

Andean Flora of Ecuador

Naturetrek Tour Report

6 - 21 November 2004

Report compiled by Irene Palmer



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Irene Palmer's personal record of the Ecuador orchid tour, in the company of her husband and four others. Lou Jost was tour leader and Florian Werner was co-leader for part of the tour.

The initial itinerary, departing from London Heathrow included a brief stop in Miami; it was changed just before departure to avoid new American in-transit requirements. Our small group of six was routed via Madrid to Quito using Iberia rather than American Airlines. This met with general approval.

Day 1

Saturday 6th November

London via Madrid to Quito

Naturetrek's distinctive blue labels enabled us to locate the other members of the group as we left Heathrow and we also encountered the group who were bound for Venezuela. The transfer in Madrid went smoothly and we settled down for the long flight to Quito. We were warned that in-flight staff weren't noted for the frequency of their visits up and down the cabin. We thought they were sloppy; they didn't check all the seats were upright before take-off. They kept a welcome supply of drinks and snacks at the rear of the plane during much of the long flight but we were very suspicious that a prolonged period when the seat belt signs were lit indicating turbulence, was an excuse to have a chat and a break, as there was no turbulence; some of the passengers got rather balky and were ordered to remain in their seats. The crew on the return journey were far more helpful and efficient.

Just before arriving in Quito we were handed landing cards to complete and a detailed customs declaration form that was somewhat alarming. Those of us who had more than the 1 camera and 10 rolls of film allowed decided they suffered from extreme myopia, ticked the nothing to declare column and kept their fingers crossed. As we guessed, the piece of paper was more important than what we had written on it and our forms were collected without a glance. We were all careful to put the carbon copy of our landing card in a safe place, to enable us to leave Ecuador. After collecting our baggage we handed over our luggage tags that had been given to us when we checked-in in London; a simple system to ensure nobody else exits with your case. Once the formalities were completed we were welcomed by a very cheerful Xavier Munoz, representing Neblina Forest, the local tour experts. Xavier then introduced us to Edwin Herrera who would be our driver for the main part of the tour. We were told he was the safest driver in Ecuador. By the end of the trip we felt he could claim to be the safest driver anywhere and his awareness of birds and plants and willingness to stop and start and reverse on request was exceptional. On the short journey to the hotel Xavier gave us some helpful advice and outlined plans for an early start next morning. We were a little surprised when we drew up outside the Hotel Sebastian as our departure instructions had indicated we were staying at the Hotel Gran Mercure and we had all carefully put this on our baggage labels and landing cards. One of our group recalled the Hotel Sebastian had been on an earlier itinerary but nobody was inclined to query it, we were just keen to have a meal and put our heads down. After staying there as guests, we couldn't imagine a pleasanter, more helpful and efficient hotel. We would recommend it to anyone visiting Quito and were very pleased by the change of plans. The staff seemed to understand the needs of wildlife enthusiasts. Our leader Lou Jost, who would be our main guide for the tour, was there to greet us and outline plans for the following day. We had an excellent meal that included one of the traditional soups of potato, mozzarella cheese and avocado, we were also introduced to their delicious fruit juices and the tradition of placing dished of peppery sauce called aji on the table to spice up bland food (also delicious on toast). After some very strong Ecuadorean coffee we fell into bed. Xavier had told us of Lou's expertise

identifying birds, a bonus; we already knew he had a considerable knowledge of Ecuadorian orchids, so we were filled with anticipation.

Members of our group (Ann, Anna, Anne, Lucinda, Irene and John) could probably best be described as plant lovers; all looking forward to seeing both new and familiar plants growing in their dramatic natural surroundings, especially the wide range of habitats that Ecuador offers, from rainforest through cloud forest to high altitude paramo. Between us we combined a broad knowledge that often enabled us to recognise families, even genera and sometimes species; some families were new to us of course and we knew little about Ecuadorean orchids – just that there are a lot. I had some knowledge of terrestrial orchids and was keen to see more of these and epiphytic species and to learn about conservation in Ecuador. Some of the group had embarked on digital photography, the rest mostly had SLRs. We had read the previous group's report and were wondering if we would see as many exciting plants.

Day 2

Sunday 7th November

Quito to Ambato

The hotel organised an early breakfast and some of us paid a brief visit to the small public garden just across the road from the hotel. There we saw our first humming birds – ironically sitting on branches of Eucalyptus from Australia above a fine display of blue *Agapanthus* from S. Africa. We also admired the bowls of massive rose buds that are an important feature of Ecuador's export trade.

We then set off south down the famous Avenue of Volcanoes towards Ambato for lunch. Cotopaxi was just visible initially but soon disappeared into clouds. The road took us along the arid Inter-Andean Valley. Lou suddenly called a halt as he caught sight of clusters of tubular salmon passion flowers at the roadside, *Passiflora mollissima*, known commonly as "Taxo". This rampant climber is a native of the Andes and is widely distributed at 2000-3200m. He also found a caterpillar and instar of a butterfly belonging to the family Heliconidae that extracts poison from the passion flower plant to deter predators – it would seem that the fruits are edible for humans nevertheless.

The next roadside stop produced a range of goodies; some plants reminded us of North America, such as scarlet "Indian paintbrush" (*Castilleja* sp.), blue "Chocho" *Lupinus* sp. and numerous yellow *Compositae*, including low-growing plants of *Bidens andicola* and *Gynoxis* sp. A low-lying area had scattered tiny forget-me-not blue flowers of *Gentiana sedifolia* – it was high on my wish list having seen a few flowers of a similar species at high altitude in Chile. Some large white daisies encouraged us to cross the busy road – they resembled *Leucanthemum* sp. that we grow in cultivation in Europe. Walking along a track at the top of the bank we found various familiar genera – *Rubus*, *Ribes* and *Fuchsia*. We also found *Coriaria thymifolia*, the only New World member of that genus and admired its elegant ferny foliage and clusters of tiny flowers followed by glistening purple-black berries. Lou encouraged us to sniff a plant that smelled of corned beef, *Roupala* sp., a member of the *Proteaceae* and a remnant of a family originating from Gondwanaland that is shared with Africa and Australia! He also introduced us the first of many members of the family *Melastomaceae* with distinctively ribbed ornamental foliage. We photographed *Brachyotum ledifolium* with cream bells and red calyces and *Hypochaeris sessilifolia*, with yellow dandelion-like flowers, close to the ground.

We arrived at Ambato in time for lunch and drove to the Hotel Miraflores in a quiet residential street. The entrance had an exotic appearance with palm trees and a Norfolk Island pine, *Araucaria heterophylla*, several humming birds flitted amongst the trees. The streets were very colourful with flowering shrubs and trees especially, Jacarandas, Poinsettias, Erythras, Magnolias, Brugmansias and Bougainvilleas. We were all defeated by several extremely attractive trees with masses of feathery pink flowers – they were definitely not Tamarisks. I am hazarding they might have been *Calodendron capense*, “Cape Chestnut” (Rutaceae), a native of South Africa. We had originally expected to stay in Banos, an attractive town beneath the towering Volcano Tungurahua but our hotel had been changed, following Foreign Office advice that Tungurahua was on orange alert and an eruption might be imminent. The hotel had good food and facilities and whilst this meant we had further to travel to Lou’s favourite sites, other options became possible.

After lunch we continued southwards towards Banos. Lou was keen to check a high bank for an *Amaryllis* he had seen earlier and we climbed the steep slope with him, only to be deterred by a barbed wire fence and fierce dogs barking. Lou identified it as *Phaedranassa schizantha* var. *ignea* and hatched plans to investigate it further. I was expecting to see the red trumpet flowers of *Hippeastrum* sp. that we commonly and mistakenly call *Amaryllis* at home. (Lou has returned since and saved some young plants to grow in his garden). After passing a wide river with a cliff of massive basaltic columns, Lou started to spot the white flowers of *Sobralia setacea*, apparently in large numbers, but we hadn’t yet got our eye in, so we had to wait until we made a roadside halt to see them for ourselves. These orchids have ephemeral flowers that only last a day; they adopt a strategy of synchronous flowering – all the plants in a local community flower together to optimise their chances of attracting pollinators. We were extremely lucky to catch a group in full flower. (Anyone wishing to learn more about their pollination can refer to ‘An Atlas of Orchid Pollination’ by N.A. van der Cingel, Vol. 2, Orchids of America, Africa, Asia and Australia. Vol. 1 deals with European orchids. Both books are published by A.A. Balkema, Rotterdam, Netherlands – see the web on Orchid Pollination). Lou located a track through the undergrowth downhill towards the river – as is so often the case there had been dumping at the roadside. Further down the slope we found numerous broad leaves of *Pleurothallus* sp. Lou triumphantly announced he had found a special treasure that the previous group had also seen, *Phragmipedium lindenii* – the slipperless slipper orchid. Its brownish-green flowers have very long ribbon-like petals up to a foot long. Lou described this peloric form as a fortunate mutation. The slipper is represented by an elongated petal with a mutant anther at the base that contacts the stigma to self-pollinate, thus guaranteeing fertilisation but restricting its potential to adapt to future change any seedlings would be clones unless a further mutation occurred. Then Lou spotted a greenish-yellow orchid *Maxillaria* sp. deep within a *Dodonea* sp. bush (distinguished by its winged fruits), a genus that also occurs in S. Africa. A succulent with clusters of glaucous foliage has been identified as *Kalanchoe fedtschenkoi* by a friend; it grew in the sandy spots where grey lichens festooned low scrubby branches. Crossing the road we found more white *Sobralia setacea* orchids framing the view of Banos below, with the smoking cone of Tungurahua just emerging through the clouds high above us. We found our first *Puya* sp. here – but they only bore dead inflorescences, also some fine *Coriaria thymifolia*.

Further along the road, a series of new tunnels cut their way through the mountain bypassing the old road. We took the peaceful old road than runs parallel with the tunnels and spent an idyllic hour, undisturbed by traffic, examining the plants and the high cliffs at the roadside. Far below us lay the Pastaza River, a rushing torrent at the base of a deep ravine; several waterfalls plunged down the steep slopes. We were the only people there to enjoy the dramatic scenery. We were amazed to see greenhouses on the very steep slopes opposite. Appropriately we started to see tree ferns, typical of middle elevation cloud forest and more white *Sobralias*.

