



A COOL, MOIST HEAVEN FOR PASSIONATE BIRDWATCHERS  
**WINGS OVER MINDO**

Hand-held hummingbird photography - and much more - in Ecuador's most accessible and spectacular cloud forests


*Cloud forests alive with the sounds of tropical birds*

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As most ANIMA MUNDI readers will have realized by now, we really aren't keen bird photographers – we seem to lack the often obsessive passion and knack one needs for this kind of subject, we do not like carrying and using tripods (apparently a must for serious bird shooters) in the field, and our telephoto lenses are neither long enough nor focusing fast enough for such skittish, flitting, fast-moving creatures. So when we decided to spend some time in Mindo during our month-long trip to Ecuador with our friends of [Tropical Herping](#), we looked at it mostly as a quiet, out-of-the-way location where we might relax for a short bit in the cool mountain cloud forest climate after the

exhausting heat and humidity of the Amazon, and where – with some luck – we might actually find and photograph some unusual and very desirable species such as the endangered Spectacled bear *Tremarctos ornatus* or Campbell's toadhead pit-viper *Bothrocophias campbelli*, both having previously been encountered in the area. We did not see either – with much disappointment for us, childish as we are – despite our half-hearted attempts, but little did we suspect upon our arrival in Mindo that after encountering some of its smallest and most frustrating inhabitants we'd find ourselves solidly hooked to – you guessed it – bird photography.

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A trio of Choco Toucans   
*Ramphastos brevis* silhouetted against the Mindo sky at dawn.





The Mindo cloud forest canopy is a veritable hanging garden of flowering epiphytes, mosses, lichens and arboreal orchids



Carefully scanning the forest canopy allows brief, tantalising glimpses of beautiful birds such as this Collared Aracari *Pteroglossus torquatus*.

Never having been passionate birdwatchers, we were in fact totally ignorant of Mindo’s shining reputation as of one of tropical America’s hotspots for this peculiar activity, together with Costa Rica’s internationally well-know Monteverde and a handful of other localities: it seems the cool, moist environment of the tropical and equatorial montane cloud forest represents the ideal habitat for an exceptionally large number of spectacular bird species. And among those bird species – for us newcomers, at least – none were more visible, endearing or dazzling than the myriad of hummingbirds flitting and literally buzzing everywhere.

I do not expect our reader to be fully conversant with the somewhat exotic subject of hummingbird biology and extremes, so let me explain better. If I may quote from Wikipedia (any other good book on bird biology will tell you the same, however), “*Hummingbirds are birds that comprise the family Trochilidae. They are among the smallest of birds, most species measuring in the 7.5–13 cm (3–5 in) range. Indeed, the smallest extant bird species is a hummingbird, the 5-cm to about 20-mm Bee Hummingbird. They can hover in mid-air by rapidly flapping their wings 12–80 times per second (depending on the species). They are also the only group of birds able to fly backwards. Their English*

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*A constant flurry of iridescent, rainbow-hued activity*




■ A Purple-throated Woodstar *Calliphlox mitchellii* hummingbird shines like an iridescent jewel as it flies past in the Mindo cloud forest.

■ A stunning Andean Cock-of-the-rock *Rupicola peruviana* displaying on its lek in the montane rainforest. Mindo offers very good chances of admiring this uncommon and exceptionally wary bird. Below, three in-flight images of a briefly hovering Green Thorntail *Discosura conversii* hummingbird.





A colorful Collared   
Aracari Pteroglossus  
torquatus gorges itself on  
ripe bananas in the garden  
of the Yellow House.



Left, a small Tree frog *Hypsiboas pellucens*, commonly observed in the moist habitat of Mindo's cloud forests. Right, top, a Rufous Motmot *Baryphthengus martii* feeding on wild bananas and, bottom, a male Flame-rumped Tanager *Ramphocoelus flammigerus*, also feeding on ripe fruit.





