

吉林省豚草果实形态及超微结构的比较研究

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摘要:【目的】研究吉林省不同地区豚草果实形态及超微结构特征, 为豚草的识别提供依据。【方法】以吉林省的吉林市磨盘山、吉林市龙潭山、桦甸市、蛟河市、长春市、四平市、公主岭市、通化市、白山市、白城市、松原市和乾安县 12 个地区不同豚草种群的果实为材料, 通过扫描电镜观察豚草果实形态及超微结构特征并拍照, 描述形态特征并编制检索表, 分析豚草果实表型性状与地理—气候因子的相关性, 并对果实形态及超微结构特征进行聚类分析。【结果】豚草果皮纹饰有条状纹饰、网状纹饰和穴状纹饰; 果实的喙长度随年均降水量增加而增加、随纬度升高而减少; 果形系数随经度升高及年均降水量的增加而增加。根据形态和微结构性状聚类分析结果, 将豚草果实分为 3 类 (I、II、III)。其中, I 类果实的果皮纹饰网状、中果形、短喙类, 种源主要来自蛟河市、通化市、公主岭市、松原市和乾安县; II 类果实的果皮纹饰条状、小果形、中长喙类, 种源主要来自吉林市磨盘山、吉林市龙潭山、桦甸市、长春市和四平市; III 类果实的果皮纹饰穴状、大果形、长喙类, 种源主要来自白山市和白城市。【结论】吉林省豚草果实形态及微结构存在差异, 低纬度、高降水量有利于豚草果实生长发育。

关键词: 豚草; 瘦果; 微结构; 电镜扫描; 吉林省

The characteristics of achene morphology and microstructure of *Ambrosia artemisiifolia* in Jilin Province

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Abstract: 【Aim】 To study the morphological and ultrastructural characteristics of *A. artemisiifolia* fruits in different regions of Jilin Province, and provide a basis for the identification of ragweed. 【Method】 The fruits of different *A. artemisiifolia* populations in 12 regions of Jilin City, including Mopan Mountain, Longtan Mountain, Huadian City, Jiaohe City, Changchun City, Siping City, Gongzhuling, Tonghua City, Baishan City, Baicheng, Songyuan City and Qian'an County in Jilin City Province were used as materials, Analyze the correlation between phenotypic traits of *A. artemisiifolia* fruit and geographical climate factors, and perform cluster analysis on fruit morphology and ultrastructure characteristics. 【Result】 The skin decoration of *A. artemisiifolia* fruit includes strip shaped decoration, network shaped decoration, and cave shaped decoration; The beak length of fruits increases with the increase of annual average precipitation and decreases with the increase of latitude; The fruit shape coefficient increases with increasing longitude and annual precipitation. According to the clustering analysis results of morphological and microstructural traits, the *A. artemisiifolia* fruits were divided into three categories (I, II, III). Among them, the peel of Class I fruits is reticulate, medium fruit shaped, and short beaked, and the provenance

mainly comes from Jiaohe City, Tonghua City, Gongzhuling, Songyuan City, and Qian'an County; Type II fruits are mainly from Mopan Mountain, Longtan Mountain, Huadian City, Changchun City and Siping City in Jilin City City; Class III fruits are mainly from Baicheng City and Baishan City. 【Conclusion】 There are differences in the morphology and microstructure of *A.artemisiifolia* fruits in Jilin Province. Low latitude and high precipitation are beneficial for the growth and development of *A.artemisiifolia* fruits.

Key words: *Ambrosia artemisiifolia*; achene; microstructure; scanning electron microscope