Then Lou found a red and green Amaryllid - *Phaedrenassa tunguraguae*, a special endemic. All but two of the *Phaedrenassa* species known occur in Ecuador; this is one of the larger-flowered species. Next we found two different orchids, *Epidendrum secundum* with clusters of pink flowers and a white-flowered species, *E. agoyanense*, named after the nearby dam. Large *Gunnera* sp. leaves added further interest but the best treasures were the tiny Gesneriads, possibly a *Cochlearia* sp. with scarlet bells. Then a diminutive orchid with white flowers was spotted, a *Habenaria* sp. with European relatives. (The frog orchid that grows in Europe was at one time named *Habenaria viridis*, and then became *Coeloglossum viride*; thanks to recent work on DNA, such as Lou is doing with Kew; it has recently been reclassified as *Dactylorhiza viridis*, so watch out Lou). Then we found another familiar plant, the maidenhair fern, *Adiantum* sp. As we scanned the steep mountainsides Lou recounted some of the adventures of the intrepid Richard Spruce who had searched for plants in the area and got marooned by flooding rivers. Lou has discovered these mountainsides have been overlooked botanically and are especially species-rich. He described how he has plans to be dropped in by helicopter to enable him to search for orchids; Richard Spruce the explorer would have been envious; we could see that the mountainside would be extremely difficult to negotiate. One adventurer who survived exploring one of the harsh areas near Ambato described the experience as like being scratched by “a million claws of weasels”.

Day 3

Monday 8th November

Ambato to Mera and the Anzu River

Our journey south from Ambato through Banos took us through several small towns to a much lower altitude. We discovered that Ecuadorian towns specialise in particular products and we were left in no doubt that one town specialised in jeans, although we were unsure where such sinuous, sylph-like figures might be found, as many of the locals were very stocky. The vegetation reflected the changes from the more arid vegetation to the west of Banos, through extremely wet cloud forest down the Andean slope to the lowland tropical rainforest on the edge of the Amazon basin. This tropical forest is noted for being extremely species-rich in aroids, bromeliads and orchids, and the tree diversity is exceptionally high. Our leader Lou Jost has described over 40 orchid species new to science here.

The mountains around Ambato are reputed to be the hiding place for Inca treasure. We stopped just above Banos to photograph a small shrine. There were flowers of the native *Calla* sp. here and silvery *Puya* sp. foliage framed the view of the steep-sided cliffs with a river far below. Across the road we avoided photographing the brilliant orange and black flowers of *Thunbergia alata* (we had photographed this in Australia, where it also grew wild as an introduction). We made a brief stop to prepare our documents for passing a checkpoint and climbed the roadside bank to get wide-sweeping views downriver; an already powerful river meandered eastwards down towards the Amazon Basin. The view was framed by the tall plumes of Pampas grasses, *Cortaderia* sp. Large clusters of shell-like grey lichens grew on the ground here. Some creativity was required by those who had left their passports at the hotel but Lou's positive attitude got us all safely past the military check.

Leaving Mera we followed a rough track through small villages. As the track narrowed we saw occasional signs of logging and Lou pointed out cleared areas that marked land claims. We decided to make directly for the river where we hoped to see the rare endemic slipper orchid *Phragmipedium pearcei*. We passed increasing exotic foliage that included more *Gunnera* sp. and tree ferns, *Cyathea* sp. Vivid red and yellow inflorescences of numerous Bromeliads glowed enticingly but we resisted stopping until a new orchid species, *Sobralia rosea* with purple flowers proved irresistible. The white *Sobralias* we had seen the previous day had already expended their energy

and their flowers had closed. Lou had hoped to see many more of these purple orchids as they often flower in sequence after the white species but they were elusive. We saw some turkey vultures in the last village before stopping as we crossed a bridge over a small river to enjoy the Bromeliads and riverside plants. A white trumpet-shaped flower we were unable to identify might have been a companion flower, attracting the same pollinators as the *Sobralia* orchids. We also spotted red tubular flowers with pointed petals of one of Ecuador's many ericaceous plants.

Finally Edwin pulled the minibus to a firm halt; we had arrived at the Anzu River. A sudden shower brought out our umbrellas and we followed Lou as he plunged into the dense rainforest undergrowth at the roadside. When we emerged on the riverbank he cajoled us into walking upriver a short distance where we found hundreds of slipper orchid flowers in perfect condition growing amongst mossy boulders close to the river. Lou had recently discovered this amazing site and was keen to acquire the land to conserve this large population of *Phragmipedium pearcei*. He had calculated there were probably thousands of plants in the area. We needed flash to photograph them in the low light. After an enormous picnic lunch we crossed the river and noted many *Tillandsia* sp. growing on a footbridge downriver. Lou disappeared into dense bushes at the roadside where a narrow track threaded alongside the river. Our first orchid was a small white terrestrial *Habenaria* sp., then a small brown epiphytic orchid, *Maxillaria* sp. next an *Oerstedella* sp. with green flowers. We could have spent hours photographing an exciting diversity of ferns, lichens, mosses and liverworts and tiny hornworts.

We have made brief visits to other rainforests; they are notoriously difficult for photography and we didn't have high expectations but we were blessed with fine weather and Lou had chosen some very accessible habits that revealed some of the most colourful species. We were really impressed by the number of species that this visit served up in view of past experiences but also relieved John had got his flash technique up to speed. James Fair, the travel writer for BBC Wildlife Magazine described the situation well in a recent article quoting - "The noted biologist Dr Thomas Lovejoy remarks in the foreword to the book *Tropical Nature* that rainforests aren't, on first appearances, the reservoirs of diverse and colourful life that they are sometimes made out to be. His first impression on going into a rainforest just outside Belem, in Brazil, was that it is very green, quiet and still. "Little moved except ants" he wrote.' James continued - 'I reckon this is bang on, and for first time visitors to a rainforest, it can be a desperate anti-climax. Where are all the colourful birds and flowers and the extraordinary mammals that you've read about? Completely absent it would seem. But then you learn a few techniques - crane your neck up, and you'll start to see some of the more exotic bird species . . . but mammals in most case remain frustratingly out of sight. . . As Lovejoy said, "Most animals are occupied in not attracting attention." I liked Lou's reference to his former ornithology professor who had said that "the definition of a bird is an irregularity in the vegetation." That says it nicely. Professional bird photographers, especially, have to be admired for their skill and dedication.

We stopped several times on our return route, taking time to walk along the track, with Edwin following in the minibus. The massive foliage of *Cecropia* sp., a pioneer tree was to become a familiar feature at lower altitude; the leaves have tiny glands that secrete a sweet substance attractive to ants whose presence deters predators. Amongst other bold foliage plants we noted ginger *Renealmia* sp. with orange inflorescences and *Caladium* sp. We also found several Aroids, *Anthurium* sp. and *Xanthosoma* sp. Lou pointed out a Balsawood tree, *Ochroma* sp. and we scrambled down a bank to photograph a bright orange *Begonia* sp.; the first of many more members of that elegant family. We photographed the bold foliage and clustered red flowers of *Podandrogone* sp. (Capparidaceae) and Lou showed Edwin the leaves of the sensitive plant, *Mimosa* sp. Other highlights along the roadside were

bright yellow club-like inflorescences of Bromeliads and pendant red and yellow *Heliconia rostrata* a panicle bearing its blue fruits lay on the ground. John photographed a flower that I had been hoping to see but we didn't recognise it until I had looked at the slide several times – it was *Aeschynanthus pulcher*, the Royal red bugler or lipstick plant. Lou was tall enough to pull down a branch bearing red fluffy flowers to eye level, one of the fairy dusters of the Americas, *Calliandra* sp. The day ended on another high note as Lou led us down a narrow rainforest track, at the side of the path was beautiful a new Amaryllid with white flowers that I identified as *Eucharis amazonica* but on second thoughts, it is more likely to be *E. moorei*; Lou wisely decided not to commit himself; the former is only found in the Peruvian Andes and the latter grows in Ecuador. John found a myxomycete (slime mould), identified by D. W. Mitchell, a friend in the UK, as *Didymium squamulosum* (previously recorded in Ecuador). A fern-lined stream, where fragile filmy ferns amongst the branches above, were thriving in the moist atmosphere led to a scene worthy of the Chelsea Flower Show, with artistically arranged evergreen foliage and colourful Bromeliads. Along the track we photographed a white flower with a sort of curving, central comb-like structure along the track; also an exotic waxy pink flower, (Lou has suggested they may belong to Melastomataceae, possibly *Meriania* sp. or *Blakea* sp.).

We stopped briefly in Banos to do some shopping; it was easy to see why this attractive town attracts so many visitors. Lou pointed out his eerie high on a mountain ridge where he is building a new house.

Day 4

Tuesday 9th November

Ambato to Chimborazo and Riobamba

This exciting scenic route follows the highest paved road in Ecuador, reaching over 4,000m, as it circuits Chimborazo. We stopped abruptly as Lou suddenly spotted a cluster of brilliant orange tubular flowers, *Bomarea* sp. We enjoyed extensive views of the steeply sloping mountainsides and patchwork fields that give Ecuador the name of the vertical country. Pampas grasses *Cortaderia* sp. framed the view and Shining Sunbeam humming birds visited the tall spikes of yellow flowers of *Siphocampylus giganteus*. Bright yellow *Calceolaria* sp. flowers mingled with fluffy pink and white *Eupatorium* sp. We grow a similar species in our European gardens to attract butterflies. Tiny farms dotted the hillsides and the indigenas could be seen going about their business, often on horseback; one group were participating in a community project – known as a minga. We noticed some movement further down the road and could just make out a thatched earth building moulded into the hillside with a watchful and curious owner. A Short-eared owl was spotted and a high altitude orchid the 'Aa' that was named by Reichenbach to ensure it was first in the index. Large patches of leafy liverworts on a cliff wall added further interest. Another orchid *Myrosmodes* sp., which we saw on Chimborazo, was growing at a still higher altitude. Later we passed several small groups of people waiting for the bus, wearing brightly coloured ponchos and neat round white hats.

After a few more miles we spotted clusters of pale mauve flowers. Anne stopped the bus for an exceptionally fine group on a steep grassy slope; these gentians, *Gentianella cerastioides*, looked like small crocus. We parked at a high point on the pass for our lunch where we had fine views of Chimborazo; its summit appeared briefly through the clouds. We were fortunate to see a flock of vicuna passing in front of it grazing leisurely, unconcerned by our presence. These camelids are especially well adapted to life at high altitude and Anna hankered after their very fine wool. The summit of Chimborazo is notable for being higher than the peak of Mount Everest (29,028), when the distance is measured from the centre of the earth, due to the Equatorial bulge. Isaac Asimov re-calculated the heights of mountains on this basis in 1966. Thus, Kilimanjaro would stand

27,200m above polar sea level compared with Everest's 25,000m but the otherwise unheralded champion would be Mount Chimborazo; the Ecuadorian volcano stands a mere 6,300 metres above sea level at 2 degrees S but some 27,600 metres above polar sea level. In my ignorance I didn't realise that sea level varies considerably according to latitude. The well-known mountaineer Whymper was the first to climb Chimborazo. The critical issue for climbers is the thinness of the air and in that respect the peak of Everest has the lowest air pressure of any point on earth.

