

Andean Flora of Ecuador

Naturetrek Tour Report

25 September - 10 October 2012



Chromacris psittacus



Odontoglossum sp.



Epidendrum sp



Inca Jays

Report compiled by Gustavo Cañas Valle
Images courtesy of Alastair Robinson



Naturetrek Cheriton Mill Cheriton Alresford Hampshire SO24 0NG England

T: +44 (0)1962 733051

F: +44 (0)1962 736426

E: info@naturetrek.co.uk

W: www.naturetrek.co.uk

Tour Leader:	Gustavo Cañas Valle
Participants:	Ruth Robinson Alastair Robinson Alison Wesley Wendy Allen Margareth Edwards Hilary Green

Summary

Our journey in Ecuador meandered through 10 different vegetation formations out of the 16 general ones described by Neill (1999, in Jørgensen and Leon eds. 1999). This diversity of habitats harbors 16,000+ vascular plants in more than 250 native families, about 5 times more species than the British Isles (in a territory with an area which is only 10% smaller). We traveled the Eastern Andes of Ecuador, enjoying comfortable lodges, exotic food, new plants, and dramatic landscapes. During 14 nights exploring this territory, we recorded about 500+ native plant species! Out of those, 35 are endemic to Ecuador and another 90+ are shared endemics: species found in Colombia (COL) or Perú (PER). Additionally, we watched and identified 102 colorful bird species, including local and difficult to see specialties such as Rufous-bellied Seedsnipe, and White-breasted Antpitta. Also we learned how these habitats nowadays face important conservation challenges.

Day 1

Tuesday 25th September

Travel from the UK to Quito.

Day 2

Wednesday 26th September

After a short drive from our hotel we arrived at one of the traditional markets, which is managed by the city, but supplied and run by rural farmers: Santa Clara Market. As we entered the market, a colorful array of fruit welcomed us: in the Annonaceae, Chirimoyas (*Annona cherimolla*), and Guanábanas (*Annona muricata*), in the Solanaceae, Naranjillas (*Solanum quitoense*), Tomates de Árbol (*Solanum betaceum*), and Uvillas (*Physalis peruviana*); in the Cactaceae, Tunas (*Opuntia ficus-indica*), and Pitajayas (*Hylocereus polyrhizus*); in other families, Babacos (*Carica x heilbornii* nm. *pentagona*), Guabas machete (*Inga spectabilis*); and Granadillas (*Passiflora ligularis*), and Maracuyás (*Passiflora edulis* fo. *flavicarpa*).

Around the corner from the fruit alley, the vegetable section of the market presented another set of local produce available in markets only in Ecuador and Peru: Chochos (*Lupinus mutabilis*), Mellocos (*Ullucus tuberosus*), Ocas (*Oxalis tuberosa*); roots available only in the Andes such as Zanahoria amarilla (*Arracacia xanthorrhiza*); Latin American produce that are used in our traditional cuisine: Sambo (*Cucurbita ficifolia*) a kind of squash, Yucca (*Manihot sculenta*) also called Manioc or Cassava, and recent additions from neighbouring countries: Camote (*Ipomea batata*) and Mashua (*Tropaeolum tuberosum*) from Peru, and Cidra (*Sechium edule*) from Colombia, commonly called Chayote in México and Central America. After collecting several exotic fruit for snacks, we departed to Cotopaxi National Park.

Machachi is the location of the northern access to Cotopaxi National Park. In the outskirts of Machachi, before entering the park, we took a walk through Inter-Andean farmland, grassland and quebrada vegetation. Stands of *Eucalyptus globulus* introduced from Australia are now growing amongst local Andean vegetation. Growing on top of the trees and around them we found several species of plants found in the moist areas of the valleys in the highlands of Ecuador. Epiphytes included *Tillandsia incarnata* and *Tillandsia* cf. *pastensis*. Remarkable species seen along the walk included *Bocconia integrifolia*, *Phaedranassa dubia*, and *Bomarea multiflora*.

After boarding our van, we drove a short distance to photograph the red and yellow trumpet of *Brugmansia sanguinea* - regional endemic. Gardeners enrich their hedges and fences here with the Brugmansia flowers. Along the road we also found the droopy pink blossoms covering a tree of *Vallea stipularis* and *Cuscuta* cf. *stenolepis* along a hedge. As we took the trail to the park, a large patch of the endemic *Puya retrorsa* in flower with turquoise blossoms showing on the spikes, welcomed us to the Paramo. In the Ecuadorian Andes, the Paramo is the dominant habitat above 3000 meters and up to the snow line. It is a vegetation formation which includes grassland, bushes and a few tree species which grow above the treeline.

After a hearty and warm lunch at the Cotopaxi National Park we went on to our tummies to photograph prostrate alpine: *Gentiana sedifolia*, and the regional endemics *Gentianella* cf. *cerastioides*, *Halenia* cf. *weddelliana*, and *Ephedra rupestris*. Behind the house where we had lunch, we found a sample of Paramo bushes, including the orange flowers of *Chuquiraga jussieu* and *Polylepis incana*.

At Limpiopungu Lake, we explored the first stretch of the trail around it. As we walked we felt we were watched from the hillside: an Aplomado Falcon was looking around from the top of the bushes! Among the plants we saw along the trail were the endemics *Cotopaxia asplundii* and *Diplostegium ericoides*. A few minutes later, we stopped at the interpretation center and added some more flowers to today's list: the light-green and red flowers of *Brachyotum ledifolium* and the orange and yellow tubes of *Tristerix longebracteatus*. The sunset welcomed us to the Leito Valley, as we arrived to our hotel for our overnight stay.

Day 3

Thursday 27th September

Today Tungurahua Volcano was covered with clouds limiting our chance to photograph it. Most of our group members decided to have an early morning stroll to enjoy the gardens of our hotel and the views of the valley down to the Patate River. While having breakfast we enjoyed great views of Black-tailed Trainbearer and Sparkling Violetear hummingbirds. Our options for juices included the exotic flavors of Tomate de árbol - Tree tomato: *Solanum betaceum*, a local cultivar of Loganberry and the tropical and always delicate *Annona muricata* also known as Guanabana.

Up the mountain we went, through a winding road. The valley left below us was a mix of farmlands and gorges sprinkled with patches of Inter-Andean Forest, mainly covering ravines, streams and roadsides. Starting with the colorful orange spikes of the South-American native *Erythrina edulis*, we photographed some edible species we saw the previous day in the market such as *Lupinus mutabilis* and *Cucurbita ficifolia*. We found spikes of shoe-like yellow *Calceolaria perfoliata* flower on the wet banks of the road and along side-streams, as well as the endemic *Nasa auca*. *Altensteinia* aff. *virescens* a shared endemic with Colombia, was the final flower as we entered Baños.

