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Peru, The Natural Destination

Peru is, undoubtedly, one of the world's top destinations for nature-lovers. Blessed with the richest ocean in the world, largely unexplored Amazon forests and the highest tropical mountain range on the planet, the possibilities for the development of bio-diversity in its territory are virtually unlimited. With a little over 10% of all species of plants and animals on earth and a surprisingly diverse range of climates and ecosystems, Peru has become a modern Noah's Ark for nature-lovers, who along with students from all over the world, visit Peru to chalk up more experience, gain new knowledge and to get to know unique varieties.

A few hours drive is all it takes to get from the larger cities to virtually unspoiled areas that are interconnected with one another. The farming and native communities in these areas hold a vast store of knowledge on the wildlife that fills their surroundings. Experienced companies that are acquainted with the land will provide efficient, world-class services.

For Peru, nature-tourism and eco-tourism represent an opportunity to share its many surprises and charm with the rest of the world. This guide provides descriptions of the main groups of species the country offers nature-lovers; trip recommendations; information on destinations; services and institutions dedicated to related issues of interest.

The species in this guide are listed according to main areas of observation. The listings do not follow any strict scientific consideration, rather, the contents are listed in a user-friendly format. The objective is to provide the reader with an opportunity to observe some of the endemic and/or most representative specimens of the species in each zone. Although Peru also possesses an important number of other species such as reptiles, arthropods and amphibians, these have been excluded from this guide following the criteria established above.



Lachay Hillocks, Lima
000PromPerú

Birds

The late Theodore Parker III, famous American field ornithologist once said "Peru offers 'bird-enthusiasts' more than any other country in the world... Being here is like being a child visiting a huge store filled with new and fascinating toys". He was right.

Peru possesses an extraordinary ornithological diversity. New species are continually being discovered every year in its cloud-forests and Amazon jungles, as well as in its rugged mountains and inter-Andean valleys. At last count, there were 1.710 registered species (close to 20% of the world's total), of which more than 300 are endemic. Furthermore, Peru holds the record for the most species in a single place (650 in the area surrounding the Explorer's Inn lodge, located in the jungles of Tambopata) and the record for the highest number of species seen in a single day (361 in the area surrounding the Biological Station of Cocha Cashu, in Manu).

For birdwatchers, Peru is a true paradise. It is filled with species dwelling in unique and fragile habitats, large migratory birds arriving from the most remote parts of the world and with species that, having disappeared in other countries, flourish in unexplored corners of the country. These giant flocks are a fundamental element in the life cycles of the sea, jungle and Andean lakes.

Northern Region

Lambayeque, Piura and Tumbes

Chiclayo is a noisy, bustling city located 763 km north of Lima. The city marches to the daily rhythm set by two compelling forces: the desert heat (the siesta or afternoon nap is an unbreakable law) and the intense commercial activity with the communities to the east. Bird-watchers should take the highway that leads to the nearby city of Lambayeque (12 km north) and from there head towards Olmos on the old North Pan-American highway. This route cuts through an extensive section dotted with carob trees (*Prosopis pallida*) and marmalade trees (*Capparis longifolia*), and includes communities of major archaeological importance such as Jayanca and Mocupe.

The birds of Chiclayo-Olmos-Porculla (27 – 2.150 masl)

From an ornithological point of view, the true point of interest starts at the Olmos detour leading toward Jaén and Bagua, climbing toward the Porculla mountain corridor (2.000 masl) –the lowest mountain pass in the Peruvian Andes. The area around Olmos is also the habitat of the White-winged Guan, a species rediscovered in Peru only 20 years ago, which was brought back from the brink of imminent extinction. The different ecosystems are laid out in succession along the ascending paved highway: dry tropical forests, shrub areas, higher altitude forests, and finally the arid Marañón Valley, close to Bagua, which is studded with cacti.

Black-cowled Saltator (*Saltator nigriceps*)
Chapman's Antshrike (*Thamnophilus zarumae*)
Henna-hooded Foliage-gleaner
(*Hylocryptus erythrocephalus*)
Long-tailed Mockingbird (*Mimus longicaudatus*)
Pearl Kite (*Gampsonyx swainsonii*)
Peruvian Plant-cutter (*Phytotoma raimondii*)
Savannah Hawk (*Heterospizias meridionalis*)
Tropical Gnatcatcher (*Polioptila plumbea*)
White-winged Guan (*Penelope albipennis*)

The birds of Canchaque-Huancabamba (1.800 – 3.000 masl)

The city of Piura, located three hours north of Chiclayo, is situated on the northern border of the large Sechura desert. It is one of the most important cities on the North coast and has all the services required by tourists, as well as excellent beaches and public bathing spots. It can be reached by the North Pan-American highway (980 km from Lima) or by air. Birdwatchers should, however, head for the mountains to find the most interesting species in the region.

The recommended route is up the rough-grade road leading to Huancabamba (210 km east of Piura, a five-hour trip). Along the winding road, travelers will see the desert vegetation give way to a spectacular high-altitude forest that is thickest in the area around the Cruz Blanca mountain pass (3.000

masl), where queñual forests (*Polylepis* sp.) can be found, and in the valley next to the community of Canchaque (1.800 masl). The area around Huancabamba has been turned into agricultural land, but a good part of the forest still survives.

Azure Jay (*Cyanocorax mystacalis*)
Bearded Guan (*Penelope barbata*)
Crested Caracara (*Polyborus plancus*)
Golden-headed Quetzal (*Pharomachrus auriceps*)
Gray-headed Antbird (*Myrmeciza griseiceps*)
Line-cheeked Spinetail (*Cranioleuca antisensis*)
Purple-throated Sunangel (*Heliangelus viola*)
Rainbow Starfrontlet (*Coeligena iris*)
Three-banded Warbler (*Basileuterus trifasciatus*)
Unicolored Tapaculo (*Scytalopus unicolor*)

The birds of Tumbes (0 – 900 masl)

Although Tumbes is the smallest of Peru's departments, it is, paradoxically, one of the richest in natural diversity. This region fascinates naturalists and of course birdwatchers. Its tropical beaches give way to dry forests, mangroves and rainforest.

The species that inhabit the ravines and thick underbrush in the areas close to the small port of Puerto Pizarro are considered to be among the most interesting ones because of their rarity. The birds found in the Tumbes Reserved Zone at 500-900 masl, are also worthy of interest. This small but well-preserved wooded area is located a four-hour drive from the city of Tumbes and is one of the last tropical forests of the Pacific. The reserve was set up to protect local flora and fauna.

