

Syllabus: Borneo—an immersive conservation experience

Instructor:

Luis A. Ruedas
Office: Science Building 1, room 502A
E-mail: ruedas@pdx.edu

Required text:

Kricher, John. 2011. *Tropical Ecology*. Princeton University Press, 704 pp. ISBN: 9780691115139. eBook ISBN: 9781400838950.

Strongly recommend texts:

Baker, J. 2008. *Crossroads: A Popular History of Malaysia & Singapore*. Singapore: Marshall Cavendish Editions, 457 pp. ISBN: 9812615229 (PSU Library: online access).

Garbutt, N., & J. C. Prudente. 2006. *Wild Borneo: The wildlife and scenery of Sabah, Sarawak, Brunei, and Kalimantan*. MIT Press, 176 pp. ISBN: 9780262072748. (PSU Library: QH193.B65 G37 2006).

van Wyhe, J. 2014. *The Annotated Malay Archipelago by Alfred Russel Wallace (1869)*. NUS Press, 836 pp. ISBN: 9789971698201.

Other reading and class materials will be made available to you by the instructor.

⇒⇒ Proposed schedule below is tentative and subject to change ⇐⇐

Date	Topic/activity	Location	Notes
TBA	On campus lecture 1	PSU campus	
TBA	On campus lecture 2	PSU campus	
TBA	On campus lecture 3	PSU campus	
16 August (Tue)	Leave for Kota Kinabalu (BKI)	PDX Airport	
17 August (Wed)	In transit	In transit	Lose 1 day on account of International Dateline
18 August (Thurs)	Arrive BKI in evening Spend night in BKI	Kota Kinabalu	

19 August (Fri)	Kota Kinabalu: CREATE Centre organisations. Overnight in BKI	Kota Kinabalu	Penampang Renewable Energy, TONIBUNG, TAKAD, JOAS, PACOS, and Green Voices of Borneo
20 August (Sat)	Day 1: BKI to Sandakan (SDK) to Danau Girang Field Centre	Kota Kinabalu to Sandakan to Danau Girang	Local airline flight, vehicle, then boat
21 August (Sun)	Day 2: Orientation; PM: activities	Danau Girang	Explore environs of Field Centre
22 August (Mon)	Day 3: Fishes & Amphibians	Danau Girang	Student groups will alternate taxonomic group of study
23 August (Tue)	Day 4: Birds & Reptiles	Danau Girang	“
24 August (Wed)	Day 5: Mammals	Danau Girang	“
25 August (Thurs)	Day 6: Trees	Danau Girang	“
26 August (Fri)	Day 7: Population Analysis	Danau Girang	“
27 August (Sat)	Day 8: AM: Summarize results; PM: Presentations; Pack	Danau Girang	“
28 August (Sun)	Day 9: Danau Girang to Sandakan to KBI	Boat → Motor vehicle → Airplane	Overnight stay in Kota Kinabalu
29 August (Mon)	Day 10: Kota Kinabalu to PDX	Air travel	Only one day, but longer than 24h!

1. Generalities—Borneo: an immersive conservation experience

This class is designed to use a singular example in order to frame the broader issue of conservation and climate change. In particular, the experience is designed to take place in the Danau Girang Field Centre, a research facility run cooperatively by the Sabah Wildlife Department and Cardiff University of Wales (<http://www.cardiff.ac.uk/danau-girang-field-centre>). The Centre is quite remote and in a patch of isolated rainforest, located in the Lower Kinabatangan Wildlife Sanctuary in Sabah (North Borneo), Malaysia. It has several experimental forestry plantations, as well as several villages (“kampung”) nearby. During the two weeks in country at the Centre, you are anticipated to be engaged in activities in support of the Centre’s goals, most particularly survey and inventory of the environmental resources on the site. The nature of these activities is such that we anticipate at present some 60 – 80 hours of service (6–8 h/day over 10 days). You will reside on site in the Centre’s dormitory facility, which will contribute to the immersive nature of the class.

While the site is basic, and you will need to be prepared for fairly basic living conditions, the Centre is run by staff from the University of Cardiff and is well set up to host student groups—something it has done many times. You will be completely immersed in the new and ongoing activities of the Centre, and interact with the Sabah Wildlife Department staff, Centre research staff, as well as visiting scientists from abroad. You will learn about local and regional culture, and will participate in the ongoing activities of the Centre as well as undertake activities of their own with the underlying goal of furthering the goals of the Centre and the Sabah Wildlife Department, as well as learning census techniques that will serve you well in future endeavors.

The actual field portion of the class is proposed to take place over the course of two weeks. There will be three mandatory pre-departure meetings during summer term. The length of the stay in the field is to some extent dictated by the logistics of getting to the field site, but we anticipate 10 days in the Field Centre. Indeed, just to get to Kota Kinabalu, Borneo, will take you three days (in part because of crossing the dateline). After arrival, there will be an overnight stay, then the next day a transfer by air to Sandakan, and from there, on by overland transportation to the Centre. The logistics described above have been, and continue to be refined in cooperation with the Education Abroad Office.

The pre-departure meetings will concentrate on the parallel tracks of culture, science, and their intersection. We anticipate that you will learn the basic cultural history of Borneo, as well as gain an understanding of the techniques that they will be employing while assisting in the ongoing efforts of the Centre. It is not foreseen that you will gain a thorough understanding of the language, although Malay is relatively simple grammatically, and a basic vocabulary may easily be acquired prior to departure.