Lunch time was a pleasant meal at a relaxed restaurant, with the extra time to enjoy photographing native flowers. Bromeliads, Orchids, and Acanthus offered us fresh blooms. Notable species here were *Guzmania monostachia* a plant present throughout Tropical America with striking bract patterns and colors.

Nearby Machay waterfalls were our next location. There we looked for native and endemic Saurauia trees (plus other Amazonian cloud forest species. Rain stopped us from going further than 500 metres into the trail. Plants from the families Gesneriaceae and Rubiaceae were seen along the trail. Instead of waiting for the rain to stop we decided to go up the road towards Baños. At the Ulba road, before Baños, we were after another of our Saurauia trees. There we found one of them plus roadside Maxillarias, Pleurothallis, Sobralias, and others.

Returning to the hotel we drove along the Agoyán Gorge and up the river towards the junction of the Patate and Chambo Rivers where we enjoyed the views of the steep northern face of the Tungurahua Volcano. The 1773-1886-1916-2002 series of eruptions left its mark on the southern shore of the Agoyan River. A succession of Lava and Pyroclast flows has modified the landscape. The former left solid rocky surfaces fragmented and eroded by gravity and their interaction with the river, resulting in a dramatic landscape full of cliffs and, on average, 150+ meter vertical drops...the latter created steep slopes of mixed rock, pumice and ash deposits.

Day 4

Friday 28th September

In order to make the best use of our time we all agreed to have a picnic breakfast. Today is when we explore the Puyo area, 2 hours away from Baños; so we needed to start early. And we were rewarded because of our efforts. Our early start at the hotel allowed us to have unique views of Tungurahua Volcano at sunrise, with its summit completely clean of clouds and with the sunlight just hitting the clouds above. *Passiflora manicata* was much photographed at one stop. As we arrived to the bottom of the valley we stopped for a flowering stand of *Cleistocactus sepium* var. *sepium* endemic to Ecuador. We had breakfast surrounded by rock faces and orchid plants. We found the last remnants of the flowers of *Epidendrum summerhayessii*, originally a new record for the 2007 Naturetrek botany group. Our second terrestrial orchid also occurred here: *Altensteinia fimbriata*.

Descending to Puyo, we noticed a change in the vegetation structure. The dry valley vegetation gave way to Cloud Forest. Cecropia species became more and more common, starting around Río Verde. The road was winding downhill following the Agoyán River as it entered the Ecuadorian Amazon. Heliconias appeared as the steep drop ended and the high gradient stream turned into a low gradient river, carrying volcanic sediments and enriching the soils. The Pastaza River creates a deep gorge, with very steep banks, worth a picture or two.

In Puyo, our first stop was CERFA, a private reforestation project that over more than 30 years has become a refuge for useful and ornamental native plant species of the Ecuadorian Amazon. Several orchid and bromeliad species are allowed to grow freely around the trees underneath this 20 to 25 metre tall canopy. Flowers photographed included Bromeliaceae: *Pitcairnia nigra*, *Aechmea* aff *fraseri*, *Aechmea tessmannii* and *Aechmea* cf *woronowii*, *Aechmea zebrae*. Plants from the Orchidaceae family included: *Stelis* aff *adrianae*, *Gongora scaphephorus*, *Huntleya* aff *meleagris*, *Lycomormium* aff *fiskei*, *Maxillaria buchtienii*, and *Prosthechea crassilabia*. We also found other useful plants such as *Carludovica palmata* the raw material for the Panama / Toquilla Hat, attractive Heliconias like *Heliconia orthotricha* and *Heliconia vaginalis*, and others.

Still with more trails to explore, we had to leave the reserve in order to visit OMAERE Ethnobotanical Park and to photograph a totally different set of species. OMAERE started as a community owned property. It was set aside to protect the native plants used by Waorani, Kichwa and Shuar people from the Amazon. When the surroundings were deforested, the property became the storage area for several medicinal plant species for the local communities. Eventually, management collected from the surroundings and neighbouring provinces more useful and medicinal plants that were about to be destroyed by the expansion of the mestizo colonization and the deforestation. Several of these species were successfully replanted in the park.

Bromeliads like *Guzmania weberbaueri*, *Aechmea napoensis*, and the endemic Loranthaceae-mistletoe *Psittacanthus zonatus* were the highlights of the trails. Other colorful flowers of Tropical America seen and identified were *Warszewiczia coccinea* (Rubiaceae) and *Pitcairnia arcuata* (Bromeliaceae). The park today, besides offering opportunities for education about native plants used as medicine and about the native cultures of the Pastaza Province, is exploring the importance of environmentally sound strategies for waste management, particularly dry toilets for the Amazon. So far the experience is a success.

Between both visits, we had lunch at a local restaurant where we enjoyed our packed lunch and also tasted a local dish: volquetero, prepared with *Lupinus mutabilis*. On our way back, we had a gentle two hour drive to our lodge in order to arrive before dark. At six we were already relaxing in our rooms.

Day 5

Saturday 29th September

Our normal itinerary required us to go to Quito today after visiting Chimborazo, in order to take an early flight to Loja the next day. However, the logistics were complicated and so we decided, then, that instead of driving north to Quito for 3.5 hours and getting the next day flight to Loja, we could easily add 1 hour of driving going south, giving a total of 4.5 hours, and give the group a chance to use the thermal pools in Cuenca, and be able to stop along the drive from Cuenca to Loja and botanize our way through a biologically rich section of the highlands. With all these considerations in mind, we planned this day carefully to make the best use of our time.

Our first stop was the dry vegetation of the Patate Valley, a very fertile sedimentary and volcanic valley where avocado, tangerine and tree-tomato trees are the main crop. Walking along a rural road we stopped at an *Agave americana* and saw a Giant Hummingbird coming to drink from its flowers. Additionally we saw *Clinopodium tomentosum* – an endemic (Lamiaceae). Next on our list, were several stops along the Ambato – Chimborazo road. *Calceolaria ericoides* and *Puya glomerifera* were in flower there.

When we got to Chimborazo Volcano (6268 meters above sea level - igepn.edu.ec) it was unfortunately barely visible. We took pictures of a partial view of the mountain, what the clouds allowed us to see, in order to remember this geological landmark, the top of which is the furthest away point from the center of the Earth! Looking for alpine plants, we circled the volcano through the west. The unusual *Valeriana rigida* (Valerianaceae), and the delicate *Nototriche hartwegii* (Malvaceae) shared the stage of the western sand banks with a herd of Vicuñas. These camelids were introduced to Ecuador during the 1990s, as a present of friendship from the Peruvian government during the negotiations for the definition of the boundaries between both countries. The natural range of South American camelids is Perú, Bolivia, Chile and Argentina. We enjoyed our lunch as we watched the Vicuñas have theirs. Important controversy arose when these mammals arrived due to their potential impact on the native vegetation. Their presence here is still controversial.