Amazilia Hummingbird (*Amazilia amazilia*)
Baird's Flycatcher (*Myiodynastes bairdii*)
Collared Antshrike (*Sakesphorus bernardi*)
Common Duck (*Sarkidiornis melanotos*)
Fasciated Wren (*Campylorhynchus fasciatus*)
Gray-backed Hawk (*Leucopternis occidentalis*) •
Long-tailed Mockingbird (*Mimus longicaudatus*)
Masked Water-tyrant (*Fluvicola nengueta*)
Mountain Gwan (*Penelope purpurescens*)
Necklaced Spinetail (*Synallaxis stictothorax*)
Pacific Parrotlet (*Forpus coelestis*)
Peruvian Red-breasted Meadowlark (*Sturnella belicosa*)
Piura Chat-tyrant (*Ochotoca piurae*) •
Rufous-headed Chachalaca (*Chachalaca rojiza*)
Rufous Flycatcher (*Myiarchus semirufus*)

Scarlet-backed Woodpecker (*Veniliornis callonotus*)
Short-tailed Woodstart (*Myrmia micrura*)
Superciliated Wren (*Thryothorus superciliaris*)
Tumbes Tyrant (*Tumbezia salvini*) •
White-edged Oriole (*Icterus graceannae*)
Yellow Warbler (*Dendroica petechia*)
Yellow-tailed Oriole (*Icterus mesomelas*)

Amazonas and Cajamarca

The ecosystems of the department of Amazonas in the extreme northeastern section of the country are marked by three great rivers that traverse it from north to south: the Santiago River, draining the cloud forests of the Cordillera del Cóndor (Condor Mountain Range), the Marañón River, filling an extensive and arid valley in contrast to the tropical environment of the region, and the Utcubamba, winding through lush cloud forests. The combination of these environments that differ in climate, species and topography has created conditions for unique birdlife, which teems with endemic species or species with a restricted habitat. Access to Chachapoyas, the capital of Amazonas is via a highway (Chiclayo to Cajamarca), although penetration into its more pristine areas must be done by river. Although few realize this, the department of Cajamarca, on the western side of the Marañón River, holds a great and natural geographic diversity. Punas, mountains, inter-Andean valleys, cloud jungles and tropical forests can be found along an extensive highway system not often taken by visitors and filled with excellent opportunities for birdwatchers. Rare, endemic species abound on the eastern slopes, especially those close to the high jungle. The city of Cajamarca, an ideal spot to organize a visit, is accessible via regular 50 minute commercial flights and by the coastal highway (take the turn-off at kilometer 683 of the Pan-American Highway North) or Chachapoyas.

The birds of Bagua and Rioja (600 – 750 masl)

In Amazonas, a recently-paved route that starts at the community of Bagua –some 57 km from the city of Jaén, in Cajamarca– is of great interest. This route leading to Pedro Ruiz and Rioja runs through beautiful cloud-forests at the Tanagera mountain pass, as well as through tropical mountain forests that are right next to the highway. The only known communities in which one can observe two extremely rare and interesting en-

Note: Scientific nomenclature follows Parker, Parker & Plenge (1982), Buteo Books. The symbol • indicates endemic species.

demetic species, the Long-whiskered Owlet (*Xenogalax loweryi*) and the Marvelous Spatuletail (*Loddigesia mirabilis*) are found in this region.

The birds of the Marañón Valley (900 masl)

One final, long route, generally in poor condition, but frequently visited by nature-lovers and scientists, is the 294-km stretch of highway that interconnects the communities of Leimebamba (south of Chachapoyas) with Balsas, Celendín and Cajamarca (850 km, northeast of Lima). The reward awaiting at the end of the long journey is the spectacular Marañón valley, home to the many species endemic to this region. A recommended lodge is the old "Hacienda Limón", situated on the eastern side of the valley, only a few kilometers east of Balsas. Treks to the most interesting forest areas start here.

Buff-bridled Inca Finch (*Incapiza laeta*) •
Chestnut-backed Thornbird
(*Phacellodomus dorsalis*)
Gray-winged Inca Finch (*Incapiza ortizi*) •
Great Spinetail (*Siptornopsis hypochondriacus*) •
Line-cheeked Spinetail (*Cranioleuca antisimensis*)
Little Inca Finch (*Incapiza watkinsi*) •
Marañón Crescentchest
(*Melanopareia maranonica*) •
Marañón Thrush (*Turdus maranonicus*)
Pacific Parrotlet (*Forpus xanthops*)
Peruvian Pigeon (*Columba oenops*) •
Red-crested Finch (*Coryphospingus cucullatus*)
Rufous-fronted Thornbird
(*Phacellodomus rufifrons*) •
Spot-throated Hummingbird
(*Leucippus taczanowskii*)
White-winged Blackbird (*Sayornis nigricans*)

Cordillera Blanca Mountain Range

One of the most spectacular natural scenic areas in the country is, without a doubt, the Callejón de Huaylas. The Cordillera Blanca Mountain Range, the highest tropical mountain range in the world, is a paradise of lakes, glaciers, snow-capped mountains and high-altitude forests that lie within Huascarán National Park, named after the highest mountain in the country (6.768 masl). Huaraz and the other cities in the area are easily accessible from Lima via a paved highway that is in good condition (410 km northeast of Lima). There are several hotels and restaurants in the area, as well as companies that provide logistic services at very reasonable prices.

The birds of the queñual forests (3.000 – 4.200 masl)

The Cordillera Blanca Mountain Range has much to offer trekkers, mountaineers, cyclists, fishermen and of course, birdwatchers. People with altitude-related problems can visit the unique queñual forests located at lower altitudes in the park, such as the one bordering Lake Llanganuco. This is a very special habitat consisting of unique flora and fauna that have adapted to high altitude.

