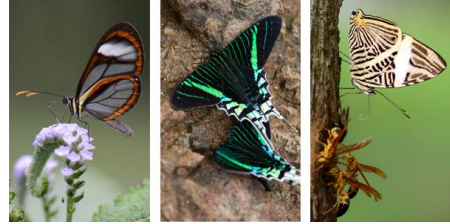




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AMAZON**



Las Piedras Lepidoptera Expedition

May 23 – June 5, 2017

EXPEDITION OVERVIEW

Dates:

May 23 - June 5, 2017

Application Deadline:

April 30, 2017

Meeting Location:

Puerto Maldonado, Peru

Expedition Leader:

Geoff Gallice, PhD

Cost:

\$2,500

Contact:

info@sustainableamazon.org

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I. Expedition Overview

We begin in Puerto Maldonado, the bustling economic hub and regional capital of Peru's Madre de Dios Department. From Puerto Maldonado we will travel by land to the expedition base, Finca Las Piedras, located in a rainforest/agricultural matrix along the newly constructed Interoceanic Highway. Here, the harvest of Brazil nuts, papayas, and cacao is the main economic activity, and we will explore how the expanding agricultural frontier is affecting biodiversity and reshaping the region's biological and human geography. At Finca Las Piedras we will also begin to explore key topics in the diversity, ecology, and field methods used in the study of tropical Lepidoptera (butterflies and moths).

From the finca we will continue on to the Las Piedras Amazon Center (LPAC), located within a 4,500 hectare (~11,000 acre) protected area along the lower Las Piedras River. Like much of the public land in this part of the Peruvian Amazon, LPAC is a concession—not for timber, oil, or mining, but for the protection of biodiversity and the development of sustainable ecotourism. Here, we will begin to explore relatively pristine Amazonian habitats, survey the Lepidoptera fauna of an intact rainforest, and continue our examination of field methods used in tropical field biology.

After our stay at LPAC, we will travel two days upriver through a vast tropical wilderness in a motorized canoe, camping along remote, dry-season river beaches until we reach the tiny outpost of Monte Salvado, the last village along the river before the restricted Madre de Dios Territorial Reserve, established to protect native people living in voluntary isolation. At Monte Salvado, we will interact with and learn directly from the village's indigenous residents, whose encyclopedic traditional knowledge of local plant and animal species is unmatched. On our journey to Monte Salvado we will explore an astonishing variety of biodiverse, Amazonian habitats, including riparian and successional forest, *Mauritia* palm swamps, and undisturbed floodplain and 'terra firme' rainforest. Keep an eye out for wildlife during our upriver journey—species frequently seen on the river during this time of year include river turtles, spectacled and black caiman, clouds of brilliant butterflies, toucans and several macaw species, anaconda, tapir, monkeys, and jaguar, to name only a few!

II. Learning and Research Objectives

Our goals are both educational and research-oriented. Expedition members will receive hands-on instruction in field methods that facilitate biological research in the tropics, with a particular focus on the Lepidoptera (butterflies and moths). Then, under the supervision of the expedition leaders, team members will employ the methods learned to carry out field research and data collection at the study sites. Biological specimens and data generated during the expedition will contribute to ongoing research that aims to understand the distribution of biological diversity in the Peruvian Amazon, as well as the conservation status of Amazonian butterflies, a major yet relatively poorly known component of the region's nearly unmatched biodiversity.

Expedition members will gain knowledge and skills in the following areas:

1. **Geology, biogeography, and human geography of the Amazon basin.** The Amazon rainforest is one of the most complex ecosystems on the planet, and harbors unmatched

biological and cultural diversity. We will try to make sense of this vast complexity by examining the region's geologic history, how it came to be so biodiverse, and how humans have shaped the landscape in the past, present, and future.

