

Costa Rica

A Course in Tropical Botany

A Greentours Itinerary

For many of us who enjoy the glories of temperate botany the very mention of tropical botany sends frissons of fear through our already full minds. Diversity is off the scale where cloudforest meets cactus savannah and where mangrove meets rainforest. Putting labels on the constituent plants of these habitats, where there can be a thousand species in just a few hectares seems an impossible ask. It's the families that cause us temperate botanists the biggest headaches. In the Swiss Alps or the Russian Taiga we can reasonably confidently assign any plant we come across to a family. In the tropics it all falls to pieces – firstly there's far too many families and secondly we haven't heard of quite a number of them, and thirdly, even the familiar families just don't look like the ones we know from home. Take *Rubiaceae* for example. In Europe we're used to little *Galiums* or maybe a clambering *Rubia*, however enter the tropics and some of the very biggest trees, such as *Chimarrhis*, belong to this family.

Here's where Nelson Zamora can help. Instead of unwieldy family keys, Nelson reckons he can teach you to recognise the vast majority of tropical families looking at just four characteristics. We first met Nelson on a tour for the International Dendrology Society and were immediately impressed not just by his knowledge – he seemed to be able to identify every plant – but by his desire to educate. We were soon saying timidly 'could it be *Myrsinaceae*...?' to be greeted by Nelson's beaming smile when we'd got it right – not that we did much to start with! Nelson is currently putting the majority of Costa Rica's 12,000 plant species on plant.net, he's well on the way...

So if you want to know how the Sapodilla family (*Sapotaceae*) differs from the Avocado Family (*Lauraceae*) and why the Monkey Pot Family (*Lecythidaceae*) has such large showy flowers and large woody fruits, this is the trip for you. Peppery-tasting leaves? Could it be *Canelaceae*? Some forest giants loom out of the forest in front of us with huge buttresses spreading metres out from the trunk. Are they *Ceiba*, *Ficus*, *Dipteryx* or perhaps *Pouteria*? The leaves are out of sight thirty metres above us... but Nelson will help us decipher the clues...

Costa Rica's stunning landscapes are the perfect place to learn. Still largely carpeted in virgin forest and with no less than one-quarter of the country now within national parks or private reserves. The diversity of fauna and flora is in large part due to physical geography of the country with a central ridge of mountains separating the Caribbean Slopes from the Pacific Slopes with the result that each side has a markedly different set of habitats and species.

Day 1

Arrive San Jose, Costa Rica

Our flight arrives into San Jose, the capital of Costa Rica, in the afternoon and we'll head for a pleasant little hotel close to the airport.

Days 2 & 3(am)

Cerro Buena Vista

We'll start in what amounts to a temperate biome, the paramo and cloudforests of the Cerro Buena Vista, between Tapantí National Park and Los Quetzales National Park. In the heart of Costa Rica's cloud forests, the Paraíso Quetzal Lodge is surrounded by lush forest and tranquil landscapes. Here a private reserve protects 80 hectares of extraordinary biodiversity - towering oaks, crystal-clear rivers, four waterfalls, and traces of ancient fossils await along five scenic hiking trails where Nelson will start our botanical exploration. Here where the Paramo meets cloudforest are many small trees and shrubs – the genera *Buddleja*, *Comarostaphylis*, *Escallonia*, *Garrya*, *Myrsine*, *Oreopanax*, and *Schefflera* being well-represented. The cloudforest Oaks and Magnolias have spectacular *Philodendrons* and *Anthuriums* and along the streams there are stands of magnificent *Gunneras*.

Days 3(pm) – 10(am)

Osa Conservation in the Osa Peninsula

Then we'll head to one of the richest sites in the country, the fabulous Osa Peninsula and specifically to Osa Conservation's campus close by Corcovado National Park. Osa Conservation works with local communities, government officials, and global leaders to build a climate adaptive mega-corridor so nature and people can thrive into perpetuity linking three of the country's most amazing national parks, Corcovado, Piedras Blancas and the biggest of all, La Amistad, straddling the border with Panama. Botanically the Osa is a treasure trove combining the characteristics and diversity of South American forest with a healthy dose of regional endemism. So many new species have been described here in recent years. Osa Conservation's fantastic forests and their research facilities provide the perfect base for those wanting to learn more. Here we can find the giants of old-growth forest such as *Vantanea barbourii*, a massive emergent canopy tree species belonging to the family *Humiriaceae*. Locally known as 'Chiricano triste', it is a defining component of the old-growth lowland rainforests in the South Pacific region of Costa Rica and can exceed 50m. Emergent canopy trees belonging to the *Lecythidaceae* family (the Brazil Nut family) include giants such as *Couratari guianensis* and the rare *Couratari scottmorii*. The much smaller and equally rare *Eschweilera biflora* also belongs to this important family. Also topping 50m is *Caryocar costaricense*, one of the tree species the Osa Centre is working to conserve. The strange *Lepidobotryaceae* is represented here by *Ruptiliocarpon caracolito*, the only other genus in the family is in West Africa! Other rarities are *Anthodiscus chocoensis*, *Aiouea obscura* and *Vachellia allenii*.