*Shards of light zooming erratically everywhere*



name derives from the characteristic hum made by their rapid wing beats. They can fly at speeds exceeding 15 m/s (54 km/h, 34 mi/h). Hummingbirds drink nectar, a sweet liquid inside certain flowers. Like bees, they are able to assess the amount of sugar in the nectar they eat; they reject flower types that produce nectar that is less than 10% sugar and prefer those whose sugar content is stronger. Nectar is a poor source of nutrients, so hummingbirds meet their needs for protein, amino acids, vitamins, minerals, etc. by preying on insects and

spiders". Unbelievable! How can such a hysterical dynamo – perennially buzzing from flower to flower with disconcerting speed and in perpetual, frantic motion - survive on nectar and the occasional insect alone? Our source continues to reveal that "With the exception of insects, hummingbirds while in flight have the highest metabolism of all animals, a necessity in order to support the rapid beating of their wings. Their heart rate can reach as high as 1,260 beats per minute, a rate once measured in a Blue-throated Hummingbird. They also consume more

than their own weight in nectar each day, and to do so they must visit hundreds of flowers daily. Hummingbirds are continuously hours away from starving to death, and are able to store just enough energy to survive overnight". Fascinating! But what about their most striking visual feature – their incredibly colorful, iridescent plumage? Apparently, "Many of the Hummingbird species have bright plumage with exotic colouration. In many species, the coloring does not come from pigmentation in the feather structure, but instead from prism-like cells

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*A truly beautiful male White-necked Jacobin Florisuga mellivora, one of Mindo's most spectacular hummingbirds.*



From left to right, another Collared Aracari *Pteroglossus torquatus*, a male Green-crowned Brilliant *Heliodoxa jacula* frozen in mid-flight and a Bronze-winged Parrot *Pionus chalchopterus*.





A male anole *Anolis equatorialis* confides in its exceptional camouflage as it lies immobile on a cloud forest tree trunk.



Left, a tall forest tree literally festooned with mosses and epiphytes rises from the misty, water-laden cloud forest of the Mindo valley. Right, top, a Golden Tanager *Tangara arthus*; bottom, a Squirrel Cuckoo *Piaya cayana*.





Green Thorntail *Discosura conversii*, a very small and rather inquisitive hummingbird species which is quite common in the cloud forest of Mindo.

within the top layers of the feathers. When light hits these cells, it is split into wavelengths that reflect to the observer in varying degrees of intensity. The Hummingbird wing structure acts as a diffraction grating. The result is that, merely by shifting position, a muted-looking bird will suddenly become fiery red or vivid green. However, not all hummingbird colors are due to the prism feather structure. The rusty browns of Allen's and Rufous Hummingbirds come from pigmentation. Iridescent hummingbird colors actually result from a combination of refraction and pigmentation, since the diffraction structures themselves are made of melanin, a pigment". As our images show, the above description fits the bill indeed – when lit by the sun's rays or a

camera strobe's flash from the correct angle, one of these tiny birds – in some cases not much bigger than a large hornet – can magically transform into a dazzling, fiery, iridescent shard of green, violet and blue, zooming erratically at incredible speed, stopping in mid-air and even disappearing in the blink of an eye – flying backwards and receding in the distance as a miniature meteor. Wow! Given their totally erratic and often unpredictable flight patterns, their incredible speed and – last but not least – their minuscule size, hummingbirds make very difficult subjects for the unspecialized nature photographer. They rarely perch for more than a few seconds – and, despite their shimmering plumage, one certainly doesn't want them to capture one perching, as these

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With its permanently wet and cool atmosphere, Mindo's cloud forest is a veritable haven for epiphytes and mosses. These graceful and thick hanging gardens offer an endless variety of microhabitats for a great number of reptile, amphibian and above all insect species.



Left, a moss-mimicking katydid belonging to the genus *Paraphidnia*. Right, a close-up portrait of a large Cranidae Opilionid, commonly known as Daddy Longlegs or Harvestman.





■ A male White-necked Jacobin *Florisuga mellivora* reveals its stunningly iridescent coloration. Hummingbirds will however “sparkle” only when lit from certain angles.

truly are creatures of the air. So how does one succeed in correctly framing a crazed tiny bird which is zooming to and fro, lighting it in the best possible way to reveal its iridescent shades and above all nailing it in tack-sharp focus? Logic dictates that to obtain unblurred images of such a fast subject one needs very high shutter speeds, but opening up the f. stops to compensate the corresponding loss of light means losing all hopes of depth-of-field, crucial in the sharp focusing of such a tiny creature. The recognized grand masters of hummingbird photography – a fine art in itself, requiring almost monastic dedication – such as our friends **Glenn**

