## **Supplementary file 5**

Here, we present continuous maps of the areas with the greatest climatic-suitable areas of *Holoregmia viscida* Ness. predicted by each modelling algorithm for three periods: paleoclimatic, current climate conditions, and climate change scenarios. For paleoclimatic projection, we selected three scenarios: Last Interglacial (ca 130 ka), Last Glacial Maximum (ca 21 ka), and Mid-Holocene (8.326–4.2 ka). For current conditions, we use climate data as the average for the years 1970–2000. To model future climatic scenarios, we selected three scenario of RCP2.6, SSP245 is the updated scenario of RCP4.5, and SSP585 is the updated scenario of RCP8.5. We used projections for 2050 (mean for the period from 2041 to 2060) and 2090 (mean for the period from 2081 to 2100) using the General Circulation Model ISPL-CM6A-LR.

The figures below represent the projections for each modelling algorithm, being: Figure S1 (Bioclimatic Envelope Method), Figure S2 (Maxent, with default features – MaxNet), Figure S3 (Simple Maxent Model), Figure S4 (Support Vector Machine), Figure S5 (Random Forest), and Figure S6 (Gaussian Model). In the supplementary tables, we present the description of each algorithm (Table S4) and the performance of the individual models (Table S5).



**Figure S1.** Bioclimatic Envelope Method. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).



**Figure S2.** Maxent, with default features. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).



**Figure S3.** Simple Maxent Model. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).



**Figure S4.** Support Vector Machine. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).



**Figure S5.** Random Forest. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).



**Figure S6.** Gaussian Model. Map zooming in the Caatinga Phytogeographical Domain showing the climatic suitability for *Holoregmia viscida* in current conditions (centre of the figure), paleoclimatic scenarios (top of the figure), and three future climate change scenarios (bottom of the figure).