Black Phoebe (*Metallura phoebe*)
Blue Dacnis (*Xenodacnis parina*)
Chiguanco Thrush (*Turdus chiguanco*)
Giant Conebill (*Oreomanes fraseri*)
Line-cheeked Spinetail (*Cranioleuca antisimensis*)
Pied-crested Tit-tyrant (*Anairetes reguloides*)
Rufous-naped Brush-Finch (*Atlapetes rufinucha*)
Rufous-webbed Tyrant (*Xolmis rufipennis*)
Rusty-crowned Tit-Spinetail
(*Leptasthenura pileata*) •
Shining Sunbeam (*Aglaectis cupripennis*)
Stripe-headed Antpita (*Grallaria andicola*)
White-faced Cotinga (*Zaratornis stresemanni*) •

The birds of the puna (3.500 masl)

The lake, mountains and shrub-covered hillsides of the Callejón de Huaylas are excellent for birdwatching. The most interesting species are the ducks and other aquatic fowl, specially adapted to feet on mud-dwelling invertebrates, such as the Puna Ibis and the Andean Avocet.

Andean Condor (*Vultur gryphus*)
Andean Goose (*Chloephaga melanoptera*)
Andean Gull (*Larus serranus*)
Andean Lapwing (*Vanellus resplendens*)
Black Siskin (*Carduelis atrata*)
Black-billed Shrike-Tyrant (*Agriornis montana*)
Black-chested Buzzard Eagle
(*Geranoaetus melanoleucus*)
Crested Duck (*Anas specularioides*)
Giant Coot (*Fulica gigantea*)
Giant Hummingbird (*Patagona gigas*)
Mountain Caracara (*Phalcoabaenus albogularis*)
Plain-capped Ground-tyrant
(*Muscisaxicola alpina*)
Puna Hawk (*Buteo poecilochrous*)
Puna Ibis (*Plegadis ridgwayi*)
Speckled Teal (*Anas flavirostris*)
Yellow-billed Pintail (*Anas georgica*)

Central Region

Lima and surrounding areas

The birds of Lima's parks and gardens (73 masl)

For obvious reasons, birdwatching in the capital city is less interesting than in the field. However, Lima's parks and gardens attract some species that are worth mentioning. The White-winged Dove and Croaking Ground-Dove are very abundant while the Amazilia Hummingbird is the most common hummingbird seen. Standing out among the Flycatchers are the Southern-beardless Tyrannulet and the colored Vermilion Flycatcher, whose melanic phase (totally black) is unusually abundant all along the Peruvian Coast.

Amazilia Hummingbird (*Amazilia amazilia*)
American Kestrel (*Falco sparverius*)
Blue-and-white Swallow (*Notiochelidon cyanoleuca*)
Blue-black Grassquit (*Volatinia jacarina*)
Croaking Ground-Dove (*Columbina cruziana*)
Chestnut-throated Seedeater (*Sporophila telasco*)
Hooded Siskin (*Carduelis magellanica*)
Rufous-collared Sparrow (*Zonotrichia capensis*)
Scrub Blackbird (*Molothrus bonariensis*)
Southern-beardless Tyrannulet (*Camptostoma obsoletum*)
Vermilion Flycatcher (*Pyrocephalus rubinus*)
White-winged Dove (*Zenaida asiatica*)

The birds of Lima's beaches (0 – 50 masl)

Many of the typical, cold-current Peruvian bird species such as guano birds, can be observed relatively easily from beaches, especially those of Villa and Lurín (18 and 24 km south of Lima, respectively) where observation is fairly easy. For those interested in getting a closer look at these birds, boats are available for rent in the port of Callao and in the southern fishing cove of Pucusana (some 60 km south of Lima).

Band-tailed Gull (*Larus belcheri*)
Common Tern (*Sterna hirundo*)
Franklin Gull (*Larus pipixcan*)
Gray Gull (*Larus modestus*)
Guanay Cormorant (*Phalacrocorax bougainvillii*)
Peruvian Booby (*Sula variegata*)
Peruvian Pelican (*Pelecanus thagus*)

Ruddy Turnstone (*Arenaria interpres*)
Spotted Sandpiper (*Actitis macularia*)
Whimbrel (*Numenius phaeopus*)

The birds of the Villa wetlands (5 – 15 masl)

The capital also has some wetlands and marshes. The 396 hectares included in the Villa Reserved Zone (18 km south), with more than 160 resident and migratory species, is ideal for the observation of some interesting birds. Without a doubt, the ones that stand out are the Egrets (seven species) and some temporary residents such as the Osprey, arriving annually from its North American nesting grounds and the Artic tern, whose migratory circuit is considered to be the longest in the world: from the Arctic Circle to the Antarctic.

American Coot (*Fulica ardesiaca*)
Artic tern (*Sterna paradisaea*)
Cinnamon Teal (*Anas cyanoptera*)
Common Gallinule (*Gallinula chloropus*)
Great Egret (*Casmerodius albus*)
Great Grebe (*Podiceps major*)
Greater Red-breasted Meadowlark (*Sturnella bellicosa*)
Many-colored Rush Tyrant (*Tachuris rubrigastra*)
Osprey (*Pandion haliaetus*)
Pied-billed Grebe (*Podilymbus podiceps*)
Plumbeous Rail (*Rallus sanguinolentus*)
Snowy Egret (*Egretta thula*)
White-cheeked Pintail (*Anas bahamensis*)
White-tufted Grebe (*Rollandia rolland*)
Wren-like Rushbird (*Phleocryptes melanops*)
Yellowish Pippit (*Anthus lutescens*)

Paracas

The main bird-watching center is the Paracas National Reserve, located 250 km south of Lima. Access is down a paved highway. There are many hotels and hostels in the area and camping is also permitted. The big beaches and rocky coastline of Paracas attract hundreds of different species of shore-birds, especially between the months of May and September when migration is in full swing. From Paracas, tourists can take daily excursions to the Ballestas Islands (a 3-hour trip). These offer an excellent opportunity for birdwatchers to observe colonies of guano birds and a large variety of Northamerican shore-birds (plovers and sandpipers) up-close, as well as to view the singular Humboldt penguin, a species native to the Cold Peruvian Current. In summer the majestic

Andean Condor is a habitual visitor of areas where sea lions congregate, while in winter these coasts are visited by birds from the Andean Highlands such as the Puna Plover, the Tawny-throated Dotterel and, from the Central Coast, the Peruvian Thick-knee. This region's coast and cliffs are ideal places for birdwatching and are why Paracas is synonymous with birdlife.

