研究简报

滩地复层混交群落类型及其生长效益

沈爱华[1,2,*]，江波[2]，袁位高[2]，戚连忠[2]，朱锦茹[2]

1.浙江大学环境与资源学院，浙江 杭州310029
2.浙江省林业科学研究院，浙江 杭州310023

摘要　　为了提高人工造林的效益,为绿化荒滩提供可以选择的高效复层混交林类型及其营造技术，对现有复层混交林进行了调查研究，结果表明：目前滩地复层混交群落存在主要以下3种混交类型：①主要是马尾松与枫杨、枫香、木荷、水竹或青冈、苦槠的针阔复层混交类型；②以香樟、木荷、青冈、苦槠、枫香、榆树和大叶榉等树种为主的阔叶树复层混交类型；③以杨树、桤木等落叶树种与板栗、早园竹、香椿、银杏等价值高的经济树种为主的林农混交类型，即林农复合立体经营模式。
同时对营造杨桤混交林、杨落复层混交林、杨绿复层混交林等3种不同类型不同方式的混交试验林的阶段性分析，结果表明：5年生杨桤混交林中，杨树个体生长基本同纯林接近，桤木在带状混交林中树高生长量明显高于纯林，株间混交个体显著的受到抑制；3年生杨落复层混交林中，采用的8个树种经受了一年多次洪水考验，初步形成了杨阔复层混交群落且长势喜人；2年生杨绿复层混交林中，中山柏、侧柏、香樟等7个树种造林成活率均在90%以上，生长良好，但山杜英、女贞可能是试验林应用除草剂不当的缘故，造林成活率、生长势都受到了严重的影响。

关键词　滩地；复层混交；群落类型；生长效益

分类号　Q145,Q948,S728.6

Studies on multi-storied mixed forest types on beach land and its benefit

SHEN Ai-Hua[1,2,*], JIANG Bo[2], YUAN Wei-Gao[2], QI Lian-Zhong[2], ZHU Jin-Ru[2]

1.College of Environmental & Resource Science of Zhejiang University, Hangzhou, 310029, China;
2. Zhejiang forestry academy, Hangzhou 310023, China

Abstract To improve the artificial afforestation benefit, and to provide the way of selecting highly efficiency multi-storied mixed forest and the afforestation techniques for greening the bare beach land, some of multi-storied mixed forest types were investigated in the paper. The results showed that there were mainly three kinds of mixed forest types presently as follows: ①the conifer and broad-leaf multi-storied forest type, confier species such as Pinus massonisns mixed Pterocarya stenoptera，Liquidambar formosana，Schim，Phyllostachys heteroclada，Cyclobalanopsis glauca or Castanopsis sclerophylla. ②the broad-leaf multi-storied mixed forest type, such as Cinnamomum camphora，Schima，Cyclobalanopsis glauca，Castanopsis sclerophylla，Liquidambar formosana，Ulmus pumila and Zelkova serrate as the dominant species. ③the agroforestry type, with the defoliation trees like poplar、Alnus cremastogyn mixed the high economical trees such as Chinese chestnut，Phyllostachys propinqua，Toona sinensis and Ginkgo biloba.
Based on the investigation result of three mixed forest types, ie, poplar mixed Alnus cremastogyn forest，multi-storied poplar mixed defoliation trees forest and multi-storied poplar mixed with evergreen trees forest, it was showed that in five-year of multi-storied poplar mixed Alnus cremastogyn forest, the growth amount of poplar was the same as that of the pure forest, the growth amount of Alnus cremastogyn in belt-mixed forest was higher than that of pure forest. However，the growth amount of Alnus cremastogyn in mixed forest was significantly reduced. In three-year o

f multi-storied forest poplar mixed with defoliation trees, eight tested species were not negatively affected by the flood, and the poplar mixed defoliation community was primarily closed and grew very well. In two-year of multi-storied forest poplar mixed evergreen, the afforestation survival ratio of seven species, such as Cupressus Lusitanica，Biota orientalis，Cinnamomum camphora etc, was more than 90%, and grew very well. On the contrary，the afforestation survival ratio and growth of two species, Elaeocarpus sylvestris and Ligustrum lucidum, was not good because of misusing herbicide.

通讯作者 沈爱华 mailahshen@126.com