Food seemed of minor importance; we made the most of unexpectedly fine weather, as we had been prepared for difficult cold, wet and windy conditions. (Anne put her hat on). This high, windswept paramo had numerous plant treasures. First we photographed a mustard plant with mauve flowers (Cruciferae), then handsome shrubby plants with cone-shaped orange inflorescences called "Chuquiragua", *Chuquiraga jussieui* (Compositae). Another Compositae, *Culcitium canescens*, with a branching inflorescence bearing drooping yellow centred daisy flowers, was equally dramatic with its silvery felted foliage. A similar species grew nearby, *Culcitium uniflorum* with white woolly bracts and woolly stems that bore stiff whorls of short green leaves; each stem bore a single yellow flower that pointed upwards when young and hung downwards when mature. The predominant grasses were possibly *Stipa ichu* as Erwin Patzelt had illustrated them and I had seen them in Chile but I didn't check its botanical characters, also *Festuca* sp.

Of the many low carpeting and cushion plants, *Astragalus geminiflorus*, a leguminous plant with tiny mauve pea flowers and dainty pinnate silvery foliage was a connoisseur's plant. Other small plants included a tiny mauve *Geranium* sp. and a tiny *Lupinus* sp. I have identified a flower that at first glance resembled a mauve *Oxalis* sp. as *Nototriche pichensis* (Malvaceae), a sought-after gem of the paramo. Lucinda found the choicest plant of the day, it was also the smallest, a tiny rosulate *Viola polycephala*. The photographs showed that its flower buds were purple and the petals turned purple again as they aged. The petals of the mature flowers were white suffused with pale mauve and marked with purple veins. Lucinda later found the largest special plant of the day, the blue-flowered *Salvia mexicana* at the roadside. Another special paramo plant was also found here, its distinctive whorls of closely packed glossy foliage and four petalled white flowers enabled me to identify it as *Eudema nubigena* (Cruciferae); a plant with an extensive woody rootstock. We added several other species to our list, including a dwarf Indian paintbrush, *Castilleja pumila*, before moving on to another spot where we found more yellow dandelion-like flowers, *Hypochaeris sessiliflora*. Nearby we also found low-growing white daisy flowers with red-backed petals and distinctive clusters of narrow fan-like glaucous foliage, *Werneria nubigena*. Some stiff shrubby bushes with silver-edged, cypress-like foliage were possibly *Loricaria thyoidea*. A bright green plant in a red dry wash was a *Baccharis* sp. Where the road had been cut through the lava flows and also alongside drainage gulleys, we could see how layers of sand and ash had built up during a series of eruptions.

We drove onwards through a very austere landscape. At the next stop Lou exhibited a taste for dizzy heights, finding the most interesting plants at the edge of a steep cliff; he lured some of the group down the steep slope, all apparently undeterred by the effects of high altitude when they came to climb back. Those of us who stayed near the road found a tiny orange and red flowered evening primrose, *Oenothera* sp. a mauve flowered *Solanum* sp. and *Echeveria quitensis* (identified by a friend), with pink/orange flowers. There was some debate whether a tiny roadside weed with white flowers was a *Stellaria* or a *Cerastium* sp. the latter seemed more likely as it had downy leaves but we didn't photograph it. John photographed a plant with pale mauve flowers (Compositae), branching stems and leaves like a thistle; probably *Plantago* sp.

Approaching a tourist village we stopped briefly for some *Polylepis* sp. with shaggy bark, growing with 2 distinct species of *Buddleia* – one with longer, narrow leaves was probably *Buddleia incana*; both species had clusters of orange flowers. We made another brief stop to photograph a group of brown and white Llamas. Very dense carpeting plants felt firm and crisp and made a harsh turf that was scattered with tiny bright blue *Gentiana sedifolia* and creamy cups of a *Caltha* sp. set deep amongst stiff, glossy, oval leaves. Lou finally capped Lucinda with a *Puya* sp. in bloom at last; we crawled under a barbed wire fence and walked carefully along the field edge to photograph it, watched from a distance by the owners. He also pointed out the agave-like *Furcraea andina* as we drove back to the hotel. We were very fortunate to do this excellent trip as the roads to Cotopaxi had been blocked by strikers and Lou felt it had become degraded by comparison due to many visitors.

Day 5

Wednesday 10th November

Ambato – Quito

We made a brief request stop for some cacti that Edwin had spotted, possibly *Cleistocactus sepium*, with deep rosy/orange flowers and the common and invasive prickly pear, *Opuntia ficus-indica*. The cacti with red flowers were *Opuntia cylindrica*. Tall pepper trees *Schinus molle* grew nearby bearing strings of pink berries. I noticed many *Datura* sp. growing in the fields but couldn't identify them with confidence from a distance. I saw numerous plants of *Argemone mexicana*; it has attractive cream flowers and glaucous prickly foliage and is a common arable weed that originated from Mexico. We drove into Quito and spent the rest of the day sightseeing in the historic old town.. A sudden shower provided an excuse for some shopping after lunch and we bought small ivory-like figures carved from the large seeds of a palm nut, the "tagua", *Phytolopsis aequatorialis*. The old city was quite tranquil following threats of a revolution, which had added a piquant flavour to the previous few days as we awaited the outcome which was avoided by last minute political manoeuvring. Police with shields stood at the sides of the square and there were quite a lot of guns to be seen. Lou took us discreetly to a side entrance of the Presidential Palace and we were escorted in by a smiling guard determined to be hospitable to tourists, who showed us a model of the palace – very handy if we had been interested in making a coup and we were able to see the delightful courtyard gardens. While we waited for Edwin near the car park we spotted large panels of photographs around a courtyard; Lou knew the photographer. One showed the torch plant with fiery red flowers, *Nicolaia elatior*; we had photographed it in the Singapore Botanic Gardens and I hoped it was a native plant but learned later it originated in the Celebes. We returned to the Hotel Sebastian.

Situated at 9000 feet, Quito is the second highest capital in the world; the highest being La Paz in Bolivia. It is considered to be the most attractive of all the colonial capitals of South America. It is located in a hollow at the foot of the volcano Pichincha with Andean peaks towering in the distance. The climate is delightful: the name means "Eternal Spring" in the ancient language of Quecha.

Day 6

Thursday 11th November

Quito – Guayaquil –Loja – Petrified Forest of Puyango

We were up at 3.45 for the early flight to Loja. I wore my corduroy trousers as the morning was chilly, unaware that we would be going to a hot, dry area and would not be stopping at the hotel. During the flight I was lucky to be seated in a J seat beside the window and got superb views of the cone of Chimborazo emerging through the clouds; if only my camera hadn't been in the luggage rack! We were met by Florian and a burly driver with a

much smaller mini-bus. Our luggage was hauled onto the roof, secured under a tarpaulin and we set off for the Petrified Forest, one of Ecuador's highlights, close to the border with Peru. The cramped conditions began to tell as the journey progressed; it was as well we didn't know how far we were going but once we had taken stock of the situation we swapped seats to share the discomfort. We were also concerned by the lack of seat belts in this vehicle. However, we were all keen to enjoy the experience of this more tropical environment. As the heat of the day increased we drove through villages with many exotic plants, including bananas. I saw an especially lovely flowering tree, the bird-of-paradise tree, *Caesalpinia gillesii*. Some plants were very familiar, such as the pale blue flowers of *Plumbago capensis*, also the very poisonous castor-oil plant *Ricinus communis*, flame trees, *Delonix regia*, with brilliant orange flowers and pink flowered *Nerium oleander*. In one town we saw hedges of *Lantana camara* covered in pink and orange flowers and fences festooned with deep blue morning glory, *Ipomea acuminata*. Other striking plants in gardens included *Codiaeum ocyifolia* 'Variegatum' with bright red and yellow foliage, clumps of *Cassia didymobotrya* with racemes of large yellow flowers and distinctive black buds also an evergreen climber, *Solandra grandiflora* with very large ochre yellow trumpets.

We gradually gained height, winding steeply upwards through arid mountainous countryside that reminded us of the Arizona/Mexico borders of scrubby semi-desert; the bushes harboured many small birds. We made a brief roadside stop to capture the view and photographed the purple flowers of *Mimosa quitense*. *Tillandsia* sp. festooned the telegraph wires along the roadside. A giant baobab-like tree, *Ceiba trichistandra*, the "Ceibo" with an unusual smooth green trunk brought us to a halt; we saw many more of these trees as we continued the journey. Epiphytic *Epiphyllum* sp. plants grew amongst its branches. We were unable to identify the "living fence" at the roadside which had *Nerium* - like pink flowers. We made our next stop beside a steep gully to photograph another of these curious trees and scrambled up the hot, spiny slopes amongst a variety of cacti, some shaped like candelabra. One of the cacti was possibly *Opuntia soderstroniana* and another with cylindrical branches, *Estopoa lanata*. Anna became very excited, so we all fought our way through the bushes to admire her "find", a very handsome red and green Amaryllid that Lou has identified as a *Euchrosia eucrosiodes*. A friend has identified the small salmon flower with glossy palmate as *Jatropha nudicaule*. John scrambled higher to photograph the endemic *Bougainvillea* sp. Crossing the road we looked down onto trees filled with the leafy foliage of numerous Bromeliads. I found a red-purple flower here that I have identified as *Cristaria andicola* (Malvaceae), or similar species, with flowers resembling a tiny Hibiscus. Some of the thorny trees had small yellow ball-like flowers, *Acacia macrantha*.

Checkpoints were negotiated and we moved briskly on to the Petrified Forest, where the toilets were passed up in favour of more pleasantly aromatic bushes. The highlight here was the opportunity to see the petrified trunks of Araucarias. I was convinced Darwin had seen similar trees in Chile but couldn't convince anyone else. However, I have now dug out the reference in the *Voyage of the Beagle*. On one of his excursions into the Andes from Valparaiso Darwin came across a grove of petrified trees, they were described by the keeper of the Natural History Museum at the time as 'belonging to the fir tribe, partly araucaria but with some curious points of affinity with yew.' Some forest fires distressed Florian and we stopped briefly to photograph them before entering the very dry forest. We had a generous lunch and I donned an empty lunch box as a sun hat, blessing my corduroy trousers. There were many new things here including the petrified tree trunks, some fruits were very photogenic and interesting, especially the giant winged fruits of *Cavanillasia* sp., tall specimens of these trees had widely spaced rings on their trunks. We also photographed the downy contents of the kapok-filled pods of the "Ceibo" trees. Some of the group got excellent views of a golden oriole and we photographed a very strange member of the stinging nettle family, *Urera* sp. We recorded the yellow flowers of a *Caesalpinia* sp., too high to

identify. The colonising tree *Cochlospermum vitifolium* made a dramatic canopy of shady foliage over a small river where we also saw the yellow flowers of a herbaceous *Ludwigia* sp. at the water's edge.

