

# Travel with Pen and Palate

CENTRAL AMERICA TRAVEL, COSTA RICA, CULTURAL SITES, HOTELS, PHOTOGRAPHY, RESTAURANTS AND HOTELS, TRAVEL, TRAVEL AND FOOD

## Monteverde Biological Reserve is a climate change laboratory

TUESDAY, 12 JULY 2016 | MARC D'ENTREMONT | 4 COMMENTS

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*Giant Helicopter Damselfly*

Costa Rica is a landmass equal to 0.03% of the Earth, about 20,000 square miles – the size of Vermont – but accounts for 5%-6% of the globe's biodiversity. Yet within the Monteverde Biological Reserve, a mere 55 square miles, exists half of that diversity. Among its residents are 700 bee species, 10% of the world's butterflies – 24,000 species – 300 species of mammals, 12,000 plants including 500 orchids, 360,000 insects, 75,000 mushrooms, 1,100 species of ferns and 915 species of birds, including 91 from North America that live in the reserve only during mating season.



*One of 54 species of hummingbirds*

"It's never happened before," says Giuliano Salazar Gigli. That was a surprise statement. Giuliano is one of the Monteverde Biological Reserve top naturalist guides (<http://www.monteverdeguidetour.com/>). His life has been committed to the preservation of over 35% of Costa Rica's biosphere. "We're using the water in a bad way. If we can collect it in the rainy season we can make it through the dry months."



*A flowering palm branch turned red to attract pollinating insects*

I'm eating breakfast at La Casona (<http://www.reservamonteverde.com/lodging.html>), the lodge in the Monteverde Biological Reserve, gazing out at greenery so lush and thick I can barely see six feet into the Cloud Forest. Yet as Giuliano explains the amount of annual rainfall, 138 inches, remains the same. The change is in its pattern.

There are more dry days in the Cloud Forest than in the past – 96 in 2015. In the town of Monteverde, the eco-tourism center for this region of the Cloud Forest, there are water restrictions from noon to 3:00 p.m. Fortunately, Giuliano assures, that doesn't affect hotels or restaurants since most have constructed their own water collecting systems.

– like a fog – to be captured by the thousands of ferns and air plants that make up the canopy. The precipitation is nature's drip irrigation system slowly watering plants. That slow drip captures seeds, eventually making their way to the forest floor for germination.

The structure of the Cloud Forest is a prime example of the symbiotic relationships among nature that preserve our Earth. The density of vegetation growing on top of each other is essential. On one soaring tree alone, the weight of all the plants living on that tree exceeded 200 tons and included 150 species of



plants among them 70 species of orchards.

Giuliano stressed it's a misconception to assume these plants smother the tree – with the exception of the strangler fig which eventually encases its host yet provides an architecture to support the diversity. Air plants are not parasites. They do not rob the host of nutrients; they simply use them as a structure. There's only one parasitic plant in all the cloud forests – mistletoe.



*Looking up to the Cloud Forest canopy*



*Symbiotic plant growth in the Monteverde Biological Reserve , Costa Rica*

Costa Rica preserves 35% of its landmass as either national parks or private reserves, more than any other nation on Earth. This natural beauty attracts hundreds of thousands of visitors annually. Yet it has become the world's laboratory for studying the effects of global climate change. Currently Dr. J. Alan Pounds (<http://www.nytimes.com/2001/11/20/science/something-missing-in-fragile-cloud-forest-the-clouds.html>), resident biologist at the Monteverde Biological Reserve, and the University of Georgia are conducting advanced computer studies on climate change within the Cloud Forests that will result in significant data.

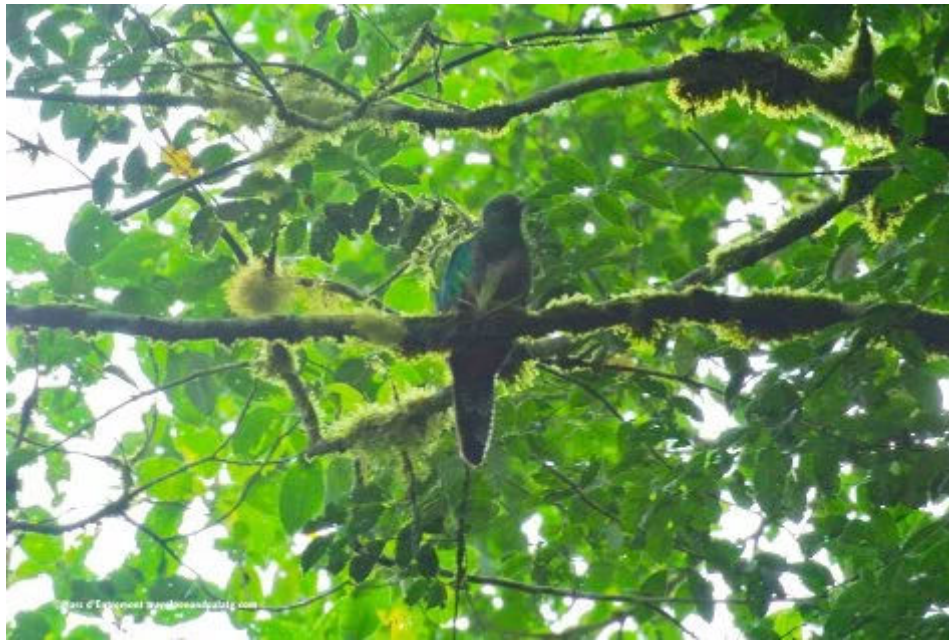
"The winds are changing," Giuliano explains. "It's becoming windier – they clean the sky and dry it out. Deforestation in the coastal lowlands has altered wind patterns causing (higher velocity) winds that push clouds up and away from the mountain forest treetops." This has diminished the gentle clouds that mist the Cloud Forest and affected the behavior of its wildlife.