**Bartley** and **David Hemmings** use and continually refine the use of multiple flashes and pre-focusing, organizing complex, highly professional set-ups in the field, where they identify flowers being reliably visited by foraging hummingbirds, frame them with pre-set focus and “ambush” their subjects once they approach and feed. This is, I repeat, a highly specialized technique requiring fairly complex equipment – monopods, tripods, several flash units – and above all a degree of fanatical patience we sorely and sadly lack, as one basically has to sit and wait until the hummingbird will actually (and hopefully) decide to visit the chosen

flower, possibly from the right angle and pausing long enough (ie one or two seconds) to be immortalized. This technique usually generates – when successfully used – exquisite, painting-like images of the jewel-like birds literally frozen in mid-air, every single detail and feather perfectly focused and sharply detailed. Stunning miniatures and a source of amazement always to all, no doubt, but in my eyes also lacking one crucial, iconic element of the hummingbird universe – the dazzling speed and unpredictability of its aerial aerobatics. So, being totally unable to imitate the technique described above, and also lacking the equipment to do so,

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Left, a macro portrait of a predatory rhinoceros katydid belonging to the genus *Copiphora*. Armed with a fearsome array of sharp spines, these nocturnal katydids will readily and painfully bite if picked up. Right, the colorful livery of a Chrysomelidae Leaf Beetle presumably advertises its toxic properties to would-be predators.





■ A juvenile, pencil-thin Gemmate anole *Anolis gemmosus* rests on a palm leaf frond at dawn, waiting for the sun's first rays.

ANIMA MUNDI  
YouTube

Click on the image and watch a short video on Mindo's cloud forest and its bird life.

Wings Over Mindo





Left, the graceful uncurling of a young fern leaf. Right, top, the terrifying countenance of a large Whip scorpion, an Amblypigid belonging to the genus *Heterophrynus*. Bottom, a large Wandering Spider (Ctenidae). Both species are fierce nocturnal predators which can be found at night lurking in the understorey of Mindo's cloud forest.



■ The uniquely graceful profile of a White-whiskered Hermit *Phaethornis yaruqui* frozen in mid-flight. This is a relatively large species among those observed in Mindo's forests.



we opted to try something admittedly more amateurish but more suitable to our way of working – handheld hummingbird photography. The results are featured on these pages for all readers to judge – flawed, possibly, but somehow, at least in my opinion, capturing the veritable essence of the hummingbird tribe...motion and color. Between our long walks in Mindo's cloud forest in search of reptiles, amphibians and insects, we then sat for hours nearby flowers and feeders being reliably visited by the ever-present hummingbirds, and started experimenting. We used a soft ambient light mixed with our Nikon D300 in-camera strobe, supplemented by a remotely controlled, handheld SB600, to provide enough light to shoot at ISO speeds ranging from 400 to 800, with f-stops ranging from f 5.6 to f 13 and a shutter speed varying between 400/ sec - 1000/sec. As most of hummingbird species show best their iridescence when facing straight ahead – color codes being possibly used for intraspecific communication and interspecific challenging – using a camera-mounted

strobe makes perfect sense in this case. While these settings, once adjusted, proved relatively satisfactory – providing well-lit foreground birds on a sufficiently illuminated forest background – focusing proved to be a much tougher challenge. Our Nikons came out as clear losers when compared to our friend Lucas' Canon – his autofocus proved much faster and assured than our Nikons', which most often than not went on chasing forever and lost us valuable shots. Out of frustration, we tried manual focusing but had to give up after a few failures – hummingbirds just won't hover long enough to allow sharp manual focusing when doing handheld photography. In the end, we gave up trying to use our Nikon 80-400mm, which was too long anyway, and fell back on our Nikon 18-200mm, shooting at a distance of about 2 meters from the subject and allowing plenty of air around it when framing to avoid the chasing of the AF. Success rate was about 1 reasonably good image every 10 actually shot, most of the others being partially but crucially out of focus. I now can understand

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Insect life in Ecuador's montane cloud forests is stunningly rich. Top left, a Decaying-leaf-mimic katydid *Pycnopalpa bicordata*; bottom left, a large moth *Automeris* sp. flashes its brightly colored ocelli to scare away an intruder. Left, the alien and yet strangely seductive shape of a Green leaf mantis *Choeradodis stalii*.

