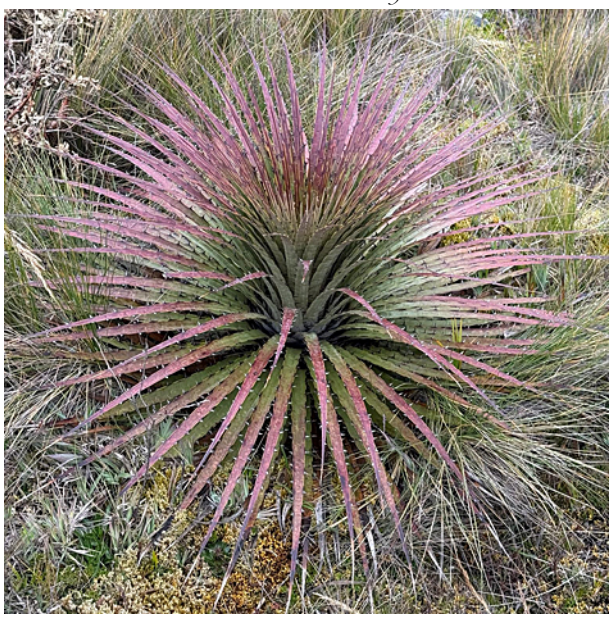
Andean Flora of Ecuador

Naturetrek Tour Report 22nd September – 7th October 2025

Chuquiragua jussieui

Cyrtochilum machrantum

Bomarea multiflora



Puya clava-herculis

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Tour participants: Javier Robayo & Juan Andres Quitero (leaders) with four Naturetrek clients

Summary

Our botanical exploration along the Ecuadorean Andes began in the north-central part of the Avenue of the Volcanoes. We ventured into the eastern foothills in the Baños region, visiting the Naturetrek project sites and exploring ecosystems filled with stunning vegetation. We then travelled to the centre of the country, exploring Chimborazo and Alausi, following in the footsteps of von Humboldt and Bonpland. Finally, we explored the south of the country between the cities of Cuenca and Loja, in and around Podocarpus National Park. We finished our exploration back in the northern foothills of the Antisana Volcano, ascending to Papallacta and venturing into Cayambe Coca National Park, continuing to the eastern foothills towards the Guango and San Isidro reserves.

In breathtaking landscapes, we identified over 600 plant species belonging to approximately 100 families. Some families, such as Asteraceae, Orchidaceae, Alstroemeriaceae, Ericaceae, Solanaceae, and Bromeliaceae (including the fantastic puyas) were particularly well-represented, and the beautiful flowers of many species of *Fuchsia*, *Centropogon*, *Bomarea*, *Rubus*, and *Polylepis* accompanied us on this fantastic journey through the Andes.

Day 1 Monday 22nd September

Arrival

Clients flew from the USA and the UK, arriving at various times in Quito.

Day 2 Tuesday 23rd September

Cotopaxi National Park – Baños de Agua Santa.

After a peaceful breakfast at Hacienda La Alegría, we began our journey to Cotopaxi National Park. Along the way, we learned about the different ecosystems that characterize the foothills of the Cotopaxi volcano, and the composition of its montane and highland Andean flora.

As we ascended from 2600m to 3800m, the landscape changed rapidly: the montane forests gave way to Andean scrub and grasslands, where species are adapted to extreme conditions of cold, wind, and solar radiation. Our first stop allowed us to observe the remnants of high Andean forest in transition to the páramo, a mosaic of small but beautiful flowers: *Ribes* with its reddish clusters, the imposing *Puya* (terrestrial bromeliads with turquoise flowers), and herbs of the *Plantago* and *Valeriana* genera.

While observing a group of *Lupinus*, lucky enough that our driver alerted us that three Andean Condors were flying above us. Afterwards, we continued on to the Limpiopungo plain, on the slopes of Cotopaxi, where, in addition to the botanical richness, we enjoyed the presence of high Andean birds such as Andean Coot and Andean Teal.