We made two stops on the homeward journey. At the first, Florian dived under a fence to retrieve various plants growing on the rocky slope below us. Through the binoculars I picked out some tiny scarlet flowers that he identified as *Viola arguta*. We saw a red *Lobelia* sp here and I noted a *Centropogon* sp. and a shrub with a cluster of upwardly pointing white tubular flowers and long yellow stamens. Florian pointed out a garlic-scented climber that we didn't photograph – *Mansoa* sp. We photographed a somewhat ragged *Asclepiad*, as I have developed a recent interest in the pollination of this group. Orchids are not unique in having pollinia, members of the *Asclepiadaceae* also have them. I had seen many groups of *Cleome spinosa* with mauve flowers at the roadside on the outward journey as we drove through several villages. Anne was keen to see them but kept nodding off on the return journey and my prodding was too late each time until I suddenly saw a drift of them but we had decided to make only one more stop, as time was against us. On the outward journey I had spotted some bright scarlet passion flowers at the roadside, *Passiflora* sp. Our speedy driver was forewarned and we managed to halt him only 100m after passing them. We returned to the Hotel Bombuscara rather late that evening, at 8.30pm, having left the airport earlier that morning at 7.30am. The hotel had a spacious marble reception area and fine marble staircase, our rooms were clean and adequate but they were box-like and windowless (they had gaps into the cavity wall). It probably wouldn't bother commercial travellers but as people who like the outdoors, we have recommended that Naturetrek uses another hotel. (We would also have preferred Edwin as our driver but the minibus was owned by the hotel. They had 2 4x4 vehicles but only one driver). However, we were all tired and hungry and the hotel staff had kindly held supper for us although only 3 of us had an appetite and two of us had a mild stomach upset afterwards - possibly the seafood pasta. Florian had adopted an interesting technique of photographing plants during the day with his digital camera and having a brainstorming session in the evening showing us the images on his laptop, however, we didn't do much brainstorming that night.

Day 7

Friday 12th November

Loja to Vilcabamba and Cerro Toledo

Loja was a fascinating town and we hoped to have time to explore it when we returned there, especially as the hotel was close to a covered market. It is one of the oldest cities in Ecuador and has rich colonial architecture and narrow streets. The city was officially founded on 8th December, 1548 by a Spaniard, Captain Alonso de Mercadillo. It is located at 2,100m above sea level and enjoys a temperate, spring-like climate all year long. Our guide book warned us to be extra vigilant against theft and I thought it best not to mention that our friend Helen had been sprayed with a pepper spray and her rucksack stolen at the railway station a couple of year's previously, since we weren't going there. (Later I discovered it was Ambato anyway!)

The original plan had been to spend 4 nights in Loja but we weren't unhappy to learn that we would spend the following night in the Hostaria Vilcabamba, close by a village of that name that is popular with tourists. Hippies had been attracted there by local narcotic and hallucinogenic plants; the great age of some of the inhabitants attracted more health-conscious tourists. There were certainly a few tourists about, one of the few places we encountered any. After the dry dusty road and long drive of the previous day, it was a welcome short drive to Vilcabamba. As we entered the *Bougainvillea* covered entrance, our nostrils were filled with the heavy scent of jasmine and our eye lighted first on the blue swimming pool, then on the clusters of large purple *Cattleya maxima* orchids in the trees. A large island bed at the entrance was filled with flowers. We photographed the scarlet

Hippeastrum flowers hoping they had a wild ancestor, as the genus comes from South America. The brilliant orange and red flowers of the Pride of Barbados, *Caesalpinia pulcherrima* added to the colourful display, also a nearby fairy duster bush, *Calliandra haematocephala*, with red flowers. We followed the porters down a long pathway to a low building, where the entire group had been accommodated. However, no time to become lotus-eaters, we were soon ready for the road again! (That evening fireflies flitted through the grounds as we made the journey by torchlight, it was delightful. The termites walking in tandem across the dining table were intriguing but special lights over the door deterred other bugs)

Despite the tropical warmth, we armed ourselves with woollies and raingear suitable for a bitterly cold, wet and windy experience on Cerro Toledo. Our itinerary warned us that we would probably only leave the bus for a few minutes, due to the typically extreme conditions. We climbed steadily uphill, through somewhat alpine scenery, I noted numerous deep blue *Salvia* sp. flowers, a major family in S. America and shortly afterwards we made a brief roadside stop. Florian was somewhat frustrated by our enthusiasm for brightly coloured alien plants such as *Leonotis ocymifolia* with whorls of orange flowers but we had never seen this invader from Africa before and as each country has its conservation problems, its presence was interesting and such flowers beef up the slide show when we get home. He felt a bright red *Pitcairnia* sp. was growing in the wrong place and it was replanted in a more accessible spot. We discovered a small yellow *Calceolaria* sp. and a tiny blue flowered *Commelina cyanea*, another traveller, that Australians call scurvey weed. Other plants included an attractive orange *Epidendrum* sp. growing with an orange pea flower (Leguminosae) that may have been a companion flower for the orchid's pollinators. Also nearby were an *Oxalis* sp., a mauve *Solanum* sp. and a *Physalis* sp. with cream flowers with its typical "lanterns" already forming. I noted tiny white flowers along the roadside of *Galinsoga parviflora* (Compositae) a native of Peru, but the group had returned to the minibus. This plant has travelled widely, like the dandelion, *Taraxacum officinale*, that we also saw frequently in Ecuador. It became known as Kew Weed in England after escaping from Kew, where it was introduced in 1860. It was often recorded on bombed sites. Nowadays is often found in disturbed places, especially roadsides and is sometimes called gallant soldier.

We stopped in a village called San Pedro de Vilcabamba to photograph a village scene with a donkey against a mountain backdrop and also a superb specimen of *Brugmansia candida* with large white trumpets in a garden. One of the locals tried to board our mini-bus here and was somewhat disappointed; we had stopped at a bus stop, so he wasn't to blame. We saw a climber with yellow trumpet flowers of a *Tecoma* sp. (Bignoniaceae) and purple tubular flowers of a member of the Solanaceae, *Tochroma* sp. In another village, clusters of large orange flowers of an exotic African tree, *Spathodea campanulata* caused some excitement but the flowers were too high to photograph.

We finally reached the summit of Cerro Toledo, impressed by our driver's skill and verve at manoeuvring the minibus up the steep winding track. The sun was shining and amazingly there was no sign of it being the extremely wet, windy place we had been prepared for. Nobody was disappointed about that. Admittedly an exceedingly strong wind was blowing and the air was filled with tiny glistening flakes of mica that boded ill for anyone changing a film there and indeed my film was subsequently badly scratched that day. (Anne put her hat on). We were exceedingly lucky to have such exceptionally good conditions and we spent some time exploring. I had been keen to visit these high altitude paramo areas having seen tantalisingly unusual plants in Chile's altiplano. That wish had already been satisfied but high on my wish list was a gaudy orange endemic that I hoped to see in the high Andes and I was thrilled to find it growing here in large numbers – the Rose of the Andes, *Ranunculus guzmannii*, ole! Luckily the carpeting plants were unaffected by the strong wind and many were

in flower but we had to be careful not to kneel down in the boggy patches. We could only identify genera - a yellow *Hypericum* sp. and a pale *Geranium* sp.; initially I thought a low-carpenter with tiny white five-petalled flowers was a *Lobelia* sp., on second thoughts it may have been *Hypsela reniformis*. A plant with tiny mauve flowers resembled a member of Rubiaceae, possibly a *Galium* sp. A group of plants with stiff foliage were well adapted for the harsh, windy environment, including *Valeriana rigida* with dense whorls of stiff foliage and a central boss of white flowers; another species, *Paepalanthus ensifolius* (Eriocaulaceae) had similarly whorled foliage and tiny clusters of flowers on long stems; identified from Edwin Patzelt's book but some of his names are out of date and questionable. We found tiny greenish-yellow gentians here, *Halenia weddeliana*. There were several Ericaceae, including a *Pernettya* sp., a mauve *Oxalis* sp.? and a diminutive deep blue *Gentiana postrata* (formerly *G. minima*).

We returned to the minibus and continued downhill looking for some large yellow *Calceolaria* sp. and a lovely plant with sky blue forget-me-not flowers (Boraginaceae). The road became more sheltered as we descended, flanked by a high bank on the windward side, so we decided to walk. There were numerous bamboos with a low, arching habit, *Chusquea* sp. The conditions were so pleasant that 2 of the group decided to leave the photographers to descend slowly and they walked downhill for a couple of miles before we caught them up. We greatly enjoyed the view down over the mountain ranges and the ragged outlines of trees bearing numerous Bromeliads. Our plant list began to mount as we found a lovely *Rubus* sp. with trifoliolate leaves and purple flowers, numerous club mosses (Lycopodiaceae) and two yellow *Oxalis* sp. Anna was particularly taken with one species that had red stripes on the reverse of its petals. John photographed *Baccharis sagittalis* with clusters of tiny oval buds at the nodes and a coral-red *Bomarea* sp. that had black tips to its petals, a white *Vaccinium* sp.? also something we called *Spirospermum* sp., I noted it had sharply oval evergreen leaves with deep venation and pointed red buds, hopefully the photograph can be identified. John and Florian scaled a cliff to get pictures of an orchid with a spike of yellow flowers and then we found one at the roadside, nowhere near as good of course! also a yellow *Pitcairnia* sp. Other plants noted on the walk downhill included a *Pachyphyllum* sp. with stiff, alternating leaves and green flowers, a tiny *Lepenthes* sp. on a steep shady bank and a *Brachyotum* sp. with red flowers, a *Fuchsia* sp. and a shrub with orange tubular flowers; its leaves were backed with rusty orange felt (like the indumentum on some *Rhododendron* sp.); this last species looked especially attractive against the mountain backdrop. We found another *Bomarea* sp. and a green *Epidendrum* sp., a pink, star-shaped *Centropogon* sp., a rather fine *Berberis* sp., a *Phytolacca* sp. with purple inflorescence, a tubular blue flower, *Palicourea* belonging to the coffee family, a small brown orchid, *Maxillaria* sp. and a pink *Begonia* sp., (we were intrigued to see its adjacent male and female flowers). Tree ferns *Cyathea* sp. came into view and the now familiar Pampas grasses, *Cortaderia* sp., also an especially fine *Melostome* with orange/red ball-like flowers, *Axinea* sp.