As we started our drive south to Cuenca, we only stopped once more: for a picture of the southern face of Chimborazo Volcano. The Andean ridge looked clear of clouds ahead of us! The sunset quickly gave way to the first stars as we passed next to Alausí. Behind the mountains, the Moon rose from the east and gave us the chance to enjoy the view of the dry valley of the Chanchán River: a breathtaking composition of light, shadows and mountain shapes. We had to have one last quick stop for this picture... The smooth drive to Cuenca took us through Bibian, where we enjoyed the view of its church on the hill, fully illuminated, and Azogues, the capital city of Cañar Province. A tasty dinner welcomed us. Then we went straight to bed.

Day 6

Sunday 30th September

Some of us woke up early to enjoy the thermal pools and get ready to depart to Loja. However, life had different plans. We enjoyed a parade honoring Baños. Colorful displays of traditional attires and Ecuadorian music were part of this unplanned cultural event. Outside the city we drove south and climbed up the Panamerican Hwy. Along the way we found and photographed *Gaiadendron punctatum*, one of the two species of *Gaiadendron* in the region. A few kilometres ahead, we reached the Paramo. We climbed and looked for *Puya nutans* (only one sample of flowers was discovered), *Puya pygmaea* (spend) (Bromeliaceae) and *Gentianella hyssopifolia* (Gentianaceae), all three endemic to Ecuador. They were amongst the almost two dozen plants we photographed here before lunch time!

During the afternoon, we drove down the hill into the Leon river valley. There we briefly stopped for *Tillandsia tectorum* (Bromeliaceae), and *Espositoa frutescens* (Cactaceae). We had close up views through the scope of both plants. We then carried on to our next destination - Loja.

Day 7

Monday 1st October

Leaving immediately after breakfast, we planned to explore the Vilcabamba – Yangana – Tapichalaca Road. We used the detour through Quinara. The Quinara-Yangana road offered us a perspective of the southern Ecuadorian dry valley vegetation. We found a form of wild cotton *Gossypium* aff *hirsutum* similar to the cultivated form, and *Ceiba trischistandra* (Malvaceae).

At the pass to Tapichalaca, we explored the cloud forest and saw several species of *Pleurothallis* such as *Pleurothallis canaligera*, *Pleurothallis* aff *dubbeldamii*, *Pleurothallis* aff *chordata*, as well as *Pitcairnia trianae* (Bromeliaceae), and one of the few *Podocarpus oleifolius* (Podocarpaceae) trees still present beyond the limits of the park. Along the trail in the Tapichalaca reserve we saw *Fuchsia steyermarkii*, *Centropogon steyermarkii*, *Cyrtocbilum* aff *junis*, and some frequent Bromeliad species such as *Mezobromelia capituligera*, and *Guzmania gloriosa*.

As we returned to Yangana, on our way to Vilcabamba we had two stops: a very quick one where we obtained pictures of *Fuchsia scherffiana*, and a longer one to photograph orchids. Amongst the species seen in the latter, were *Epidendrum fimbriatum* and *Epidendrum lacustre*, an *Epidendrum* species with a bract-less raceme-like inflorescence and another *Epidendrum* with a long spike inflorescence and minute flowers. We also saw *Prosthechea crassilabia*, and an Asteraceae: *Baccharis genistelloides*. After 6:00 PM, we arrived back at the lodge for a shower, and to have our dinner before retiring to bed.

Day 8

Tuesday 2nd October

Cerro Toledo was our destination today. Our goal was to arrive at the top to botanize downhill, exploring the most pristine areas first. A mix of a strong wind and passing clouds welcomed us at the highest point of our drive in the Paramo. As we walked downhill, we found a series of colorful flowers, sometimes along the road and sometimes after a short walk off the main path in the shrubbery. Prostrate plants such as *Ranunculus gusmannii* (Ranunculaceae), *Bomarea nervosa* (Alstroemeriaceae), *Bomarea dissitifolia* (Alstroemeriaceae), *Pachyphyllum falcifolium* (Orchidaceae), and *Ourisia chamaedrifolia* (Scrophulariaceae), were found amidst the highland grasslands progressively giving way to taller herbs such as *Valeriana plantaginea* (Valerianaceae), and eventually to trees as we arrived at the cloud forest. We endured some rain and the wind for the experience of photographing the blue flowers of *Puya cuevae* (Bromeliaceae). Other Ecuadorian endemics seen during our downhill walk were *Greigia sodiroana* (Bromeliaceae), *Bomarea brachysepala* (Alstroemeriaceae), *Fuchsia summa* (Onagraceae), and *Calceolaria oxyphila* (Calceolariaceae).

The altitudinal gradient along the road offered us a diverse set of families and genera of plants: Calceolaria (Calceolariaceae), Rubus (Rosaceae), Semiramisia (Ericaceae), Macrocarpaea (Gesneriaceae), Geranium (Geraniaceae), Oxalis (Oxalidaceae), Arcytophyllum (Rubiaceae), Maxillaria (Orchidaceae), and Paepalanthus (Elaeocarpaceae), among others. We arrived back to the lodge shortly after 6:00 PM.

Day 9

Wednesday 3rd October

Today we planned to visit three main destinations: Cajanuma access to Podocarpus National Park, Cuxibamba to Catamayo Valley Pass, and southern Ecuador dry forest between El Naranjo and El Empalme. In order to cover more ground and see more plants, we planned an early start today: a 6:15 AM departure.

Our first stop was Cajanuma, where we saw *Bomarea distichifolia* (Alstroemeriaceae), *Greigia mulfordii* (Bromeliaceae), *Otoglossum brevifolium* (Orchidaceae), *Pitcairnia pungens* (Bromeliaceae), and *Gaylussacia loxensis* (Ericaceae). Other attractive species recorded were *Pleurothallis* aff. *cardiostola*, *Racinaea* aff. *tetrantha*, an individual of *Cyrtochilum* species from the Cimiciferum group, and an unidentified *Lepanthes*. However the icing on the cake was seeing *Bejaria subsessilis* (Ericaceae), *Puya parviflora* (Bromeliaceae), and *Puya eryngioides* (Bromeliaceae).

At the bottom of the Catamayo Valley, we stopped at a well grown *Ceiba trischistandra* (Malvaceae) and used the chance to also take a photo of a frequent tree of the dry forest: *Acacia macracantha* (Fabaceae-Mimosoidea). As we were leaving the Catamayo Valley we stopped for *Espositoa lanata* (Cactaceae) within a private property where we were kindly invited to come to photograph this plant in flower.