2. ***Tropical ecology and biology of key Amazonian plant and animal groups.*** Team members will learn about the ecology of diverse Amazonian plant and animal groups, and how these diverse groups interact to form a dynamic ecosystem. We will focus on the Lepidoptera, but we will also cover other invertebrates, mammals, birds, and herpetofauna (reptiles and amphibians).
3. ***Amazonian plant and animal identification.*** One of the most fundamental yet challenging jobs of a field biologist in the hyper-diverse Amazon is the identification of organisms. Team members will sharpen their natural history skills by learning to identify key groups of Amazonian plants and animals.
4. ***Field observation skills and methods in tropical biology.*** Participants will learn and practice basic methods in tropical field biology, with a focus on techniques used in the study of butterflies. Field methods include the use of baited traps, hand-nets, mark-release-recapture techniques, and nocturnal sampling methods.
5. ***Off-trail and backcountry navigation.*** Most of the vast Amazon basin is roadless, and trails are few and far between. Thus, a field biologist working here should be comfortable going off trail, and able to do so safely and without getting lost. We'll cover the basics of off-trail navigation, including the use of GPS, compass and map, and geographic information systems (GIS).
6. ***Canopy access (tree climbing) and sampling techniques.*** The canopy of the Amazon rainforest has been described as the 'last great biological frontier,' and with good reason—many of the forest's plant and animal species are entirely arboreal, and studying them has historically been a great challenge. However, recently-developed tree climbing techniques have opened this frontier to intrepid biologists willing to ascend into the high canopy. Team members will receive training in basic tree climbing techniques, allowing us to ascend safely to the highest reaches of the rainforest to observe and study the unique canopy flora and fauna.
7. ***Biological specimen field preparation and care.*** Museum specimens are vital to the study of the distribution of biological diversity, and to designing conservation strategies and protected area networks that maximize biodiversity protection. The preparation of quality specimens is both important and a challenge for poorly-studied regions such as the Amazon. We will examine how to properly collect and manage biological specimens while in the field that can later be incorporated into collections in Peru and the U.S.A.
8. ***Major conservation challenges facing the study region and the broader Amazonian ecosystem.*** Although very large and currently mostly forested, the Amazon basin is facing intense—and growing—pressure from uncontrolled resource extraction and development schemes, including the construction of roads and other infrastructure, hunting, logging, and gold mining. We will explore these conservation challenges, as well as what is being done to preserve biodiversity and promote the sustainable use of natural resources in the region.
9. ***Issues facing the survival of indigenous Amazonian cultures.*** The Amazon basin represents one of the most diverse cultural landscapes on earth. However, development has meant rapid change, and many groups are currently struggling to adapt to the new reality. We will examine Amazonian human geography, with an emphasis on our study region in southeastern Peru, and learn first-hand from the community at Monte Salvo

how the fate of their community is intertwined with that of the forest, and the forces that are rapidly altering their ancestral home.

III. Expedition Details

Dates: May 23 – June 5, 2017

The Expedition starts and ends in Puerto Maldonado, Peru. You should plan to arrive in Puerto Maldonado on or before 23 May (any flight), and depart on or after 5 June (any flight). We will meet team members at the Puerto Maldonado airport (PEM), and also provide return transportation for the departing flight.

Application Deadline: April 30, 2017

Location:

The Expedition takes place in Peru's Madre de Dios department, in the country's southeastern Amazon region. We will start in Puerto Maldonado, the department's capital and economic hub. From the city we will work our way overland and then by boat deep into the rainforest wilderness, ending at the tiny outpost of Monte Salvado, before returning to Puerto Maldonado, where the Expedition concludes.



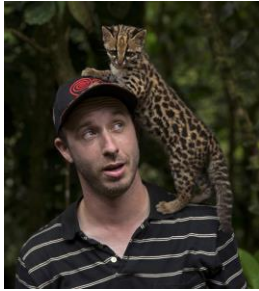
Accommodations:

Facilities at both Finca Las Piedras and the Las Piedras Amazon Center (LPAC) include sleeping platforms and/or shared dormitory rooms with beds, linens, and mosquito nets. Meals are taken as a group at set times in a dining facility.

During the journey to Monte Salvado we will be camping either on a riverside beach or inside the rainforest. Expedition members should each plan to bring a tent (or arrange to share with another team member), a sleeping pad, and a light sleeping bag. We will cook and have our meals at the campsite, either under the rainforest canopy or under the brilliant jungle night sky.

We will also be camping in our tents at Monte Salvado, although meals will be taken with the community.

Please click here for a complete [packing list](#).