I have listed the following plants and hope they will make more sense when we've seen the slides. I regret not being as careful as Anna; hopefully she may come to my rescue with some of these later: *Saurauia* sp. with clusters of cream flowers - *Racina* sp. a bromeliad with shrimp-like pink inflorescence - *Barnadesia* sp., a spiny tree with long, mauve flowers - a *Viola* sp. with purple veins, that resembled *Viola dombeyana*, but the high altitude habitat would possibly give a clue - *Carex rotundifolia* - *Centropogon* sp., with red tubular flowers - a mauve orchid and *Ceratostema* sp. with large, fuchsia-like flowers. We were very impressed by the waxy pink flowers of a *Cavendishia* sp. and vowed to learn more about Lord Cavendish when we returned. I also noted *Tibouchina lepidota* with purple flowers - *Papilanthus* sp. and a plant with a row of oval pink bells that we named *Bejaria* sp. Florian hadn't used up all his energy climbing the cliff and once again defied gravity to obtain a specimen of a splendid member of the Proteaceae, *Oreocallis grandiflora*. This magnificent cream flower was as large as any of any S. African *Protea* and we saw several bushes the next day. Below us in the valley was a magnificent umbrella-shaped tree *Cecropia*

sciadophylla. These trees favour deep gulleys in this area; their foliage appeared to be brilliant white, making them one of the most attractive trees I have ever seen.

Day 8

Saturday 13th November

Vicabamba to Tapilacha in the Podocarpus NP

Having enjoyed a night in delightful tropical surroundings we begged Florian to see if he could extend our stay so that we could spend another night at Vilcabamba. We were extremely pleased when he successfully accomplished this. We took the chance to add a few more photographs of plants in the garden, including the large white flowers of a ginger plant from Indonesia, *Hedychium coronarium* that has become widely established in the countryside; it had deliciously aromatic foliage. Thankfully we re-photographed the large Protea that Florian had collected the previous day against a blue sky, as the cleaners had disposed of it when we returned later. We just had time to cross the road and photograph the red flower clusters of the native *Erythrina splendida*.

We retraced the route of the previous day initially, so the hotel was well positioned. We stopped briefly to photograph some tall, branched *Yucca* sp. with large clusters of white flowers. We stopped again to photograph some pudding stone rocks that had been eroded into tall pillars. After driving uphill for several miles Florian decided it was time to explore and guided us along a narrow trail where young *Podocarpus* trees were growing. We found some glossy clusters of *Psammisia* sp. (Ericaceae) and another member of the same family with translucent purple berries that might have been a *Pernettya* sp. or *Vaccinium* sp. We made a further stop at the roadside where there were damp areas and found a large orchid with a cluster of yellow flowers, *Epidendrum lacustre*, also pokeweed *Phytolacca* sp. As we drove further into the Podocarpus Reserve we halted for a while to explore an area where there were very annoying buzzing horse flies, thankfully their buzz seemed worse than their bite. They inhabited a very interesting grassy, alpine area with wet patches where we saw numerous *Gunnera* sp. in flower and some striking *Guzmania* sp. There were also very fine bushes of *Cavendishia zamarensis* and a variety of Ericads. We added *Pleurothallis bivalvis* to our list, with a tiny brown flower on a heart-shaped leaf and a *Lepenthes* sp. We crossed a shallow river where numerous butterflies (Heliconidae) were drinking the water and recorded several *Oxalis* sp. On a hot, dry section of road with extensive views over a hazy blue mountain range; we could make out several fires burning in the distance. We photographed an especially attractive *Palicourea* sp. with a large inflorescence and flowers of an unusual turquoise blue, with Indian yellow calyces; a striking and unusual colour combination. Higher up the hillside we could see the palm-like fronds of the wax palm, *Ceroxylum* sp. resembling a coconut palm but the heat and altitude made us reluctant to climb the steep path to get closer and we opted to walk down the road.

We arrived at Tapichalaca, a private reserve in time for lunch. It had been purchased by the Jocotoco Foundation to protect a newly discovered species of bird, the Jocoto Antpitta but we were told we were unlikely to see it. Enticing smells were coming from the kitchen and we sat down to an enormous meal starting with a shrimp soup, followed by large chunks of beef in a tasty sauce with vegetables, followed by a sponge pudding with a sauce of hot red fruit. I decided to rest during the afternoon in the cool lodge as I felt I had a slight touch of the sun. Ann kept me company, while the rest of the group explored the high-elevation cloud forest. Later we all enjoyed watching numerous humming birds visiting the feeders. We photographed a large yellow orchid *Cyrtorchilum macranthum*, it was the species that Lou tried to find later near Papallacta where we saw just one plant in a garden; they are often collected by the locals when they flower.

That evening Lucinda decided to celebrate her birthday a day early in view of the pleasant surroundings. The pisco sours were so good we wished we had started having them earlier in the holiday. Florian introduced us to one of his favourite web sites: www.visual.plants.de

Day 9

Sunday 14th November

Vilcabamba to Loja

The group decided they would like to see the reserve where Florian worked (Centro Popon San Francisco) it was also another chance to explore some primary forest. Our guide book recommended the route to Zamora was especially scenic. We passed some plants of *Nicotiana tabacum* that had escaped from the fields. Florian was very distressed that fires had been lit on the hillside above the reserve. It was so hot and sunny we had our lunch in the shade near the minibus before walking down a steep path to the river. We passed some introduced species of ginger plants and then spotted some tiny mauve *Sisyrinchium*s. Near the bottom of the slope we found numerous tiny scarlet *Viola* sp. flowers, similar to those we had seen on the way back from the Petrified Forest, but these were lax scramblers, a metre or more tall. Looking back uphill we could see tall, arching bamboos *Chusquea* sp. We were pulled over the gorge in a 4-seater cable car; it added to the sense of adventure. Then we slowly climbed very steep steps up the far side of the gorge. This gave us an opportunity to examine some bright pink lichens and Florian amazed us with his knowledge and enthusiasm for every tree, indeed every leaf we encountered. We found both purple and white *Sobralia* sp., probably different species from those we had seen earlier. Florian scaled a very steep slope and collected an orange orchid that he hadn't seen before that Lou later identified as an *Eriopsis* sp. The pathway was lined at one point with tall plumes of a feathery grass, *Pennisetum peruvianum*. We saw several aroids and at one point, near a waterfall, Florian heard the Andean cock-of-the-rocks calling and tried very hard to locate it. We found a magnificent *Centropogon solanifolius* here its scarlet flowers flattened against the dark green foliage. There were numerous tree-ferns, *Cyathea* sp. and towards the end of the walk we passed a magnificent tree with yellow foxglove-like flowers, *Tabebuia* sp.

We were a little disappointed when we realised it was Sunday and the market would be shut but had a memorable supper at the hotel that evening. We were told to be ready for supper at 7.00pm on the 3rd floor. Although this was a little early it seemed wise to agree. When we arrived there promptly at 7.00pm the room was in darkness and yesterday's breakfast was still on the table, which wasn't very encouraging. We decided to go up to the bar/dining room on the 4th floor and order pisco sours. It seemed a good opportunity to celebrate Lucinda's birthday again. The pisco sours were excellent and put us all in hilarious spirits. We were told we could order our meal there at 7.30pm. Eventually a waiter took our orders at 8.00pm.; the majority ordered steak. Lucinda put the boat out and ordered cream of pleasure soup. The waiter returned at 8.15pm to say steak wasn't available that evening. Surprisingly one of the best Ecuadorian fish dishes was available, so we ordered that. At 8.30pm the waiter returned with a dish of dainty appetisers that consisted of morsels of cheese on blue-tipped cocktail sticks surrounding a bowl of a creamy substance that looked suspiciously like condensed milk to me. It was condensed milk! It had an interesting effect on the cheese. By now we had realised that our waiter was running the hotel single-handed that evening. At 8.42pm Lucinda was served with soup and the rest followed a little later. At 9.10pm 5 main courses arrived. We pointed out that there were six of us and after a further wait the missing meal arrived. Our meal was served with great care and dignity and our plates were exquisitely garnished; the waiter/cook had even taken the trouble to shape the cucumber slices. Anne encouraged him to even greater heights by showing him how to make a waterlily with her serviette. He truly did his best and was calm and charming and but as we had nowhere else to go and plenty to talk about it really

didn't matter but it somehow emphasized we were in South America. We had seen a religious procession walking through the town earlier; it may have explained the absence of staff. I was the last to leave the restaurant at 10.00pm, John went ahead while I signed for our drinks and confirmed Neblina Forest would pay for our meals. I then realised I had forgotten which room I was in and there was no sign of John. I knocked unsuccessfully on a couple of doors and decided to go down to reception. John was below me on the next floor laughing, he had gone back to our room and put his glasses on the read his book and everything became a terrible blurr – he thought he had lost his sight – perhaps a sudden stroke – and then realised he had put on my glasses on by mistake.

Day 10

Monday 15th November

Loja – Guayaquil – Quito - Papallacta

Wakeup calls had been ordered for 4.45 but they came at 5.15, so some of the group were late for breakfast which had been ordered for 5.15. However, there was no sign of breakfast and we eventually extracted the information from a young man in the kitchen that it would be served at 6.00pm, too late for us as we were due to depart at 5.45. However, our driver arrived very promptly and took great care that we and our luggage were safely on the plane. Lou met us at Quito and reunited with Edwin and his comfortable minibus we set off for another journey through the mountains eastwards to the Termas de Papallacta, where we planned to spend 2 nights. We made a roadside stop beside a deep gorge where Lou had found a great many Amaryllidaceae the previous year. Unfortunately the area had been disturbed and partly ploughed; the most interesting plants, including a yellow Bromeliad and *Phaedranassa dubia* were clinging to the steep sides of the gorge where we couldn't reach them. There were more pink Passifloras here, similar to those we had seen on our first day; plants of *Agave mexicana* had somehow resisted disturbance. We saw some *Sisyrinchium* sp. with yellow flowers and some plants of *Dalea caerulea* with very deep blue flowers.