The dry forest still had more to offer... We recorded *Sechium* aff. *pittieri* (Cogn.) C. Jeffrey (Cucurbitaceae) likely a new record for Ecuador, and not reported in the Catalogue of Vascular Plants of Ecuador. *Bougainvillea pachyphylla* (Nyctaginaceae) with red bracts protecting red floral tubes was also a rare find. We also found *Cordia lutea* (Boraginaceae), *Capparis scabrida* (Capparaceae), *Carica parviflora* (Caricaceae), *Tillandsia multiflora* (Bromeliaceae), *Vriesea espinosae* (Bromeliaceae), *Cereus diffusus* (Cactaceae), and *Opuntia quitensis* (Cactaceae).

We also recorded frequent species from tropical America: the common but bright yellow flowers of *Tecoma stans* (Bignoniaceae), the frequent epiphyte *Tillandsia recurvata* (Bromeliaceae), *Erythrina velutina* (Fabaceae-Faboidea), and Malvaceae like *Cavanillesia*, and the largest (>35 meters tall) individual of Ceiba, seen during the trip, most probably *Ceiba trischistandra* (range extension in Ecuador).

Probable introduced species with extension of distribution seen included; *Plumeria rubra* (Apocynaceae), *Pyrostegia venusta* (Bignoniaceae), and extension of distribution of a rarely seen epiphytic cactus *Selenicereus megalanthus* (Cactaceae) in Ecuador. But the highlight of the dry forest was the endemic *Armatocereus brevispinus* (Cactaceae), restricted to the Loja Province. As we looked for plants, colourful birds also showed up: a beautiful jay landed on the branches of a Ceiba, next to *Tillandsia multiflora*. By mid afternoon we stopped and drove straight to Zaruma. We arrived at our hotel at 7:00 PM.

Day 10

Thursday 4th October

Our last very early start began at 4:20am in Zaruma so we would make it on time to Santa Rosa Airport, for our 7:45 flight to Quito. What a breathtaking flight this was! We saw the Andean snowcapped volcanoes display all their beauty: Chimborazo, Cotopaxi, Antisana, and Pichincha.

After all transfers we had a late breakfast at a gourmet café. Great warm coffee and freshly made fruit juice were welcomed before going up to the cold of the Paramo. Today was the day of seeing volcanoes: Cotacachi, Imbabura, Cayambe, Antisana, Sincholagua, Cotopaxi and Pichincha. At the same time we explored the hillsides photographing a colorful variety of alpines in the Lycopodiaceae (*Huperzia*), Asteraceae (*Hypochaeris*, not *H. sonchoides* nor *H. sessilifolia*), and Geraniaceae. Some of the species recorded were *Gentiana sedifolia*, the spotless variety (Gentianaceae), *Gunnera magellanica* (Gunneraceae), *Lupinus microphyllus* (Fabaceae), *Clinopodium nubigenum* (Lamiaceae), *Castilleja pumila*, *Eryngium humile* (Apiaceae), *Xenophyllum humile* (Asteraceae), *Lysipomia montioides* (Campanulaceae), *Bartsia stricta* (Orobanchaceae), *Gentianella nummuraliifolia* (Gentianaceae), *Loricaria ferruginea* (Asteraceae), *Valeriana aretioides* (Valerianaceae), and *Xenophyllum cf rigidum* (Asteraceae).

The birding bonus of the day was a Rufous-bellied Seedsnipe appearing in the mist at the top of our drive. Wind blew strongly, so we drove to a sheltered spot to have our lunch where we could look over the Paramo grassland. As we ate we also saw some more good birds: Stout-billed Cinclodes and Bar-winged Cinclodes. In the late afternoon, as the temperature dropped we decided to continue to Termas de Papallacta to enjoy the warm pools right in front of our rooms and chat the afternoon away with *Cyrtorchilum* and *Oncidium* Orchids surrounding us.

Day 11

Friday 5th October

Right after breakfast we drove up the road through a U-shaped valley, probably a glacial one. Our targets were *Pinguicula calypttrata* (Lentibulariaceae), and *Lepanthes mucronata* (Orchidaceae). We missed both because the rain limited our search. In the drizzle, along our drive through the Cayambe-Coca Reserve, we stopped to photograph *Brachyotum* (Melastomataceae), *Diplostegium*, *Gynoxis* (Asteraceae), *Disterigma*, *Pernettya*, *Ceratostema* (Ericaceae), *Geranium* (Geraniaceae), *Escallonia* (Grossulariaceae), *Stellaria* (Caryophyllaceae), and a thriving population of *Tristerix longibracteatus* (Loranthaceae), which attracts hummingbirds. In fact, a Shining Sunbeam Hummingbird fed from the bright orange flowers.

Along our walk, we also recorded *Hypericum laricifolium*, *Dorobaea pimpinellifolia*, *Greigia vulcanica* (Bromeliaceae), *Gentianella rapunculoides* (Gentianaceae), *Pentacalia vaccinioides* (Asteraceae), and *Sisyrinchium palustre* (Iridaceae). During the last stretch of our walk, we spotted the violet-blue tubular flower of *Pinguicula cabytrata* and found a patch of them...a great find. We decided to go back to the lodge for tea or coffee and after lunch the rain slowly ceased.

We decided to explore the surroundings away from the valley where our hotel was located. Our focus was Orchids, and Bomareas. However we found more than that. Our afternoon records included *Cranichis ciliata* (Orchidaceae), *Calceolaria fusca* (Calceolariaceae), *Calceolaria pedunculata* subsp. *pedunculata* (Calceolariaceae), *Bomarea hieronymi*, and *Bomarea lancifolia* (Alstroemeriaceae) plus *Telipogon haussmannianus*, and *Telipogon* cf. *puruantensis* (Orchidaceae). We also photographed a dwarf tree-fern in *Blechnum* (Blechnaceae), and *Elleanthus maculatus* (Orchidaceae). Back at the lodge we had our last dip in the thermal pools, then dinner and at the table, we summarized the identifiable findings of the day.