*A minuscule extraterrestrial -  
the Membracid from Mars!*



■ Alien-looking and smaller than a thumbnail, this tiny insect is a weirdly-shaped Treehopper, *Alchisme* sp. (family Membracidae).



Left, a Broad-billed Motmot Electron *platyrhynchum* rests on its tree perch at dawn. Right, backlit epiphytes at noon. Mindo's private lots are luckily criss-crossed by a large number of well-kept forest and mountain trails which allow visitors to explore the surroundings with relative ease.





■ A rather somberly colored male anole *Anolis equatorialis*, one of several similar species inhabiting Mindo's cloud forest. Most however are highly cryptic and very difficult to see in the forest environment.





More examples of Mindo's exuberant birdlife: above, Blue-gray Tanager *Thraupis episcopus*; right, Orange-bellied Euphonia *Euphonia xanthogaster*; far right, Swallow Tanager *Tersina viridis*.

why Canon equipment is generally preferred by most bird photographers.

Besides hummingbirds, Mindo and the secluded cloud forests ringing it brim with other stunning avian species – colorful aracarís, toucans, parrots, tanagers, motmots and even the fabled and rarely seen Cock-of-the-rock, whose noisy display on its cliffside, jungle-clad lek was one of the trip's highlights. Add to the mixture

a huge number of fascinating insects and a titillating sprinkle of dazzling reptile and amphibian species, all to be found in misty, rain-drenched forests, and the magical recipe for a great trip is complete.

We gratefully acknowledge the help offered in the identification of some species by our friends of Pontificia Universidad Católica del Ecuador, Carlos Antonio Rodríguez (birds) and Rafael Cárdenas (arthropods).



Orchids, mosses and epiphytes of innumerable species drape every available square inch of Mindo's wild cloud forest and guayaba orchards. This is a complex, highly layered environment - the ideal habitat for amphibian and insect life despite the occasionally low nighttime temperatures.



Two rainbow-hued Glasswing Nymphalid butterflies (family Ithomiinae) are mating at night, protected from roving predators by the lower face of a large leaf.