Expedition Leader:

Geoff Gallice, Ph.D., Entomology (University of Florida, 2015)

Geoff is a research associate in Lepidoptera at the Florida Museum of Natural History in Gainesville, Florida. The museum is home to the McGuire Center for Lepidoptera and Biodiversity, and houses one of the largest collections of butterflies and moths in the world. Geoff's current research, which relies heavily on the extensive McGuire Center collections, aims to understand patterns in the ecology, evolution, and threat status of Neotropical butterflies, with a particular focus on the clearwing butterflies (Nymphalidae: Ithomiini). He is also active in applied conservation research, with ongoing collaborations with students and researchers at the Pontifical Catholic University of Peru (PUCP) in Lima that aim to understand the negative environmental effects of road expansion and other infrastructure development in the Peruvian Amazon.

Cost: \$2,500

What's included?

The Expedition Fee covers transfer to and from the airport (or bus terminal) in Puerto Maldonado, all transportation including by land and river, all food and lodging (3 meals per day, plus coffee, tea, and snacks), and camping along the Las Piedras River.

What's not included?

The Fee does not include international or domestic airfare (i.e., from your home country to Lima, and then on to Puerto Maldonado), or personal expenses in Peru (e.g., souvenirs, alcoholic beverages, etc.).

Itinerary:

Date	Activities	Overnight
23 May	Group arrives in Pto. Maldonado Transfer to Finca Las Piedras <u>Lectures:</u> The Amazon rainforest & Las Piedras region	Finca Las Piedras
24 May	<u>Activities:</u> Introduction to field methods for studying Lepidoptera (butterflies and moths) Butterfly field sampling and identification Tropical agriculture overview and tour Nocturnal Insect sampling (blacklighting) <u>Lectures:</u> Butterfly diversity and biology overview	"
25 May	Transfer to Las Piedras Amazon Center (LPAC) <u>Activities:</u> Set up butterfly traps Butterfly field sampling Night hike for nocturnal wildlife	LPAC
26 May	<u>Activities:</u> Introduction to backcountry navigation (map & compass, GPS) Butterfly trapping & field collection Nocturnal insect sampling <u>Lectures:</u> Patterns in biodiversity	"
27 May	<u>Activities:</u> Explore the trails at LPAC Butterfly trapping & field collection Nocturnal insect sampling Optional night hike	"
28 May	Begin upriver journey <u>Activities:</u> Boat up Las Piedras River (watch for wildlife!) Set up camp	Las Piedras River campsite
29 May	<u>Activities:</u> Tree climbing (group 1) Butterfly field collection Nocturnal river wildlife survey	"

30 May	<u>Activities:</u> Tree climbing (group 2) Wilderness exploration	"
31 May	Boat upriver to Monte Salvado <u>Activities:</u> Community introduction	Monte Salvado
1 Jun	<u>Activities:</u> Butterfly collecting and knowledge exchange with local children Community workshop	"
2 Jun	<u>Activities:</u> Introduction to Amazonian ethnobotany	"
3 Jun	Return to LPAC (again, look out for wildlife!)	LPAC
4 Jun	Transfer to Finca Las Piedras <u>Activities:</u> Expedition recap & reflection Prepare for return to Pto. Maldonado	Finca Las Piedras
5 Jun	Transfer to Pto. Maldonado Expedition concludes	

IV. Eligibility Requirements

1. At least 18 years old at time of Expedition (unless accompanied by parent or guardian)
2. Proof of medical and travel insurance
3. Valid passport or ability to travel to/within Peru. Citizens from most countries (including the U.S.A. and Canada) receive a visa at the international airport in Lima, usually for 90 days but check this with the immigration official. Passport must be valid at least through the end of the expedition. Please note that immigration officials sometimes request proof of departing flight from Peru.
4. No formal training or education is required; we invite people from all backgrounds to attend our expeditions. However, a healthy curiosity for tropical nature, a positive attitude in the face of challenging field conditions, and a willingness to work with people from a variety of backgrounds to achieve a common goal are essential!

V. How to Apply

1. Make sure you meet the Eligibility Requirements (above, Section IV)
2. If you have any questions, please review the [FAQs](#). You can also [Contact Us](#).

3. When you're ready to apply, just fill out the form located at the following link:
<http://www.sustainableamazon.org/lepexp17-register>
4. You will receive a message with instructions on how to make your payment and secure your spot.

