

研究报告

基于地理信息系统的红火蚁在中国适生区的预测

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摘要 应用地理信息系统(GIS)对红火蚁在中国的适生区进行了预测. 以高于发育起点温度的天数和有效积温作为决定性因子, 年均降水量、海拔高度作为限制性因子, 应用GIS中的Kriging空间插值功能将红火蚁在我国的适生性分布情况分为高度适生区、适生区、轻度适生区和非适生区. 结果表明, 广东大部、广西中南部、云南南部的少数地区、海南、台湾、香港和澳门是红火蚁的高度适生区. 云南南部、两广北部、河南最南部、安徽西部、浙江大部、湖北中东部、重庆、湖南、江西和福建是红火蚁的适生区. 轻度适生区分布于河北中东部、山东中东部、北京、天津、江苏中北部、安徽大部、河南大部、浙江西北部、湖北西北部、陕西南部、四川东部、贵州中西部和云南中部的少数地区. 我国的西北、东北和华北的大部分地区为红火蚁的非适生区.

关键词 [红火蚁](#) [GIS](#) [适生区](#) [预测](#) [中国](#)

分类号

Potential establishment areas of *Solenopsis invicta* in China: A prediction based on GIS

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Abstract

Based on geographic information system (GIS), the potential establishment areas of *Solenopsis invicta* Buren in China were predicted. The days above threshold temperature and the number of degree-days were used as main determining factors, while annual precipitation and altitude were used as limiting factors. By using the Kriging spatial interpolation function in GIS software, the potential establishment area was divided into four categories, *i. e.*, most suitable, suitable, mildly suitable, and unsuitable. The most suitable area was in the greater part of Guangdong, central and southern Guangxi, small part of southern Yunnan, Hainan, Taiwan, Hong Kong, and Macao, suitable area was in southern Yunnan, northern Guangxi and Guangdong, southern Henan, western Anhui, greater part of Zhejiang, central and eastern Hubei, Chongqing, Hunan, Jiangxi, and Fujian, mildly suitable area was in the greater parts of Anhui and Henan, central and eastern Hebei and Shandong, Beijing, Tianjian, central and northern Jiangsu, northwestern Zhejiang and Hubei, southern Shanxi, eastern Sichuan, central and western Guizhou, and small part of central Yunnan, and unsuitable area was in the greater parts of northwest, northeast, and north China.

Key words [Solenopsis invicta](#) [GIS](#) [Potential establishment area](#) [Prediction](#) [China](#)

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