Population Distribution Patterns of Shrub in Tibet

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Abstract: Based on the inventory of 370 sample plots covering 33 counties in Tibet which belong to 7 districts, the population distribution patterns and cluster intensity were analyzed. The indexes including negative binomial parameter, t-test of v/m ratio, clumping index, mean crowing index, patchiness index, Morisita index, Green's index and Cassie index were calculated. Meanwhile, the population distribution patterns of variation along with altitude and slope were discussed. The results showed: (1) Clump and random were the two distribution patterns of dominant shrub population in Tibet; (2) the population distribution pattern changed from clump to random along with altitude and slope increasing.

Key words: Tibet; shrub; population; distribution pattern

封面照片说明:沙棘——西藏主要灌木林类型之一

灌木具有耐干旱、耐高寒、耐瘠薄、耐盐碱、耐风蚀、抗风沙、天然更新快、萌发能力强、根系发达等特点。在西藏地区,灌木林分布相当普遍,几乎除羌塘高原西北部以外都有分布;垂直分布幅度也很宽,从海拔2 000 m余可一直分布到5 000 m上下,并在森林带上限以上形成一个宽厚的高山灌木林带。灌木林的群落类型也很复杂,从建群植物的生活型看,有常绿革叶、常绿针叶、落叶阔叶和无叶(退化叶)之分,也有大灌木、小灌木和匍匐灌木等等之别;在生态型上,有适温暖半湿润的,也有耐寒抗旱的等等。受高原特殊气候的影响,西藏灌木林群落的物种组成较为单一,多形成稳定的原生单优群落。西藏灌木林在西藏生态安全屏障建设和西藏经济社会可持续发展中起着重要的和不可替代的作用。

该图为沙棘(Hippophae rhamnoides)灌木林,拍摄于海拔3 917 m的西藏自治区日喀则地区南木林县卡孜乡境内,平均胸径14.1 cm,平均树高2.8 m,盖度80%。沙棘的根、茎、叶、花、果,特别是沙棘果实含有丰富的营养物质和生物活性物质,可以广泛应用于食品、医药、轻工、航天、农牧渔业、外贸等国民经济的许多部门。由于沙棘适应性强,栽培管理技术易掌握,已显示出广阔的开发利用前景。

2004年国家林业局颁发了《"国家特别规定的灌木林地"的规定(试行)》(林资发[2004]14号),规定"国家特别规定的灌木林地"特指分布在年均降水量400 mm以下的干旱(含极干旱、干旱和半干旱)地区,或乔木分布(垂直分布)上限以上,或热带亚热带岩溶地区、干热(干旱)河谷等生态环境脆弱地带,专为防护用途,且覆盖度>0.3的灌木林地,以及以获取经济效益为目的进行经营的灌木经济林。

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