VI. About Las Piedras

Overview

With its headwaters in the remote Alto Purus National Park, the Las Piedras River winds its way across a vast floodplain towards the southeast, eventually emptying into the Madre de Dios River near Puerto Maldonado, the regional capital and bustling economic hub of Peru's Madre de Dios Department. The lower stretches of the river are, today, heavily populated by colonists that have come mainly from the Peruvian Andean Departments of Cusco, Puno, and Apurímac, the first of which arrived more than a hundred years ago as rubber tappers eager to exploit the region's abundant 'white gold.' The upper Las Piedras, however, remains very sparsely populated, with only a handful of colonist and indigenous communities, including the Yine and several other groups. There are also groups of peoples living in a state of voluntary isolation in the extremely remote headwaters region. One of these, known colloquially as the 'Mashco-Piro,' have had no contact with the world outside their ancestral lands after fleeing the violence that was inflicted upon them during the rubber boom. The presence of these diverse, scattered indigenous communities, as well as the region's location at the biogeographic crossroads of the hyper-diverse Andes and Amazon ecosystems, make the Las Piedras among the most important centers of biological and cultural diversity in Peru and, indeed, on the planet.

Biodiversity

Located in Peru's Madre de Dios region, where the massive Andes mountains meet the sprawling Amazon basin, the Las Piedras River basin is home to more species of plants and animals than almost anywhere else on earth. Although very few studies have been conducted on the biodiversity of the Las Piedras basin, several NGOs working in the region have counted over 40 medium to large-bodied mammals including 5 cat species (jaguar, puma, jaguarundi, ocelot, and margay), over 10 primate species, the rare short-eared dog, giant armadillo, giant anteater, and tapir in Las Piedras' forests. Mammals are not only diverse here, but they are also extremely abundant: a recent study has shown that the rainforests of Madre de Dios may hold as many as 6,000 individual jaguar, a stronghold for a species that is declining across vast stretches of its ancestral range in the Amazon. Over 500 species of birds, including the harpy eagle, and a wide variety of reptiles and amphibians, including black caiman and anaconda, have also been identified in the Las Piedras region. And, of course, invertebrates are also incredibly diverse and abundant: although almost no studies or species lists are available for the Las Piedras region, entomologists working in the nearby Tambopata National Reserve have catalogued over 1,300 butterfly species alone. Compare that to fewer than 800 species known from *all* of North America!

People of Las Piedras

The neighboring settlements of Lucerna and Palma Real, located on the lower Las Piedras, form the port from which we begin our journey upriver. These are among the oldest colonial

settlements in the region, and were established at the time of the rubber boom at the turn of the twentieth century. Today there is a road that connects the communities to the Interoceanic Highway, allowing local farmers and Brazil nut harvesters to transport their products to markets in Puerto Maldonado and elsewhere. Other important economic activities in the region include the harvest (mostly illegal) of timber, as well as a small but growing ecotourism industry.

Further upriver lie the communities of Puerto Nuevo and Monte Salvado. Puerto Nuevo, located two days by boat upriver from Lucerna, is inhabited by Yine people, descendants of indigenous peoples from the Ucayali River basin who accompanied the Peruvian rubber baron Carlos Fitzcarrald during his journey—with a fully dismantled European steamship in tow—across what has since become known as the Fitzcarrald Arch, which separates the Ucayali drainage from that of the Manu River.

Monte Salvado is remoter still, and also a Yine community. During the early days of the settlement, a North American Christian mission was established which, of course, was dedicated to converting the area's uncontacted tribes to God. One strategy often used by missionaries to lure uncontacted peoples out of the rainforest and towards their settlements in the region was (and sometimes still is) to leave small gifts for them—machetes, bananas, and other useful items. As a result, the uncontacted people make infrequent but reliable visits to the community to seek more of these goods. They like bananas, for example, but appear to have lost the knowledge to cultivate them since fleeing the rubber tappers more than a century ago.

Despite these issues, the community of Monte Salvado has worked with the government and several local organizations to help protect the Madre de Dios Territorial Reserve that lies just to the north. The goal is to protect not only the peoples living in voluntary isolation within the reserve, but also to safeguard the forest's vast natural wealth from illegal loggers and other resource extractors that have their eyes on the region's natural resources.

VII. FAQ

Traveling to Peru

How do I get there?