*One of 1,100 species of ferns in Monteverde Biological Reserve*

Giuliano says there are possibly four jaguars living in the reserve – an extremely endangered and ultra shy species of cat. Yet in the past year the cats have killed 15 goats at night on farms – proof caught on film. This is unusual and indicates that the natural food supply in their habitat and the habitat's size are diminishing, forcing the jaguars out of their usual secluded environment and closer to the source of people food.

That may be an extreme example but a more subtle effect can be found on the germination of the Cloud Forest avocado. Figs and avocados are essential food sources for forest mammals and birds. The avocado especially is dependent on the magnificent quetzal.



*Female quetzal – possibly only 20 living in the Monteverde Biological Reserve*

The feathers of the quetzal were prized by the ruling class of ancient Central American civilizations. Their plumes were harvested only from feathers that had naturally dropped onto the forest floor. Unfortunately European settlers after the 16<sup>th</sup> century conquest were not so patient, hunting the quetzal nearly into extinction while diminishing their natural environment.

It's estimated there are only 300 *quetzals* in Costa Rica out of 900 total in Central America with perhaps 20 living in the Monteverde Biological Reserve. The quetzal enjoys avocados, but more important to the ecosystem, they enjoy their small seeds. For the avocado seed to germinate it must be swallowed by the quetzal and deposited through their digestive system on the ground – nature's symbiotic relationship.



The over 90,000 annual visitors to the Monteverde Biological Reserve (<http://www.reservamonteverde.com/>) walk pristine trails on the 3% of the reserve open to the public. They experience a prime example of what can go right in the world when concerned citizenry, a committed government and the resources of the international scientific community work in harmony.

For me listening to Giuliano identify dozens of unseen birds by their sounds, getting a glimpse of the rare quetzal, explaining the cooperative layers of vegetation down to beautiful blankets of white mushrooms digesting fallen fauna that revert back into life giving soil was the experience of what the world can be in the absence of human conflict with nature.



*Avocado seed, Monteverde Biological Reserve*



*Giuliano Salazar Gigli (left) & Mauricio Aymerich (right) director Small Distinctive Hotels*

**When you go:** The town of Monteverde attracts over 250,000 annual visitors and is a center for ecological and adventure tourism. Juan Santamaría International Airport (SJO) (<http://www.govisitcostarica.com/region/city.asp?cID=407>) is served by many airlines worldwide and is within an easy 20 minute drive of downtown San Jose and 3 hours to Monteverde.

**Getting around:** Costa Rica has an extensive inter city bus system and many tourist van options. The easiest transportation is renting a car. Costa Rica's road system is generally in good condition.

**Where to stay:** There are of number of accommodations from luxury hotels to hostels in Monteverde. I highly recommend:



(<http://www.examiner.com/article/hotel-belmar-and-the-new-look-of-success-costa-rica>)

*Hotel Belmar (main building), Monteverde, Costa Rica*

The Hotel Belmar (<http://www.examiner.com/article/hotel-belmar-and-the-new-look-of-success-costa-rica>), a member of Costa Rica's Small Distinctive Hotels (<http://www.distinctivehotels.com/>), is an ecological and culinary tour de force.



(<http://www.reservamonteverde.com/lodging.html>)

*La Casona inside the Monteverde Biological Reserve*

La Casona (<http://www.reservamonteverde.com/lodging.html>) inside the Monteverde Biological Reserve is an attractive bed & breakfast lodge with both private rooms and hostel bunk bed accommodations.

**Disclaimer:** The author was a guest of Hotel Belmar (<http://www.hotelbelmar.net/>), Small Distinctive Hotels (<http://www.distinctivehotels.com/>), ENroute Communications (<http://enroutecommunications.com/>) and Revista Ander de Viaje (<http://www.revistaandar.com/inicio/>).



Special thanks to my guide throughout my stay in Costa Rica Mauricio Aymerich, director Small Distinctive Hotels, and Giuliano Salazar Gigli for his excellent tour of the Monteverde Biological Reserve. Transportation within Costa Rica was provided by Toyota Rent a Car of San Jose (<https://toyotarent.com/>). A Rav4 made Costa Rica's mountain roads, especially the few unpaved, safe and comfortable.

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*Gulf of Nicoya from the Hotel Belmar, Monteverde, Costa Rica*

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