Assessment of climatically suitable area for *Syrmaticus reevesii* under climate change

Xiao Feng, Congtian Lin, Huijie Qiao, Liqiang Ji*

*Corresponding author: ji@ioz.ac.cn

Supplement 1. Occurrence data of *Syrmaticus reevesii* from the literature.

We downloaded the polygons of nature reserves from the World Database on Protected Areas (IUCN and UNEP-WCMC, 2013), and used the center point of each of the polygons as the occurrence sites. We georeferenced the Eastern Qing Tomb from Google Earth. Together with the recent survey data, the geographical coordinates were used in the ecological niche model.

Name	Type	Province	Longitude	Latitude	Area(km^2)
Longshengou	Nature Reserve	Gansu	105.800001	33.020002	65.460577
Fanjingshan	Nature Reserve	Guizhou	108.742806	27.902399	348.618034
Caohai	Nature Reserve	Guizhou	104.238507	26.847841	35.080037
Kuankuoshui	Nature Reserve	Guizhou	107.073347	28.177806	22.813910
Taibaiding	Nature Reserve	Henan	113.266049	32.389675	99.532379
Jigongshan	Nature Reserve	Henan	114.053750	31.877081	36.014920
Jingangtai	Nature Reserve	Henan	115.609978	31.805428	197.446777
Liankangshan	Nature Reserve	Henan	114.757680	31.628062	57.187733
Tianmenshan	Nature Reserve	Hunan	110.443000	29.069191	12.350585
Foping	Nature Reserve	Shaanxi	107.796110	33.659633	280.965326
Niubeiliang	Nature Reserve	Shaanxi	108.898925	33.827550	215.959453
Estern Qing Tomb	Park	Hebei	117.632332	40.212965	80.000000

Note: Five nature reserves (Dongzhai Nature Reserve in Henan, Shennongjia Nature Reserve in Hubei, Taibaishan Nature Reserve in Shaanxi, Tuoda Nature Reserve in Guizhou and Jinfoshan Nature Reserve in Chongqing) were not included as occurrence data because they may be either too large or are instead represented by the survey data.

LITERATURE CITED

IUCN and UNEP-WCMC (2013) The World Database on Protected Areas. Cambridge, UK: UNEP-WCMC. <www.protectedplanet.net> Downloaded on 2 January 2010.

Supplement 2. Variable selection.

We selected a subset of predictor variables (Table S1) from the 19 bioclimatic variables (Hijmans et al., 2005). We laid out all the 19 variables in a network diagram (Csardi and Nepusz, 2006; Hijmans et al., 2013), in which highly correlated variables ($|r| \geq 0.7$) were linked (Figure S1). We selected six variables that were not highly correlated to train the model. We also compared the correlation matrix of the six variables in the training area (Table S2) and in the projected area (Table S3).

Table S1. Bioclimatic variables. The variables used to train the model are marked with * after the short name.

Short name	Variable description
bio1	Annual mean temperature
bio2	Mean diurnal range
bio3 *	Isothermality
bio4 *	Temperature seasonality
bio5 *	Maximum temperature of the warmest month
bio6 *	Minimum temperature of the coldest month
bio7	Temperature annual range
bio8	Mean temperature of the wettest quarter
bio9	Mean temperature of the driest quarter
bio10	Mean temperature of the warmest quarter
bio11	Mean temperature of the coldest quarter
bio12	Annual precipitation
bio13	Precipitation of the wettest month
bio14	Precipitation of the driest month
bio15	Precipitation seasonality
bio16 *	Precipitation of the wettest quarter
bio17 *	Precipitation of the driest quarter
bio18	Precipitation of the warmest quarter
bio19	Precipitation of the coldest quarter

Table S2. Correlation matrix for the training area under present climate condition

	bio3	bio4	bio5	bio6	bio16	bio17
bio3	1.00					
bio4	-0.57	1.00				
bio5	-0.55	0.54	1.00			
bio6	0.01	-0.66	0.25	1.00		
bio16	0.02	-0.45	-0.12	0.50	1.00	
bio17	-0.36	-0.07	0.44	0.57	0.59	1.00

Table S3. Average of the correlation matrixes for the whole study area under present and future climate conditions

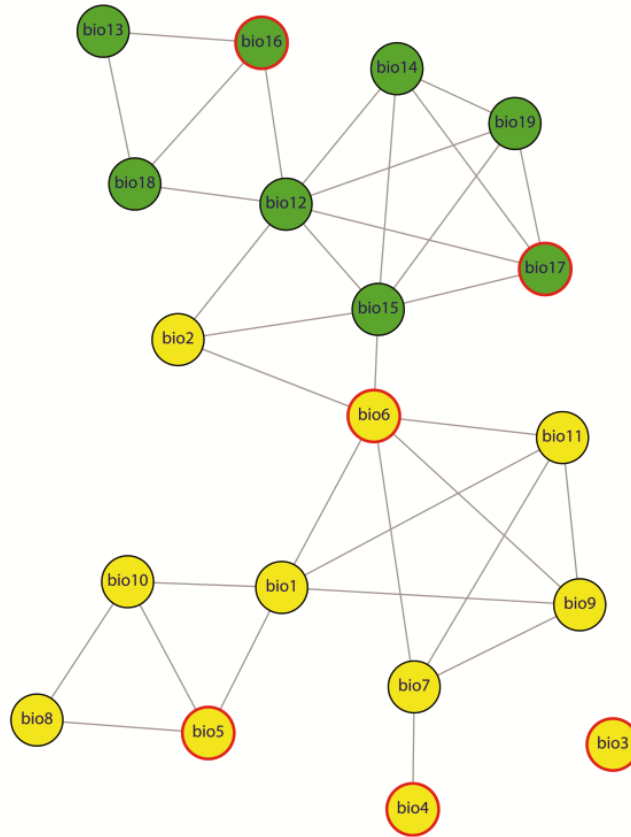|	bio3	bio4	bio5	bio6	bio16	bio17
bio3	1.00					
bio4	-0.78	1.00				
bio5	-0.53	0.36	1.00			
bio6	0.22	-0.64	0.46	1.00		
bio16	0.14	-0.49	0.17	0.68	1.00	
bio17	-0.09	-0.38	0.31	0.69	0.72	1.00

