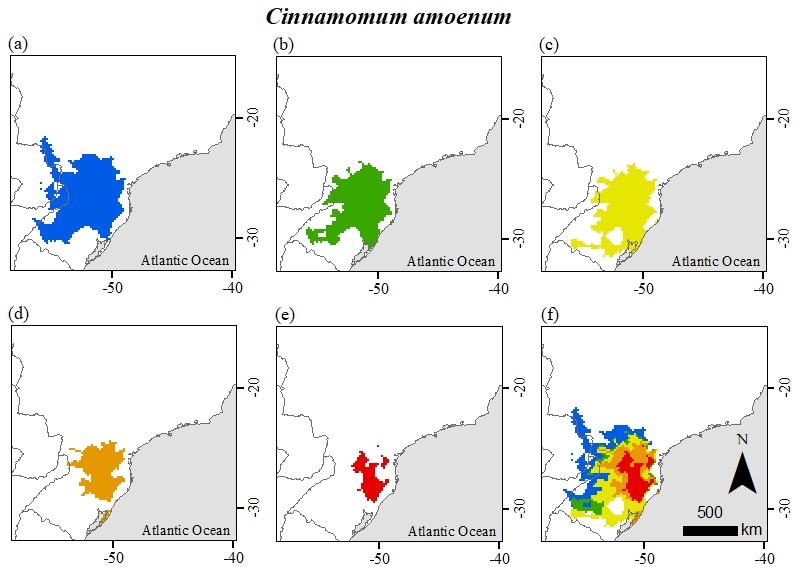


Figure S6: Modelled climatic suitability of *Cryptocaria aschersoniana*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

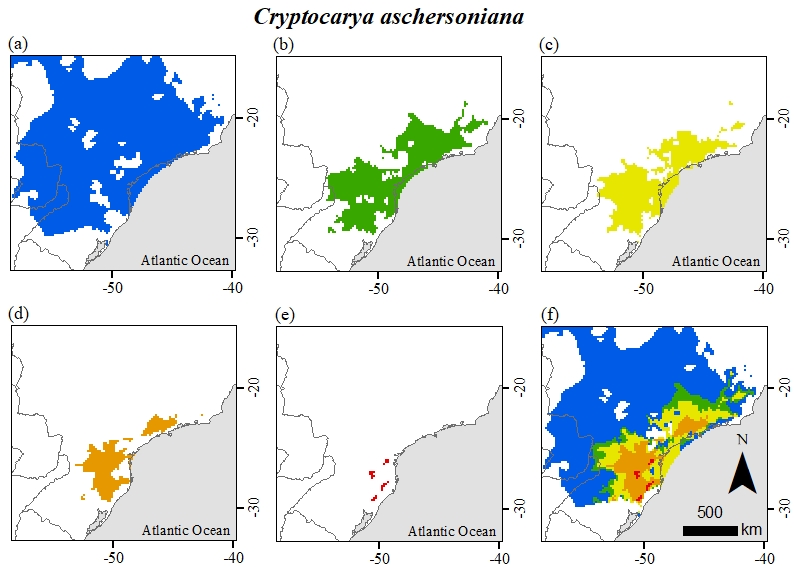


Figure S7: Modelled climatic suitability of *Mimosa scabrella*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

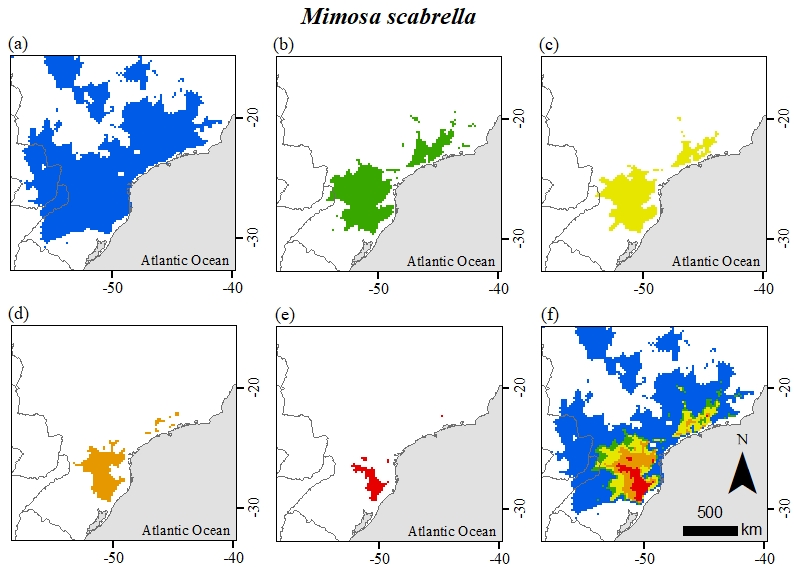


Figure S8: Modelled climatic suitability of *Myrceugenia cucullata*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

