

北陵鸢尾花部特征及繁育习性研究

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摘要:目前各地越来越重视本土植物资源的保护和利用,人们也在不断关注本土植物的观赏及经济价值。我国长白山是欧亚大陆北半部最具有代表性的典型自然综合体,是世界少有的“物种基因库”和“天然博物馆”。野生观赏植物资源丰富,特色鲜明,其中北陵鸢尾(*Iris typhifolia*)是鸢尾科鸢尾属多年生草本植物,其抗逆性强,是世界著名的宿根花卉也是我国特有品种,开发利用野生花境植物资源对建设富有地域特色的园林景观具有重要意义。【目的】了解北陵鸢尾生长发育节律、花期控制、杂交育种,为鸢尾属的育种提供优良材料,进而为开发长白山区鸢尾属植物资源提供理论依据与实践指导。【方法】本研究借助当地地理优势以北陵鸢尾为试材,采用定点观察与人工授粉等方法,对其开花物候、花部形态特征、繁育系统、花粉生活力及柱头可授性等方面进行了研究。【结论】(1)北陵鸢尾5月中下旬进入现蕾期,5月下旬进入始花期,6月上旬进入盛花期,持续18天,6月中下旬进入末花期。单花花期3~5d。单株花期12~16d。花药外向,紧贴花柱分支外侧,花药与柱头相距约1mm,雄蕊先熟,在花朵开放的整个过程中花药、柱头的相对位置不变。低温多雨、浓雾等天气对花蕾开放时间影响较大。(2)晴朗天气大部分花蕾于5:00~7:00AM开放,花粉生活力随着时间的延续逐渐下降。在开花当天花粉活力最高;花粉寿命较短,至开花第一天即已下降。花开放前一天柱头就具有可授性,在花药开裂后的左右最强,并可持续至开花第二天。(3)北陵鸢尾杂交指数为4,花粉胚珠比为322.15,雌雄异位,表明北陵的有性繁育系统为兼性自交或兼性异交。结合座果率、种子数以及结籽率判断北陵鸢尾繁育系统属于部分自交亲和,异交,需要传粉者;人工异花授粉结籽率高于自然授粉。

关键词:观赏;北陵鸢尾;开花特性;繁育系统

Study on the floral characteristics and breeding habit of *Iris typhifolia*

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Abstract:Increasing attention is being paid to the conservation and use of native plant resources throughout the region, and there is a growing interest in the ornamental and economic value of native plants. The Changbai Mountains in China are the most representative and typical natural complex in the northern half of the Eurasian continent, a rare "gene pool of species" and "natural museum" in the world. Wild ornamental plant resources are abundant and distinctive, including the *Iris typhifolia* is a perennial herb of the genus *Iris* in the Iris family, its resistance to adversity is strong, is a world-renowned hosta is also a unique species in China, the development and use of wild flowering plant resources to build a garden landscape rich in regional characteristics has important significance. 【Objective】 Understanding the growth and developmental rhythms, flowering control and hybrid breeding of *Iris typhifolia*, providing excellent material for the breeding of the genus *Iris* and thus providing theoretical basis and practical guidance for the development of the plant resources of *Iris* in the Changbai Mountains.

【Method】 In this study, the local geographical advantage of *Iris typhifolia* was used as the test material, and the flowering phenology, flower morphological characteristics, breeding system, pollen viability and stigma pollination

were investigated by fixed-point observation and hand-pollination. 【Conclusion】 (1) Northern Iris enters the bud stage in mid to late May, enters the initial flowering stage in late May, enters the full flowering stage in early June, lasting 18 days, and enters the final flowering stage in mid to late June. Single flowering period 3-5d. single flowering period 12-16d anthers outward, immediately outside of the style branches, anthers and stigma about 1mm apart, stamens first ripe, the relative position of anthers, stigma unchanged throughout the flower opening process. Low temperature and rain, dense fog and other weather have a greater impact on the opening time of flower buds.(2) Most buds open between 5:00 and 7:00AM in sunny weather and pollen viability declines gradually with time. Pollen viability is highest on the day of flowering; pollen life is shorter and declines by the first day of flowering. Pollen viability is strongest around the time of anther dehiscence and lasts until the day after flowering.(3) The hybridization index of *Iris typhifolia* was 4, the pollen-ovule ratio was 322.15, and the dioeciousness indicated that the sexual breeding system of *Iris typhifolia* was parthenogenetic self or parthenogenetic heterozygous. Combined with the seating rate, seed number and seed set rate, the breeding system was judged to be partly self-fertile and heterozygous, requiring pollinators; the seed set rate of artificial heterozygous pollination was higher than that of natural pollination.

Key words:Ornamental; Northern Iris; Flowering characteristics; Breeding system