Day 12

Saturday 6th October

With all our luggage packed, we left after breakfast to San Isidro Lodge. We went after the *Lepanthes mucronata* (Orchidaceae), and found it. We did not photograph it the previous day due to the rain. Today, we also looked for Epidendrums and Cyrtochilums in flower. During our walk we also recorded; *Polilepis* (Rosaceae), *Epidendrum* (Orchidaceae), *Barnadesia* sp (Asteraceae), *Nertera granadensis* (Rubiaceae), *Calceolaria perfoliata* (Calceolariaceae), *Calceolaria trilobata* (Calceolariaceae), *Epidendrum frutex* (Orchidaceae), *Lepanthes alticola* (Orchidaceae), *Calceolaria aff alata* (Calceolariaceae), *Siphocampylus lucidus* (Campanulaceae), and *Halenia longicaulis* (Gentianaceae). As we were closing this morning's session, a bird flock came by and we were able to spot Scarlet-bellied Mountain Tanager, Glossy Flowerpiercer, Spectacled White-start and the very local Black-backed Tanager.

We returned to the lodge to use the facilities, collect our luggage, and before leaving I took a photograph of a very healthy individual of a flower that we might find at the Lava flow: *Cyrtochilum pardinum* (Orchidaceae). Our next destination was Guango Lodge. We reached a patch of healthy cloud forest habitat harbouring several species such as *Rascinaea* sp. (Bromeliaceae), *Colignonia* sp (Nyctaginaceae), *Tradescantia* sp. (Commelinaceae), *Vasconcela* sp. (Caricaceae), *Oxalis* sp (Oxalidaceae), *Begonia* sp. (Begoniaceae), *Salvia* (Lamiaceae), *Solanum* sp. (Solanaceae), *Axinaea* sp (Melastomataceae), *Bomarea multiflora* (Alstroemeriaceae), *Tillandsia complanata* (Bromeliaceae), *Tropaeolum pubescens* (Tropaeolaceae), *Cranichis lehmannii* (Orchidaceae), *Kobleria affinis* (Gesneriaceae), *Ceratostema peruvianum* (Ericaceae), *Calceolaria aff alata* (Calceolariaceae), *Caucaea cucullata* (Orchidaceae), *Burmeistera cylindrocarpa* (Lobeliaceae), and *Fuchsia lehmannii* outside its regular range: Southern Ecuador.

Drizzle turned into rain, and we used the last part of the morning to watch hummers from the porch. We added nine hummingbirds and two other bird species to our list. The highlight was Sword-billed Hummingbird; and we all agreed that the selection of colours and shapes was good enough to keep us happy and busy during the rain. After a hearty lunch we walked the trails, looking for Gesneriaceae and Orchidaceae. We found the endangered *Telipogon polyrrhizus* endemic (Orchidaceae) whose range is extended with this record. In mid afternoon we left to San Isidro. We used the afternoon to relax in our rooms before dinner.

Day 13

Sunday 7th October

The mountains to the east: the Guacamayos ridge, were still covered with clouds. So we started the day in the mist exploring the surroundings looking for *Pitcairnia cosangaensis* (Bromeliaceae). We found the plants in flower and also *Elleanthus myrosmatis* and *Epidendrum cochlidium* - both regional endemics (Orchidaceae). Along the walk, we photographed *Ludwigia*, *Pleurothallis*, *Epidendrum secundum* in flower, (Gesneriaceae), *Marcgravia atropunctata* (Marcgraviaceae). The temperature increased a bit but the sky was still cloudy and drizzle turned into rain. Even though the weather did not improve we decided to go on to the ridge but at La Virgen's view point it was also rainy. Then, we applied plan B: go further to look for better weather and find new species to add to our checklist. Below the clouds, we found dry weather and interesting flowers...

A *Bomarea pardina* (Alstroemeriaceae) welcomed us around a corner of the road. It was accompanied by *Begonia*, *Passiflora*, *Columnea* and *Monopyle* cf *macrocarpa* (Gesneriaceae) and a *Sobralia* orchid. Three *Pitcairnia* species, *Pitcairnia bakeri*, *Pitcairnia hitchcockiana* and *Pitcairnia lehmannii*, were also available for pictures along our drive. Right before lunch, we stopped by the Hollín River. It presents a bed of boulders which are slowly eroded by the water of this mountain river, along with short waterfalls and rapids.

On our way back we stopped quickly for a picture of *Utricularia* and for couple of Bromeliads in flower. We also finally found our *Meriania bernandoi* (Melastomataceae)...we did not dare to get off the vehicle to try a picture as it was raining so hard. However, we all had a chance to enjoy a look at the plant using the scope from inside the van! We returned to the lodge to shower, change and share a lively chat around the table at dinner time.

Day 14

Monday 8th October

Leaving San Isidro was not easy, and we did not want to leave the place without taking a good look at the hummingbirds coming to the feeders and also not miss the antpittas. Punctual for the feeding of the antpittas, we were at the stage under *Chusquea* bamboos, where White-breasted Antpitta posed quite nicely for us. Chestnut-crowned Antpitta called around the trails but we did not find it. At the feeding station, we had a show with the hummers. We saw Chestnut-breasted Coronet, Long-tailed Sylph, Purple-throated Woodstar, and Green Violet-ear. Also trying to sneak the corn at the feeders, were a couple of Black Agouties (*Dasyprocta fuliginosa*). Around the San Isidro Lodge, we spent the last part of our morning, finding *Arthrostephanos ciliatum* (Melastomataceae) along with *Fuchsia sylvatica* and *Fuchsia orientalis* (Onagraceae).

With slightly better weather, we stopped on our way to Quito at the lava flow to search for more orchids and at the Papallacta-La Virgen Pass. At the pass we stopped for lunch and to wait for a window of nice weather for photographing *Puya hamata* in flower as well as *Bomarea glaucescens* and *Calceolaria crenata* (Calceolariaceae).

With not much traffic or delays, we reached our hotel during day light. People went on to take a break and prepare themselves for dinner. We all thought about tomorrow's outing to Yanacocha and the drive straight to the airport. This could be probably the last time that we do it this way because Quito airport will be moved out of the city, to the far east end of the valley and away from the Yanacocha Reserve.

Day 15

Tuesday 9th October

Our last morning in the Andes, gave us a chance to have a taste of the flora of the western slopes in the Andes. Some wildflowers are common between both ridges such as *Brugmansia sanguinea* (Solanaceae), *Bomarea multiflora* (Alstroemeriaceae), *Baccharis genistelioides*, *Hypochaeris sessiliflora* (Asteraceae), *Calceolaria crenata* (Calceolariaceae), *Echeveria quitensis* (Crassulaceae). Some others were new to our list: *Aa paleacea* (Orchidaceae), *Fuchsia ampliata*, *Fuchsia scabriuscula* (Onagraceae), *Nasa grandiflora* (Loasaceae), and *Bomarea lutea* (Alstroemeriaceae). Birds seen along today's walk in Yanacocha Reserve were Sword-billed Hummingbird, Golden-breasted Puffleg, Sapphire-vented Puffleg, Buff-winged Starfrontlet, Tyrian Metaltail, and Rainbow-bearded Thorntail. Finally, we had a relaxed drive down the hill to the airport to say good bye to the group for the start of their journey back to the UK.