Over lunch, near the lagoon, we analyzed how the flora of the páramo, dominated by shrubs of the Asteraceae family, performs essential ecological functions: it mitigates erosion, stores water, and provides shelter for specialized pollinators. At our last stop in the national park, we explored an area impacted by introduced pine plantations, where, despite the environmental disturbance, we found native species resisting competition and recolonizing the soil: orchids of the genus *Aa, Puya* and *Valeriana*, among other Andean plants.

On the way down to Baños, we made a brief detour to visit a local community; there, we observed the traditional crops that sustain the typical diet of the Andes, such as corn, lupins, beans, and potatoes, and discussed the ancestral practice of crop rotation, a strategy which maintains soil fertility and allows for sustainable harvests year after year. We also observed a wide variety of fruit trees adapted to the temperate climate: apples, pears, passion fruit (*Passiflora tripartita*), blackberry (*Rubus glaucus*), figs (*Ficus carica*), peaches (*Prunus persica)*, plums (*Prunus domestica*), plus squash (*Cucurbita maxima*) and other useful plants such as *Agave americana*, and *Furcrea andina*, both used to create fibres, among other products.

Later, as we took Pelileo-Baños Road, famous for its plant nurseries, we stopped to learn about the ornamental and fruit species that people grow there. Before arriving in Baños, we visited two sites that represent ecosystems recovering after the last eruption of the Tungurahua volcano. We observed how nature is slowly recolonizing the volcanic soil, with pioneer species such as *Sobrallia, Epidendrum, Stelis, Elleanthus,* and representatives of the Ericaceae, Poaceae, and Fabaceae families.

Our last stop of the day was in an area undergoing subdivision for urban development, a fragment of original vegetation with a truly exceptional lithophytic orchid community. On the rocks, among mosses and lichens, *Stelis*, *Maxillaria*, *Sobralia*, *Elleanthus*, *Epidendrum*, *Pleurothallis*, and the surprising *Phragmipedium caudatum* bloomed in abundance. This site has great potential for conservation and botanical tourism, although unfortunately we do not know how much longer it will remain standing in the face of urban development.

Day 3 Wednesday 24th September

Eastern slope of the Andes – Candelaria Naturetrek Reserve – Finca Palmonte

We began our journey on the Churosinguna trail in Rio Verde, within the buffer zone of the Machay Wildlife Refuge and into the Candelaria Naturetrek Reserve. Along the way, we explored the characteristic vegetation of the Andean cloud forest, a dense, humid ecosystem with a high floral diversity. On the trail, we observed several endemic and endangered species, including *Phaedranassa tungurahua* and *Pitcairnia nigra*, accompanied by a wide variety of other plants that make up the landscape of a true cloud forest.

Later, we visited Finca Palmonte, a conservation partner of the Llanganates–Sangay Connectivity Corridor. Here, we were able to see an exceptional garden of native orchids up close, and to learn about the conservation efforts being carried out on the farm. We also had the opportunity to observe and learn about the cultivation of naranjilla (*Solanum quitoense*), a traditional fruit species of the region that plays an important role in the local economy and agroforestry systems in the area.

Day 4 Thursday 25th September

Amazon basin – Rio Anzu

We started the day with a visit to Las Orquídeas Botanical Garden, where we observed a wide collection of species native to the Amazon region. This space maintains specimens of great botanical value, and serves as a reference point for understanding the transition between mountain and Amazonian ecosystems. Along its trails, we were able to appreciate various species of bromeliads, Araceae, and orchids.

We then headed to the Río Anzu Reserve, managed by the Ecominga Foundation. We walked through disturbed areas where secondary vegetation is in the process of regenerationb towards the Puyo River basin, where the forest became more humid and denser, characteristic of the evergreen piedmont forest. In this section, we were fortunate to observe our target species: *Phragmipedium piercei*, a Critically Endangered orchid known to exist in only two populations within the reserve.