We drove onwards to the very high Papallacta Pass that reaches 4,000m. We were assured the weather was usually more benign than Cerro Toledo but it would still be windy and it might be stormy. Once again the weather was very kind to us. Turning steeply uphill away from the main road we stopped to photograph some magnificent plants of *Puya hamata*, Lou found just one plant with turquoise flowers emerging from a dense mat of hairs. One of the plants carpeting the ground was the diminutive *Gunnera magellanica*. There were some large groups of *Bartsia alba* with purple flowers (a friend has suggested it might be *Bartsia stricta*, a semi-parasite, growing amongst some rocks, also *Castilleja pumila*. We decided to head to the very top and make our way downhill slowly while we still had some sunshine but making a further brief stop towards the summit when Lou spotted a very rare bird, the Rufous-bellied seed snipe, much sought after by birders. We got excellent views of this partridge-like bird. Then somebody else in the group spotted a Caracara close by, a very large South American bird. The views were magnificent as we walked down from the summit and the light was superb for photography, so I was torn between scenes and plants but tried to get some wide angle shots with cushion plants in the foreground. The landscape reminded me of Scotland with U-shaped glacial valleys and mountains stretching far into the distance in a blue haze and occasional lakes. There were dense domes of *Plantago rigida* with very stiff rosettes of saxifrage-like foliage and many other cushion plants, including *Azorella pedunculata*. We found some very photogenic groups of *Gentiana sedifolia* and the pink flowered "dandelion", *Hypochaeris sonchoides*. When we later saw our colour slides I discovered John had photographed another desirable plant with mauve flowers and was sorry not to have seen it, *Gentianella diffusa*. Lou pointed out another *Aa* sp. but it was dead. Afterwards I wished I had looked at it more carefully but it was some way from the path and the altitude made

everything an effort. I photographed some large plants of *Valeriana plantaginea* with purplish flowers. The photographs will remind us of other plants we saw when we have time to check them. The ground was spongy and boggy in places, resembling tundra. Driving downhill to the hotel we passed a high altitude *Polylepis* forest with strangely contorted trees.

The hotel was in a delightful spa with hot springs and it was unexpectedly pleasurable to relax in them at the end of the day. They were impressively well maintained. As a married couple John and I also had the luxury of a massive Jacuzzi that took half an hour to fill and didn't seem worth the effort, so we tried it just once. The hotel was at a lower altitude and it was significantly warmer there, although it was a little chilly in the evening, especially when it rained. It was splendid sitting in the hot water in the rain. Pleasant surroundings, well planned facilities and excellent food made it an enjoyable experience and a treat after exploring the harsher landscape. I was struck by the familiar sight of bushes of *Fuchsia magellanica* with red and purple flowers growing alongside the entrance drive and in the garden; I had seen them in Patagonia and they are naturalised in warmer parts of the British Isles. The resort is located in an attractive alpine setting; Antisana, an extinct volcano rising high above it was mostly shrouded with cloud. There were several interesting plants in the grounds including a large, shrubby *Cleome anomala*, with very striking flowers that we also saw on a hillside later. Bright yellow orchid flowers by the entrance were *Odontoglossum pardinum*. The most striking plant on the way to the restaurant was the native *Brugmansia sanguinea* with fiery red flowers. I commented on a plant of *Ruta chalepensis*, a European plant, often found in stony ground near the Med.; Edwin made the fascinating comment that it was used by the Shaman. I know it is very aromatic and ornamental but its sap is reputed to be very unpleasant, so wondered what it was used for. Some large shrubs around the spa were surprisingly familiar; they were covered with white elder flowers, *Sambucus nigra*.

Day 11

Tuesday 16th November

Papallacta

Recognising we had had a long day previously, Lou planned a gentle downhill walk with Edwin driving us uphill initially and then following us slowly downhill. Earlier Florian had pointed out a mistletoe-like parasite *Tristerix longibracteatus*, its flowers tingeing many of the trees in the forest red. We were able to get close to the scarlet flowers that, along with arching plumes of Pampas grasses, framed the distant view of Antisana. The mistletoe's name is "Popa o Pega – pega", *Tristerix longibracteatus*. There were groups of a shrubby blue *Lupinus* sp. growing near large single yellow daisies, *Dorobaea pimpinellifolia*; they resembled European *Doronicum* sp. I was captivated by the vomit lichen *Disterima empetrifolium*; it was surprisingly attractive in close up, especially as it associated with tiny red bells of a member of the family Ericaceae. A shrubby plant high up on a bank *Brachyotum jamesonii* had distinctive bell-shaped flowers with red sepals and a purple-black corolla. We added an orange *Bomaria* sp. to the list and a beak-like *Bromaestra* sp. I also recorded *Ribes andicola* and *Geranium sibbalioides* with small pale flowers. There were numerous yellow *Calceolaria* sp. flowers in the damp spots and cushion plants, *Azorella pedunculata*. John photographed *Baccharis genistelloides* here, notable for its winged stems and tiny powder-puff, white flowers, also the purple daisy flowers of *Senecio formosus* with typically drooping inflorescences.

We continued to walk downhill through alpine scenery in bright sunshine; we could have been in the Alps in June. We crossed over a bridge where there were large bushes of *Barnadesia arborea* with especially attractive bright pink flowers; I regret not seeing its cactus-like spines. We also saw an orange *Bomaria* sp. and several pink *Passiflora* sp. We passed a group of tall yellow lobelias, *Siphocampylus giganteus*, some short enough to photograph

easily and also well lit, before following Lou through a little gate and along a narrow path that ran beside the rushing river. We saw many epiphytic plants here including numerous Bromeliads amongst the trees and numerous tiny orchids. I got confused at this point and my names may be unreliable: *Ceratostema alatum* (Ericaceae), with tubular red flowers and pointed petals and *Psammisia* sp. with white tipped tubular red flowers, also orchids – *Caucea* sp., *Stelis* sp. (with a dark spot), *Platystele* sp., *Lepanthes mucronata*. Near the end of the walk we encountered a group of llamas grazing in a clearing; a curious youngster allowed us to approach him. At lunchtime we were treated to a selection of new, exotic fruit juices, jugos, including babaco, papaya, melon, naranjilla and tomate del arbol. The restaurant's speciality was trout caught locally in the river.

In the afternoon we visited the *Polylepis* forest where the more intrepid members of the group scrambled down the steep bank to explore the dense undergrowth; the a heavy storm drove us back to the minibus. Later in the day we drove eastwards in search of elusive yellow orchids. Lou found a fine bush at the roadside with purple tubular flowers *Iochroma* sp. (Solanaceae). A handsome bush with large, single pink flowers was *Dahlia excelsa*, a garden introduction from Mexico.

Day 12

Wednesday 17th November

San Isidro

We made a short drive eastwards and downhill through more alpine scenery with rushing rivers and cascading waterfalls to a well-preserved mid-elevation forest called San Isidro that was reached up a long dirt track. The lodge was a delight; it wasn't marked on our maps but was located near the River Cosandra. Cabins were set amongst flowering trees and shrubs with orchids in the branches. Carmen, the owner made us welcome. We set off to explore. There were plenty of subjects to photograph in the garden including a beautiful endemic *Abutilon darwinii* with large orange bells veined with red. A large plant of *Lycaste gigantea* bore two large green flowers and John photographed these in honour of our friend Henry Oakeley, who holds the British national collection of this genus. Sugar feeders at the entrance to the dining room attracted numerous different humming birds. We made an exploratory walk into the rainforest before a delicious and imaginative lunch. One meal there included slices of *Oxalis tuberosa*, a popular South American vegetable.

Boot scrubbing places indicated the weather could be robust here and we had been warned to be well prepared. In the afternoon we followed a path through the woodland walking steadily downhill with thoughts we would have to come back uphill later. An unusual plant with whorls of green pitchers was identified as a member of *Marcgraviaceae*; it might be *Marcgravia nepenthoides*. The exotic foliage along the path had bold shapes and patterns and our surrounding were everything one might expect. There were large tree ferns, *Caladium* sp. and *Cyclanthaceae asplandia* with fish-tail, bifid, palm-like fronds and impressive strangler figs *Ficus* sp.; some of the older ones were hollow where the supporting tree had died. We saw several plants with bright red or pink flowers including *Begonia* sp., some of which had very ornamental leaves, *Columnnea* sp., *Centropogon* sp., *Guzmania* sp. and *Fuchsia* sp. We also noted a tiny orchid with yellow/purple flowers, *Hofmiesterella eumicroscopica* and *Clusia* sp. We were pleased to see some interesting fungi as we had expected to see more. I recorded the common bracket fungus *Trametes versicolor*, a lignin degrader that John has experimented on. We noted a handsome cinnamon coloured bracket fungus growing on wood on the path, it was almost certainly *Pycnoporus (Trametes) cinnabarinus*. We have photographed this species in Australia; it is rare in the UK. Many species of fungi and lichens have a world-wide distribution. We haven't been able to identify the large, golden brown, jelly-like fungus we also saw on the path, it is possibly a *Tremella* sp. which has similar convoluted brain-like, flattened folds and lobes. We

passed a cock-of-the-rocks lek; some of us returned there while the rest of the group disappeared down a steep bank towards the river. Having been stupid enough to break my toe getting out of the bath a few days earlier I decided I couldn't manage the steep slope. We were very excited when the golden headed quetzal sat on a branch; this chicken-sized bird's feathers were an intense blue-green. When Lou returned with the rest of the group he confirmed we were hearing the cry of the famous Andean orange cock-of-the-rocks but we failed to spot it. However, it was satisfying to hear it. Then Lou heard the crested quetzal, enough to thrill any birder. He explained that different species move together in a flock as they fly through the rainforest. Once again, thanks to Lucinda's sharp eyes, we were treated to another very unusual plant. She had spotted a strange brown ball, as big as a cricket ball emerging from the leaf litter. It had glistening white rod-like flowers emerging from the leathery surface and careful examination revealed a stout stem beneath the surface. Lou recognised it as a member of Balanophoraceae. It reminded me of the smaller *Cyrtomium coccineum*, a Mediterranean plant of sandy, saline soil that is parasitic on *Chenopodiaceae*. It provided a botanical puzzle as it didn't quite match up with anything in Lou's book, so he will try to track it down. Meanwhile I have sent a photograph to a friend, Fred Rumsey, in the British Museum (Natural History), who has a special interest in parasitic plants. We also photographed both brown and blue butterflies belonging to the *Heliconidae*; these butterflies extract a poison from the flowers, unlike the species we saw earlier whose caterpillars extract a poison from passion flowers.

Day 13

Thursday 18th November

San Isidro - Guayacamos

We started the morning photographing a fearsome looking stonefly that Lou picked up for us to see it better and some very fine moths, including the black witch, a noctuid, that is reputed to bring bad luck to the house, a clearwing (*Ithoniid*) and a magnificent specimen of *Automeris* (*Saturniid*) with eyed wings. The previous night had been ideal for moths.