The birds of Paracas

(0 - 250 masl)

Andean Condor (*Vultur gryphus*)
Black Skimmer (*Rynchops nigra*)
Blackish Oystercatcher (*Haematopus ater*)
Common Oystercatcher (*Haematopus ostralegus*)
Chilean Flamingo (*Phoenicopterus ruber*)
Elegant Tern (*Thalasseus elegans*)
Gray Gull (*Larus modestus*)
Guanay Cormorant (*Phalacrocorax bougainvillii*)
Humboldt Penguin (*Spheniscus humboldti*)
Inca Tern (*Larosterna inca*) •
Kelp Gull (*Larus dominicanus*)
Peregrine Falcon (*Falco peregrinus*)
Peruvian Booby (*Sula variegata*)
Peruvian Diving-petrel (*Pelecanoides gardnotii*) •
Peruvian Pelican (*Pelecanus thagus*)
Peruvian Tern (*Sterna lorata*) •
Peruvian Thick-knee (*Burhinus superciliaris*) •
Puna Plover (*Charadrius alticola*)
Red-legged Cormorant (*Phalacrocorax gaimardi*)
Sea-side Cinclodes (*Cinclodes nigrofumosus*)
Tawny-throated Dotterel (*Oreopholus ruficollis*)
Turkey Vulture (*Cathartes aura*)

Ocean or open-sea species

(0 masl)

Cape Petrel (*Daption capense*)
Great Skua (*Catharacta skua*)
Sooty Shearwater (*Puffinus griseus*)
Southern Fulmar (*Fulmarus glacialisoides*)
Swallow-tailed Gull (*Creagrus furcatus*)
White-vented Storm Petrel (*Oceanites gracilis*)
Wilson's Storm Petrel (*Oceanites oceanicus*)

Huánuco and Junín

The Central Highway starting in Lima and heading in an easterly direction straight up the Andes is considered to be one of the engineering marvels of the world. This highway connects the capital, in the coastal desert, with mountain valleys and cities and with the Amazon jungle. It crosses through an enormous variety of ecosystems within

an altitude range of almost 5.000 meters. Although it is possible to make the Lima - Tingo María trip in 14 or 15 hours of straight driving, a birdwatcher must take at least four days to get an overall vision of the complex and abundant birdlife of this region. The best places to overnight are the cities of San Mateo, Huánuco and Tingo María, which offer travelers adequate tourist services (hotels and restaurants).

The birds of the Central Highway

(800 – 4.000 masl)

It is suggested that the first day be spent in the area between Lima and the community of San Mateo (95 km to the east, at 3.000 masl), a small section that will serve to introduce the mountain-birds of the central region. The second day should be dedicated to the circuit consisting of the communities of Casapalca, Chinchán and Marcapomacocha, mining areas at more than 4.000 masl surrounded by lakes and high-Andean pasturelands.

Andean Swift (*Aeronautes andicola*)
Ash-breasted Sierra Finch (*Phrygilus plebejus*)
Band-tailed Sierra Finch (*Phrygilus alaudinus*)
Bare-faced Ground-dove (*Metriopelia ceciliae*)
Chiguanco Thrush (*Turdus chiguanco*)
Groove-billed Ani (*Crotophaga sulcirostris*)
Long-tailed Mockingbird (*Mimus longicaudatus*)
Morning Dove (*Zenaida auriculata*)
Morning Sierra Finch (*Phrygilus fruticeti*)
Mountain Parakeet (*Bolborhynchus aurifrons*)
Oasis Hummingbird (*Rodopis vesper*)
Peruvian Dipper (*Cinclus leucocephalus*)
Peruvian Sheartail (*Thaumastura cora*)
Red-backed Hawk (*Buteo polyosoma*)
Rufous-naped Brush-Finch (*Atlapetes nationi*)
Rufous-winged Cinclodes (*Cinclodes fuscus*)
Striated Earthcreeper (*Upucerthia serrana*)
White-tipped Dove (*Leptotila verreauxi*)
Yellow Grossbeak (*Pheucticus chrysopeplus*)
Yellow-billed Tit-Tyrant (*Anairetes flavirostris*)

The birds of Lake Junín and surrounding areas

(3.800 masl)

A third section of the route takes us to Huánuco (410 km northeast of Lima, paved highway) and passes by Chinchaycocha or the great Lake Junín, a paradise of high-Andean waterfowl and home to the rare Puna Grebe, of which only a few dozen remain.

The final section should be left for the area between Huánuco and Tingo María (129 km, paved highway). Special attention should be given to the Paso de Carpath (2.700 masl) area, one of the country's most accessible tropical cloud-forest and to the famous caves of Guans and Owlets, located on the outskirts of Tingo María.

Andean Coot (*Fulica ardesiaca*)
Andean Duck (*Oxyura ferruginea*)
Andean Goose
(*Chloephaga melanoptera*)
Andean Gull (*Larus serranus*)
Andean Pflucker (*Colaptes rupicola*)
Andean Snipe (*Gallinago andina*)
Black-faced Ibis (*Theristicus melanopis*)
Cinereous Harrier (*Circus cinereus*)
Common Gallinule (*Gallinula chloropus*)
Puna Grebe (*Podiceps taczanowskii*) •
Puna Ibis (*Plegadis ridgwayi*)
Puna Teal (*Anas puna*)
Rufous-backed Negrito (*Lessonia oreas*)
Silvery Grebe (*Podiceps occipitalis*)
White-tufted Grebe (*Rollandia rolland*)
Yellow-headed Blackbird
(*Agelaius icterocephalus*)

The birds of the Huánuco-Carpish area
(2.000 – 3.000 masl)

The area of Carpath is a classic example of a high-altitude mountain pass or corridor featuring a transition between two very different environments: the Andean steppes and the cloud-forest. This area is almost constantly covered by fog and has abundant and dense forests as well as patches of high-altitude bamboo, a very important habitat for the birds of this region. This area is filled with mixed flocks consisting of dozens of species of wood creepers (*Dendrocolaptidae*), tanagers (*Thraupidae*), contingas (*Cotingidae*), brown jobs (*Furnariidae*), tyrant-flycatchers (*Tyrannidae*), antshrikes (*Formicariidae*) and tinamous (*Tinamidae*).