Day 16

Wednesday 10th October

Return to UK

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Vicuña

Species List

Plants

Alstroemeriaceae

Bomarea brachysepala Benth. (END)

Bomarea distichifolia (Ruiz & Pav.) Baker

Bomarea hieronymi Pax

Bomarea lutea Herb. (END)

Bomarea nervosa (Herb.) Baker

Bomarea dissitifolia Baker

Bomarea glaucescens (Kunth) Bakers

Bomarea lancifolia Baker (END)

Bomarea multiflora (L. f.) Mirb.

Bomarea pardina Herb.

Amaryllidaceae

Phaedranassa dubia (H.B.K.) Macbr.

Annonaceae

Annona cherimolla Mill.

Annona muricata L.

Apocynaceae

Plumeria rubra L.

Apiaceae

Arracacia xanthorrhiza Bancr.

Cotopaxia asplundii Mathias & Constance (END)

Eryngium humile Cav.

Araucariaceae

Araucaria heterophylla (Salisb.) Franco

Araucaria imbricata Pav.

Asparagaceae

Agave americana L.

Furcraea andina Trel.

Asteraceae

Chuiriraga jussieui J.F. Gmel.

Diplostephium ericoides (Lam.) (END)

Dorobaea pimpinellifolia (Kunth) B. Nord.

Hypochaeris sessiliflora Kunth

Loricaria ferruginea (Ruiz & Pav.) Wedd

Pentacalia vaccinioides (Kunth) Cuatrec.

Xenophyllum humile (Kunth) V.A. Funk

Xenophyllum cf rigidum (Kunth) V.A. Funk (END)

Basellaceae

Ullucus tuberosus Caldas

Bignoniaceae

Pyrostegia venusta (Ker Gawl.) Miers.

Tecoma stans (L.) Juss. ex Kunth

Boraginaceae*Cordia lutea* Lam.**Bromeliaceae***Aechmea aff fraseri* Baker*Aechmea tessmannii* Harms*Aechmea zebrina* L.B. Sm.*Greigia sodiroana* Mez (END)*Guzmania gloriosa* (André) André ex Mez.*Guzmania weberbaueri* Mez*Pitcairnia arcuata* (André) André*Pitcairnia cosangaensis* Gilmartin (END)*Pitcairnia lehmannii* Baker*Pitcairnia pungens* Kunth*Puya cuevae* Manzanares & W. Till (END)*Puya glomerifera* Mez & Sodiro*Puya parviflora* L.B. Sm. (END)*Puya retrorsa* Gilmartin (END)*Tillandsia complanata* Benth.*Tillandsia multiflora* Benth*Tillandsia recurvata* (L.) L.*Vriesea espinosae* (L.B. Smith) Gilmartin*Aechmea napoensis* L.B. Sm. & M.A. Spencer*Aechmea cf woronowii* Harms*Greigia mulfordii* L.B. Sm.*Greigia vulcanica* André*Guzmania monostachia* (L.) Rusby ex Mez.*Mezobromelia capituligera* (Griseb.) J.R. Grant*Pitcairnia bakeri* (André) Mez*Pitcairnia hitchcockiana* L.B. Sm.*Pitcairnia nigra* (Carrière) André*Pitcairnia trianae* André*Puya eryngioides* André (END)*Puya nutans* L.B. Sm. (END)*Puya pygmaea* L.B. Sm. (END)*Racinaea aff tetrantha* (Ruiz & Pav.) M.A. Spencer & L.B.*Tillandsia incarnata* Kunth*Tillandsia cf pastensis* André*Tillandsia tectorum* E. Morren**Cactaceae***Armatocereus brevispinus* J. E. Madsen*Cleistocactus sepium* (Kunth) F. A. C. var. *sepium* (END)*Espostoa lanata* (Kunth) Britton & Rose*Opuntia ficus-indica* -L.- Mill*Selenicereus megalanthus* (Vaupel) Moran*Cereus diffusus* (Britton & Rose)*Espostoa frutescens* Madsen (END)*Hylocereus polyrhizus* -F.A.C. Weber- Britton & Rose*Opuntia quitensis* F.A.C Weber**Calceolariaceae***Calceolaria aff alata* (Pennell) Pennell*Calceolaria ericoides* Vahl*Calceolaria oxyphila* Molau (END)*Calceolaria perfoliata* L. f.*Calceolaria crenata* Lam.*Calceolaria fusca* Pennell*Calceolaria pedunculata* subsp. *pedunculata**Calceolaria trilobata* Hemsley

Campanulaceae*Burmeistera cylindrocarpa* Zahlbr.*Centropogon steyermarkii* Jeppesen (END)*Lysipomia montioides* Kunth*Siphocampylus lucidus* E. Wimm. (END)**Capparaceae***Capparis scabrida* Kunth**Caricaceae***Carica x heilbornii* nm. pentagona -Heilborn- V. M. Badillo *Carica parviflora* (A. DC.) Solms**Convolvulaceae***Ipomea batata* -L.- Lam**Crassulaceae***Echeveria quitensis* (Kunth) Lindl.**Cucurbitaceae***Cucurbita ficifolia* Bouché*Sechium edule* (Jacq.) Sw.*Sechium aff pittieri* (Cogn.) C. Jeffrey**Cuscutaceae***Cuscuta cf stenolepis* Engelm.**Cyclanthaceae***Carludovica palmata* Ruiz & Pav.**Elaeocarpaceae***Vallea stipularis* L. f.**Ephedraceae***Ephedra rupestris* Benth**Ericaceae***Bejaria subsessilis* Benth (END)*Ceratostema peruvianum* J.F. Gmel.*Gaylussacia loxensis* Sleumer**Euphorbiaceae***Manihot sculenta* Crantz**Fabaceae – Faboideae***Lupinus microphyllus* Desr.*Lupinus mutabilis* Sweet*Erythrina edulis* Triana ex Micheli*Erythrina velutina* Willd.