The Lepidoptera Expedition begins and ends in the town of Puerto Maldonado, located in the center of Peru's Madre de Dios department. There are two ways you can travel to Puerto Maldonado: overland (i.e., by bus) or by air. A bus from Lima will take about 30 hours or more, from Cusco about 10 hours; a direct flight from Lima is about 1.5 hours. The Puerto Maldonado airport (PEM) is serviced by Latam, Avianca, and Star Peru, each of which have multiple daily flights to and from either Cusco, Lima, or both. You may be able to fly directly to PEM from your home city, with a layover in Lima; you might also find it more convenient or cheaper to purchase your flight to Lima, and then a separate flight onward to Puerto Maldonado. Note that Latam and Avianca are the most reliable airlines, but charge higher rates for foreign (i.e., non-Peruvian) travelers. If coming by bus, we recommend either Tepsa or Movil Tours; these are the most reliable companies that have service to Puerto Maldonado, and both have excellent safety records.

Do I need a visa to enter Peru?

Citizens of the United States do not need to apply for a visa to enter Peru for stays of 90 days or less. Rather, a visa will be granted at the international airport in Lima upon entering the country

(or at the border with a neighboring country). Requirements for citizens of other countries vary, and we recommend that you check these with the website of your country's embassy in Peru. Once you have entered Peru, make sure to keep the small white slip of paper that the immigration officer gives you ('Tarjeta Andina de Migracion' or 'Andean Migration Card'), as you may be fined if you can not produce it upon exiting the country.

What about money in Peru?

Peru's currency is the Nuevo Sol, usually referred to simply as the 'sol' (plural 'soles'). The exchange rate as of Nov. 2016 was about S/. 3.40 to US \$1, and this has been stable for several months. ATMs are widely available in most major Peruvian cities, many of which dispense either soles or US dollars. You will receive a slightly better exchange rate at a currency exchanger (available in Cusco and during business hours in Puerto Maldonado) than at an ATM when withdrawing soles. We recommend that you avoid changing money at airports, as the rate will be very poor.

How much money you will need while in Peru (and not with the Expedition) will depend on your taste and spending habits. As a rule, you can eat at a fancy restaurant in Puerto Maldonado for about \$10 (S/. 30-35); cheaper places (e.g., set lunch or 'menu' restaurants) will obviously be much less. Prices for hotels also vary—backpacker hostels may charge S/. 30 per night, whereas nicer hotels will charge as much as S/. 200-300 per night; high-end tourist lodges might be as much as \$100-300 per person, per night.

What's the weather like in the Amazon?

The Expedition takes place in the lowland Amazon rainforest at the beginning of the dry season (also called 'verano,' summer). You should be prepared for periods of blistering heat when the sun is out, and intermittent, torrential rain when storms pass through. Summer also brings 'frijajes,' which are cold snaps resulting from a cold front moving north from Patagonia along the Andes mountains. Temperatures during friajes can drop below 10°C (into the 40s Fahrenheit), so you should be prepared with a change of warm clothing. The rainforest is an interesting, if bizarre place during one of these cold spells, but you'll want to be prepared for it!

What clothing and gear should I bring?

We will provide all of the gear and equipment that will be used for our field activities (e.g., collecting equipment, tree climbing gear, etc.). Everything else is your responsibility.

The Expedition involves camping in the rainforest, thus there are several items that you will have to bring with you in addition to your clothes, toiletries, etc. Each team member must have a tent (or arrange to share one with another participant), a sleeping pad, and a light sleeping bag or something else to sleep with, as well as several other items. Please see the [packing list](#) for a complete list of what to bring to Peru.

How do I stay healthy in the rainforest?

Despite some of the stories and exaggerated tales from past explorers in the Amazon, the rainforest is not as dangerous or scary a place as many people think. Nevertheless, we take the safety of our team members very seriously, and offer a number of recommendations to help ensure that you have a safe and enjoyable visit.

Perhaps the greatest nuisance to humans in our study region is posed by biting insects, including mosquitos and biting sand flies. These are also the vectors of several rare, but potentially serious, tropical diseases.

Malaria is rare in the study region, but does occur. It is more of an issue in larger towns, though, since at remote sites such as ours there aren't enough people to serve as constant reservoirs for the disease. We are unaware of any cases of Malaria at any of our field sites, but your decision of whether or not to take a malaria prophylaxis is entirely up to you and your travel doctor.

