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一些东亚特有种子植物的化石历史及其植物地理学意义

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摘要 特有植物在植物区系地理的研究中有重要意义, 不同等级的特有植物往往成为不同等级植物区系分区的重要依据。查明东亚特有植物的地史渊源对于揭示东亚植物区的特征与性质, 理解中国植物区系及东亚植物发生和演变都有重要的意义。本文在现有资料的基础上,分析总结了东亚植物区系中有化石记录的银杏科、杜仲科、连香树科、大血藤科和昆栏树科等5 个特有科, 水杉等21 个特有属的化石历史。从这些特有植物化石历史的分析可以发现,东亚植物的特有植物从来源上可以分为北极- 第三纪, 北热带, 和就地起源等3 种类型, 特有植物的来源表明东亚植物区系是一个来源复杂的植物区系。尽管各种特有类群的地质历史各不相同, 但是都经历了从广布到分布区逐步缩小, 最后形成特有的过程。大部分特有类群形成特有的时间是在上新世末到第四纪初。根据特有类群划分区系等级的原则, 东亚现代植物区系最终形成的时间应该是上新世末到第四纪初。

关键词 特有植物 化石历史 东亚 陆地植物分区

分类号

Fossil History of Some Endemic Seed Plants of East Asia and Its Phytogeographical Significance

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Abstract

Endemic elements are crucial for floristic and phytogeographical analysis . The levels of endemicity are important foundation of dividing floristic regions, different floristic ranks based on different endemic levels . The fossil history of endemic families and genera to the East Asia Floristic Kingdom play an important role in understanding the origin , development and differentiation of this flora kingdom . The fossil history of five endemic families (Cercidiphyllaceae, Eucommiaceae , Ginkgoaceae, Sargentodoxaceae and Treochodendraceae) and 20 endemic genera (Cathaya , Cephalotaxus, Corylopsis, Craigia , Cuninghamia, Davidia , Dipteronia , Emmenopterys , Exbucklandia , Fokienia , Fortunearia , Glyptostrobus, Keteleeria , Metasequoia , Pseudolarix, Platycarya , Shaniodendron , Sinowilsonia , Tapiscia , Toricellia and Taiwania) are reviewed . The fossil history shows that these endemic plants have three resources, one from Arctic-Tertiary , one boreotropic and one East Asia . This indicates that East floristic combination are a complex in its origin . Above mentioned three elements would be their three of resources. All endemic plants had much wider distributions in geological time . Their distributions were reduced during long geological time and become endemic to East Asia in the late Pliocene or early Quaternary . If the levels of endemism are really important foundation for dividing floristic regions, the time of formation of endemicity would be the time of formation of the floristic regions . The modern East Asia plant kingdom would be formed in the late Pliocene or early Quaternary .

Key words Endemic plants _ Fossil history East Asia _ Floristic region

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