Fabaceae – Mimosoidae*Acacia macracantha* Humb. & Bonpl. ex Willd.*Inga spectabilis* -Vahl- Willd.**Fabaceae – Caesalpinioideae***Senna multiglandulosa***Gentianaceae***Gentianella cf cerastioides* (Kunth) Fabris*Gentianella hyssopofila* (Kunth) Fabris (END)*Gentianella nummuraliifolia* (Griseb.) Fabris*Gentianella rapunculoides* (Willd. ex Schult.) J.S. Pringle*Gentiana sedifolia* Kunth*Halenia longicaulis* J.S. Pringle (END)*Halenia cf weddelliana* Gilg.**Gesneriaceae***Kohleria affinis* (Fritsch) Roalson & Boggan*Monopyle cf macrocarpa* Benth.**Gunneraceae***Gunnera magellanica* Lam.**Heliconiaceae***Heliconia orthotricha* L. Andersson*Heliconia vaginalis* Benth**Hypericaceae***Hypericum laricifolium* Juss.**Iridaceae***Sisyrinchium palustre* Diels**Lamiaceae***Clinopodium nubigenum* (Kunth) Kuntze*Clinopodium tomentosum* (Kunth) Govaerts (END)*Prunella vulgaris* L.**Lentibulariaceae***Pinguicula calyprata* Kunth**Loasaceae***Nasa auca* (Weigend) Weigend (END)*Nasa grandiflora* (Desr.) Weigend (END)**Loranthaceae***Psittacanthus zonatus* (Diels) Kuijt (END)*Tristerix longibracteatus* (Desr.) Barlow & Wiens**Malvaceae***Cavanillesia platanifolia* (Bonpl.) Kunth*Ceiba trischistandra* (A. Gray) Bakh.

Gossypium aff hirsutum L.

Nototriche hartwegii A.W. Hill

Marcgraviaceae

Marcgravia atropunctata de Roon

Melastomataceae

Arthrostemum ciliatum Pav. ex. D. Don

Brachyotum ledifolium (Desr.) Triana

Meriania hernandoi L. Uribe.

Myrtaceae

Callistemon citrinus (Curtis) Skeels

Callistemon viminalis (Sol. ex Gaertn.) G. Don

Eucalyptus globulus Labill.

Nyctaginaceae

Bougainvillea pachyphylla Heimerl ex Standl.

Onagraceae

Fuchsia ampliata Benth.

Fuchsia lehmannii Munz (END)

Fuchsia orientalis P.E. Berry (END)

Fuchsia scabriuscula Benth.

Fuchsia scherffiana André

Fuchsia steyermarkii P.E. Berry (END)

Fuchsia summa P.E. Berry (END)

Fuchsia sylvatica Benth.

Orchidaceae

Aa paleacea (Kunth) Rchb. f.

Altensteinia fimbriata Humb., Bonpl. & Kunth

Altensteinia aff virescens Lindl

Caucaea cucullata (Lindl.) N.H. Williams & M.W. Chase.

Cranichis ciliata (Kunth) Kunth

Cranichis lehmannii Rchb. f.

Cyrtorchilum aff funis (F.Lehm. & Kraenzl.) Kraenzl.

Cyrtorchilum pardinum Lindl.

Elleanthus maculatus (Lindl.) Rchb. f.

Elleanthus myrosomatis (Rchb. f.) Rchb. f.

Epidendrum cochlidium Lindl.

Epidendrum fimbriatum Kunth

Epidendrum frutex Rchb. f.

Epidendrum lacustre Lindl.

Epidendrum summerhayessii Hágsater

Gongora scaphephorus Rchb. f. & Warsz.

Huntleya aff meleagris Lindl.

Lepanthes alticola C. Schweinf.

Lepanthes mucronata Lindl.

Lycomormium aff fiskei Sweet

Maxillaria buchtienii Schltr.

Otoglossum brevifolium (Lindl.) Garay & Dunst

Pachyphyllum falcifolium Rchb. f.

Pleurothallis canaligera Rchb. f.

Pleurothallis aff cardiostola Rchb. f.

Pleurothallis aff dubbeldamii Luer

Prosthechea crassilabia (Poepp. & Endl.) Carnevali & I. Ramírez

Stelis aff adrianae Luer (END)

Telipogon hausmannianus Rchb. f.

Telipogon polyrrhizus Rchb. f. (END)

Telipogon cf puruantensis Dodson & R. Escobar (END)

Orobanchaceae

Castilleja pumila (Benth) Wedd. ex Herrera

Bartsia stricta (Kunth) Benth.

Oxalidaceae

Oxalis tuberosa Molina

Papaveraceae

Argemone mexicana L.

Bocconia integrifolia Bonpl.

Passifloraceae

Passiflora cumbalensis (H. Karst.) Harms

Passiflora edulis fo. *flavicarpa* Degener

Passiflora ligularis Juss.

Passiflora manicata (Juss.) Pers.

Phytolaccaceae

Phytolacca bogotensis Kunth

Phytolacca rivinoides Kunth & C.D. Bouché

Podocarpaceae

Podocarpus oleifolius D. Don ex Lamb

Proteaceae

Oreocallis grandiflora

Ranunculaceae

Ranunculus gusmannii Humb. ex Caldas

Rosaceae

Polylepis incana Kunth

Prunus serotina Ehrh.

Rubiaceae

Nertera granadensis (Mutis ex L. f.) Druce

Warszewiczia coccinea (Vahl) Klotzsch

Scrophulariaceae

Ourisia chamaedrifolia Benth.

Solanaceae

Brugmansia sanguinea (Ruiz & Pav.) D. Don

Solanum quitoense Lam.

Solanum betaceum Cav

Physalis peruviana L.

Tropaeolaceae

Tropaeolum tuberosum R. & P.

Tropaeolum pubescens Kunth

Valerianaceae*Valeriana aretioides* Kunth (END)*Valeriana plantaginea* Kunth*Valeriana rigida* Ruiz & Pasv.**Literature Cited and References**