Amazon Umbrellabird (*Cephalopterus ornatus*)
Black-and-white Seedeater (*Sporophila luctuosa*)
Black-bellied Tanager (*Ramphocelus melanogaster*)
Blue-grey Tanager (*Thraupis episcopus*)
Cliff Flycatcher (*Hyrundinea ferruginea*)
Fasciated Tiger-Heron (*Tigrisoma fasciatum*)
Fasciated Wren (*Campylorhynchus fasciatus*)
Golden-collared Honeycreeper
(*Iridophanes pulcherrima*)
Golden-crowned Flycatcher
(*Myiodinastes chrysocephalus*)



Gallito de las Rocas, Cuzco
Heinz Plenge / PromPerú

Golden-headed Quetzal
(*Pharomachrus auriceps*)
Lira Nightjar (*Uropsalis lyra*)
Peruvian Cock-of-the-rocks (*Rupicola peruviana*)
Peruvian Dipper (*Cinclus leucocephalus*)
Plain-breasted Ground-dove
(*Columbina minuta*) •
Swallow Tanager (*Tersina viridis*)
Torrent Tyrannulet (*Serpophaga cinerea*)
Tropical Kingbird (*Tyrannus melancholicus*)
Tropical Parula (*Parula pitiayumi*)
White-bellied Hummingbird
(*Amazilia chionogaster*)

The birds of Tingo María and surrounding areas
(600 masl)

Tingo María offers a typical rainforest setting with tropical jungle, riverside forests (a tributary of the Huallaga river runs along the outlying areas of the city) and abundant limestone caves that serve as a refuge for the colonies of tayos or oil-birds, the only birds active at night that feed on fruit. Travelers are recommended to take some of the rough-grade roads and trails that enter the Tingo María National Park, and, above all, the road to Pucallpa that crosses the Cordillera Azul (Blue Mountain Range), which is 40 km from the city, at 1.580 masl, on the border between the departments of Huánuco and Ucayali.

Bay-headed Tanager (*Tangara gyrola*)
Black-mandibled Toucan (*Ramphastos ambiguus*)
Blue-browed Tanager (*Tangara cyanotis*)
Blue-headed Macaw (*Ara couloni*)
Cested Foliage Gleaner (*Automolus dorsalis*)
Common Piping-Guan (*Aburria aburri*)
Golden Tanager (*Tangara arthus*)
Golden-Crowned Tanager (*Tangara rufivertex*)
Golden-eared Tanager (*Tangara chrysotis*)

Golden-headed Quetzal (*Pharomachrus auriceps*)
Green and Gold Tanager (*Tangara schrankii*)
Oilbird (*Steatornis caripensis*)
Orange-billed Sparrow
(*Arremon aurantiirostris*)
Paradise Tanager (*Tangara chilensis*)
Rufous-tailed Antwren (*Myrmotherula erythrura*)
Sooty Antbird (*Myrmeciza fortis*)
Spotted Tanager (*Tangara punctata*)
Spot-winged Antbird (*Percnostola leucostigma*)
Stipple-throated Antwren
(*Myrmotherula haematonota*)
Vermillion Tanager (*Calochaetes coccineus*)

Southern Region

Nazca and Abancay

Although this is not a route often taken by tourists, the recently paved road starts at Nazca (450 km south of Lima) travels through Puquio and reaches Abancay. This highway offers many good possibilities of observing interesting birds while visiting the most characteristic habitats of the southern Andes. Travelers will also be treated to a view of both the Nazca Lines, at the beginning of the journey and of the country's largest herd of wild vicuñas, when they pass through the Pampa Galeras-Bárbara D'Achile National Reserve (4.000 masl). This reserve contains many flocks of this graceful camelids that can be seen very closely and in their natural setting. When taking this journey keep in mind that only the cities of Nazca and Abancay offer tourist services (lodging and restaurants).

The birds of the Nazca-Abancay area (600 – 3.200 masl)

The many priairies and meadowlands, queñual forests, lakes and inter-Andean valleys of this region follow one another, and offer great possibilities for observing unique and special birdlife. At Puquio, the route leaves behind the high flatlands and enters a dry and sheltered valley (2.500 masl), with singular climatic conditions, owing to the presence of the Pachachaca river and its riverside forests. Finally, close to Abancay (3.050 masl), the route ascends once again, yielding agricultural and shrubby areas ideal for some species of hummingbirds, seedeaters and siskins. The Ampay National Sanctuary is located close to the city and houses the last temperate forests in the southern part of the country. Its dense patches of intimpa (*Podocarpus olifolius*), Peru's only native coniferous tree, provide the habitat for a variety of birds endemic to this peculiar environment.

Bearded Mountaineer (*Oreonympha nobilis*)
Blue Dacnis (*Xenodacnis parina*)
Cactus Canastero (*Asthenes cactorum*)
Coursen's Spinetail (*Synallaxis coursenii*)
Creamy-crested Spinetail (*Cranioleuca albicapilla*)
Chestnut-breasted Mountain Finch
(*Poospizopsis caesar*)
Chilean Flamingo (*Phoenicopterus ruber*)
Giant Coot (*Fulica gigantea*)
Raimondi's Yellow Finch (*Sicalis raimondii*)
Rusty-fronted Canastero (*Asthenes ottonis*)
Spot-winged Pigeon (*Columba maculosa*)
Thick-billed Miner (*Geositta crassirostris*)
White-eared Puffbird (*Nystalus chacuru*)
White-winged Black tyrant (*Knipolegus aterrimus*)

Cusco and Machu Picchu

Few visitors to Peru do not spend at least a few days in the city of Cusco, attracted by its archaeological, architectural, folkloric and mystic legacy. Nevertheless, it should be noted that Cusco also offers an astonishing variety of species held in high regard by the world's ornithologists.

The birds of Huacarpay and the area surrounding Cusco (3.000 masl)

One spot that definitely must be visited is Lake Huacarpay or Lucre (3.000 masl), located 25 km south of Cusco on the paved highway leading to Puno. This ecosystem is the best place to glimpse the main birds of this region. It consists of a large, still lake, extensive patches of totora reeds and flooded areas. The surrounding hillsides are covered by cacti and other shrubs. The highway that runs through the Sacred Valley, between the communities of Urubamba and Ollantaytambo, also includes interesting viewing points, despite this being a more populated area, altered by agriculture.

