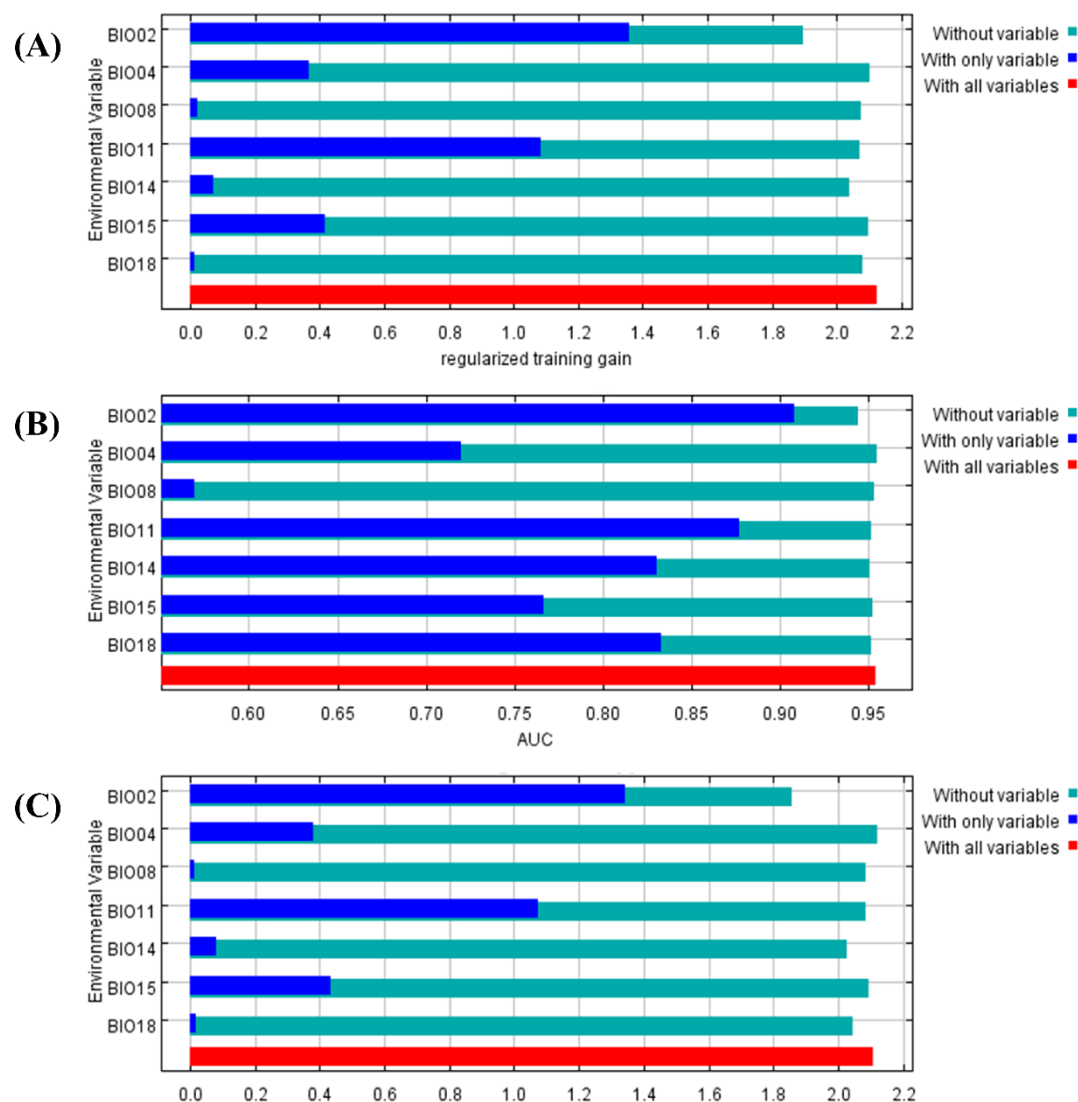**Figure S1.** Jackknife test of the importance of variables. Blue, green, and red bars represent running the MaxEnt model with the variable alone, without the variable, and with all variables, respectively. (A): regularization training gain; (B): test gain; (C): AUC.
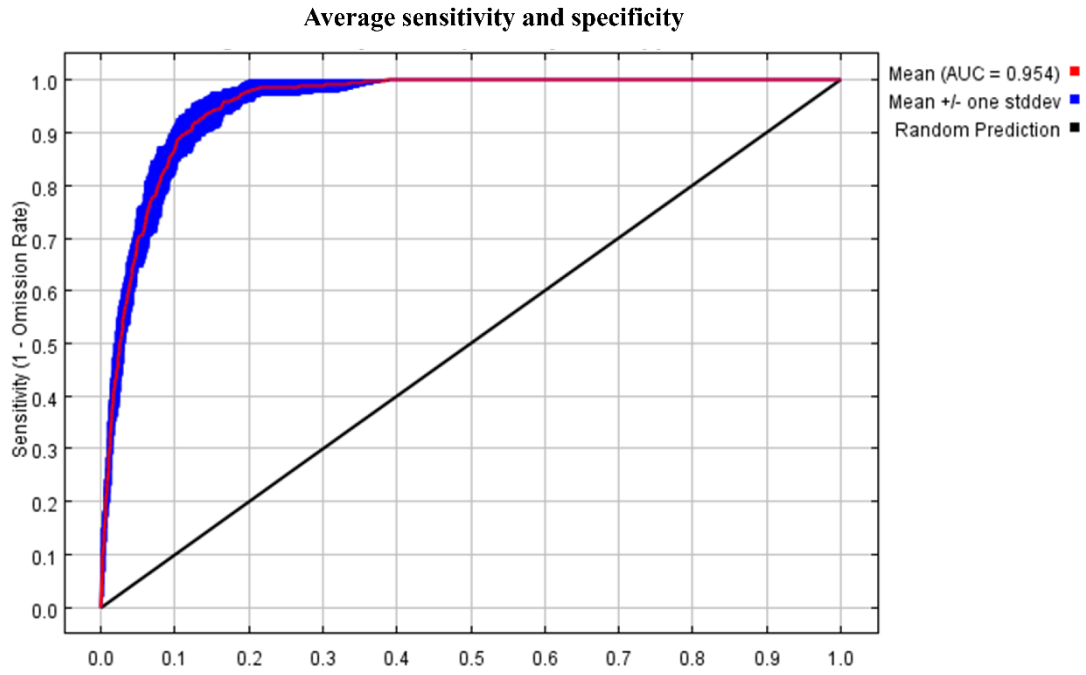
Average sensitivity and specificity

