

26th FEFCO

Forest Ecosystem Function Colloquium (FEFCO) は、地域や地球全体のレベルで森林生態系の機能とその持続的活用法を統合的に理解することを目的とし、研究者間の学術交流を推進します。

第26回森林生態系機能コロキウムは、北海道大学甲山隆司教授にご講演いただきます。どなたでも参加できますので、多くの皆様のご参加をお待ちしております。京都大学農学研究科熱帯環境学研究室がホストを務めます。

26th FEFCO
2015/11/18 16:30 - 18:00
Faculty of Agriculture Main Building, W506
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Is interspecific variation in tree-size distribution maintained stably? Test with data of Pasoh forest dynamics plot

Relative scarcity of juveniles can be attributed to the decline of population in a forest tree community (successional niche theory). However, such properties as high longevity, high growth rate and low fecundity promote populations with low juvenile frequency in an equilibrium state. The theory of vertical foliage partitioning (Kohyama and Takada 2012) suggests the difference in tree size structure among species promote stable coexistence. I first present the outline of the foliage partitioning theory in comparison with some comparable theories.

To test whether or not inter-specific variation in tree size distribution reflects demographic differentiation, we analyzed census data of abundant 370 species in the 50-ha plot of Pasoh Forest Reserve in Malaysia (Kohyama et al. 2015). We examined how the observed size distribution in terms of maximum diameter and skewness is related to demographic rates over around ten years of census interval, by comparing the observed distribution and the projected equilibrium distribution from demographic rates. We found that the observed inter-specific variation in size distribution was associated, to a fair extent, with demographic properties, thus the foliage partitioning mechanism may contribute to the stable coexistence in a species-rich tree community in a Malaysian rain forest.