Brugmansia arborea

Meriana sanguinea

Day 5 Friday 26th September

Inter-andean valley – Chimborazo

We started the day early in the morning, leaving Baños and heading towards the Chimborazo páramos. As we ascended towards 4000m, the landscape changed radically: suddenly there was just creeping vegetation, highly adapted to the harsh conditions of the high Andean páramo. During our hike, we explored ecosystems exposed to wind, intense cold, and high solar radiation, where we were able to observe emblematic species such as *Chuquiraga jussieui, Azorella pedunculata*, and *Bomarea glaucescens*.

After this exploration, we had lunch at Casa Cóndor, sharing traditional Andean foods such as potatoes, beans, and *melosos*, which reflect the historical relationship between the people and the páramo. We continued our journey to Alausí, descending to a drier climate zone with different plant adaptations. There, we observed species characteristic of the inter-Andean valley, including *Salvia leucocephala*, *Armatocephalus winginianus*, *Lochroma cornifolium* (Solanaceae) and *Phaedranassa schizant*a.

Day 6 Saturday 27th September

Cajas National Park – road to Loja

We started the day in Cajas National Park, where the humid páramo and the high Andean forest meet. During the hike, we observed the transition between microecosystems and the role of pioneer species in landscape regeneration. The Puya plants were the stars of the tour: they created habitats for birds and mammals, feed the Andean Bear, and reflect the ecological health of the páramo.

Finally, we made two stops to botanize with a special objective: to observe *Puya pygmaea*, the smallest species of Puya in Ecuador.

Day 7 Sunday 28th September

Tapichalaca Reserve

We began our journey to the Marañón River basin, where the humid and windy climate influences the vegetation. In this ecosystem, we observe how *Sphagnum* moss dominates the wettest areas, while ferns such as *Blechnum* and mesobromeliads thrive among them, along some small shrubs that manage to find a growing place. The intense climate limits the size of the plants, forcing them to grow in a compact form, to tolerate the constant humidity and wind.

Further down, upon reaching the Tapichalaca Reserve, we noticed how the floral composition recovered, with species reaching their usual size and the vegetation showing greater structural diversity. We visit the reserve's garden, where we found numerous endemic species of orchids, some still in the process of scientific description. The reserve also offers exceptional opportunities for bird watching, including species native to southern Ecuador such as the Amethyst-throated Sunangel.

Day 8 Monday 29th September

Cerro Toledo

Early in the morning, we began exploring the Vilcabamba garden, where the impressive *Catleyas maxima* and trees of the *Inga* genus stood out. We then continued our journey to Cerro Toledo, within the Podocarpus National Park. This site allows for a clear appreciation of the drastic changes in climate zones: we began in the dry valley of Vilcabamba, characterized by vegetation adapted to warm, xerophytic conditions, and ascended progressively toward the cloud forest, and finally to a humid high-altitude páramo.

The expedition allowed us to see how the flora changes not only in species, but also in shape and size, responding to climatic intensity and moisture availability, in the way that Alexander von Humboldt first described when he visited Chimborazo in 1802.

The diversity observed was amazing, from cacti and xerophytic shrubs, to epiphytes and orchids in the cloud forest. The species that stood out in the area included the endemic *Puya cuevae, Brachyotum* spp., a potentially new species of orchid of the genus *Lepanthes* and many more, reflecting the ecological richness of this transition zone between southern Ecuador and the eastern Andes.

Day 9 Tuesday 30th September

Vilcabamba – Cajanuma – Loja – Catamayo

We left early towards the Podocarpus National Park, arriving at the Cajanuma station. From there, we ascended to higher elevations, where we observed the wealth of species adapted to the humid páramo and high montane forest. Notable species included *Bombera* spp., several species of *Palicourea*, and epiphytic bromeliads, demonstrating how flora is distributed according to humidity, altitude, and sun exposure.

Later, we descended to the city of Loja, where we stopped at the local market. There we saw fruits, vegetables, and medicinal plants, many of which we had observed in the forest, confirming the direct relationship between the

native flora and local culture. We continued our journey to Catamayo, where we stayed overnight to prepare for our return flight to Quito the next day.