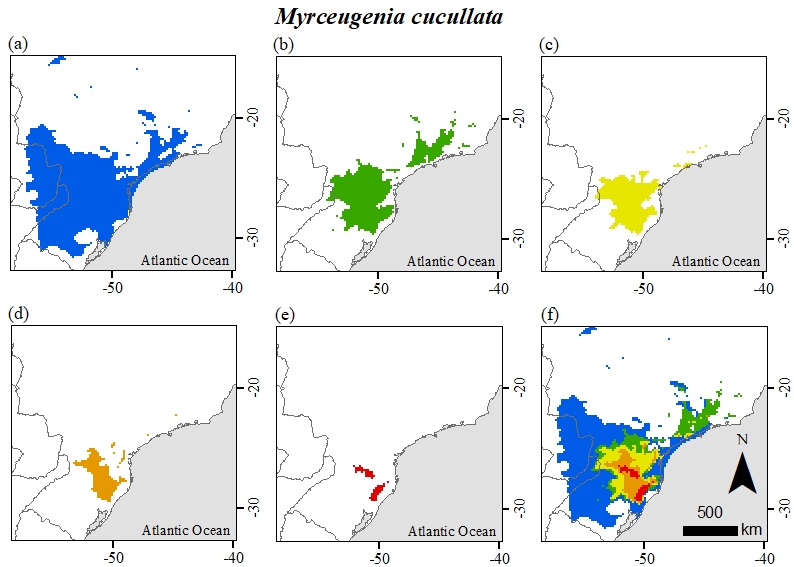


Figure S9: Modelled climatic suitability of *Ocotea porosa*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

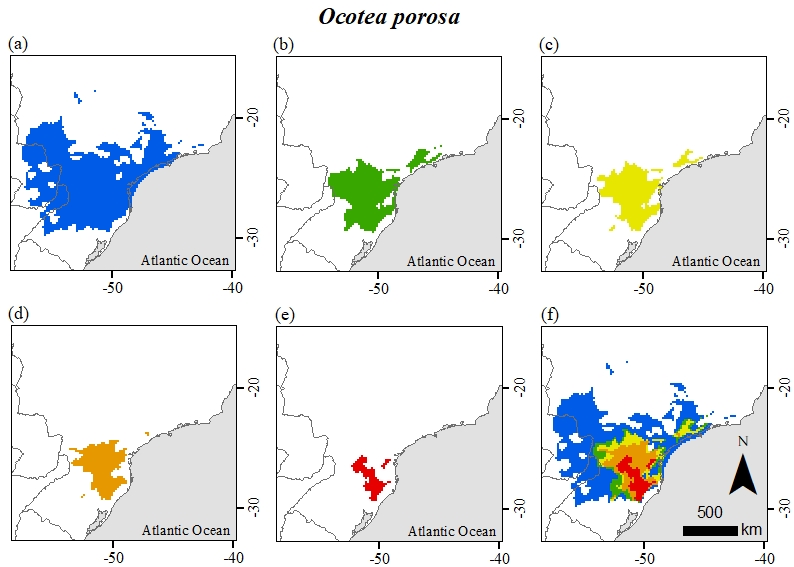


Figure S10: Modelled climatic suitability of *Piptocarpha angustifolia*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

