

## **LIVING & WORKING IN GAMBOA**

### **Information for Warkentin Lab Interns & Students**

**Weather:** Rainy season conditions in Gamboa are generally hot (24–30 C) & humid or very humid. It rains a fair bit – not every day & rarely all day, but sometimes very hard.

**Housing:** You will live in furnished apartments rented from STRI and shared with other students. Your housemates may or may not be lab-mates in the Warkentin Lab, and may have different sleep and work schedules than you do. Because you will be sharing your living space with other students, the condition of and atmosphere in your home can affect the general happiness and productivity of our lab and other labs. You will be responsible for maintaining an appropriate standard of living conditions in accord with STRI regulations. You should consider that **all** of your activities in Panama reflect not only on you personally, but also on the lab, STRI, and your home institution.

You will have a small kitchen & mostly cook your own food or work out some shared cooking arrangement with your housemates. Grocery shopping in Gamboa is very limited; you will probably buy most groceries in Panama City, once a week or less often, and will need to plan for that. You will have access to shared washing machines and dryers for your laundry.

Most STRI apartments are not air-conditioned. The beauty of living without AC is that you can listen to the frogs calling as you fall asleep, and wake up to the calls of parrots, rather than a constant mechanical drone. The downside is that things tend to mold. Most apartments have "dry closets", which help for clothes, but you will have to be **careful** to ensure that your stuff is not ruined by mold.

For optical & electronic equipment, there is air-conditioned space at the lab, but I recommend also setting up a dry box in your apartment to store your camera, computer, binoculars, etc, when you are not using them. For a dry box I recommend a large plastic container with a lid, containing desiccant. I have used this system successfully for optical & electronic equipment in the rainforest for years. You can buy desiccant in Panama City for your dry box. Laptops generate enough heat to stay dry when running, but if off or asleep they are vulnerable to humidity. I also know people who have had ants move into their computers, with predictably negative consequences for the hard drive. That would not happen in a sealed dry box. If you have your own laptop you will want to bring it. We have internet connectivity in the lab and you will likely have it in your apartment as well, but it is not as reliable as in the USA.

You will need clothing & gear appropriate for the **field**, for **Gamboa**, and for **Panama City** (or "town"). Life in Gamboa is informal. When not in the field, I mostly wear capris or shorts, sandals, and sleeveless shirts during the day. At night, especially at dusk, the mosquitoes can be bad. Repellant is an option, but I suggest long pants, long sleeves & closed shoes.

In Panama City, people are more formal. Bring at least one set of respectable "town clothes" to wear if you are doing anything at all bureaucratic (e.g. getting a drivers license, extending a visa). The STRI buildings in town are air-conditioned and the seminar rooms are typically quite cold, so a light fleece, a sweater or at least a long-sleeved shirt would be good for that.

**Fieldwork/ponds:** be prepared for water, mud, all manner of things that stain (animal droppings, fruits, your own blood squashed out of insects, etc.), biting insects, ticks, leeches, spiny plants, and sweating a lot. That said, it can also be quite pleasant in the

field. The ponds vary a lot. The Experimental Pond, where we collect most eggs, is a concrete pond with a sidewalk. Quarry Pond, where we sometimes collect predators, is quite nasty at times – mucky and smelly with a dense mosquito population – and we have to wade in it well over boot depth.

**Feet:** You will spend a lot of time in **rubber boots**, so make sure you have a pair that is comfortable. I recommend boots without the cloth lining that is often put in rubber boots in the US – you want boots that you can rinse out and dry with a cloth if necessary, or that will air dry fast. I have *not* found hip or chest waders to be useful for tropical rainforest work, just hot & uncomfortable. I have La Crosse boots. Taller boots are good, but you should expect to often go into water over the depth of your boots. Thus your **socks** are also important. You want socks that will be comfortable & still protect your feet when wet, and that are easily wrung out. After trying various alternatives, I favor Thorlo or Smartwool hiking socks. You probably will also want some kind of sandals that can get wet (e.g. chacos, tevas, or other synthetic “water sandals”). Avoid easy-to-mold leather. Pay attention to your feet. I know people who have lost toenails to foot fungus.

