

研究报告

# 放牧退化群落中冷蒿种群生物量资源分配的变化

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## 摘要

对放牧退化群落中冷蒿种群生物量及生物量资源分配的变化进行了研究. 结果表明, 在放牧干扰下, 随着放牧退化程度的增加, 冷蒿种群叶、茎、根的生物量及总生物量增加. 其中根的重量增加幅度较大, 但生殖构件(花序、果实)的生物量在轻度退化群落中增加, 中度退化群落中迅速减少, 重度退化群落中未发现生殖构件. 随着放牧退化程度增加, 冷蒿种群生物量的资源分配发生变化, 对根的分配增加, 对茎、叶的分配减少, 根冠比增加; 对无性繁殖的分配增加, 对有性生殖的分配减少. 在重度退化群落, 冷蒿有性生殖严重受阻, 繁殖格局发生变化. 从资源分配的动态来看, 随着放牧退化程度的增加, 生长初期至盛期, 冷蒿种群资源优先分配给地上部分, 尤其是光合器官叶; 而生长盛期至末期, 资源优先分配给有性生殖或贮藏器官. 繁殖格局的转变是冷蒿种群耐牧, 在重度退化下成为建群种的关键. 资源分配格局的时空变化, 使生长、维持和繁殖等方面的分配达到和谐, 是冷蒿种群在重度退化下成为建群种的物质基础.

关键词 [冷蒿种群; 放牧退化; 生物量; 资源分配](#)

分类号

## Changes of biomass allocation of *Artemisia frigida* population in grazing induced retrogressive communities

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### Abstract

The study showed that under the disturbance of grazing, the biomass of *Artemisia frigida*-leaves, stems, roots and total plant were increased with increasing retrogressive degree, and that of roots was increased more. The biomass of inflorescences and fruits was increased in light retrogressive community while decreased rapidly in mid retrogressive community, and no reproductive model was observed in heavy retrogressive community. With the increase of retrogressive degree, biomass allocation changed. The allocation to roots increased, but that to sexual reproduction decreased, which was badly inhibited in heavy retrogressive community, accompanying with the change of reproduction pattern. As for the dynamics of resource allocation, the resource was prior to allocate to aboveground portion, especially to photosynthesis organ from early to mid growth period, and allocate to sexual reproduction or reserve organ from mid to late growth period, with the increase of retrogressive degree. The alternation of reproductive pattern was the key that *A. frigida* population resisted

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grazing and became the established species in heavy retrogressive community. The change pattern of resource allocation made the allocation harmonious between the growth, resistance and reproduction, and was the substantial base that *A. frigida* population became the constructive species in heavy retrogressive community.

**Key words**

[Artemisia frigida](#) [Grazing induced retrogression](#) [Biomass](#) [Resource allocation](#)

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