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Birds

English name	Scientific name
1 Andean Teal	<i>Anas andium</i>
2 Yellow-billed pintail	<i>Anas georgica</i>
3 Torrent duck	<i>Merganetta armata</i>
4 Black vulture	<i>Coragyps atratus</i>
5 Turkey vulture	<i>Cathartes aura</i>
6 Black-chested buzzard-eagle	<i>Geranoaetus melanoleucus</i>
7 Aplomado Falcon	<i>Falco femoralis</i>
8 Carunculated caracara	<i>Phalcoboenus carunculatus</i>
9 American kestrel	<i>Falco sparverius</i>
10 Southern lapwing	<i>Vanellus chilensis</i>
11 Andean lapwing	<i>Vanellus resplendens</i>
12 Rufous-headed chachalaca	<i>Ortalis erythroptera</i>
13 Baird's sandpiper	<i>Calidris bairdii</i>
14 Rufous-bellied seedsnipe	<i>Attagis gayi</i>
15 Andean gull	<i>Larus serranus</i>
16 Band-tailed pigeon	<i>Columba fasciata</i>
17 Eared dove	<i>Zenaida auriculata</i>
18 Black-winged groun-dove	<i>Metriopelia melanoptera</i>
19 Croaking ground-dove	<i>Columbina cruziana</i>
20 Pacific parrotlet	<i>Forpus coelestis</i>
21 Smooth-billed ani	<i>Crotophaga ani</i>
22 Pacific pygmy-owl	<i>Glaucidium peruanum</i>
23 San Isidro owl	<i>Strix sp nov</i>
24 White-collared swift	<i>Streptoprocne zonaris</i>
25 White-bellied woodstar	<i>Chaetocercus mulsant</i>
26 Sparkling violetear	<i>Colibri coruscans</i>
27 Loja hummingbird	<i>Amazilia amazilia</i>
28 Ecuadorian hillstar	<i>Oreotrochilus chimborazo jamesonii</i>
29 Chimborazo hillstar	<i>Oreotrochilus chimborazo chimborazo</i>
30 Shinning sunbeam	<i>Aglaeactis cupripenis</i>
31 Sword-billed hummingbird	<i>Ensifera ensifera</i>
32 Collared inca	<i>Coeligena coeligena</i>
33 Buff-winged starfrontlet	<i>Coeligena lutetiae</i>
34 Black-tailed trainbearer	<i>Lesbia victoriae</i>
35 Long-tailed sylph	<i>Agelaiocercus kingi</i>
36 Buff-tailed coronet	<i>Boissonneaua flavescens</i>
37 Chestnut-breasted coronet	<i>Boissonneaua matheusii</i>
38 Tourmaline sunangel	<i>Heliangelus exortis</i>
39 Masked trogon	<i>Trogon personatus</i>
40 Turquoise jay	<i>Cyanolyca turcosa</i>
41 White-tailed jay	<i>Cyanocorax mystacalis</i>

English name	Scientific name
42 Inca jay	<i>Cyanocorax yncas</i>
43 Crimson-mantled woodpecker	<i>Piculus rivolii</i>
44 Montane woodcreeper	<i>Lepidocolaptes lacrymiger</i>
45 Olive-backed woodcreeper	<i>Xiphorhynchus triangularis</i>
46 Azara's spinetail	<i>Synallaxis azarae</i>
47 Many-striped canastero	<i>Asthenes flammulata</i>
48 Pearled treerunner	<i>Margarornis squamiger</i>
49 Stout-billed cinclodes	<i>Cinclodes excelsior</i>
50 Bar-winged cinclodes	<i>Cinclodes fuscus</i>
51 Pacific hornero	<i>Furnarius cinnamomeus</i>
52 Collared antshrike (female)	<i>Sakesphorus bernardi</i>
53 White-bellied antpitta	<i>Grallaria hypoleuca</i>
54 Tawny antpitta	<i>Grallaria quitensis</i>
55 Unicolored tapaculo	<i>Scytalopus unicolor</i>
56 Rufous-breasted flycatcher	<i>Leptopogon rufipectus</i>
57 Rufous-crowned tody-flycatcher	<i>Poecilotriccus ruficeps</i>
58 Tufted tit-tyrant	<i>Anairetes parulus</i>
59 Torrent tyrannulet	<i>Serpophaga cinerea</i>
60 Smoke-colored pewee	<i>Contopus fumigatus</i>
61 Páramo ground-tyrant	<i>Muscisaxicola alpina</i>
62 Crowned chat-tyrant	<i>Crowned chat-tyrant</i>
63 Black phoebe	<i>Sayornis nigricans</i>
64 Pale-edged flycatcher	<i>Myiarchus cephalotes</i>
65 Tropical kingbird	<i>Tyrannus melancholicus</i>
66 Snowy-throated kingbird	<i>Tyrannus niveigularis</i>
67 Blue-and-white swallow	<i>Notiochelidon cyanoleuca</i>
68 Fasciated wren	<i>Campylorhynchus fasciatus</i>
69 Grass wren	<i>Cistophorus platensis</i>
70 Mountain wren	<i>Troglodytes solstitialis</i>
71 Long tailed mockingbird	<i>Mimus longicaudatus</i>
72 Tropical gnatcatcher	<i>Polioptila plumbea</i>
73 Black-billed peppershrike	<i>Cyclarhis nigristrostris</i>
74 Great thrush	<i>Turdus fuscater</i>
75 Chiguancco thrush	<i>Turdus chiguanco</i>
76 Glossy-black thrush	<i>Turdus serranus</i>
77 Blackburnian warbler	<i>Dendroica fusca</i>
78 Canada warbler	<i>Wilsonia canadensis</i>
79 Slate-throated white-start	<i>Myioborus miniatus</i>
80 Spectacled whitestart	<i>Myioborus melanocephalus</i>
81 Cinereous conebill	<i>Conirostrum cinereum</i>
82 Bluish flowerpiercer	<i>Diglossopsis caeruleascens</i>
83 Masked flowerpiercer	<i>Diglossopsis cyanea</i>
84 Glossy flowerpiercer	<i>Diglossa lafresnayii</i>

English name	Scientific name
85 Black flowerpiercer	<i>Diglossa humeralis</i>
86 Blue-necked tanager	<i>Tangara cyanicollis</i>
87 Scarlet bellied mountain-tanager	<i>Anisognathus igneiventris</i>
88 Hooded mountain-tanager	<i>Buthraupis montana</i>
89 Blue-gray tanager	<i>Thraupis episcopus</i>
90 Blue and yellow tanager	<i>Thraupis bonariensis</i>
91 Silver-beaked tanager	<i>Ramphocelus carbo</i>
92 Yellow-throated bush-tanager	<i>Chlorospingus flavigularis</i>
93 Black-backed bushtanager	<i>Urothraupis stolzmanni</i>
94 Southern-yellow grosbeak	<i>Pheucticus chrysogaster</i>
95 Black-backed grosbeak	<i>Pheucticus aureoventris</i>
96 Saffron finch	<i>Sicalis flaveola</i>
97 Plumbeous sierra-finch	<i>Phrygilus unicolor</i>
98 Ash-breasted sierra-finch	<i>Phrygilus plebejus</i>
99 Rufous-naped brush-finch	<i>Atlapetes latinuchus</i>
100 Rufous collared sparrow	<i>Zonotrichia capensis</i>
101 Northern mountain cacique	<i>Cacicus leucoramphus</i>
102 Subtropical cacique	<i>Cacicus uropygialis</i>
103 Russet-backed oropendola	<i>Psarocolius angustifrons</i>
104 Shiny cowbird	<i>Molothrus bonariensis</i>

Mammals

Brazilian rabbit, *Silvilagus braziliensis*

Lowlands agouti (San Isidro), *Cuniculus paca*

Northern red squirrel (San Isidro), *Sciurus cf igniventris*

Other Tax

Dry forest crab



Ecuador scene