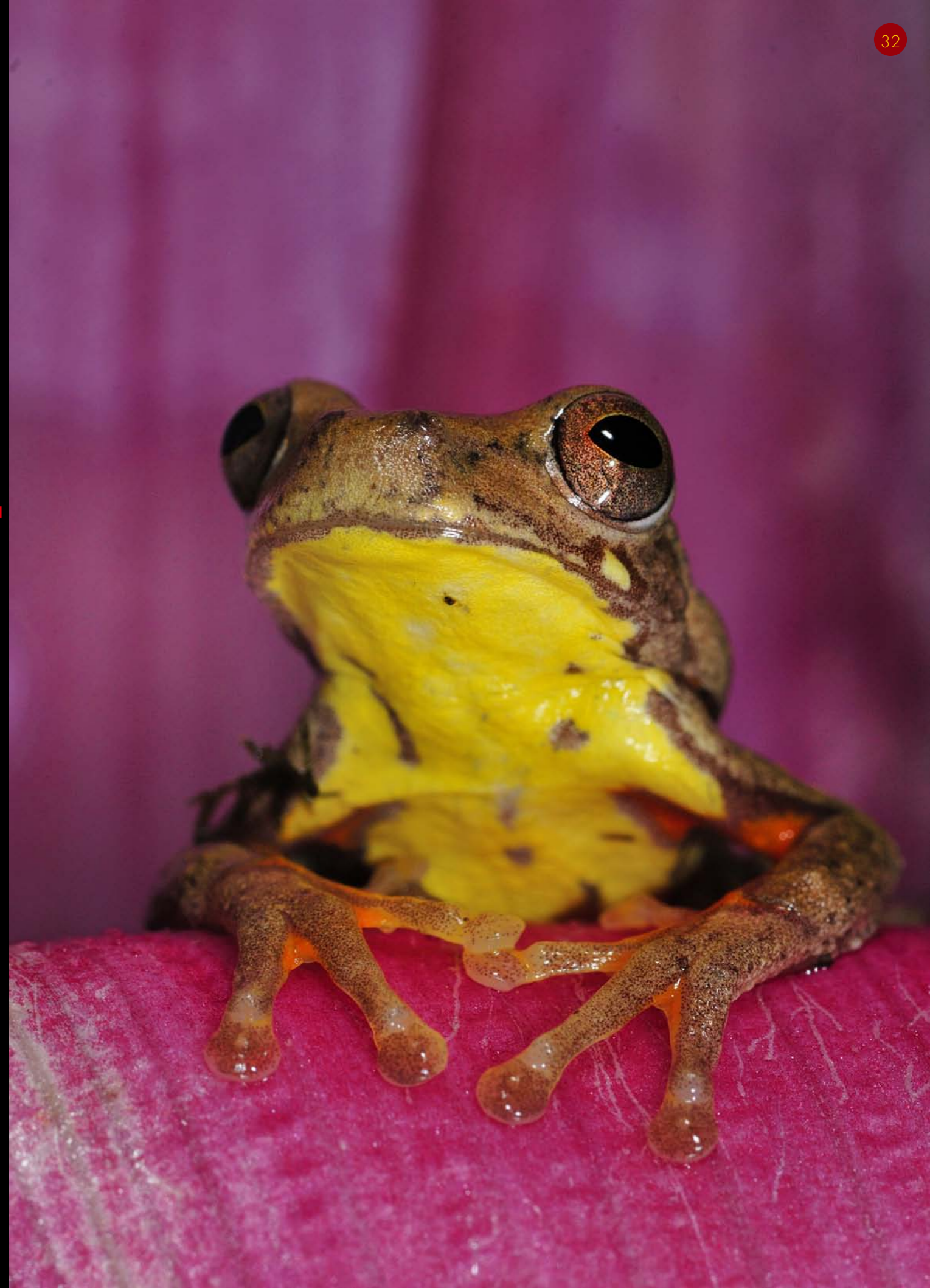


From left to right: a Western Basilisk *Basiliscus galeritus* resting on a tree branch, a Green Thorntail *Discosura conversii* - here caught urinating in mid-flight! - and a clump of flowering arboreal orchids. Ecuador's montane cloud forests are a true paradise for the latter, with many undescribed species.