American Kestrel (*Falco sparverius*)
Andean Gull (*Larus serranus*)
Andean Lapwing (*Vanellus cayanus*)
Aplomado Falcon (*Falco femoralis*)
Ash-breasted Sierra-finch (*Phrygilus plebejus*)
Band-tailed Seedeater (*Catamenia analis*)
Bare-faced Ground-dove (*Metriopelia ceciliae*)
Bearded Mountaineer (*Oreonympha nobilis*)
Blue-and-yellow Tanager (*Thraupis bonariensis*)
Chiguanco Thrush (*Turdus chiguanco*)
Giant Hummingbird (*Patagona gigas*)
Greenish Yellow-Finch (*Sicalis olivascens*)
Green-tailed Trainbearer (*Lesbia nuna*)

Mourning Sierra -finch (*Phrygilus fruticeti*)
 Plumbeous Rail (*Rallus sanguinolentus*)
 Puna Ground-Tyrant (*Muscisaxicola juninensis*)
 Puna Ibis (*Plegadis ridgwayi*)
 Rufous-backed Negrito (*Lessonia oreas*)
 Rufous-collared Sparrow (*Zonotrichia capensis*)
 Rufous-napped Ground-Tyrant
 (*Muscisaxicola rufivertex*)
 Rusty-fronted Canastero (*Asthenes ottonis*)
 Slender-billed Miner (*Geositta tenuirostris*)
 Sparkling Violetear (*Colibri coruscans*)
 Speckled Teal (*Anas flavirostris*)
 Spot-billed Ground-Tyrant
 (*Muscisaxicola maculirostris*)
 White-browed Chat-tyrant (*Ochtoeca leucophrys*)
 Wren-like Rushbird (*Phleocryptes melanops*)
 Yellow-billed Tit-tyrant (*Anairetes flavirostris*)
 Yellow-winged Blackbird (*Agelaius thilius*)

The birds of the Málaga Mountain Pass and of the San Luis cloud forests
 (3.500 – 2.900 masl)

On the other hand, the dirt track between Ollantaytambo and the jungle community of Quillabamba gives the visitor the chance to pass through an incredible range of altitudes and ecosystems, as well as offering breath-taking views of nearby snow-capped peaks, in particular Verónica (5.750 masl). As the winding road leaves the Inca community of Ollantaytambo, it heads toward a high mountain pass (Málaga), featuring abundant wetlands and lakes. An accelerated descent begins here and leads into a beautiful cloud-forest that is perhaps the best preserved forest in the region. To explore this area, it is advisable to use as a reference mark the spot known as San Luis. This area, besides being abundant in many endemic bird species, is considered by birdwatchers as a definite destination in any journey through the Peruvian Andes.

Andean Condor (*Vultur gryphus*)
 Andean Swift (*Apus andecolus*)
 Black-throated Flower-piercer
 (*Diglossa brunneiventris*)
 Brown-bellied Swallow (*Notiochelidon murina*)
 Creamy-crested Spinetail (*Cranioleuca albicapilla*)
 Gray-hooded Sierra-Finch (*Phrygilus gayi*)
 Hooded Siskin (*Carduelis magellanica*)
 Orange-billed Saltator (*Saltator aurantirostris*)
 Rusty-fronted Canastero (*Asthenes ottonis*)
 Shining Sunbeam (*Aglaectis cupripennis*)
 White-tufted Sunbeam (*Aglaectis castelnaudii*)

The birds of the Machu Picchu Historical Sanctuary
 (1.800 masl)

Although the area next to Machu Picchu is the habitat of some species of interest for birdwatchers, it is the forests along the Urubamba River, located below the archaeological site at the heart of this Sanctuary, that are ideal for a successful ornithological excursion. It is advisable to do these tours on foot starting from the railway line at the community of Aguas Calientes (the community of Machu Picchu) and following the river downstream for a few kilometers. This area is covered in dense tropical vegetation. What stands out in this foliage are the patches of high-altitude bamboo that are the habitat par excellence of an enormous number of mountain forest species such as the spectacular Peruvian Cock-of-the-Rocks, Peru's national bird. Contributing to the beauty of the area are the abundant orchids and arboreal ferns, considered to be the Sanctuary's most treasured plants. On the other hand there are an estimated 400 species of birds.

Black-tailed Trainbearer (*Lesbia victoriae*)
 Black-throated Flower-piercer
 (*Diglossa brunneiventris*)
 Blue-and-white Swallow (*Notiochelidon cyanoleuca*)
 Blue-crowned Tanager (*Tangara cyanocephala*)
 Cinereous Conebill (*Conirostrum cinereum*)
 Flower-piercer (*Diglossa sittoides*)
 Inca Wren (*Thryothorus inca*)
 Peruvian Cock-of-the-Rocks (*Rupicola peruviana*) •
 Peruvian Dipper (*Cinclus leucocephalus*)
 Rufescent Tiger Heron (*Tigrisoma lineatum*)
 Rufous-collared Sparrow (*Zonotrichia capensis*)
 Rufous-golden Tanager (*Tangara ruficeps*)
 Rufous-napped Brush-Finch (*Atlapetes rufinucha*)
 Sierran Elaenia (*Elaenia pallatangae*)
 Spectacled Redstart (*Myioborus melanocephalus*)
 Streaked-necked Flycatcher
 (*Mionectes striaticollis*)
 Torrent Duck (*Merganetta armata*)
 Torrent Tyrannulet (*Serpophaga cinerea*)
 Tufted Tit-tyrant (*Anairetes parulus*)
 White-crested Elaenia (*Elaenia albiceps*)
 White-winged Black bird (*Sayornis litoralis*)

Puerto Maldonado and Madre de Dios

Puerto Maldonado is a fast-growing border town. It is located where the Tambopata and Madre de

Dios Rivers join. What was just a motley collection of wooden homes with corrugated iron roofs has been transformed into the shining gateway to the southeastern Peruvian jungle. The local inhabitants of this city have fittingly christened it "the World Capital of Biodiversity". Its tropical forests hold more species of plants and animals than in any other spot in the world, and birds are no exception.

The birds of Manu and Tambopata (300 masl)

One of the spots that is a "must-see" for any serious birdwatcher, is Explorer's Inn, a friendly lodge just a three-hour boatride upstream from Tambopata –accessible from Puerto Maldonado. This lodge is famous for holding the world record for the most species registered in any one day in one specific area: more than 650! But if it's records we are talking about, the Manu jungles hold an even more amazing diversity: specialists calculate that over 1.000 different species of birds can be found in the park's ecosystems. From Cusco Manu can be reached by small aircraft landing in Boca Manu. The next leg of the trip is via launch (five hours to Manu). Another way of reaching the Manu is via a rough-dirt road from Cusco to the communities of Atalaya (nine hours) and Shintuya (12 hours), followed by five-hour river journey. There are many hostels and lodges along the most important rivers and these offer travelers all the facilities to make their stay in the tropical jungle pleasant and safe. Many of these also have a good system of paths and trained guides who will lead visitors to the marvels of the Amazon forest. Puerto Maldonado and Tambopata offer all basic tourist services, including daily flights to Cusco.