Figure S2. Response curves of seven environmental predictors used in the ecological niche model for *Cremastra appendiculate*.
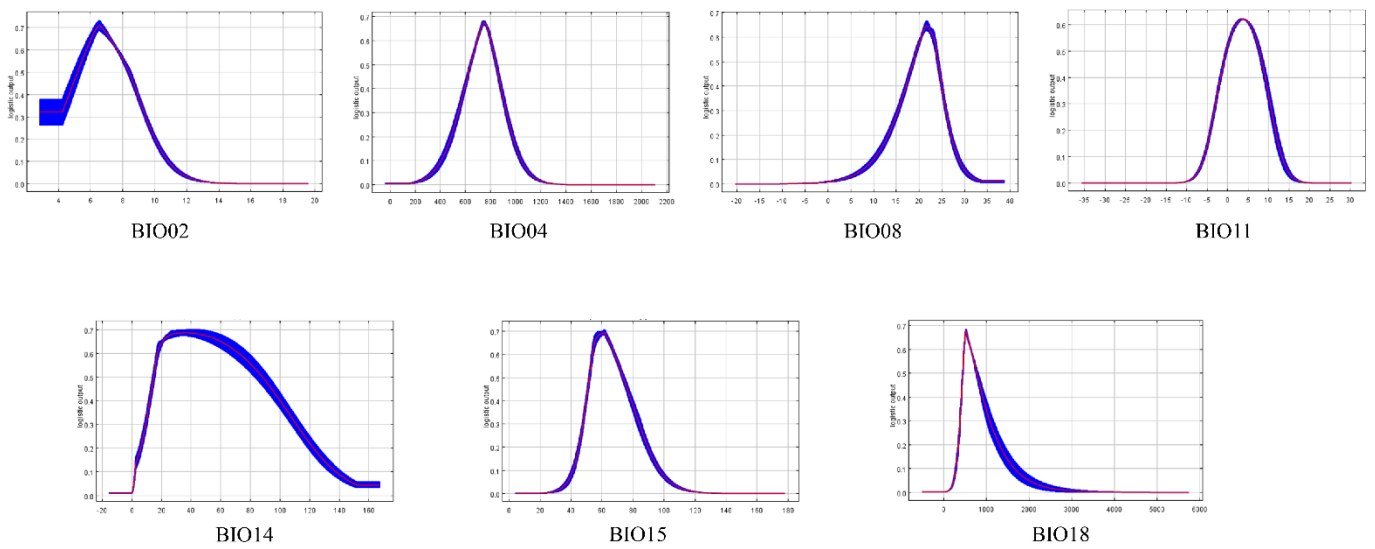