Day 10 Wednesday 1st October

Loja – Quito – Papallacta

We took a flight from Loja to Quito, and then headed to Cayambe-Coca National Park, climbing to Paso de la Virgen at 4000m. We observed the super-humid páramo, with cushion plants and Puya species adapted to these extreme conditions, as well as orchids and other creeping plants typical of the ecosystem.

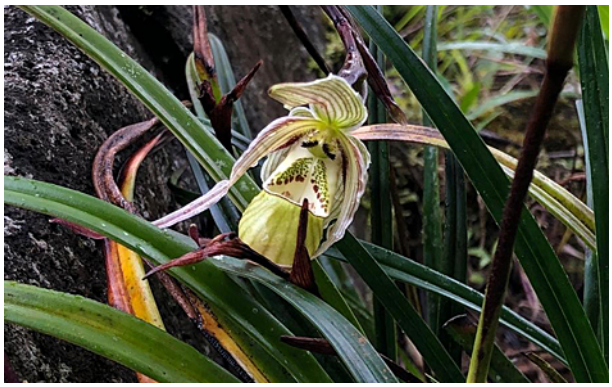
We descended towards the Papallacta lagoon, where plants are adapted to lava flows and recent volcanic soils. In this area, we identified bromeliads, orchids, and passion flowers, demonstrating the ability of flora to colonize difficult environments. The day ended at the Papallacta Hot Springs, where we enjoyed the surroundings of the páramo and Andean wetlands.

Day 11 Thursday 2nd October

Termas de Papallacta

The day began with an unexpected snowfall on the Papallacta highlands. After breakfast and a wait for the weather to improve, we explored a lagoon covered with ice, and vegetation adapted to the cold, observing members of Asteraceae and Solanaceae, and new species such as *Syphocampillus lineatus*. Later, we headed to the Loreto River trail, where epiphytes, orchids, and *Passiflora* are abundant in a humid forest.

Gentianella ceratioides



Phragmipedium piercei

Day 12 Friday 3rd October

Guango – San Isidro

The morning began at the Guango Reserve, where hummingbirds flitted around the gardens and we explored the secondary forest and riverside trails. We observed several orchids (*Lepanthes* spp.), *Centropogon, Oxalis*, and *Kohleria affinis* (Gesneriaceae). After lunch, we continued to the San Isidro Reserve and Lodge, where we explored the gardens around the rooms, identifying *Masdevallia rosea,* a *Maxillaria* sp. and *Cytochillum machrantum*.

Day 13 Saturday 4th October

San Isidro

The day began with bird watching from the lodge porch; highlights included jays, caciques and hummingbirds. Later, we took a trip to the Guacamayos trail, looking for orchids and other plants; *Viola* spp. and other species were identified, although the absence of orchids, bromeliads, and Gesneriaceae indicated a decline in flora in this area. In the afternoon, we went on individual explorations, observing nocturnal monkeys, birds, and flowering plants.

Day 14 Sunday 5th October

San Isidro – PN Cayambe Coca – Quito Airport

In the morning, we ended our stay in San Isidro and headed towards another spot along the buffer zone of the Cayambe-Coca National Park, where we studied the ecology of a *Polylepis* forest first hand, before making our journey back to the airport. This brought to a close a wonderful fifteen-day tour of Ecuador's different Andean and Amazonian ecosystems; it had been a truly enriching experience in terms of biodiversity and conservation.

Day 15 Monday 6th October

Departure

Clients caught their flights to their home destinations.

Day 16 Tuesday 7th October

Arrival home

UK clients arrived safely home at London Heathrow and made their way home.

Species lists

Much of our botanical work requires collaboration with other people, and experts in different groups of plants. As research progresses, scientific names can change drastically. Therefore, we decided to upload our tour as a project on the iNaturalist platform, which will serve as a record of our journey, contribute to citizen science, and provide constant updates from experts. You can find the link below. So, the experience doesn't end here; we will continue following the plants and our knowledge of them, and you can reconnect whenever you remember this beautiful journey through the Andean forests of Ecuador.

iNaturalist checklist