附录1 古树环境因子及描述

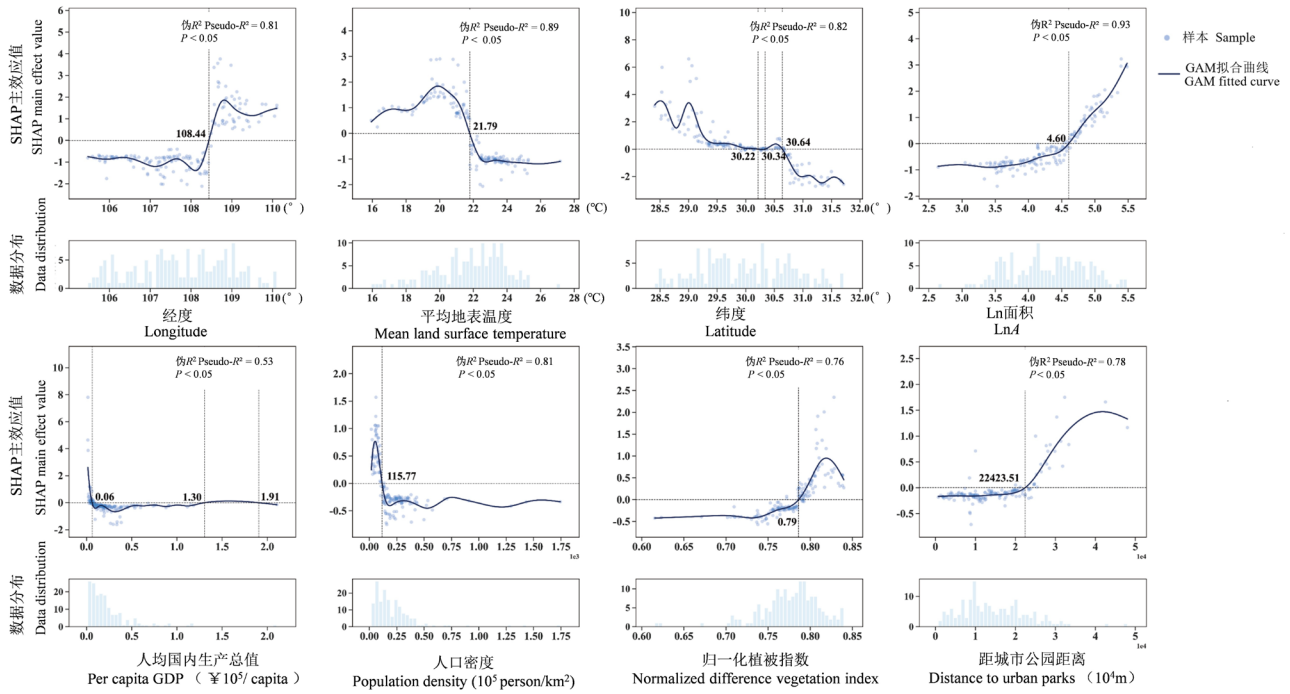
Appendix 1 Environmental factors and descriptions of ancient trees

维度 Dimension	类别 Category	环境因子 Environment factors	数据描述及处理 Data description and processing
自然环境特征 Natural environmental characteristics	地形因子 Topographic factors	海拔 Altitude (ALT) (m)	基于90 m分辨率DEM生成高程、坡向、坡度 Derived from 90 m resolution DEM
		坡度 Slope (SLO) (°)	
		坡向 Aspect (ASP)	
		地形起伏度 Terrain relief (RA) (m)	采用18 × 18像元移动窗口对DEM分析获得 Calculated from DEM using 18 × 18 cell moving window
	气候因子 Climatic factors	平均地表温度 Mean land surface temperature (LST) (℃)	基于站点日观测数据插值, 2000–2020年均值 Interpolated from station data, average for 2000–2020
		年均降水量 Mean annual precipitation (AP) (mm)	
	生态因子 Ecological factors	归一化植被指数 Normalized difference vegetation index (NDVI)	SPOT/VEGETATION NDVI卫星遥感数据, 合成2000–2020年均值 SPOT/VEGETATION NDVI data, synthesized average for 2000–2020
		植被类型 Vegetation type (VEG)	来源于《1:1 00万中国植被图集》 From 1 : 1,000,000 Vegetation Atlas of China
		距自然保护地的距离 Distance to protected areas (DPA) (m)	自然保护区、森林公园等, 生成欧氏距离图 Euclidean distance to nature reserves, forest parks, etc.
	土壤因子 Soil factors	土壤类型Soil type (SOIL)	世界土壤数据库 Harmonized World Soil Database (HWSD)
		土壤质地Soil texture (ST)	1 : 100万土壤类型图和第二次土壤普查 From 1 : 1,000,000 soil map and the Second National Soil Survey
社会经济特征 Socio-economic characteristics	人口因子 Population factors	人口密度 Population density (HPD) (10^5persons/km²)	第七次全国人口普查 From the Seventh National Population Census
	经济因素 Economic factors	国内生产总值 Gross domestic product (GDP) (¥ 100 million)	每个栅格代表该网格(1 km)内的GDP总产值 Total GDP within each 1km grid cell
		距中心城市的距离 Distance to central city (DC) (m)	利用欧式距离分析生成 Generated using Euclidean distance analysis
		耕地占比 Cropland proportion (CA) (%)	采用9 × 9像元移动窗口计算耕地面积占比获得 Derived from a 9 × 9 cell moving window calculation of cultivated land proportion
		距城市公园的距离 Distance to urban parks (DCP) (m)	利用欧式距离分析 Generated using Euclidean distance analysis
历史文化特征 Historical and cultural characteristics	文化因素 Cultural factors	非物质文化遗产密度 Intangible cultural heritage density (ICH density) (sites10^4/km^2)	非物质文化遗产核密度 Kernel density of intangible cultural heritage
		全国重点文物保护单位密度 Density of cultural heritage protection units (CPU density) (sites10^4/km^2)	全国重点文物保护单位核密度 Kernel density of National key cultural relics protection units