Dengue is slightly more common in the region in general, especially in Puerto Maldonado, where there are many potential reservoirs and *Aedes aegypti*—the mosquito that transmits the disease—is more common. There is no vaccine for dengue, but there are treatments. However, as with all insect-vectored tropical diseases, avoiding insect bites is your best protection. Although it can be unpleasant, DEET is very effective at keeping these and other biting insects from biting you and transmitting the disease in the first place.

Leishmaniasis is endemic to our study region. It is transmitted by bites of small sand flies (family Psychodidae), which are active mostly at dawn and dusk, and at night. The disease itself is usually not serious or painful, but can become serious if left untreated for long periods or if the patient has a compromised immune system. Therefore, if a team member has a bite or small wound that does not heal in a week, we will recommend that they get tested locally. Again, this, as with all other insect-vectored tropical diseases, are best avoided through the prevention of insect bites. Covering up while in the forest (e.g., pants, long sleeves) and at camp in the evenings, as well as sleeping in a tent or under a mosquito bed net (provided at all of our non-camping sites), are your best protection.

Zika. This disease has received much attention in the news lately, and has infected large numbers of people across Latin America. Although the symptoms of infection with the virus are typically rather mild (e.g., fever, rash, etc.) and only about 20% of those infected exhibit even mild symptoms, there is a possible link between infection during pregnancy and a condition known as microcephaly in newborns. We know that the Zika virus is transmitted by *A. aegypti* (the same mosquito that transmits dengue), but much of the rest of the disease's biology remains a mystery. We follow the U.S. Centers for Disease Control (CDC) guidelines, and recommend that women who are pregnant, or who may become pregnant during or soon after the Expedition, exercise extreme caution while in Peru. The CDC has a very informative webpage regarding this disease: <http://www.cdc.gov/zika/index.html>.

Do I need any vaccinations?

We recommend that all travelers to the Amazon region have their updated Yellow Fever vaccine, as well as all other standard vaccines and boosters (e.g., hepatitis, typhoid, measles mumps & rubella, tetanus, etc.). Please note that we do not intend to dispense medical advice here; any medical decisions you make, including those regarding vaccinations or other health precautions, are between you and your travel doctor.

How can I stay safe in Peru?

As with anywhere else in the world, you should exercise caution and common sense while traveling in Peru. Don't walk alone late at night in larger towns and cities, for instance, and avoid ingesting substances from people you don't know and trust. In addition, you should try to travel

only with official taxis, as unofficial 'pirate' taxis (just unmarked cars) have been implicated in robberies. Although violent crime directed to foreigners is relatively uncommon in Peru, it is not unknown, and a good dose of caution will help you to avoid any trouble.

Petty crime, especially opportunistic thievery, is more common in Peru than violent crime. Don't leave valuables (cash, cell phones, tablets, wallets, etc.) in visible or easily accessible, public places at hotels or hostels; instead, check these with your hotel's safe deposit box or put them in a locker. Also be careful when traveling on long-distance buses—leave your backpack in the rack above your head while napping and you might wake up to it missing. Wallets in back pockets are also easy targets for pickpockets, especially in large cities. Finally, when in doubt, ask at your hotel which parts of the town or city you should avoid, and at what times, and heed their advice. The vast majority of visitors to Peru have a safe and healthy visit, and with a bit of good judgment you will likely have the same experience.

The field sites

What's a typical day like in the field?

Days will vary by location and depending on what the day's activities are. Most days start early (e.g., breakfast at 6 or 7 am), so that we can make the most of the shorter tropical daylight hours. We will hold discussions and lectures in the evenings, again to maximize our time out in the field. See the [itinerary](#) for a detailed list of each day's activities.

What's the food like at the field sites?

Three healthy meals will be served each day at each of our field sites. At Finca Las Piedras and the Las Piedras Amazon Center meals will be prepared by the onsite chef and served in the common dining hall (the 'comedor'). On the river we will have a cook who will prepare meals that we'll take at the campsite. We'll also have a cook in Monte Salvado that will prepare meals for the group. Meals are always prepared with fresh, local ingredients, and reflect both general Peruvian and regional (i.e., Amazonian) cuisine. Hot water for coffee and tea, as well as snacks, will be available at all times.