**Clothes:** I favor quick-drying nylon field pants. Lots of pockets are good. Whatever you wear, you will spend time in it wet, from sweat, rain, or pond water. I do not recommend wearing shorts in the field, in part because of all the spiny plants & biting insects. Also because of leeches – some ponds are full of leeches, but wearing long pants tucked into your socks is very effective against them, even in water over your boot depth. For diurnal fieldwork, I like sleeveless shirts or t-shirts, but I am not much bothered by moderate levels of mosquito bites. For nocturnal fieldwork, I wear long sleeves against the mosquitoes. Note that you cannot have insect repellent on your hands when handling frogs, as they can absorb it through their skin. Cotton bandanas are useful for many things, from keeping sweat out of your eyes to drying off wet leaves so you can collect egg clutches & stick them in your bucket with duct tape.

**Rain:** In Gamboa or in town I mostly use an umbrella, rather than a raincoat, since it is much less sweaty. In the field I generally just get wet, since it's warm, although if you are out in the rain at night (when it's cooler) a raincoat could be useful. Mold will ruin Gore-Tex, and I have found the “breathable” aspect of waterproof/breathable clothing is not worth much under tropical rainforest conditions.

**Schedules – work and sleep: Working on embryo development means irregular schedules that are not predictable far in advance.** You may have stretches of time when you're doing something every few hours through the day and night, with short naps in between. You may end up doing a lot of night work, or a lot of day work, or both. Your day-to-day work schedule will depend on when eggs are laid, which depends on when it rains, and you will not be able to plan your activities with any certainty before the eggs are laid. Flexibility is key. Because of this, depending on frog breeding timing, you will sometimes have to miss other desirable activities – including scheduled social events, STRI-REU professional development activities, Tupper Seminars, and maybe even Gamboa Frog Talks (normally a very high priority!) – due to research commitments.

**Poisonous snakes:** There are several kinds of snakes in the Gamboa area that could potentially kill you, including fer-de-lance (*Bothrops asper*), the snake that kills more people in Latin America than any other, and coral snakes. They are not the most common snakes, but we see them every season – at ponds, in the forest, along stream and even on lawns and sidewalks in Gamboa. *The most important thing is to watch where you put your feet and hands, and not surprise a snake (or let it surprise you).* We will train you to recognize the local dangerous snakes.

**Night work:** You should carry two lights, so that you have a backup if one goes out. Depending where I'm going, if I'm working alone at night I sometimes carry three. Lighting technology has changed a lot since I started working on frogs, and there are great very lightweight, bright LED lights available. I like to have a headlamp and a hand-held flashlight. Some of you will end up doing substantial night work and others may not do much, but recreational frogging is always an option. To observe the normal behavior of adult frogs or metamorphs, you will want to have a **red light** – they do not behave normally under white light.

**Transportation:** Within Gamboa, everything is in easy walking distance (apartments, lab, Experimental Pond, etc.). The Warkentin Lab has a 4WD, diesel, manual transmission truck in Panama. We also have some bicycles, but every year there is some uncertainty of what condition they'll be in when we return. As much as possible, we coordinate shopping trips to town among lab members, to share transportation, but we will have more people than fit in our truck at once. There is also frequent, cheap bus service between Gamboa & Panama City, and getting around Panama City by taxi is quite affordable. Pipeline road is unpaved & can be quite muddy. It is accessible by 4WD or mountain bikeable. There are boats several times daily from Gamboa to & from Barro Colorado Island. You won't be working on BCI, and only the glassfrog students work on Pipeline, but you should visit them, just for the experience.

**Money:** Panama uses US currency. There are a couple of ATM machines in Gamboa & many in Panama City where you can use bank cards. You can also use debit & credit cards at many shops.

**Security:** The incidence of robberies in Gamboa has increased in recent years. Be aware of your surroundings and do not leave your home unlocked if you are away or asleep. Do not leave the lab doors unlocked or let unknown people without STRI ID into the labs.

**Immunizations, etc.:** Last time I checked the Canal Zone was still pretty healthy – i.e. you don't need any immunizations for there that you shouldn't already have. If you go elsewhere in the country, you may want a yellow fever immunization, or to take malarial prophylactics. **Check the CDC web page for the latest information.**

**Recreation, etc.:** There are weekly (sometimes more frequent) ultimate frisbee & soccer games in Gamboa. There are sometimes yoga classes. There is sometimes swimming pool access in Gamboa – it varies from year to year – and Pacific and Caribbean beaches are accessible as day or “weekend” trips. At some sites, there are possibilities for snorkeling and scuba. There is nice rainforest hiking and excellent birding locally and more mountainous and cloud forest hiking elsewhere. Bring appropriate clothing and gear for your interests.