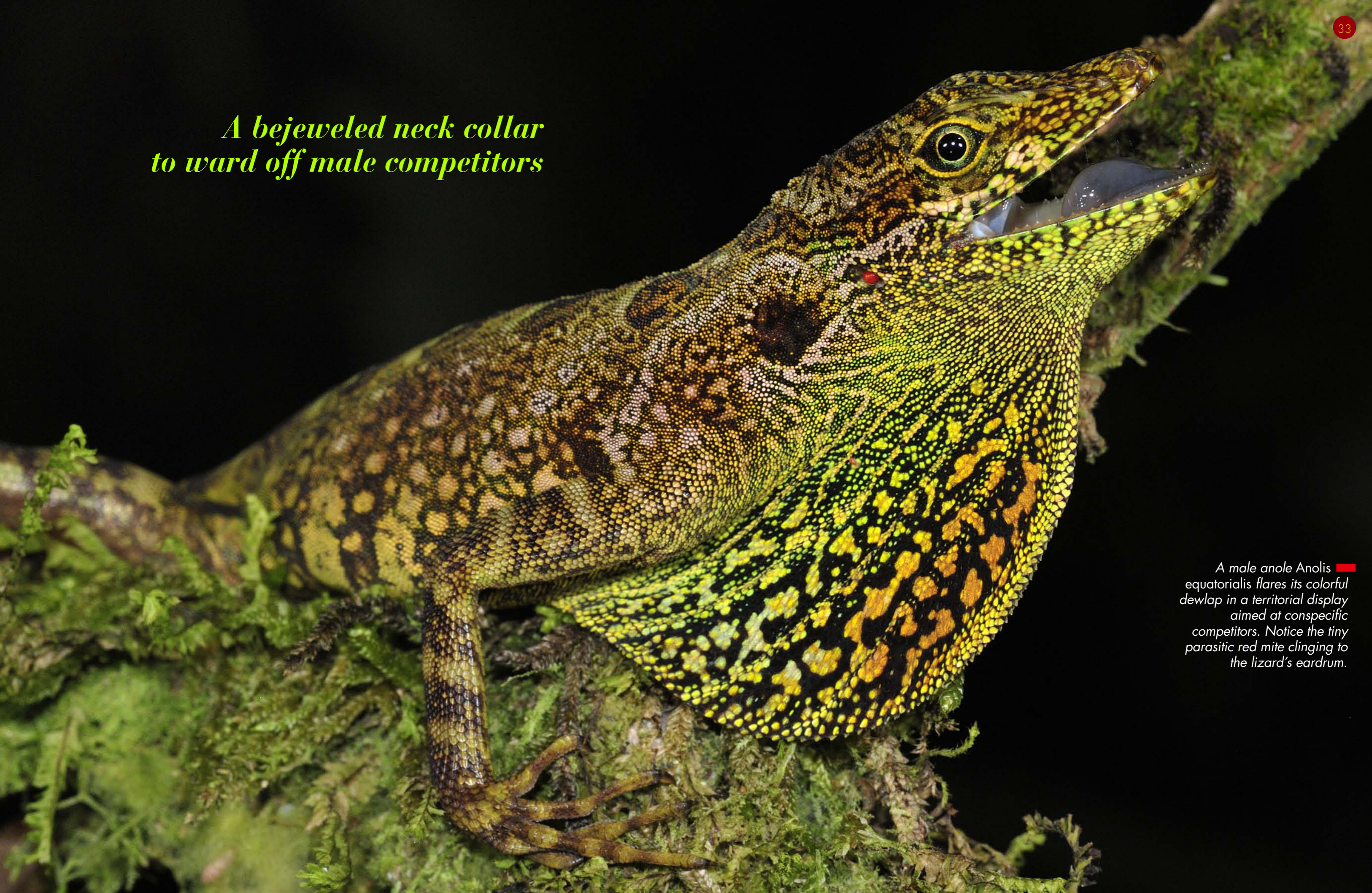




Ecuador's cool, wet cloud forests host a number of beautiful amphibians, and in particular several very interesting Tree frogs species. Left, *Hypsiboas pellucens*; right, *Dendropsophus carnifex*.



*A bejeweled neck collar  
to ward off male competitors*



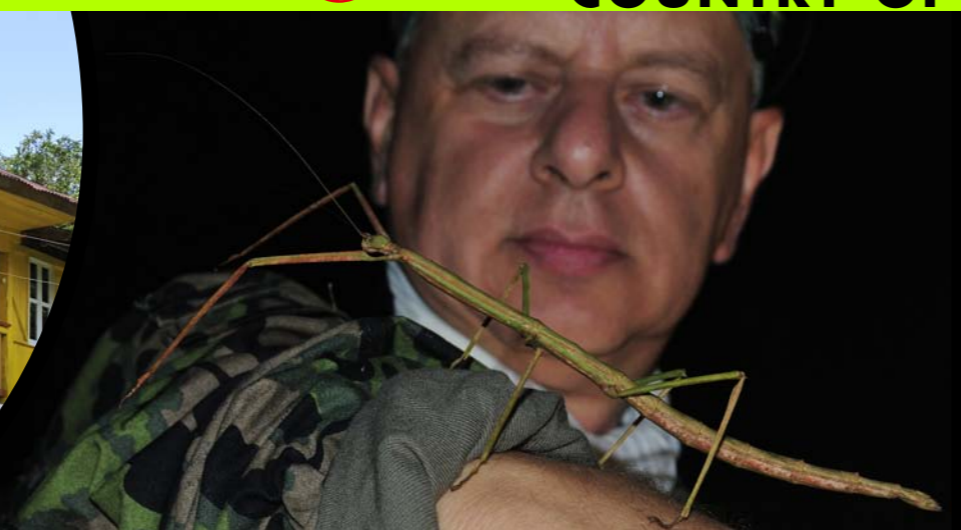
A male anole *Anolis* **equatorialis** flares its colorful dewlap in a territorial display aimed at conspecific competitors. Notice the tiny parasitic red mite clinging to the lizard's eardrum.

Female rhino katydid  
*Copipohora* sp. - notice the  
dagger-like ovopositor, used by  
this strong-jawed predator to  
lay eggs in the ground or  
inside the tissues of plants.