After breakfast Edwin drove us to the Guacamayos Ridge, reputed to be an exceptionally wet cloud forest. Miraculously it was a fine day, although very muddy underfoot indicating it had rained recently and very slippery due to the stony, leaf covered surface. The track led steeply uphill at first and then ran along the ridge giving us views down over the rainforest through luxuriant foliage. The trail followed an old Spanish trade route from the highlands to the jungle. We photographed some splendid ginger plants and enjoyed the different shapes and colours of the foliage. Lou pointed out a tiny spray of *Tropaeolum tuberosum* with orange flowers that I had been hoping to see. He also showed us a tall tree bearing yellow flowers, *Erythrina* sp. (*Fabaceae*); it would be a good place to watch for its bird pollinators. We noted a mauve flowered *Ruellia* sp. at the side of the path. It was hard to pass some of the highly photogenic foliage but careful studies take time; I shall long have them in my mind, like a fisherman who had to let a large fish escape.

We returned to the lodge for lunch and then spent the afternoon exploring the sides of the track leading to the lodge. I was keen to photograph some very attractive bushes of *Tibouchina lepidota*; its flowers changed colour from purple to mauve as they aged. Lou waded into a boggy area to examine some *Epidendrum* sp. and we envied his Wellington boots. I noted down a shrubby *Ludwigia* sp. here with single yellow flowers. Where trees had been felled in this area, their stumps had been colonised by *Bromeliads* and *Begonia* sp.; the latter displaying their elegant habit. We saw more orchids and took the opportunity to photograph some especially fine lichens with shell-like shapes, *Cora pavonia*. A sudden thunderstorm caught us, so we decided to drive further down the track until the storm passed; we got an interesting insight into a rural area with small farmsteads and another eco-

lodge. We drove over some scary narrow bridges until we finally reached a wide flowing river that seemed impassable. Returning to the lodge we stopped for an exceptionally lovely *Passiflora* sp. with a pendant lavender flowers, growing obligingly close to the edge of the track; it was in perfect condition and we ended the day on a high.

Day 14

Friday 19th November

San Isidro – Quito – London

We learned that our flight had been put forward, so had little choice but to head for Quito after breakfast. When we reached the outskirts of Quito we learned that we had been misled, so with time to spare we opted to drive to the hotel for lunch and then do some shopping afterwards. The minibus suddenly broke down, a conveniently short distance from the hotel, so Edwin summoned another vehicle to ferry us to the Hotel Sebastian. We spent a pleasant afternoon shopping, visiting the bookshop and a wonderful craft shop, full of high quality products; sadly many items were Peruvian.

We said our farewells with some reluctance and entered the airport, where we learned our flight had now been delayed, with the consequence that we would miss our connection in Madrid. Although we were committed to a lengthy stay in the airport, we were fortunate we had arrived early as we were able to secure seats on the next flight out of Madrid and we had time to begin to digest our experiences. It was a long day, having left San Isidro at 7.45am and arrived at Quito airport at 2.30pm, we finally boarded the flight for London at 8.15. It was therefore frustrating, once we had finally settled in our seats, to discover we had to leave the plane at Guayacil, taking all our hand baggage with us, as most of us had relaxed and taken our shoes off for the long flight home. A long queue tailed back from the arrival lounge and we discovered everything was going to be x-rayed again. However, we finally re-boarded for the last leg of the journey and managed to sleep much of the way, thanks to it being dark for the greater part of the journey. We touched down in Heathrow in the evening and collected our car. We hoped the rest of the group met up with their transport. We had an easy drive home as we'd missed the rush hour on the M25. It had taken us 36 hours door to door but it was well worth it.

Looking back through our slides, we are amazed by the many beautiful things we saw. We have travelled widely and this was a very successful and enjoyable trip. We were especially appreciative of our leaders' efforts in arranging an itinerary that gave us such a choice cross-section of Ecuador's landscape and great plant diversity. The sequence of places visited worked especially well. Not all of our photographs were successful, some were pretty grim, rainforests have their problems on a short visit. Some were badly scratched from dust entering the camera on Cerro Toledo, but they will prompt our memory and some digitising will do wonders. Lou's web-site, www.loujost.com has some of his paintings, photographs of some exquisite orchids, also his various publications, so its worth checking for updates on new "finds".

Plant list

Ferns		
<i>Adiantum sp</i>	maidenhair fern	Banos area
<i>Cyathea spp</i>	tree ferns	cloud forest
Gymnosperms		
<i>Araucaria heterophylla</i>	cultivated	yards
Monocots		
Agavaceae		
<i>Agave mexicana</i>		
<i>Furcraea</i>	agave-like	
Alstromeriaceae		
<i>Bomarea spp.</i>	scandent: red or yellow	Cloud forest
<i>tepals</i>		
Amaryllidaceae		
<i>Eucrosia eucrosiodes</i>	red flowers	Vilcabamba
<i>Eucharis sp.</i>	white flowers	rain forest
<i>Phaedranassa tungurahuae</i>		endemic: roadside below Banos
<i>P. shizantha var ignea</i>		endemic, critically endangered; roadside between Ambato and Banos
<i>P. dubia</i>	red	Roadside between Quito and Papallacta
Araceae		
<i>Anthurium many spp.</i>	large aroid leaves: spathe subtending the spadex	cloud forest
<i>Caladium sp</i>	White-flecked leaves	rain forest
<i>Xanthosoma sagittatum</i>	tree	rain forest
<i>Calla sp.</i>	white spathe	high swamps
Areceae		
<i>Ceroxylon</i>	wax palm	Loja area
Bromeliaceae		
<i>Aechmea spp.</i>	epiphytic: brightly coloured fls. spines on leaf margins	rain forest
<i>Pitcairnia spp.</i>	epiphytic: brightly coloured fls., spines only on leaf bases	cloud forest
<i>Puya hamata</i>	terrestrial, turquoise flowers	paramo
<i>Tillandsia sp</i>	on wires	Ambato
Cannaceae		
<i>Canna sp.</i>	orange flowers	rain forest
Commelinaceae		
<i>Commelina sp.</i>	herb, blue flowers	edge of cloud forest
<i>Commelina cyanea</i>	weed	
Cyclanthaceae		
	fish-tailed palms, bifid leaves	cloud forest
Cyperaceae		
<i>Carex rotundifolia</i>		C Toledo
Eriocaulaceae		
<i>Paepalanthus ensifolius</i>	white flowers, bromeliad-like plant	C Toledo

Heliconiaceae		
<i>Heliconia sp.</i>	bright red inflorescence and banana-like leaves	forests
Iridaceae		
<i>Sisyrinchium</i>	Loja area	
Orchidaceae		
<i>Aa sp.</i>	small white terrestrial orchid	paramo
<i>Cattleya maxima</i>	corsage orchid	Loja area
<i>Caucea</i>	purple	Papallacta
<i>Cranichis spp.</i>	on rocks, small white flowers	Banos and Rio Verde
<i>Cyrtorchilim macranthum</i>	large panicle, honey-brown golden fls.	Vilcabamba
<i>Elleanthus spp.</i>	shrub-like with leafy canes, white sp. two pink spp.	cloud forest
<i>Epidendrum agoyanense</i>	terrestrial white orchid	endemic: rd. above
<i>Banos</i>	[<i>Epidendrum</i> : many spp. seen. Inflorescence of numbers of small flowers]	
<i>Epidendrum lacustre</i>	yellow	Loja area
<i>Eriopsis sp</i>		Loja area
<i>Encyclia vespa</i>	showy spotted flowers	on rocks
<i>Habenaria monorhiza</i>	green flowers	
<i>Habenaria spp.</i>	small white terrestrial orchids	Banos area
<i>Hofmeisterella eumicroscopica</i>	San Isidro	
<i>L. mucronata</i>		small epiphytes on trees
<i>L. monoptera</i>		"
<i>L. biloba</i>		"
<i>Lycaste gigantea</i>	green and orange	San Isidro
<i>Maxillaria spp.</i>	yellow flowers	cloud forest
<i>Myrosmodes sp</i>	not flowering	high paramo
<i>O. pardinum</i>	showy yellow flowers, red spots	on rocks: Papallacta
<i>Oncidium spp.</i>	small showy yellow flowers	below Banos
<i>Oerstedella thurstonorum</i>	recently described	rain forest
<i>Pachyphyllum</i>	two-ranked leaves; small	C Toledo
<i>Phragmipedium lindenii</i>	terrestrial	desert above Rio
<i>pastaza</i>		
<i>P. pearcei</i>	terrestrial	rocks above Rio Anzu in rain forest
<i>Pleurothallis many spp.</i>	inflorescence of small fls.	
<i>Pleurothallis bivalvis</i>		Loja area
<i>Platystele</i>	tiny	Papallacta
<i>Sobralia setigera</i>	terrestrial orchids - showy white fls, long cane-like stems	Banos
<i>S. rosea</i>	showy purple flowers	rain forest
<i>Stelis spp.</i>	epiphyte: small yellow	Papallacta
<i>flowers</i>		
Poaceae		
<i>Chusquea sp</i>	bamboo	cloud forest
<i>Cortaderia sp.</i>	pampas grass	paramo
Zingiberaceae		
<i>Hedychium sp.</i>	alien: white scented flowers	rain forest
<i>Renealmia sp.</i>	red bracts	rain forest
<i>R. sp. 2</i>	White flowers on tall inflor	Guacamayos
Dicotyledons		
Acanthaceae		
<i>Thunbergia alata</i>	brown eyed susan	weed
Actinidiaceae		
<i>Saurauia sp.</i>	tree: white flowers	common in cloud forest
<i>forest</i>		
Anacardiaceae		

<i>Schinus molle</i>	sumac-like tree	roadsides
Apocynaceae		
<i>Allamanda sp.</i>	yellow flowers	cultivated:
roadsides		
Araliaceae		
<i>Schefflera sp.</i>	tree	cloud forest
Asclepiadaceae		
<i>Asclepias curasavica</i>	butterfly weed	waste places
Balanophoraceae		
<i>Helosis cayanensis</i>	"Lucinda's club"	San Isidro
Begoniaceae		
<i>Begonia parviflora</i>	treelet, white flowers	Rain forest
<i>B. sp. 2</i>	Brilliant red flowers	Rain forest
<i>B. sp. 3</i>	white and rose flowers	San Isidro
Bignoniaceae		
<i>Mansoa sp</i>	climber	Loja area
<i>Tecoma</i>	climber	Loja
Berberidaceae		
<i>Berberis</i>	shrub	C Toledo
Betulaceae		
<i>Alnus acuminata</i>	long catkins	cloud forest
Bombacaceae		
<i>Cavanillasia sp</i>		Loja area
<i>Ceiba trichistandra</i>	green spiny trunk	Loja area
<i>Ochroma</i>	balsa wood	rain forest
<i>Spirotheca</i>	small tree	Banos
Cactaceae		
<i>Epiphyllum sp</i>	epiphytic cactus	Loja area
<i>Espositoa? sp</i>	red flowers	Ambato area
<i>Opuntia ficus-indica</i>	prickly pear cactus	Ambato area
<i>Opuntia cylindrica</i>	"	"
Campanulaceae		
<i>Burmeistera sp.</i>	green/purple flowers: lilac fruit	Papallacta
<i>Burmeistera sp.</i>	with green flowers	Guacamayos
<i>Centropogon spp</i>	red and yel flowers	cloud forests
<i>Siphocampylos gigantea</i>	yellow tubular flowers	paramo
Capparidaceae		
<i>Cleome anomola</i>	tall herb	paramo
<i>Podandrogynne sp</i>	red flowered shrub	rain forest
Caprifoliaceae		
<i>Sambucus sp</i>	elderberry	cloud forest
Cochlospermaceae		
<i>Cochlospermum vitifolium</i>		Loja area
Coriariaceae		
<i>Coriaria thymifolia</i>	shrubby green flowers, purple berries	paramo
Caryophyllaceae		

