A satellite-style map of Taiwan and its surrounding waters, showing the island's topography and coastline. The text is overlaid on the map.

台灣大樣地研究 與建設進展

陳毓昀

東華大學

自然資源與環境學系

Taiwan Forest Dynamics Plots



Taiwan Forest Dynamics Plots

福山(25 ha) 2004 / 2009



蓮華池(25 ha) 2008



人倫人工林(12 ha)
2006 / 2012



北東眼山(3 ha) 1996

楠溪(8 ha) 2006



南仁山(total 18 ha) 1989 / 1996 / 2005

墾丁(10 ha) 1997 / 2007



常態性工作項目

	福山	蓮華池	南仁山	墾丁
每木調查	2	1+1	3+1	2
種子雨	2002-	2007-	X	2006-
小苗動態	2002-	2007-	X	2007-
功能性狀	√	√	√	√
碳匯	√	√	X	√
資料庫建立	√	√	√	X

近期發表文章 (英)

- Fushan (福山)
 - Chia-Hao Chang-Yang *et. al.* 2011. Flowering and Fruiting Patterns in a Subtropical Rain Forest, Taiwan. **Biotropica**. In press.
- Kenting (墾丁)
 - Yi-Ching Lin *et al.* 2011. Seed distribution of eleven tree species in a tropical forest in Taiwan. **Botanical Studies**. 52: 327-336.

近期發表文章（英）（續）

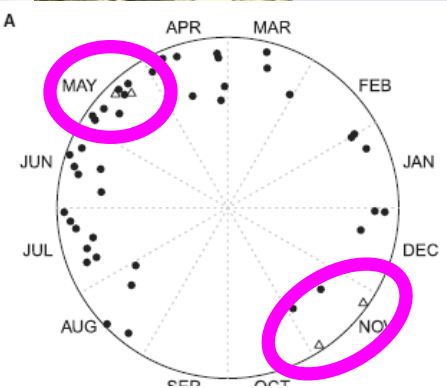
- Lianhuachih + Kenting（蓮華池 + 墾丁）
 - Yi-Ching Lin *et al.* 2011. Point patterns of tree distribution determined by habitat heterogeneity and dispersal limitation. **Oecologia**. 165:175–184.
- Fushan + Lianhuachih + Mt. Peitungyen（福山 + 蓮華池 + 北東眼山）
 - Ryan W. McEwan and Jyh-Min Chiang *et. al.* 2011. *Forest Ecology and Management* 262:1817–1825

Flowering and Fruiting Patterns in a Subtropical Rain Forest, Taiwan

Chia-Hao Chang-Yang^{1,3}, Chia-Ling Lu¹, I-Fang Sun², and Chang-Fu Hsieh¹

¹ Institute of Ecology and Evolutionary Biology, National Taiwan University, Taipei, 10617, Taiwan

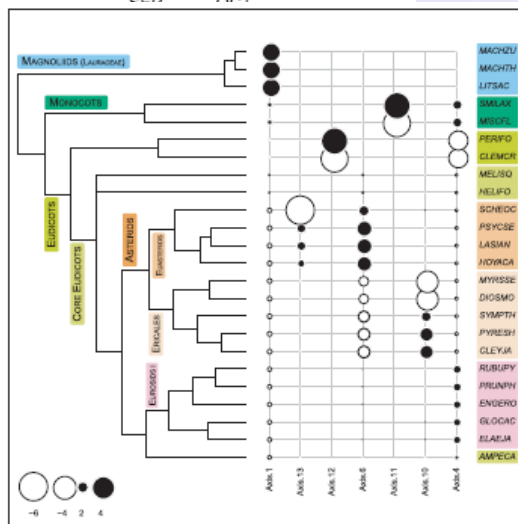
² Department of Natural Resources and Environmental Studies, National Dong Hwa University, Hualien, 97401, Taiwan



- With the criteria of >9 records and >4 traps, 46 species in flowers and 26 in fruits were analyzed.

