

International Workshop on Forest Canopies: Frontiers of Ecosystem Services

Schedule

Venue: Xishuangbanna Tropical Botanical Garden, Yunnan, China

Dates: 27th – 28th October 2015 [workshop]

29th October 2015 [excursion to the canopy crane]

Workshop goals: 1. Syntheses or perspectives papers on canopy science
2. Research or grant proposals on canopy science
3. Establishment of a canopy science research network

Short talks (10 mins maximum for each talk)

10:30-12:00 Presentations (9 talks, 10 mins each)

Roger Kitching: Ecology, spatial scale and canopy science: what you can and cannot do with a canopy crane

Martin Freiberg and Ronny Richter: Leipzig Canopy Crane 2.0 - first activities and future plans as an iDiv platform

Maurice Leponce: Studying ants in the treetops: perspectives

Tatsuro Nakaji: Potential of near-surface remote sensing for ecological study of forest canopy

Masahiro Nakamura: Long-term soil warming experiment of mature oak trees in northern Japan

Wang Han: Understanding and predicting the canopy processes based on the concept of evolutionary optimization

Yi Wu: Diversity and phytogeography of vascular epiphytes at the northern limit of Asian tropics, Xishuangbanna

Huazheng Lu: The interaction of coexisting epiphytes in SW China

Yajun Chen: Linking canopy eco-physiology with whole plant water use—based on canopy crane

13:30-15:30 Presentations (11 talks, 10 mins each)

Liang Song: Epiphyte studies based on canopy cranes : reviews and proposals

Tom Fayle et al.: How much do changes in tree community structure account for global patterns of canopy arthropod diversity?

Zhai Deli: Utility of rubber phenology for Xishuangbanna rubber mapping

Joeri Strijk: Bees & trees: diversity, distribution, host-specificity and functionality of visits to wind-pollinated tropical Fagaceae

Shannon Xing: Morphological pattern of Lepidoptera from ground to the canopy

Claire Ozanne: Studying the impact of patches and edges

Aki Nakamura: Review on the recent studies of canopy ecology

Takao Ichioka: Research activities using the canopy crane in the tropical rainforest at Lambir Hills National Park, Sarawak, Borneo

Vojtech Novotny: Food webs in forest canopies: surveys and experiments using a global canopy crane network

Masashi Murakami: Canopy herbivore assemblage and herbivory in temperate deciduous forest of Japan

Min Cao: A short review on the major activities of canopy ecology in China

Workshop schedule

Date	Day	Arrangements
Pre-workshop		Listing “top questions in canopy science” communication via emailing
26 th	Mon	Arrival and registration Domestic flight from Kunming to Jinhong Pick-up service from Jinhong airport Check-in at a hotel near XTBG.
27 th	Wed	Theme: Current agenda, knowledge gaps and innovations <i>(Chair: Aki Nakamura)</i> AM 8:00 Shuttle bus to XTBG canteen from your hotel 8:15-8:50 <i>Breakfast</i> 9:00-9:30 Opening remarks (XTBG director, Min Cao and Roger Kitching) 9:30-9:50 Presentations (Gilles Ebersolt – Introduction to Operation Canopy Yunnan) 9:50-10:00 Group photo 10:00-10:30 <i>Tea break</i> 10:30-12:00 Presentations (9 talks, 10 mins each) PM 12:00-13:30 <i>Lunch at XTBG canteen</i> 13:30-15:30 Presentations (12 talks, 10 mins each) 15:30-16:00 <i>Tea break</i> 16:00-17:00 Canopy cranes – logistics, costs and safety protocols (XTBG, Lambir, Hokkaido, Leipzig, Cairns etc.). Deng Xiaobao (XTBG), Tom Fayle, Brian Worthington 17:00-18:30 “Top questions in Canopy science”. Discussion in small groups to take ideas forward, in groups of 10 or less people. Develop ideas and concepts and bring back to larger group. 18:30-21:00 <i>Welcome dinner at the XTBG canteen</i> 21:00 Shuttle bus back to your hotel

*Each presentation is for **strictly 10 minutes** (8 min talk and 2 min question times).

28 th	Thur	Theme: Networking and future directions (Chair: Roger Kitching) AM 8:00 Shuttle bus to XTBG canteen from your hotel 8:15-8:50 <i>Breakfast</i> 9:00-10:00 “Top questions in Canopy science” Group discussion and review. Leaders of thematic groups remain the same, but group members can move between groups. Present each idea back to the room, feedback and discussion around each idea, compile these new facets. Propose review articles and develop project proposals. 10:00-10:30 <i>Tea break</i> 10:30-12:00 Morning session continues PM 12:00-13:30 <i>Lunch at XTBG canteen</i> 13:30-14:30 Identification of funders for project proposals- especially if they are to take place across the network. Draft outline on potential manuscripts and designate people as responsible for different sections. 14:30-15:30 Outline journals and timeline and nominate a leader on each paper/ proposal, bring back to larger group. 15:30-16:00 <i>Tea break</i> 16:00-17:30 Discussion on research networking. 17:30-18:00 Closing remarks (TBA) 18:00-20:00 Dinner at the XTBG canteen 20:30 Shuttle bus back to your hotel
29 th	Tue	Excursion to Bubeng 20ha monitoring plot and canopy crane
30 th - 31 st	Fri Sat	Delegates leaving Pick-up service to Jinhong airport Domestic flight to Kunming

Chairs: Min Cao (caom@xtbg.ac.cn)
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Studying ants in the treetops: perspectives

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Cranes, by offering direct access to the forest canopy, allow detailed studies of trophic interactions between ants, plants (floral and extra-floral nectaries) and other insects (especially honeydew producing Hemiptera). Crane availability and

operation time (daytime) are however limiting the extent of these studies. We will review arboreal ant sampling methods that could be useful complements to canopy cranes. In particular we designed a rapid assessment protocol to study the spatial distribution (across trees and along tree trunks) and dominance hierarchy of ants in rainforests. This protocol is based on baits spread every 5m along a rope. One end of the rope is tied around the trunk and, with the help of a sling-shot, the other is slung over a branch in the canopy, forming a loop that enables the baits to be easily brought back down for inspection. On-site confrontations between dominant ants colonizing baits allow to map colony extension on neighbour trees. The baitline protocol has also potential to study food preferences, diel activity and to monitor dominant ant populations.