附录2　重庆古树科、属分布区类型

Appendix 2　Distribution types of families and genera of ancient trees in Chongqing

	代码 Code	分布区类型及变型 Distribution area types and subtypes	科数 No. of families	占比 Percentage (%)	属数 No. of genera	占比 Percentage (%)
世界分布 World distribution	1	世界广布 Cosmopolitan distribution	10	13.70	–	–
热带分 Tropical distribution	2	泛热带分布 Pantropic distribution	23	31.51	20	12.66
	2-1	热带亚洲-大洋洲和热带美洲(南美洲或/和墨西哥)分布 Tropical Asia to Tropical Australasia and Tropical America (South America or/and Mexico) distribution	1	1.37	2	1.27
	2-2	热带亚洲-热带非洲-热带美洲(南美洲)分布 Tropical Asia to Tropical Africa and Tropical America (South America) distribution	1	1.37	–	–
	2S	以南半球为主的泛热带分布 Pantropical distribution mainly in the Southern Hemisphere	4	5.48	–	–
	3	热带亚洲和热带美洲间断分布 Tropical Asia and Tropical America disjunct distribution	5	6.85	8	5.06
	4	旧世界热带分布 Old World Tropical distribution	–	–	8	5.06
	5	热带亚洲至热带大洋洲 Tropical Asia to Tropical Australasia distribution	1	1.37	7	4.43
	5a	澳大利亚东部和/或东北部 Distribution in Eastern and/or Northeastern Australia	1	1.37	–	–
	6	热带亚洲至热带非洲分布 Tropical Asia to Tropical Africa distribution	–	–	1	0.63
	6d	南非(主要是好望角) Distribution in South Africa (mainly Cape of Good Hope)	1	1.37	–	–
	7	热带亚洲(印度-马来西亚)分布 Tropical Asia (Indo-Malesia) distribution	–	–	11	6.96
	7-1	爪哇(或苏门答腊)、喜马拉雅间断或星散分布到华南、西南 Disjunct or diffused distribution from Java (or Sumatra) and Himalaya to South and Southwestern China	–	–	3	1.90
	7-2	热带印度至华南(或西南)分布 Tropical India to South China (or Southwestern China) distribution	–	–	1	0.63
	7a	西马来(北可达中南半岛或印东北或热带喜马拉雅，南达苏门答腊) Western Malesia distribution (northward to Indochina or Northeastern India or Tropical Himalaya, southward to Sumatra)	1	1.37	–	–
	7d	全分布区东达新几内亚(新几内亚特有) Throughout the distribution area eastward to New Guinea (endemic to New Guinea)	1	1.37	–	–
温带分布 Temperate distribution	8	北温带分布 North Temperate distribution	4	5.48	30	18.99
	8-4	北温带和南温带间断分布 North Temperate and South Temperate disjunct distribution	11	15.07	1	0.63
	8-6	地中海、东亚、新西兰和墨西哥-智利间断分布 Mediterranean, East Asia, New Zealand and Mexico-Chile disjunct distribution	1	1.37	1	0.63
	9	东亚和北美洲间断分布 East Asia and North America disjunct distribution	3	4.11	20	12.66
	10	旧世界温带分布 Old World Temperate distribution	–	–	2	1.27
	10-1	地中海区、西亚和东亚间断 Mediterranean, West Asia and East Asia disjunct distribution	–	–	2	1.27
	10-2	地中海区和喜马拉雅间断 Mediterranean and Himalaya disjunct distribution	–	–	1	0.63
	12	地中海区、西亚至中亚分布 Mediterranean to West and Central Asia distribution	–	–	2	1.27
	12-3	地中海区至温带、热带亚洲、大洋洲和南美洲间断Mediterranean to Temperate and Tropical Asia, Australasia and South America disjunct distribution	–	–	2	1.27
东亚与中国特有分布 Distribution in East Asia and endemic to China	14	东亚分布(东喜马拉雅-日本) East Asia (East Himalaya-Japan) distribution	1	1.37	8	5.06
	14-1	中国-喜马拉雅分布 Sino-Himalayan distribution	–	–	4	2.53
	14-2	中国-日本分布 Sino-Japanese distribution	2	2.74	10	6.33
	15	中国特有分布 Endemic to China distribution	2	2.74	14	8.86
合计Total			73	100	158	100



附录3　影响乡村古树种类多样性的8个主要驱动因素SHAP依赖图

Appendix 3　SHAP dependence plot for the 8 main driving factors affecting the diversity of rural ancient tree species