Fig. S1. Network diagram of 19 bioclimatic variables. The yellow circles represent temperature variables and the green circles represent precipitation variables. Two circles are linked if the two represented variables have a high correlation ($|r| \geq 0.7$). The variables selected to build the model are marked with red boundaries.

LITERATURE CITED

Csardi, G. and Nepusz, T. (2006) The igraph software package for complex network research. InterJournal. Complex Systems: 1695.

Hijmans, R. J., Cameron, S. E., Parra, J. L., Jones, P. G. and Jarvis, A. (2005) Very high resolution interpolated climate surfaces for global land areas. International Journal of Climatology. 25: 1965-1978.

Hijmans, R. J., Phillips, S., Leathwick, J. and Elith, J. (2013) Dismo: species distribution modeling. R package version 0.8-5. http://CRAN.R-project.org/package=dismo.

Supplement 3. Historical range of *Syrmaticus reevesii*.

We compiled the historical range of *Syrmaticus reevesii* from literature (Collar et al., 2001; Xie, 2001; Xu et al., 2006). The historical range (Table S4) included 9 cities, 78 counties, and 2 mountains, spanning13 provinces.

Table S4. The list of historical records.

Location	Level	Province	Location	Level	Province
Anqing	City	Anhui	Huanggang	City	Hubei
Huoshan	County	Anhui	Shiyan	City	Hubei
Jinzhai	County	Anhui	Wuhan	City	Hubei
Liuan	County	Anhui	Xingshan	County	Hubei
Shucheng	County	Anhui	Guangshui	County	Hubei
Youyang	County	Chongqing	Shennongjia	County	Hubei
Chengkou	County	Chongqing	Yichang	County	Hubei
Fengdu	County	Chongqing	Zhangjiajie	City	Hunan
Fengjie	County	Chongqing	Shimen	County	Hunan
Fuling	County	Chongqing	Fenghuang	County	Hunan
Jiangjin	County	Chongqing	Huayuan	County	Hunan
Nanchuan	County	Chongqing	Huaihua	County	Hunan
Pengshui	County	Chongqing	Jishou	County	Hunan
Qianjiang	County	Chongqing	Longshan	County	Hunan
Wanxian	County	Chongqing	Yongshun	County	Hunan
			Zhijiang Dong		
Wushan	County	Chongqing	Autonomous County	County	Hunan
Wuxi	County	Chongqing	Donghai	County	Jiangsu
Wulong	County	Chongqing	Ningqiang	County	Shaanxi
Xiushan	County	Chongqing	Zhashui	County	Shaanxi
Zhongxian	County	Chongqing	Ziyang	County	Shaanxi
Kangxian	County	Gansu	Ankang	County	Shaanxi
Guiyang	City	Guizhou	Baihe	County	Shaanxi
Tongren	City	Guizhou	Foping	County	Shaanxi
Zunyi	City	Guizhou	Hanyin	County	Shaanxi
Bijie	County	Guizhou	Ningshan	County	Shaanxi
Dafang	County	Guizhou	Pingli	County	Shaanxi
Guiding	County	Guizhou	Shanyang	County	Shaanxi
Hezhang	County	Guizhou	Shiquan	County	Shaanxi
Huishui	County	Guizhou	Taibai	County	Shaanxi
Jinsha	County	Guizhou	Xixiang	County	Shaanxi
Longli	County	Guizhou	Xunyang	County	Shaanxi
Pingtang	County	Guizhou	Yangxian	County	Shaanxi
Qianxi	County	Guizhou	Zhenba	County	Shaanxi
Weining Yi Hui Miao autonomous county	County	Guizhou	Zhenping	County	Shaanxi
Xinglong	County	Hebei	Gulin	County	Sichuan
Dongguang	County	Hebei	Nanjiang	County	Sichuan
Luoshan	County	Henan	Wanyuan	County	Sichuan
Biyang	County	Henan	Xuyong	County	Sichuan
Queshan	County	Henan	Weixin	County	Yunnan
Shangcheng	County	Henan	Zhaotong	County	Yunnan

Tongbai	County	Henan	Zhenxiong	County	Yunnan
Xixia	County	Henan	Xuanwei	County	Yunnan
Xinxian	County	Henan	Taihangshan	Mountain	Shanxi and Hebei
Xinyang	County	Henan	Zhongtiaoshan	Mountain	Shanxi
Enshi	City	Hubei			

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Collar, N. J., Crosby, R., Crosby, M. J. and BirdLife International (2001) Threatened birds of Asia: the BirdLife International red data book. Cambridge, UK, BirdLife International.

Xie, Y. (2001) China Species Information System (CSIS).<csis.baohudi.org>. Downloaded on 11 April 2013.

Xu, J. L., Zhang, X. H., Zhang, Z. W., Zheng, G. M., Ruan, X. F., Zhang, K. and Xi, B. (2006) Home range and habitat use of male Reeves's pheasant (*Syrmaticus reevesii*) during winter in Dongzhai National Nature Reserve, Henan Province, China. Frontiers of Biology in China. 1: 174-181.