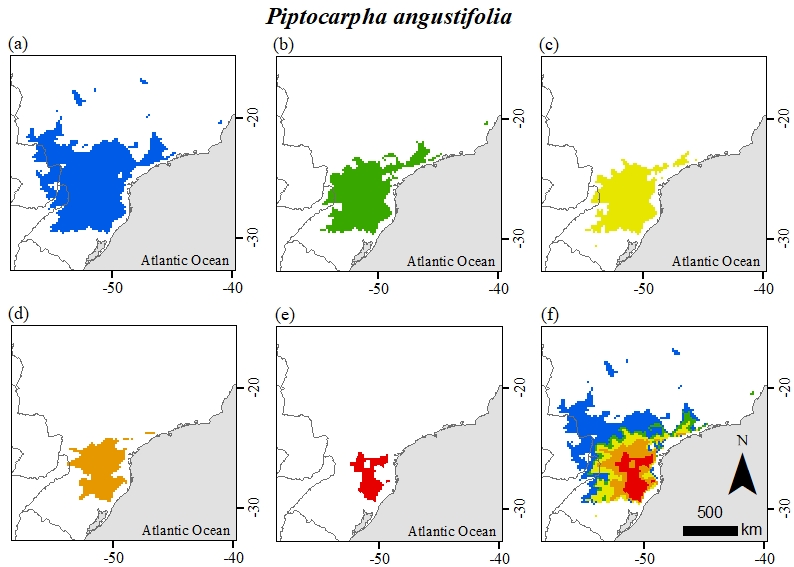


Figure S11: Modelled climatic suitability of *Solanum compressum*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

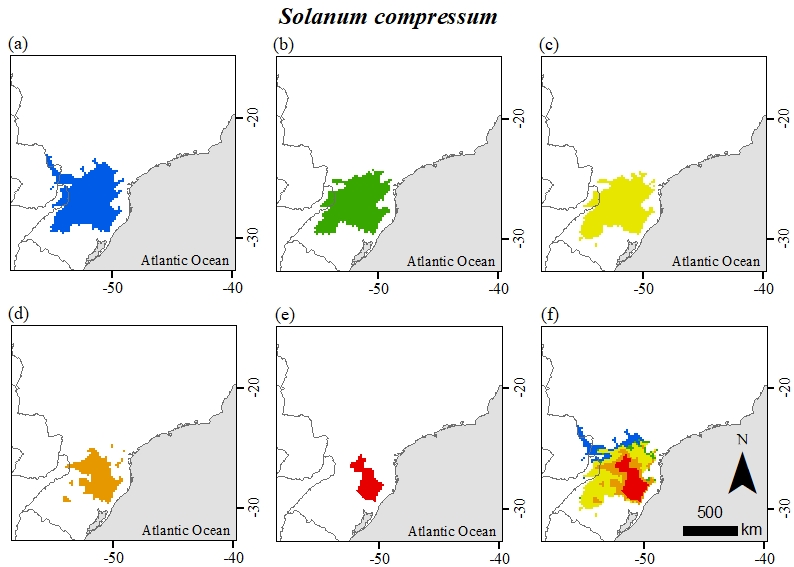


Figure S12: Modelled climatic suitability of *Solanum corymbiflorum*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

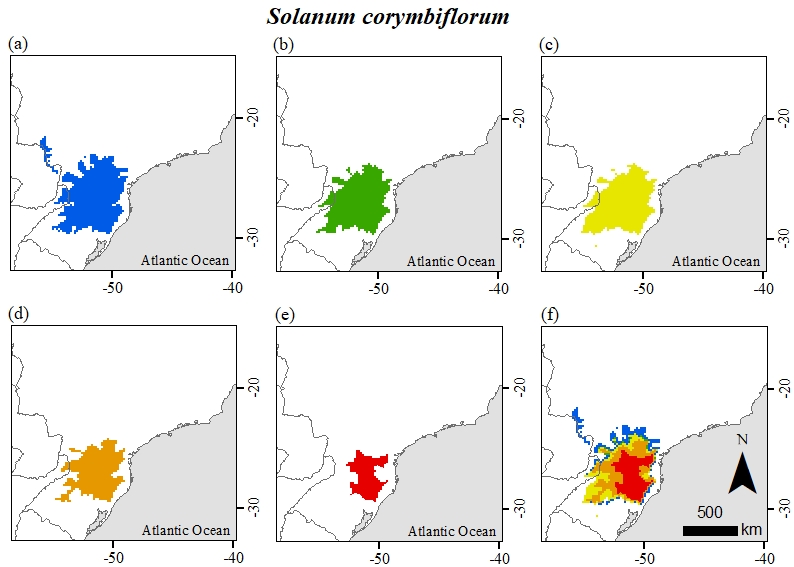


Figure S13: Modelled climatic suitability of *Zanthoxylum kleinii*. A, the Last Glacial Maximum (21,000 years before present); B, the mid-Holocene (6,000 years before present); C, current distribution; D, projected distribution in 2070 under a low greenhouse gas emission scenario (RCP 2.6); E, projected distribution in 2070 under a high greenhouse gas emission scenario (RCP 8.5); F, core area (areas that overlap across all scenarios).