We are also happy to accommodate any special diets or food restrictions (allergies, etc.) with advanced notice.

What is phone and internet service like?

There is good cell coverage in Puerto Maldonado, and limited reception at Finca Las Piedras. Once we depart for the Las Piedras Amazon Center and Monte Salvado, however, there will be no cell coverage. Internet use will be limited to Puerto Maldonado (but data coverage is limited at Finca Las Piedras as well), where there are numerous, cheap internet cafes with connection speeds.

We recommend that you discuss international rates and plans with your home service provider. We are also happy to discuss options for purchasing cheap phones or cell/data plans (pay as you go or 'chips') with local carriers as well. Make sure you mention this early so we can go over options.

How do I do laundry at the field sites?

There are laundry facilities in Puerto Maldonado that can wash and dry laundry for a fee. In the field, however, we wash clothes by hand. We recommend that you bring laundry soap (preferably biodegradable) with you. Otherwise, you can purchase soap and/or detergent in Puerto Maldonado.

VIII. Packing List

CLOTHING

Long-sleeved shirts: Several, for protection against insect bites and other jungle hazards. I prefer old, button-down dress shirts that are cheap and easily found at thrift shops.

Short-sleeved shirts, T-shirts: Several, for wearing underneath long-sleeves and for camp.

Shorts: One or two pairs, for lounging around camp.

Pants or trousers: At least two, for protection against insects and thorny vegetation. I prefer thicker pants in the jungle, but quick-dry material is also very nice.

Rain jacket or poncho: You will need it! Make sure the jacket is water *proof*, not just water *resistant*. Goretex is the best. I prefer ponchos to rain jackets, but many people prefer jackets, and it's up to you which option you go with. Good ponchos can be purchased cheaply in Puerto Maldonado.

Hat, cap, or visor: Nice to have while in the hot tropical sun for long periods, especially on long boat trips.

Socks: At least 5 pairs. Bring as high-quality as you can; thin cotton socks tend to wear out quickly and can cause blisters, especially while wearing rubber boots, which will make hikes no fun.

Sandals: Hiking sandals (Teva, Chaco, etc.) or simple flip-flops. Use as camp shoes or in town.

Shoes: A pair of sneakers or running shoes to wear in towns, while in boats, etc.

Rubber boots: Essential in the jungle. You can bring your own, but good rubber boots are also available cheaply in Puerto Maldonado. I recommend against bringing hiking boots—they are heavy, they never dry once wet, and they are essentially useless when it's muddy in the jungle. Team members are required to wear rubber boots while in the forest, both on and off trail.

Swim suit: There will be opportunities to bathe/swim.

PAPER ITEMS

Passport: Keep sealed in a zip-lock bag, to prevent growth of mold.

Photocopy of passport photo-page: Stored separately, for replacement process if passport gets lost or stolen.

Notebook and pencils: For taking notes during the Expedition. These are available in Peru, but not very good in wet environments. Rite-in-the-Rain brand field notebooks are high-quality and waterproof, and widely available online.

Insurance papers: The name and number of your health insurance policy. Compensation forms required by your insurance company.

ATM card and bank phone number: To call in case of loss or theft. Also, you should inform your bank of your travel plans to avoid blocks being placed on transactions.

REQUIRED EQUIPMENT

Backpack: The largest size that fits your body, to carry all of your stuff and supplies during our transfers, minus what can fit comfortably into your daypack (assuming you don't pick anything up along the way!). Should be backpacking style; do not use a duffel bag or anything with wheels. We will also use this on our camping trip to Monte Salvado, and you'll be able to store unneeded gear while away.

Daypack: Small enough to bring into the field regularly, with enough space for water, field notebook, and raincoat.

Pack cover: A means of keeping the stuff in your pack dry—a pack cover—or you can put your stuff in garbage bags, and put those in your pack. A pack cover will be much easier and will keep the bag itself dry.

