

可塑性状和发育稳态性状在青藏高原2种香薷适应性差异中的作用

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摘要:

为了验证可塑性状和发育稳态性状在物种间适应性差异中的作用, 分析了青藏高原2种近缘种高原香薷*Elsholtzia feddei*和密花香薷*E. densa*在2个密度处理下节间长度和节数对2个物种适合度的影响。结果表明: 2个物种的节间长度在高密度处理中均发生可塑性延长, 但延长的程度在物种间有差异; 密度处理对2个物种的节数均无影响, 但物种间有差异, 表明节数是2种植物发育稳态性状。同高原香薷相比较, 密花香薷节数较多, 同时其节间长度对密度处理具有较强的可塑性响应, 因此这2个性状共同导致高密度处理中密花香薷有较高的高度, 而高密度条件下植株高度的增加是一种适应性的响应, 这就意味着高密度处理中密花香薷的适合度也较高; 低密度处理中植物较多的节数具有适应意义, 同高原香薷相比较, 密花香薷有较多的节数, 因此具有较高的适合度。

关键词: 可塑性状; 发育稳态性状; 适应性; 适合度

Plasticity and developing stability contribute to the adaptability differences in two *Elsholtzia* species in Tibetan Plateau

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Abstract:

In order to explore the effect of Plasticity and developing stability on adaptability difference among species, internodes length and node number of *Elsholtzia feddei* and *E. densa* in two field density treatments were studied. The result indicated that plastic prolong of internode length was occurred in both density treatments, and species difference was observed. Density treatment had no significant impact on internode number, but it was different between the two species, indicating that internode number was a developing stability trait. *E. densa* had more internode than *E. feddei*, its internode length had plastic response to density treatments. So the two traits caused higher plant height of *E. densa* in higher density treatment, this was a adaptive response and meant that *E. densa* higher fitness in the high density treatment. More internodes in low density treatment indicated an adaptive response. Compared with *E. feddei*, *E. densa* had more internode number and indicated a higher adaptability.

Keywords: plasticity trait developing stability trait adaptability fitness

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

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