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‘苹果枣’自然三倍体倍性的发现与鉴定

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Discovery and Identification of Natural Triploid Ploidy of Chinese Jujube Cultivar ‘Pingguozao’

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摘要 采用酶解去壁低渗法对枣品种‘苹果枣’进行了核型分析，其核型公式为：2n = 3x = 36 = 21m + 15sm（2SAT），核型为2A 型，是迄今为止新发现的第2 个枣自然三倍体品种。对花粉母细胞减数分裂观察结果表明，‘苹果枣’分裂不规则，终变期出现单价体、二价体和三价体，其中三价体约占57.5%，最少含有7 个三价体，最多则含10 个三价体，3 个染色体组之间具有很高的同源性，后期Ⅰ和后期Ⅱ出现落后染色体和染色体不均等分离现象；末期Ⅱ一些细胞还产生少数三分体及极少数五分体，形成不等孢子，导致配子体高度不育，由此可判断‘苹果枣’为同源三倍体。用分子标记技术对‘苹果枣’和已知的三倍体品种‘赞皇大枣’进行分子鉴定，两者分子指纹有显著差异，为不同的两个自然三倍体品种。

关键词： 枣 自然三倍体 核型 花粉母细胞 减数分裂

Abstract： The methods of eliminating walls by enzymolysis and low osmosis were used to analyze the chromosome karyotype of *Ziziphus jujuba* Mill. ‘Pingguozao’. The results showed that the karyotype formula was 2n = 3x = 36 = 21m + 15sm（2SAT），and the karyotype was 2A type. It was second of the newly discovered natural triploid cultivar. The meiosis course of pollen mother cells of ‘Pingguozao’ was observed，and the various periods of the meiosis were described and analyzed. The results showed that the meiosis of ‘Pingguozao’ was irregular. The diakinesis appeared univalent，bivalent and trivalent，and 57.5% of them were trivalent，at least 7 trivalents，at most contained 10 trivalents. The three genomes had very high homology. The lagging chromosomes and chromosome unequal separation phenomenon were observed in anaphase I and II. Some cells also produced few triad and pentad in telophaseⅡ，and formed unequal spores，and led to highly gametophyte sterility. In view of the above it was deduced that ‘Pingguozao’ was autotriploid. The RAPD fingerprints of ‘Pingguozao’ and ‘Zanhuangdazao’ were different，which were two different natural triploid cultivars.

Keywords： *Ziziphus jujuba* Mill., natural triploid, karyotype, pollen mother cell, meiosis

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