Tent: Tents should have capacity for at least one person, although a two-person tent will allow you to organize your belongings and will be more comfortable generally. **It may rain**, so make sure your tent is completely waterproof—this can be achieved by bringing a seam-sealed rainfly that goes all the way to the ground. Also, make sure there are no holes through which mosquitoes or sandflies can enter at night. Please be sure you bring a true backpacking style tent with rainfly. You may also want to consider a medium-gauge plastic ground sheet if your tent's bottom isn't completely waterproof. Do not use a tarp, these are too bulky. You may opt to share a tent with another team member, but it's up to you to arrange this.

Stuff sacks: To organize items in your backpack and daypack. Or use sturdy plastic bags.

Sleeping bag with stuff sack: Light-weight, compact not bulky, we use sleeping bags primarily for overnight camping. Night temperatures are typically mild. Sleeping bags rated to 45-55 ° F are sufficient. Some people can get away with something thinner and more lightweight, but it's up to you.

Sleeping pad: Inflatable or foam type. If using an inflatable pad, be sure to come equipped with a way to deal with flats.

Binoculars: You will use them almost every day, and you will be disappointed if yours are not adequate. Binoculars are rated by their magnification power and the size of the lens (measure of light-gathering power): 8 x 42 magnify eight times with 42 mm diameter lenses. I recommend these since they have sufficient magnification and light-gathering capacity for the dimly-lit rainforest environment while not being too large and heavy to use comfortably for longer periods. Smaller lenses are lighter and cheaper, but drastically reduce the amount of light gathered: this makes objects seem dim, colorless, and not sharp. 7 x 25 is minimal, and decent pairs can be found for \$80 - \$100; however, as field naturalists you may want to invest in a slightly better model. My favorite is the Nikon Monarch series (8 x 42), which run between \$200 - \$300. They're totally worth it!

First aid, personal pharmaceutical, and toiletry supplies: Your choice of items such as moleskin, Band-Aids, antibiotic ointment, ibuprofen, Benadryl, hydrocortisone cream, anti-diarrhea medicine (note that group first aid kit is for injuries, not small stuff). Also, bring any personal care items you need, as we will not be able to re-supply these items regularly and selection in Peru might be different than what you are used to. Don't forget **sunscreen**, and a **roll of toilet paper** (often not provided in hotels, boat and car rides, etc.; obtainable in Peru).

Towel: Medium sized, cotton dries slowly, synthetic fabrics dry fast.

Eating kit: This should include a large plate or bowl, reusable eating utensils, and a cup, for taking meals while camping.

Headlamp: Sturdy, compact, good quality, several sets of batteries. I recommend Black Diamond, Petzl, or Princeton Tec brands (My absolute favorite is the Princeton Tec Apex 200: 200 lumens of awesome light output and waterproof). 200 lumens or more is ideal if you want to really see well at night; will make camping and night hikes immeasurably more fun.

Water bottles or bladder: I prefer bottles; we've had many problems with leaky hydration packs/bladders.

Insect repellent: You want the highest concentration of DEET possible (100% if you can get it); herbal or 'all-natural' repellants don't work very well. Please remember that covering up is the best protection against bites.

OPTIONAL EQUIPMENT

Colored pencils: These will be useful for illustrating plants and animals in the field journals. Any artists will be happy to have even basic supplies.

Water filter: Pump-type or Steri-Pen. Steri-Pen is a UV water-purification system that is the most convenient; bring plenty of batteries. These will help us reduce the amount of water we carry during our river trip.

Wristwatch: Get going on time.

Travel alarm clock: Lots of early departures. Your smart phone should have this option.

Epi-pens: If you are allergic to bee or wasp stings bring two epinephrine injectors (requires prescription) and an antihistamine such as Benadryl.

Camera: You'll want to take lots of photos!

Waterproof/dry bag or sturdy ziplock bags: Protect camera, etc., in rain.

Biodegradable soap: For washing clothes, dishes, your body.

Sunglasses

Spanish-English dictionary: For help with Spanish, spoken exclusively by locals at most of our field sites.

AA or AAA batteries: Batteries are available in Peru but price and selection are much better in USA.

Trail mix, trail bars: Packaged snacks are available in Peru, but selection not what you might be used to.

Peanut butter in plastic jar: Rare and expensive in Peru. While this might seem like an odd thing to bring, believe me, you will be glad to have it in the middle of the Amazon!

IX. Contact Info

Still have unanswered questions? Feel free to [send us a message](#), or contact us at info@sustainableamazon.org.