## Tropical Biodiversity

### Instructor(s):
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### Dates:
May 2 – May 18, 2017 (~2 weeks; 0.5 credit)

### Location:
Ecuador, South America: **Cabañas San Isidro** (2,100 m; 6 days); **Shiripuno Research Center** and **Shiripuno Lodge** (220 m; 5 days); the Capital City of Quito (2,800 m; 2 days, 3 nights), and travel (2 days)

### Cost:
Estimated $3,500. ($350 deposit to home university, $3,150 balance).

**Includes:** return flight from Toronto to Quito, all accommodations, and all meals at San Isidro and Shiripuno.

**Excluded:** transportation to and from Toronto. You must also bring ~ $200.00 U.S. cash for miscellaneous expenses (e.g., taxis, tips) & food in Quito. Students must have flight cancellation and travel medical insurance, a valid passport, current immunizations (at least yellow fever, Hepatitis A&B), and required field and safety gear.

**Balance:** required by **March 1, 2017** to hold your spot.

**Note:** exact dates, number of days at locations, and cost (depending on exchange rate with currency of Ecuador, which is the US dollar) may vary.

### Prerequisites:
Completion of second year Biology or Environmental Science Program, and at least one course in introductory ecology and evolution.

**NOTE:** **Students must be able to hike for several hours at a time in hard rain, on muddy slopes at high elevation, handle remote tropical field station conditions, be interested in learning about and at least tolerate living with a variety of arachnids and other fauna.**

### Enrolment:
12 students (6 reserved for Western)

### Description:
This in an introductory course on neotropical biodiversity, ecology, and forest conservation issues. We will spend time in the Amazonian cloud forest and lowland forest, two of the most biodiverse ecosystems on Earth. Emphasis will be on the most diverse taxa: the arthropods, plants, and fungi. Students will learn fundamental aspects of tropical forest ecology, and field identification skills including how to identify a wide variety of organisms. Some of the extraordinary taxa that students will learn about and experience first-hand include spectacular insects (e.g. Lepidoptera, Coleoptera, Hymenoptera); a rich arachnid fauna (learning about these animals is required; handling them is not); Onychophora; terrestrial Gastropoda; caecilians; an incredible diversity of birds (e.g., hummingbirds, hoatzins); Primates; tree ferns; flowering Gesneriaceae; enormous Anthurium spp.; orchids; bromeliads; palms; and the macroscopic fruiting bodies of many fungi (Basidiomycota and Ascomycota). The course includes about six days in the cloud forest, eastern slope, upper Amazon basin, and 2100 m elevation (Cabañas San Isidro). The first several days are spent on group hikes and in-the-field leaning experiences, including night hikes and light-trapping for nocturnal insects. We will then bus to the town of El Coca (officially: **Puerto Francisco de Orellana**; ~6 hrs), stay overnight, then bus and on to the Shiripuno River (~2.5 hrs), where we will board motorized canoes for a trip downstream (~4 hrs) to the Shiripuno Research Centre and

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**$350 Deposit is due at time of registration.**

**Tuition at your home institution is in addition to any field module costs.**

**Students who drop a field course should not expect a refund of any field course costs.**

**Students are encouraged to purchase cancellation insurance if airline tickets are required.**

**Students are responsible for all fees incurred by the home or host university due to any bounced cheque.**
Lodge (Amazon lowlands, 220 m elevation). At this remote field station (no electricity), part of the Waorani Anthropological Reserve within Yasuni Biosphere Reserve, we will have an unparalleled opportunity to observe the biodiversity of lowland Amazonia and interact with the Waorani indigenous tribe. We will then travel back to Coca via the same route (canoe, road), spend a night in Coca, and next day bus to Quito with a brief stop in the Paramo ecosystem of the high Andes (~4200 m elevation). In Quito we focus on the culture of Ecuador with visits to museums and the “Centro Histórico,” a UNESCO World Heritage Site. The last day of the course is travel home.

| Evaluation | Quiz (second evening) on required reading done prior to course | 15% |
|           | Enthusiastic participation in all components of the course    | 15% |
|           | Quiz (Identification of field specimens of Plants, Fungi, Arthropods, and other animal taxa, depending on what we find) | 30% |
|           | Field notebook and Journal, with daily entries. Guidance on what constitutes a good notebook and journal will be provided | 20% |
|           | Written Paper (literature review): 2,500-3,000 words, on a topic of your choosing (and approved by Professors) relating to neotropical biodiversity or conservation of biodiversity in Ecuador. A good paper will be informed by your observations during the course. Submitted electronically (due 5:00 pm on Friday, June 16, 2017). | 20% |

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