

濒危植物夏蜡梅黄酮化合物薄层色谱分析

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摘要: 采用薄层层析法对不同居群夏蜡梅(*Sinocalycanthus chinensis*)叶、同一居群夏蜡梅不同营养器官中的黄酮化合物进行分离,并以芦丁为标准品通过双波长锯齿扫描作定量分析。结果表明:不同居群夏蜡梅叶片中黄酮化合物含量以鸡窝坪居群最高,中坪居群次之,龙塘山居群最低,除双石边和白水坞两个居群差异不显著外,其它各居群间差异均达到显著水平;同一居群夏蜡梅黄酮化合物在不同营养器官中含量不同,叶片中含量显著高于其它营养器官,根、茎、一年生枝和二年生枝等4个营养器官中黄酮化合物含量差异不显著。薄层层析法分离黄酮化合物组分结果显示,除大明山居群叶片黄酮化合物为5种组分外,其它居群叶片均为7种组分;大明山居群夏蜡梅的根、茎、一年生枝和二年生枝等营养器官黄酮化合物均为6种组分,叶片中缺少 R_f 值为0.66的化合物。

关键词: 夏蜡梅; 黄酮化合物; 薄层层析; 双波长锯齿扫描

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Analysis of Flavonoids in Endangered Plant *Sinocalycanthus chinensis* Using Thin Layer Chromatography

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Abstract: The flavonoids in the leaves of *Sinocalycanthus chinensis* from different populations and those in the different organs from the same population were extracted and separated by using polyamide TLC-chromatography. Every component was quantitatively analyzed by dual wavelength flying scanning using rutin as the standard sample. The results showed as the following. The content of flavonoids in Jiwooping population was the highest, while that in Zhongping population the second and that in Longtangshang population the lowest. There was significant difference among pair-wise populations, except for that between Shuangshibian population and Baishuiwu population. In the same population, the content of flavonoids in different organs was different. The content of flavonoids in the leaves was significantly higher than those in other organs. There was no significant difference among stems, one year twigs and two years twigs. Based on the analysis of TLC chromatography, seven components were found in the flavonoids extracted from the leaves except that there were only 5 components found in the flavonoids extracted from the leaves in Damingshan population. Six components were found in the flavonoids extracted from the roots, stems, one year twigs and two years twigs. The component with R_f equal to 0.66 was absent in leaves.

Key words: *Sinocalycanthus chinensis*; Flavonoids; Thin layer chromatography; Dual wavelength flying scanning

夏蜡梅(*Sinocalycanthus chinensis*)是落叶灌木,仅零星分布于浙江省临安市和天台县的部分地区,资源极少,为国家二级保护植物^[1,2]。夏蜡梅主要分布在海拔470~1200 m的中山地带,生长于较隐蔽湿润的环境中^[3],其叶片对感冒、咳嗽、气喘具有一定的疗效^[4]。现代药学研究表明,许多药用植物的

药理作用与其所含的次生代谢物质有关。次生代谢与初生代谢一样是植物体内重要的生理代谢,次生物质在协调与环境的关系上充当着重要的角色。植物面临环境胁迫时,次生代谢产物能提高植物自身保护和生存竞争能力^[5]。目前对夏蜡梅次生代谢物质的研究主要有夏蜡梅叶片挥发油^[4]、生物碱^[6]、

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