## At-a-glance travel guide

COUNTRY OF DESTINATION: **ECUADOR**



### USEFUL TIPS FOR YOUR EXPEDITION

**Some simple, common sense, field-tested advice and information to make the best out of your trip and avoid hassles, worries and problems**

**ROUTE:** Your international flight will land at Mariscal Sucre International Airport, worryingly set smack in the middle of Ecuador’s high-altitude capital Quito. From there it’s a comfortable three-hour car drive due north-west on good, well-maintained roads to your destination, Mindo town and its Forest Reserve. The transition between the arid, desert-like dry eastern plateau and the lush, forested western mountainsides is quite surprising.

**MEANS OF TRANSPORT:** You might rent a car in Quito and drive yourself to Mindo but we do not advise you to - save yourself the trouble and have the trip organized by a local naturalist guide who is familiar with the routes and the best wildlife viewing

spots. Once in the Forest Reserve you will have to walk on very easy cloud forest trails criss-crossing several private properties and fincas. For a well-organized and successful trip we can heartily recommend the services of our friends Lucas Bustamante-Enriquez and Alejandro Arteaga of **Tropical Herping** - two young, enthusiastic biologists with a keen interest in nature, wildlife and photography.

**CURRENCY:** Since the year 2000 Ecuador has opted not to have a national currency of its own – all transactions are done in US dollars.

**ACCOMODATION:** Mindo is a birdwatchers and

nature lovers classic destination, and the local infrastructures have developed accordingly. Several private properties and farms with their own land and trails offer basic but comfortable accomodation – we have stayed at the lovely Yellow House or Casa Amarilla of the **Hacienda San Vicente**, and we can safely recommend it to all. Breakfasts at the Yellow House are delicious and its extensive network of trails designed and maintained by the conservation-minded owners will keep one occupied for weeks.

**FOOD:** Simple but basically healthy and filling. Ecuadorians love soups (try the delicious *Locro de Queso* – potatoes, cheese and avocado), meats and fish and are blessed all-year round with fantastic



# From the Andes to the Amazon a land truly ruled by nature



vegetables and fruit. Always make sure the fruit squashes – which you don’t want to miss! – are done with bottled water to avoid health problems. Simple but clean and inexpensive food – such as soup of the day and grilled trout - can be had at El Madrono restaurant in downtown Mindo.

**LANGUAGE:** Ecuadorian Spanish and English, especially in tourist areas where many foreigners congregate, such as Mindo.

**WORRIES:** Ecuador used to have a rather bad (and rather well-deserved) reputation regarding street muggings and tourist-related crimes. Things are much better now, but - like in so many other big cities worldwide - it’s always better to be accompanied by local friends when visiting Quito’s beautiful historical areas. Mindo and other rural areas are quite safe, but - like anywhere else - a measure of discretion is advised when going around at night or with expensive cameras and/or videocameras.

**HEALTH:** Located in a wide, open valley at 1.300 meters, Mindo has a cool, middle-altitude climate which makes it relatively safe from mosquito or sandfly-borne diseases, which are rampant in the Amazon provinces. Landing in Quito (2.800 meters, 9000 feet) upon one’s arrival might however cause altitude sickness to the unaccustomed, so it’s advisable to plan spending a couple of days there to better acclimatize. Food is generally quite safe, but avoid street-stalls snacks and always make sure your drinks have been concocted with bottled water.

**CLIMATE:** Pleasantly cool and occasionally warm during the day, all year-round. Ecuador - especially at altitude - is blessed with an eternal spring, and they say one can experience the four seasons in a single day in Quito. The climate in the Amazon further East can be very hot and muggy, but the cloud forests of Mindo are breezy and very pleasant. This is an equatorial climate, so expect frequent rainfall.

**BESIDES:** Don’t miss exploring the historical center of the capital Quito, which has been extensively and lovingly restored and features some spectacular examples of colonial architecture from the Spanish domination. Quito is a truly vibrant metropolis - restaurants, theaters, art galleries and universities have much to offer to all, not to speak of the stunning vistas and landscapes surrounding it. On your way to Mindo you will also cross the Equator line, which is marked by the obligatory monument. Mindo has little to offer culture-wise, and can instead be only recommended for its lush nature and abundant wildlife. Ecuador is a rather small but exceptionally diverse Country, and it’s almost impossible summarizing it in a few lines – a few hours’s travelling will have one passing through high-altitude plateaus and valleys, stunning Andean landscapes and cloud forests – descending to the dry Pacific coast (and the Galapagos Islands) if going West and to the lowland rainforest of the Amazon – locally known as El Oriente - if going East. ●