BIO02

BIO04

BIO08

BIO11

BIO14

BIO15

BIO18

Figure S3. Prediction validation with receiver operator characteristic (ROC) curves using the MaxEnt model. AUC: the area under curve.
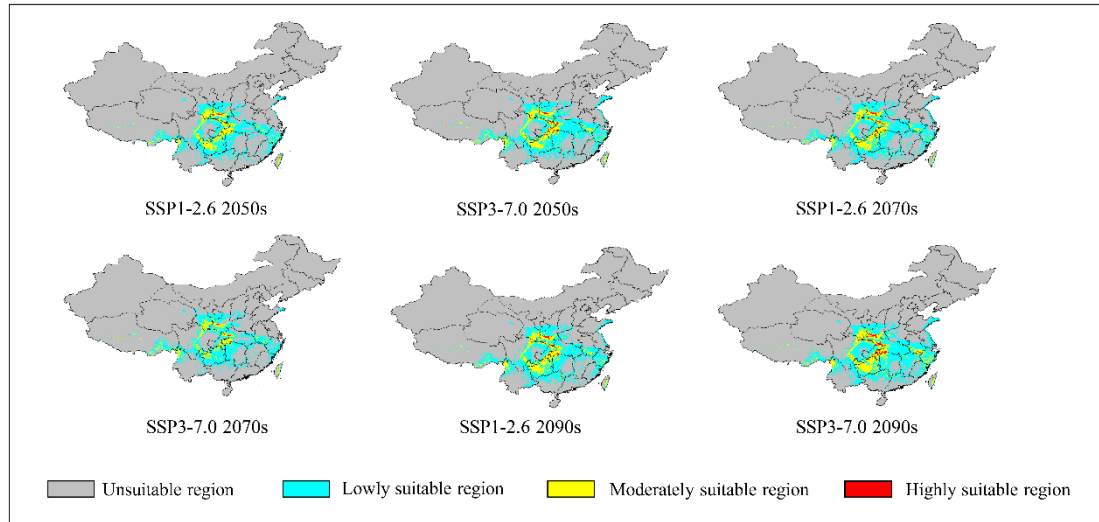
Figure S4. Predicted distribution of *Cremastra appendiculata* in China under future (2050s–2090s) climatic scenarios (SSP1-2.6 & SSP3-7.0).
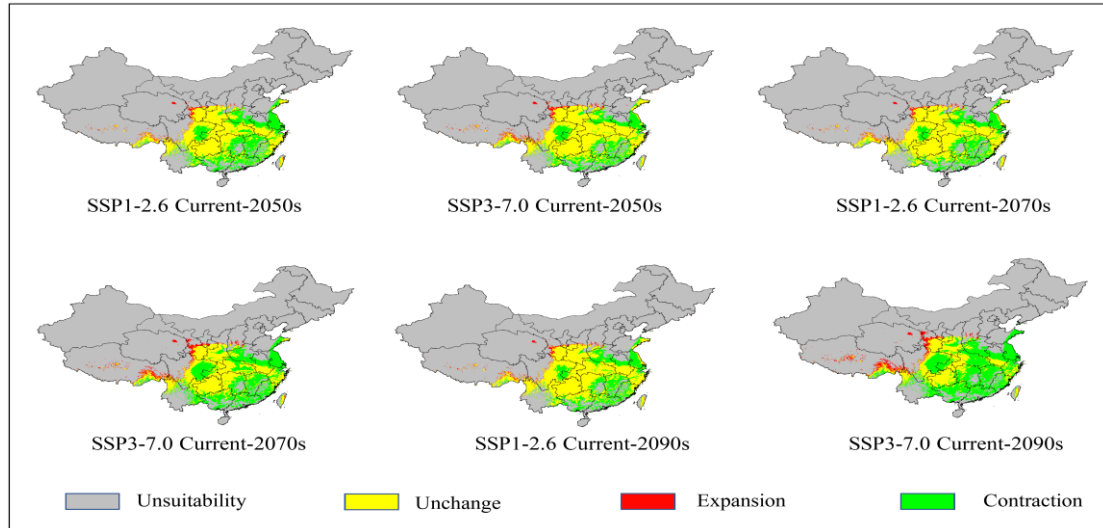

Figure S5. Changes of potential suitable areas of *Cremastra appendiculata* from current to future climatic conditions (SSP1-2.6 & SSP3-7.0).

Table S1. The rarefying data points (108) of *C. appendiculate* in China.