2. Description of the community issue and/or need that will be addressed by this class.

The stated mission of the Danau Girang Field Centre is “to further scientific research with the aim of contributing to long-term conservation projects in the area, and develop a better understanding of our environment and the living things we share it with.” The Centre is run collaboratively as a research and training facility by the Sabah Wildlife Department and Cardiff University, Wales, UK. Specifically, the Centre promotes applied conservation of Tropical ecosystems, and employs the latest techniques for the effective management of wildlife in fragmented landscapes, the type of habitats largely found throughout the world today. Further, they not only undertake applied research activities, but in addition provide outreach and environmental awareness programs for various local stakeholders, including the local communities, ecotourists, and local palm oil plantations. The international conservation issues are much more complex than many students might at first realize or even acknowledge and we hope to impart upon you some of the complexities surrounding conservation.

In addition, you will actively participate in ongoing survey efforts. I stress that these should constitute valuable contributions. Recently, one class of students from the Netherlands engaged in a class similar to this one published a description in the Biodiversity Data Journal of a new species of spider from the very grounds of the Centre (<http://bdj.pensoft.net/articles.php?id=1076>). A novel spider might not be an expected outcome given my expertise. However, that is precisely where my background in small mammals (particularly bats) will dovetail with the needs of the Centre. During your experience, you are

anticipated to assist in ongoing survey efforts of plants and animals (ongoing by Centre personnel), resulting in a long-term atlas of the plant and animal life of the Centre. You will be trained (to a point) in broad survey techniques during the pre-departure class meetings, and receive additional training as needed on site by Centre personnel based on the disciplinary approach best matching ongoing Centre studies at the time of their visit.

3. Learning outcomes.

By the end of this class, the student will be able to:

- Use evidence and evidence-based analyses to evaluate and assess the quality of a tropical habitat. (Inquiry and Critical Thinking)
- Undertake surveys for a variety of biological taxa in support of the above, and be able to justify which survey technique is most appropriate for different biological groups. (Inquiry and Critical Thinking)
- Work collectively with in country collaborators in order to arrive at productive outcomes and reach established goals. (Diversity of Human Experience)
- Understand and be able to explain the historical background of Borneo and Malaysia, and the effects of this history on contemporary society in Borneo (Diversity of Human Experience)
- Acquire the skills to develop an effective, cross-cultural outreach program in support of the goals of the community partner. (Communication; Diversity of Human Experience; Ethics and Social Responsibility)
- Analyze individual situations at the local level and relate them to broader situations at the global levels, and understanding the effect global level complexities may have at the local level (Communication; Diversity of Human Experience; Ethics and Social Responsibility)

4. Description of the final product to be created by class students to address the community need.

Class students will contribute 60–80 hours of service to their service site, the Danau Girang Field Centre. In the course of that service, students will contribute to a number of products, both final and ongoing:

- i. Participate in the creation of a web product on the plant and animal life forms of the Centre
- ii. Create video content, stand-alone or web-enabled, in support of the goals of the Centre
- iii. Ideally, as the class from the Netherlands did, the students will be challenged to find novel species and describe them in the published literature
- iv. Additional products as determined on an annual basis based on the current or changing needs of the Centre

With respect to item i. above, we stress that the Centre already has an existing web site: <http://www.cardiff.ac.uk/danau-girang-field-centre>. So any web content created by you would be in the interest of the Centre, and subsumed within its content, perhaps as a new clickable link

in the top banner: e.g., “student content.” The details are ongoing and subject to discussion with Centre personnel and Director (much in the same way the PSU web is subordinate to University Communications, resulting in homogeneous content). There are numerous field stations, most of which have sites of varying qualities (a directory is available at the Organization of Biological Field Stations, www.obfs.org). We will go through some of those sites, assess as a group what makes a site and its content more or less attractive, and, on site and after our return, create drafts in Word that can then be easily converted to HTML content. Thus, no technical training should be required. It should be understood that not all these products would be achieved in the first year: these are products that we hope to develop over time. We are working to develop this experience as a sustained annual program with the support and participation of several faculty.

NOTES

- ⇒ The class is planned to take place at the Danau Girang Field Centre. This field station is in a remote area of Malaysian Borneo. It will take you three days (departure day + 2) just to get to Kota Kinabalu. This is because you cross the International Dateline in a westward direction. On the way back, conversely, your day may last upwards of 30 hours, but you may still arrive back in the US the same day you left from Kota Kinabalu!
- ⇒ Airfare sites you can test for inexpensive fares include orbitz.com and kayak.com. The airport codes you will need are:
 - Portland, OR: PDX
 - Kota Kinabalu, Malaysia: BKI
 - Sandakan, Malaysia: SDK
- ⇒ Make sure your passport is up to date! In addition, Malaysia requires that you have at entry at least six months left prior to its expiration date. Likewise, make sure that you have enough free pages in your passport for immigrations stamps. Check the latest passport and travel information for US citizens at <http://travel.state.gov/content/passports/en/country/malaysia.html>
- ⇒ If you bring currency, try to order it from your bank well ahead of time: exchange rates are better for larger bills (\$50, \$100) than smaller, and better for newer, crisper bills than older bills, which indeed, may even be refused. Exchange rates are likely to be better in Malaysia than in the US, but you may wish to exchange some currency in your last airport in the US, typically San Francisco. Keep in mind that outside major cities, Malaysia is essentially a cash economy *only*.

Electricity: late morning to bed-time