Amazon Kingfisher (*Chloroceryle amazona*)
American Caracara (*Daptrius americanus*)
Black-capped Mockingthrush
(*Donacobius atricapillus*)
Black-collared Hawk (*Busarellus nigricollis*)
Black-faced Antthrush (*Formicarius analis*)
Black-fronted Nunbird (*Monasa nigrifrons*)
Blue-and-yellow Macaw (*Ara ararauna*)
Blue-grey Tanager (*Thraupis episcopus*)
Capped Heron (*Pilherodias pileatus*)
Common Pooto (*Nyctibus griseus*)
Cuvier's Toucan (*Ramphastos cuvieri*)
Great Black Hawk (*Spizastur melanoleucus*)
Harpy Eagle (*Harpyja harpyja*)
Hoatzin (*Ophistocomus hoazin*)
Horned Screamer (*Anhima cornuta*)
Jabiru (*Jabiru mycteria*)

Neotropic Cormorant (*Phalacrocorax olivaceus*)
Orinoco Goose (*Neochen jubata*)
Pale-winged Trumpetier (*Psophia leucoptera*)
Razor-billed Curassow (*Crax mitu*)
Red-and-green Macaw (*Ara chloroptera*)
Road-side Hawk (*Buteo magnirostris*)
Rufescent Tiger Heron (*Tigrisoma lineatum*)
Russet-backed Oropendola
(*Psarocolius angustifrons*)
Sand-colored Nighthawk (*Chordeiles rupestris*)
Scarlet Macaw (*Ara macao*)
Screaming Piha (*Lipaugus vociferans*)
Spix's Guan (*Penelope jacquacu*)
Tropical Kingbird (*Tyrannus melancholicus*)
Undulated Tinamou (*Crypturellus undulatus*)
Wattled Jacana (*Jacana jacana*)
White-and-green Swallow (*Tachycineta albiventer*)
White-necked Heron (*Ardea cocoi*)
Yellow-headed Parrot (*Amazona ochrocephala*)
Yellow-rumped Cacique (*Cacicus cela*)

Arequipa and the Colca Valley

In spite of its location in the desert spurs of the southern Andes, the White City is especially attractive to visiting nature lovers, as apart from satisfying the cultural and gastronomic demand of the most demanding of tourists, it is also a gateway to some of the most spectacular areas in the southern region of Peru: the National Sanctuary of Lagunas de Mejía (Mejía Lakes), the National Reserve of Salinas y Aguada Blanca and the Colca Valley. Lagunas de Mejía, located 150 km, or two hours, from Arequipa, south of the outlet of the Tambo river, consist of flooded lands covered in swampy vegetation and bull-rushes. These lakes offer rest and refuge to many resident and migratory birds. January through March are the best months for observing this area's main species.

The birds of Salinas y Aguada Blanca and of the Colca Valley (3.200 – 3.700 masl)

Access to Salinas y Aguada Blanca is via some of the rough-grade roads originating in Arequipa and which lead either to the Colca Valley (150 km or three hours) or to the city of Puno. Visitors are recommended to take the Puno route that passes through an extensive queñual forest (Chiguata, 3.200 masl) and continues on toward the Great Lake of Salinas. It is an ideal spot for viewing waterfowl, groups of vicuñas and, on occasion flocks of guanacos (*Lama guanicoe*). The reserve features vast high-Andean pasturelands, wetlands and flooded areas, as well as curious geological forma-

tions resulting from erosion (the Maucarquipa and Puruña stone-forests). The extraordinary Colca River Valley is located in the reserve's eastern areas and borders the wide, high-Andean prairie. Colca and its colonial communities, spectacular terraces and landscapes, are ideal for an unforgettable visit. The birds in this valley are similar to the ones that inhabit the mountainous steppes in other regions of Peru. Moreover, its cultivated land and steep cliffs offer a place, like no other, from where one can watch some species of great interest. This is the case of the majestic Andean Condor, the largest of all birds capable of flight. It is easily spotted in the place called "Cruz del Cóndor", in the outskirts of the community of Cabanaconde.

Andean Avocet (*Recurvirostra andina*)
 Andean Condor (*Vultur gryphus*)
 Andean Flamingo (*Phoenicoparrus andinus*)
 Andean Goose (*Chloephaga melanoptera*)
 Andean Flicker (*Colaptes rupicola*)
 Black Siskin (*Carduelis atrata*)
 Black-chested Buzzard-eagle
 (*Geranoaetus melanoleucus*)
 Black-hooded Sierra-Finch (*Phrygilus atriceps*)
 Creamy-breasted Canastero (*Asthenes dorbignyi*)
 Chilean Flamingo (*Phoenicopterus ruber*)
 D'Orbigny's Chat-tyrant (*Ochtoeca oenanthoides*)
 Diuca Finch (*Diuca speculifera*)
 Giant Conebill (*Oreomanes fraseri*)
 Gray-breasted Seedsnipe
 (*Thinocorus orbignyianus*)
 James' Flamingo (*Phoenicoparrus jamesi*)
 Ornate Tinamou (*Nothoprocta ornata*)
 Puna Hawk (*Buteo poecilochrous*)
 Puna Plover (*Charadrius alticola*)
 Puna Tinamou (*Tinamotis pentlandii*)
 Rufous-bellied Seedsnipe (*Attagis gayi*)
 Tamarugo Conebill (*Conirostrum tamarugensis*)
 White-throated Earthcreeper

(*Upucerthia albigula*)
 White-throated Sierra-Finch
 (*Phrygilus erythronotus*)

Puno and Lake Titicaca

The majority of the bird species that inhabit Lake Titicaca can be found on almost all bodies of water (lakes, pools and streams) that abound in the high Andes. However, birdwatchers will be pressed to find a setting of more remarkable beauty than this lake of truly oceanic proportions (8.380 km²). The endemic Titicaca Flightless Grebe, a species that only inhabits the Lake Titicaca basin can be easily seen along the lakeshore all year round.

