

研究论文

果翅对梭梭属 (*Haloxylon*) 种子萌发行为的调控

魏岩, 王习勇

新疆农业大学林学院, 乌鲁木齐 830052

收稿日期 2006-6-28 修回日期 2006-10-29 网络版发布日期: 2006-12-25

摘要 种子萌发行为的受控机制是生殖生态学的重要研究内容。通过果翅存留实验研究了在不同贮藏时期果翅对梭梭和白梭梭种子萌发的影响。结果表明: ①新成熟的梭梭种子具有高的萌发率 (>90%)。梭梭果翅对秋天新成熟的种子萌发有显著的抑制作用 (萌发率<50%), 使种子处于强迫休眠状态; 果翅对种子萌发的抑制作用随着贮藏时间的推移逐渐降低, 到翌年春天 (4月) 这种抑制作用已完全解除, 果翅对梭梭种子的抑制主要是化学抑制。果翅对梭梭种子萌发行为的调控作用确保了种子在合适的时间萌发与种群的成功定居, 也正是梭梭在荒漠地区广泛分布的主要原因。②新成熟的白梭梭种子萌发率为59.5%, 贮藏1个月后达到80%, 表明种子存在短时期的生理后熟现象。白梭梭果翅在每一贮藏时期对其种子的萌发都具有显著的抑制作用, 翅+种子 (将果翅与种子剥离, 一起放入培养皿中) 也部分地抑制种子的萌发, 因此, 果翅对白梭梭种子萌发的抑制既有化学抑制也存在机械抑制。果翅对种子萌发的抑制, 限制了白梭梭的分布。

关键词 [抑制; 梭梭; 种子萌发; 果翅](#)

分类号 [Q945.34](#)

Role of winged perianth in germination of *Haloxylonh* (Chenopodiaceae) seeds

WEI Yan, WANG Xi - Yong

College of Forestry, Xinjiang Agricultural University, Urumqi 830052, China

Abstract *Haloxylon ammodendron* and *H. persicum* are shrubs that occur in desert regions of western China. The germination unit of these species consists of fruit (urticle) with an attached winged perianth. To determine if the winged perianth influences timing of germination, seeds of *H. ammodendron* and *H. persicum* after ripened for various periods of time were incubated at a 12/12 h photoperiod at 15/5 °C for 10 days. The three treatments were seeds and attached winged perianth (control), seeds in the presence of detached winged perianths, and seeds with winged perianths removed. Freshly matured seeds of *H. ammodendron* (without perianths) germinated to a high percentage, but those with attached perianths germinated to a significantly lower percentage. The effect of the winged perianth on inhibition of germination gradually decreased with increase in storage time. Thus, winged perianths had no inhibitory effect on germination the following spring. Since attached winged perianths inhibited germination of *H. ammodendron* in autumn but not the following spring, dormancy of fresh seeds seems to be due to chemical inhibitors in the perianth. Apparently, then, the presence of winged perianths keeps seeds of *H. ammodendron* dormant until conditions are favorable for their germination. As such, the winged perianth may play a role in survival of this species in its harsh desert habitat. Fresh seeds *H. persicum* with winged perianths removed germinate slowly and to a low percentage. One month storage at room temperature caused an increase in percentage and rate of germination. The attached winged perianth significantly inhibited germination of freshly mature seeds in autumn and also in spring. Germination of seeds of *H. persicum* with winged perianths attached was strongly inhibited after all periods of storage. Germination also was partly inhibited in the presence of detached winged perianths. Thus, winged perianth inhibit germination of *H. persicum* seeds via both chemical and mechanical effects.

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(0KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ 本刊中 包含“抑制; 梭梭; 种子萌发; 果翅”的 [相关文章](#)

▶ 本文作者相关文章

· [魏岩](#)

· [王习勇](#)

Key words [germination](#) [inhibition](#) [Haloxylon](#) [seed](#) [germination](#) [winged](#) [perianth](#)

DOI

通讯作者 魏岩 wyl@xjau.edu.cn; weijyan@ibcas.ac.cn