- All but 2 species appeared to be annual flowering species.

- Phylogenetic conservatism found in both old and new clades, yet divergence only in new clades.



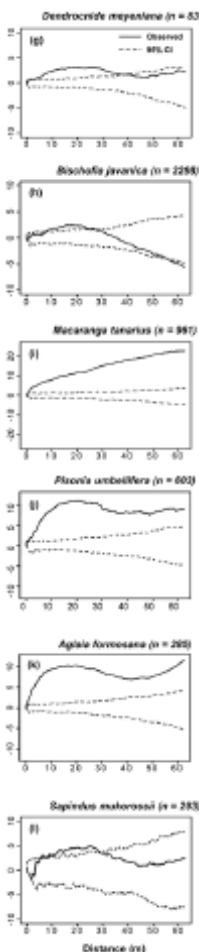
Seed distribution of eleven tree species in a tropical forest in Taiwan

Yi-Ching LIN^{1,*}, Pei-Jung LIN², Hsiang-Hua WANG³, and I-Fang SUN¹

¹Department of Life Science, Tunghai University, Taichung 40704, Taiwan

²Taroko National Park, 291, Fushih Village, Sioulin Township 97253 Hualien, Taiwan

³Forest Biology Division, Taiwan Forestry Research Institute, Taipei 10066, Taiwan



- All 11 species being analyzed showed aggregated seed rain pattern.
- Aggregation of seed rain in these species is likely due to both topography and clumped distribution of parent trees



Point patterns of tree distribution determined by habitat heterogeneity and dispersal limitation

Yi-Ching Lin · Li-Wan Chang · Kuoh-Cheng Yang ·
Hsiang-Hua Wang · I-Fang Sun

- Using 4 point pattern models to explore importance of habitat and seed dispersal on tree distribution.
- The result showed an interactive operation of both habitat and dispersal on plant spatial patterns.
- Species attributes, such as species abundance and dispersal mode may serve good predictor for the best-fit model.



ELSEVIER

Contents lists available at [SciVerse ScienceDirect](http://www.elsevier.com/locate/foreco)

Forest Ecology and Management

journal homepage: www.elsevier.com/locate/foreco



Topographic and biotic regulation of aboveground carbon storage in subtropical broad-leaved forests of Taiwan

Ryan W. McEwan^a, Yi-Ching Lin^b, I-Fang Sun^c, Chang-Fu Hsieh^d, Sheng-Hsin Su^e, Li-Wan Chang^e, Guo-Zhang Michael Song^d, Hsiang-Hua Wang^e, Jeen-Lian Hwong^e, Kuo-Chuan Lin^e, Kuoh-Cheng Yang^f, Jyh-Min Chiang^{b,*}

- Across Fushan (FS), Lianhuachih (LHC) and Peitungyen (PTY), the families, Fagaceae, Lauraceae, and Theaceae showed the highest contribution for above ground biomass (ABG).
- ABG is concentrated in flat area for Fushan, on ridges in LHC.
- ABG pattern could be predicted by species abundance in PTY.



碩士論文

- 楊雅婷 東海大學 蓮華池森林動態樣區葉功能特徵之空間分布
- 陳思瑋 東海大學 不同程度的擾動環境下森林生態系樹形與林冠特徵之分化

常態性工作之持續

	福山	蓮華池	南仁山	墾丁
每木調查	2013	2012	2012	2013
種子雨	✓	✓	✓	✓
小苗動態	✓	✓	✓	✓
碳匯 (dendrometer)	✓	✓	X	✓
資料庫建立	X	X	X	✓

進行中的博士論文



其他研究方向

- **Cross-site comparison**
 - “Disentangling influential clades affects the shift of phylogenetic community structure”
- **Single-site studies**
 - Litter fall patterns
 - Importance of sprouting on forest regeneration