Species	Lon*	Lat*	Species	Lon*	Lat*
C. appendiculata	102.2708	29.89583	*C. appendiculata*	108.9792	23.47917
C. appendiculata	102.9375	23.0625	*C. appendiculata*	109.0625	32.27083
C. appendiculata	103.0625	27.10417	*C. appendiculata*	109.1875	25.39583
C. appendiculata	103.3542	29.5625	*C. appendiculata*	109.1875	26.39583
C. appendiculata	103.3958	29.5625	*C. appendiculata*	109.4375	29.47917
C. appendiculata	103.9792	28.22917	*C. appendiculata*	109.4375	32.35417
C. appendiculata	103.9792	28.60417	*C. appendiculata*	109.8125	29.22917
C. appendiculata	104.3542	33.60417	*C. appendiculata*	109.8125	29.6875
C. appendiculata	104.3958	33.52083	*C. appendiculata*	110.0208	29.6875
C. appendiculata	104.5625	33.3125	*C. appendiculata*	110.0625	26.39583
C. appendiculata	104.6042	26.52083	*C. appendiculata*	110.1042	26.39583
C. appendiculata	104.6042	32.89583	*C. appendiculata*	110.1458	24.97917
C. appendiculata	104.6458	32.89583	*C. appendiculata*	110.1875	28.8125
C. appendiculata	104.7708	32.72917	*C. appendiculata*	110.2292	30.85417
C. appendiculata	104.7708	32.77083	*C. appendiculata*	110.3958	31.39583

C. appendiculata	104.8125	32.72917	*C. appendiculata*	110.5208	34.85417
C. appendiculata	105.1875	28.10417	*C. appendiculata*	110.5625	31.5625
C. appendiculata	105.3958	27.3125	*C. appendiculata*	110.6875	31.77083
C. appendiculata	105.4375	27.0625	*C. appendiculata*	110.6875	36.4375
C. appendiculata	105.5625	27.52083	*C. appendiculata*	110.8542	28.85417
C. appendiculata	105.6458	24.97917	*C. appendiculata*	111.0625	26.39583
C. appendiculata	105.8125	23.3125	*C. appendiculata*	111.3958	35.02083
C. appendiculata	106.1458	23.35417	*C. appendiculata*	111.9375	33.52083
C. appendiculata	106.2292	28.35417	*C. appendiculata*	111.9375	36.72917
C. appendiculata	106.2292	33.02083	*C. appendiculata*	111.9792	36.89583
C. appendiculata	106.3958	28.52083	*C. appendiculata*	112.3958	24.77083
C. appendiculata	106.3958	28.60417	*C. appendiculata*	112.6875	27.3125
C. appendiculata	106.4375	28.47917	*C. appendiculata*	113.2708	24.77083
C. appendiculata	106.4792	24.85417	*C. appendiculata*	113.5625	35.5625
C. appendiculata	106.4792	35.64583	*C. appendiculata*	114.5625	24.6875
C. appendiculata	106.5625	26.52083	*C. appendiculata*	115.3542	26.3125
C. appendiculata	106.6458	26.14583	*C. appendiculata*	115.3542	31.8125
C. appendiculata	106.6875	34.72917	*C. appendiculata*	115.5625	29.3125
C. appendiculata	106.9792	29.27083	*C. appendiculata*	115.6875	30.72917
C. appendiculata	107.1042	29.0625	*C. appendiculata*	115.7708	31.14583
C. appendiculata	107.1458	29.0625	*C. appendiculata*	115.7708	31.1875
C. appendiculata	107.1875	24.97917	*C. appendiculata*	115.8958	31.47917
C. appendiculata	107.1875	28.22917	*C. appendiculata*	115.9375	29.52083
C. appendiculata	107.2708	28.9375	*C. appendiculata*	115.9792	29.47917
C. appendiculata	107.3125	29.0625	*C. appendiculata*	115.9792	29.52083
C. appendiculata	107.4375	29.14583	*C. appendiculata*	115.9792	29.60417
C. appendiculata	107.6042	29.3125	*C. appendiculata*	116.0208	29.5625
C. appendiculata	107.7292	29.3125	*C. appendiculata*	116.0208	30.72917
C. appendiculata	107.8125	26.0625	*C. appendiculata*	116.2708	31.10417
C. appendiculata	107.8958	29.10417	*C. appendiculata*	117.6042	29.5625
C. appendiculata	107.8958	29.22917	*C. appendiculata*	118.1875	30.14583
C. appendiculata	107.9792	26.5625	*C. appendiculata*	118.9375	31.89583
C. appendiculata	108.3542	29.77083	*C. appendiculata*	119.4375	30.3125
C. appendiculata	108.4375	29.14583	*C. appendiculata*	119.4375	30.35417
C. appendiculata	108.5208	27.64583	*C. appendiculata*	120.8125	23.52083
C. appendiculata	108.5208	31.89583	*C. appendiculata*	95.10417	30.10417
C. appendiculata	108.5208	32.89583	*C. appendiculata*	98.60417	24.47917
C. appendiculata	108.6875	27.9375	*C. appendiculata*	98.6875	27.72917
C. appendiculata	108.8125	28.0625	*C. appendiculata*	98.89583	26.77083