<i>Cerastium sp.</i>	white flowers	paramo
Compositae		
<i>Baccharis sagittalis</i>		C Toledo
<i>Barnadesia sp.</i>	spiny shrub	paramo
<i>Bidens andicola</i>	yellow flowers	roadsides
<i>Culcitium canescens</i>	yellow nodding flowers	paramo
<i>Culcitium uniflorum</i>	"	paramo
<i>Chuquiraga jussieui</i>	shrub	paramo
<i>Diplostephium rupestre</i>	shrub: blue flowers	paramo
<i>Dorobaea Pimpinellifolia</i>	herb, yellow flowers	paramo
<i>Eupatorium sp</i>	white flowered shrubs	high
<i>Galinsoga parviflora</i>	"Kew weed"	Loja
<i>Gynoxys sp.</i>	shrub: green entire leaves, <i>white pubescent below</i>	paramo
<i>Hypochaeris sessilifolia</i>	<i>yellow dandelion-like</i>	paramo
<i>Hypochaeris sonchoides</i>		paramo
<i>Loricaria thuyoides</i>	shrub: scale-like leaves	paramo
<i>Lasiocephalus ovatus</i>	herb: solitary nodding yellow flowers	paramo
<i>Taraxacum officinale</i>	dandelion	various
<i>Werneria nubigena</i>	white, with thick glaucous leaves	paramo
	<i>[there were several cushion plants at high altitudes in the paramo]</i>	
Crassulaceae		
<i>Echeveria quitensis</i>	Succulent	Chimborazo
<i>Kalanchoe fedtschenkoi</i>	succulent	waste places
Cruciferae		
<i>Draba sp.</i>	white flowers	Papallacta Pass
<i>Eudema nubigena</i>	white	Chimborazo
Ericaceae		
<i>Cavendishia sp</i>	shrub: pendent tubular flowers adapted for bird pollination	cloud forest
<i>Cavendishia zamarensis</i>		Loja area
<i>Macleania sp.</i>	shrub: adapted for bird pollination	cloud forest
<i>Psammisia equadorensis</i>	shrub: pendent orange-red tubular flowers, adapted for bird pollination	cloud forest
<i>Disterigma empitriifolia</i>	creeping shrub	paramo
<i>Pernettya sp.</i>	shrub: white fls., <i>blue & white berries</i>	paramo
<i>Gaultheria sp.</i>	small shrub	paramo
Euphorbiaceae		
<i>Jatropha nudicaule</i>	shrub	Loja area
Gesneriaceae		
<i>Columnnea spp.</i>	epiphitic; pendent or climbing leaves blotched, flowers tubular	cloud forest
<i>Gasteranthus spp.</i>	herbs: orange pouched flowers	rain forest
<i>Alloplectus sp.</i>	shrubby; tubular flowers	cloud forest
<i>A. quadricornus</i>	yellow tubular fls., red bracts	rain forest
Gentianaceae		
<i>Halenia spp.</i>	herb, spurred yellow flowers	paramo
<i>Gentiana sedifolia</i>	herb, blue fls.	paramo
<i>Gentiana postrata</i>	bright blue	C Toledo
<i>Gentianella diffusa</i>		Papallacta
<i>Gentianella cerastioides</i>	<i>purple</i>	high roadside

	<i>Several other Gentiana and Gentianella spp. were seen in the paramo</i>	
Geraniaceae		
<i>Geranium sibbalioides</i>	cushion plant: white flowers	paramo
Guttiferae		
<i>Clusia</i>	tree: huge leathery leaves	cloud forest
<i>Hypericum hieracefolium</i>	herb, yellow flowers	paramo
Haloragidaceae		
<i>Gunnera brephogea</i>	large leaves	cloud forest
<i>G. magellanica</i>		paramo
Labiatae		
<i>Salvia mexicana</i>	blue flowers	Chimborazo
<i>Salvia spp.</i>	red and blue flowers	roadsides: Papallacta
<i>Clinopodium nubigenum</i>	herb: tiny blue flowers	paramo
Leguminosae		
<i>Inga sp.</i>	pinnate leaves, large pods	Pods for sale
<i>Acacia macrantha</i>	balls of flowers	Loja area
<i>Astragalus geminiflorus</i>	<i>dwarf purple</i>	Chimborazo
<i>Caesalpinia pulcherrima</i>	Pride of Barbados	cultivated
<i>Caesalpinia gillesii</i>	bird-of-paradise tree	cultivated
<i>Dalea coerulea</i>	blue flowered shrub	Papallacta
<i>Erythrina sp.</i>	tree: red flowers	roadside: planted
<i>Lupinus ssp.</i>	blue flowers	paramo
<i>Jacaranda</i>	bluish flowers	cultivated
<i>Mimosa quitense</i>	purple	Loja area
<i>Mimosa</i>	sensitive plant	rain forest
<i>Calliandra sp.</i>	red puffs	rain forest
<i>Calliandra haematocephala</i>	Loja	
Loganiaceae		
<i>Buddleja incana</i>	orange flow. shrub	Chimborazo
Loranthaceae		
<i>Tristerix sp.</i>	red flowered parasite on	Papallacta
<i>Polylepis trees</i>		
<i>Gaiadendron</i>	tree root parasite	Papallacta
Magnoliaceae		
<i>Magnolia</i>	cultivated	yards
Malvaceae		
<i>Abutilon darwinii</i>	shrub: red bell-like flowers	San Isidro
<i>Nototriche pichensis</i>	oxalis-like	Chimborazo
<i>Cristaria</i>		Loja
Marcgraviaceae		
<i>Marcgravia?</i>	liana	San Isidro
Melastomataceae		
<i>Meriania spp.</i>	trees: large magenta and purple flowers	cloud forest
<i>Brachyotum ledifolium</i>	shrub: yellow flowers, red calyx	paramo
<i>Brachyotum spp.</i>	shrub, black flowers	paramo
<i>Axinea</i>	red globular flowers	C Toledo
<i>Tibouchina lepidota</i>	Purple shrub	C Toledo
Moraceae		
<i>Cecropia sciadophylla</i>	tree: large palmate lvs. appearing white	cloud forest

Myrtaceae		
<i>Eucalyptus</i> sp	cultivated	dry habitats
Nyctaginaceae		
<i>Bougainvillea</i> spp	cultivated and endemic	dry habitats
Onagraceae		
<i>Fuchsia</i> spp.	woody, red pendent flowers	cloud forest
<i>Ludwigia</i>	shrub, yel. flowers	San Isidro
<i>Oenothera</i> sp	evening primrose	paramo
Oxalidaceae		
<i>Oxalis</i> 3 spp.	red or various	yellow flowers
Piperaceae		
<i>Piper</i> sp.	shrubs with conspicuously swollen <i>nodes</i>	cloud forest
<i>Peperomia</i> sp.	succulent, epiphytic herbs	
Passifloraceae		
<i>Passiflora mollissima</i>	tubular rose flowers	paramo
<i>P</i> spp	red sp, white sp	various
Phytolaccaceae		
<i>Phytolacca</i>	purple	cloud forest
Plantaginaceae		
<i>Plantago rigida</i>		paramo
Polygalaceae		
<i>Monnina obtusifolia</i>	shrub	paramo
Proteaceae		
<i>Roupala</i> sp.	shrub	Baños area
<i>Oreocallis grandiflora</i>	white flowered shrub	C Toledo
Plantaginaceae		
<i>Plantago rigida</i>	cushion plant	paramo
Ranunculaceae		
<i>Ranunculus praemorsus</i>	yellow flowers	paramo
<i>Ranunculus guzmannii</i>	big orange globose flowers	C Toledo
Rosaceae		
<i>Polylepis</i> sp.	trees, forming mountain forests	Papallacta
Rubiaceae		
<i>Galum hypocarpium</i>	herb, red fruit	Papallacta
<i>Palicourea</i> spp	strange color combos	cloud forest
Sapindaceae		
<i>Dodonea</i> sp	shrub, winged seeds	dry habitat
Saxifragaceae		
<i>Saxifraga</i> sp.	cushion forming on rocks	paramo
<i>Ribes andicola</i>	shrub, pendent red flowers	paramo
Scrophulariaceae		
<i>Bartsia</i> spp	herb	paramo
<i>Calceolaria</i> sp.	herb, yellow flowers	edge of cloud forest
<i>Castilleja fissifolia</i>	Indian Paintbrush, red flowers	paramo
<i>Castilleja pumila</i>	bright red	paramo

Solanaceae		
<i>Brugmansia sp</i>	Long orange pendant flowers	cloud forest
<i>B. candida</i>	white	Loja
<i>Physalis sp</i>	ground cherry	Loja
<i>Ipomoea</i>	purple tubular flowers	cloud forest
<i>Nicotiana tabacum</i>	tobacco	Tapichalaca
Umbelliferae		
<i>Azorella pedunculata</i>	Cushion Plant: tiny yellow flowers	paramo
Urticaceae		
<i>Urera sp</i>		Loja area
Valerianaceae		
<i>Valeriana microphylla</i>		paramo
<i>V. plantaginea</i>		paramo
<i>Valeriana rigida</i>		
Verbenaceae		
<i>Lantana camara</i>	weedy	
Violaceae		
<i>Viola polycephala</i>	cushion violet	Chimborazo

Nomenclature as in Woody Plants of Northwest South America (Alwyn H Gentry)

Other book used:

Flora of Ecuador (Gunnar Harling and Benkt Sparre)

Lou Jost with contributions from Maureen Ponting and the 2004 tour participants, especially Irene and John Palmer