

Oral presentations

You will be asked to prepare a 15-20 minute talk before we leave for the field. You will be the resident expert on a topic that you pick, either from the list below, or one that you suggest. You will present your talk to the class some evening during the course. Often, we do the talks outdoors on a terrace, or sometimes in the dining areas of the lodges after dinner. There are no AV facilities, no projectors, etc. Sometimes there are no lights. If you wish, you can prepare a hand-out for the class. If you do this, please bring along 18 copies.

You will be graded 1/3 on presentation style (Did you speak clearly? Was the talk well organized? Did you insert useless and distracting words such as “um” and “like”? (I have, like, a pet peeve about the word “like” being stuck, like, repeatedly and uselessly into speech.), and 2/3 on content. The content should go beyond Wikipedia and field guides. Tell us about research questions in your topic, or about important studies in the past. Make sure that you bring an intellectual contribution to the subject.

Possible presentation topics (in no particular order)

1. **Costa Rica's history (including military)**– Don't get us wrong, CR is a very peaceful, safe country. But even that peacefulness has an interesting story behind it. There was the battle of Santa Rosa in 1856, a civil war in 1946, the invasion led by Antonio Somoza in 1955. Tell us the story, and why, on the whole, CR has been a pretty tranquil place throughout history.
2. **Bats** -- Bats are very diverse in the tropics. What are the most common species that we are likely to see, and how do we identify them? Bats carry out many ecologically important activities. Describe these. How dangerous are bats to humans?
3. **Tropical soils** – Tropical soils are very different from the typical temperate soils. Tell us about the types of tropical soils (e.g., oxisols, ultisols), the processes that lead to their formation. What are the implications for agriculture? What are the consequences for the native vegetation? How important are mycorrhizae?
4. **Plant-animal mutualisms** – There are quite a few associations between particular species of ants and of plants. Notable examples include bull-thorn Acacia (a tree) and *Pseudomyrex* ants, which protect host plants from, well, everything. Are there others? How important are they?
5. **Monkeys** – Everybody loves the monkeys, so we should learn something about them. Give a general overview of the four species in CR, and their biology: where do they live, what do they eat, how do they interact with other species, etc?
6. **Herbivory by leaf-cutter ants, termites or other arthropods** - We will see lots of these. How do they live? What is their effect on vegetation? Sometimes they are abundant, sometimes not. Why is that? What would the forest be like in the absence of these herbivores?

7. **Large mammalian herbivores** – What large, mammalian herbivores are there in Costa Rica? We will see sloths hanging in trees. What others are there? Tell us about their biology and their evolutionary origins. Why are there so few large mammalian herbivores? Why do we not see the large herbivores that are typical in Africa?
8. **Epiphytes: especially orchids and bromeliads** – We will see a LOT of epiphytic plants in CR. Their anatomy, reproduction, etc. is often very different from other plants. Orchids and bromeliads are two striking, and common groups. Tell us about them.
9. **Lizards** – We will see lots of lizards in CR. What are the major groups of Central American lizards? What are the most common ones in CR? How can we tell them apart in the field? What determines their geographic distributions? What about their local habitat use (i.e., where should I look to find lizards)?
10. **Pollination** – We will see a large variety of flowers in CR. What are the main means of pollination? How common is wind pollination? What are the main animal vectors? How does flower morphology relate to pollination?
11. **Snakes** -- there are many species of snakes in Costa Rica. Tell us about the behaviour and ecology of the major groups. Can poisonous ones be easily distinguished from the non-poisonous ones?
12. **Coffee** – Costa Rica is a producer of coffee. Some people would say the world's best coffee. There has been much controversy about the ecological effects of coffee cultivation, the benefits of "shade-grown" coffee, etc. Tells us the story, and your evaluation of the pros and cons of shade-grown coffee.
13. **Frogs and toads** – There is a remarkable diversity of just about everything biological in CR, but you will see some remarkable species in CR. Pick a few and tell us about them: poison arrow frogs, glass frogs, tree frogs, etc.
14. **Conservation issues in CR** – what are the threats to biodiversity in CR? What is being done to preserve diversity? What is the prognosis?
15. **Tropical architecture** – To a degree, urban CR has much of the same uninspired, boxy architecture that you can see anywhere else in the world. But if you look more closely, particularly outside the cities, you can see that the roofs, windows, foundations, etc. are designed with the challenges of a tropical climate in mind. Tell us about the adaptations of architecture to tropical climate.
16. **New World conservation hotspots** – CR has one of the highest levels of species richness in the world. If one looks at threatened biodiversity in the New World in general (not just CR), where are the most important areas to conserve? What are the threats? What are the most threatened systems? Are they in CR?
17. **Ancient Meso-american civilizations** – Incas, Aztecs, Mayans, Anasazi: how does CR fit into the picture of pre-Columbian civilization in the New World? What kinds of remains of ancient civilizations should one expect to find in CR?
18. **Exploitation of tropical forests** – Logging, shifting agriculture, export of endangered species, tourism: there are many ways in which CR's biological resources are threatened. What are the major threats? Are there sustainable ways for Costa Ricans to use their biological resources?
19. **Splashy birds** – There are many species of spectacular birds in CR. Pick some groups of tropical birds and tell us about them. Possibilities include parrots, trogons, flycatchers, etc.,

20. **Tropical disease risks to visitors and to locals in tropical ecosystems** – what are the most serious tropical disease threats in the Costa Rica? What are the symptoms? Are they treatable?
21. **Exotic species in the tropics** – There are lots: goldfish, Mediterranean fruit fly, carp, water hyacinth, mongooses, the Leucaena Tree, largemouth bass, the Mozambique tilapia, Kikuyu Grass, Louisiana crayfish, cane toads, and slider turtles. Tell us about some of them and their impacts in the tropics.
22. **Bees** – Bees are also phenomenally diverse in the tropics. Again, talk about some of the main groups of bees, how to recognize them, their ecology, etc.
23. **Propose your own topic**