Though many trees keep all but their bark and roots out of our reach there is plenty of beautiful botany near at hand such as another relative of the Brazil Nut, *Gustavia brachycarpa*, with large showy white flowers, and monotypic *Osa pulchra* famous for its large, fragrant white flowers and extreme rarity in the wild.

The super-diverse Fabaceae are a real favourite with Nelson, he's spent a deal of time studying this family. Its not your trefoils or medicks here though, *Uribea tamarindioides* can reach 50m high and have a trunk diameter of a metre. *Paramachaerium gruberi* is one of Costa Rica's rarest and most distinctive tree species. Named (the Costa Rican name that is) for the reddish color of its wood, it is found only on the Osa Peninsula and in Panama's Barú region. Its limited distribution and vulnerability to illegal logging have made it an important focus of Osa Conservation's Botanical Conservation Program. Some trees are estimated to be 500 to 600 years old. It is an important food tree for macaws, parrots and monkeys. *Parkia pendula* is another spectacular legume, also reaching up to 50m, though often much less. Its amazing hanging inflorescences are indeed very pendulous and showy, some may still be in flower during our visit though often it is finished by the end of January. *Peltogynes* are the 'Purplehearts' of tropical wood, and there's a couple of species in this area – similar sized *Copaifera* are represented by several species too.

Another rarity, and subject of Osa Conservations work, is *Pleodendron costaricense*. This extraordinary tree was first collected in 1998 and formally described as a new species in 2005 and still very few individual trees are known. Described by some botanists as a 'living fossil' it belongs to the ancient family *Canellaceae* in the order *Canellales*, representing some of the earliest known flowering plants. The *Sapotaceae* is a family you'll encounter often in Costa Rica with some widespread species, though here is the diversity of *Chromolucuma* species that will take our attention as well as *Pradosia*. *Pouteria triplarifolia* is from this family and is a great rarity, another that is subject of protection work at Osa Conservation. Another rarity is *Magnolia wetteri* with its pale pink blooms. *Chrysobalanaceae* is a pantropical family here represented by tall *Maranthes panamaensis*. The *Malvaceae* has expanded in recent years and is now a large family, in the Osa there's *Huberodendron* with huge fluted trunks and the equally impressive *Pterygota*, the later should not be confused with the sub-class of insects that includes all flying insects! It should be emphasized that the actual variety in Osa is more or less endless, and this gives Nelson the raw materials to really give us the knowledge to understand what we are seeing around us in that green wall of a tropical rainforest!

Days 10(pm)

Return to San Jose

We'll fly back to San Jose from Puerto Jimenez in the afternoon of Day 10 and head up to our accommodation on the flanks of Volcán Barva on the outskirts of San Jose.

Day 11(am)

Volcán Barva in San Jose

We'll return to the cloud forests for the last morning of the tour. Volcan Poás still rumbles regularly on the northwestern skyline as we explore the slopes of Volcán Barva to the northeast of the city. Much of the volcano is protected by the Parque Nacional Braulio Carrillo, one of Costa Rica's largest and most important parks. We'll barely have chance to scratch the surface! Lower montane forests around the 2500m mark are dominated by various *Quercus* species, *Didymopanax* and *Podocarpus* species. *Miconia* are frequent where there's been human intervention and in areas with a less dense canopy there's abundant vines, ferns, *Chusquea* and *Bomarea acutifolia* with its conspicuous bright red flowers. There are some fine stands of *Brunellia costaricensis* an aromatic tree in the *Brunelliaceae*, another family you may not have met before! If we have time to get a little higher we'll encounter forest where most of the trees are covered with mosses and liverworts along with epiphytes such as the ericaceous *Cavendishia bracteata*. *Ardisia pleurobotrya* and *Miconia biperulifera* are dominant and we'll see plentiful tree ferns and the woody *Myrrhidendron*, a member of the carrot family!

Day 11(pm)

Departure from San Jose

In the afternoon we'll make the short drive to San Jose Airport for our international departures.

Day 12

Arrive UK/Europe

If you would like to ask about any other aspect of this holiday, please call 01298 83563 or email us at enquiries@greentours.co.uk.

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