An area of archaeological interest and one of particular appeal to birdwatchers, is the burial tower complex at Sillustani (20 km from Puno, on the way to Juliaca). This spot, located on a hill overlooking the beautiful Umayo Lake, offers the possibility of observing most species of Altiplano birds, as well as some singular mammals such as the comic Wild Guinea pig (*Cavia tschudii*), a rodent with robotic movements that has made its home among the archaeological remains in the area.

The birds of Puno and Lake Titicaca (3.800 masl)

Andean Coot (*Fulica ardesiaca*)
 Andean Duck (*Oxyura ferruginea*)
 Andean Gull (*Larus serranus*)
 Andean Swallow (*Petrochelidon andecola*)
 Common Gallinule (*Gallinula chloropus*)
 Many-colored Rush Tyrant (*Tachuris rubrigastra*)
 Puna Ibis (*Plegadis ridgwayi*)
 Puna Teal (*Anas puna*)
 Titicaca Flightless Grebe
 (*Centropelma micropterum*) •

Primates

There are 32 different species of primates in Peru. These are divided into three large taxonomical families which group together the primates found in the New World: Callithricidae, which includes tamarins and marmosets; Callimiconidae, which comprises one unique species (Goeldi's monkey); and the Cebidae, the largest of the three groups which includes common squirrel monkeys, capuchin monkeys, dusky titi monkeys, night-monkeys, howler monkeys, woolly monkeys and spider monkeys, among others.

Monkeys of the Old World (order Platyrrhini) can be distinguished from those of the New World (order Catarrhini) by a series of morphological differences which are the product of the adaptation of the latter to the tropical environment in which they live. The most noticeable of these is the shape of their noses. The former (including those of man), feature elongated noses with large nostrils on each side that point downwards while the latter, have wide, flat and often sloping noses.

American monkeys are powerfully built. Their faces, flattened and devoid of hair, have large eyes, small ears and short necks. Their hind legs are generally very long and have prehensile claws at the ends. In most cases, American monkeys also have long prehensile tails which act like a fifth limb. They are, for the most part, tree-dwelling, and come down from their tree habitats only to drink water or to cross open spaces.

Another characteristic of American monkeys is their ability to change color dramatically according to their geographical location. As a result, a species can change the color of its fur within a wide range of shades, from black and ochre to yellow, depending on the latitude of its habitat.

Monkeys scatter the seeds from the fruits they eat over large areas, contributing to the regeneration of the dominant lianas vines and trees of the Amazon forest, home to practically all of Peru's monkeys.

The only exceptions are the white-fronted capuchin monkey, which is also found in certain areas of the Andes' western slopes in the northern departments of Piura and Tumbes, and the howler monkey of Tumbes, which is found only in the northernmost tropical forests of the Pacific.

Small primates

(up to 35 cm long and weighing up to 1,2 kg)

Tamarins

Tamarins, at most the size of a squirrel, have large non-prehensile tails which hang vertically from below the animal. In the forest, they let out sharp whistles of alarm, and retreat by jumping among the underbrush, with their heads and trunk in typical upright position. Their social structure is highly unusual: they live in families led by a dominant female and various male subordinates (polyandry). Offspring, generally one or two per year, are cared for by the males, who carry them on their backs throughout the day. They roam the dense vegetation area of the forest and areas containing vines, where they find food in plentiful supply as well as refuge from their many predators, which include eagles, falcons, felines and boas.

There are six species of tamarins (*Saguinus* spp.) in Peru: the Saddleback tamarin (*Saguinus fuscicollis*), Emperor tamarin (*Saguinus imperator*), Red-chested mustached tamarin (*Saguinus labiatus*), Black-chested mustached tamarin (*Saguinus mystax*), Black-mantle tamarin (*Saguinus nigricollis*) and Golden-mantle tamarin (*Saguinus tripartitus*).

All of the species mentioned above measure some 22 cm in length and weigh around 350 grams. A characteristic of these monkeys is the distinctive color-patterns on their faces, often with long mustaches, feathery crests or markings. They also have small claws rather than nails, which allow them to grip tree trunks securely. These monkeys also have large incisors used to eat fruit and capture insects, their favorite food. Diurnal creatures, they gather in groups of up to a dozen and inhabit large areas of territory, generally between 30 and 100 ha, and often roam through the forest accompanied by other species of tamarins, such as the Emperor Tamarin.

Goeldi's monkey (*Callimico Goeldi*), or False-tamarin, deserves special mention. One of the most unusual species in the country, it belongs to a unique family known as Callimiconidae, and bears a strong resemblance to the true tamarin, but differs from this animal in a number of internal char-

acteristics of its anatomy. Black from head to toe, it has a long, thick coat of fur with long crests that decorate the sides of its head like ears. A diurnal and territorial creature, they generally move close to the ground (at less than 5 meters above the ground), and show a preference for terra firme forests (forests not subject to flooding or those lying some distance from rivers).

Marmosets

The Pygmy marmoset, also known as the pocket monkey (*Cebuella pygmaea*), is the world's smallest primate. Measuring just 11 cm long and weighing little over 100 grams, it is a diurnal creature with a well-marked territory, which it roams daily in search of food. It has a somewhat unusual tooth formation, with its lower jaw lined with small, sharp teeth which allow it to tear the bark off trees and vines to tap a highly specialized food: sap. The Pygmy marmoset is found in forests subject to flooding, in trees that are over 20 meters tall.

Night monkeys

Night monkeys (*Aotus* spp.) are the only nocturnal monkeys in the Americas. Measuring between 24 and 35 cm long and weighing around 850 grams, their backs are ash-colored while their stomachs are an orange-ochre color. They also have a white mask on their faces with a black stain between their large eyes, while their tail is not prehensile. Living in treetops, they prefer areas of dense vegetation and vines. They form groups of two to five and eat fruit, insects and nectar. Monogamous and sedentary, they live in small areas of territory which they rarely leave, and are not unsettled by the presence of humans.

Dusky titi monkeys

Dusky titi monkeys (*Callicebus* spp.) measure some 30 cm in length and weigh around 1,2 kg. They are the only small monkeys that feed exclusively on soft leaves and shoots, especially bamboo shoots. Diurnal and tree-dwelling, these creatures are monogamous and form families of between two and six monkeys. They are grayish-brown or reddish-brown in color, with rounded and compact bodies and a long, wide tail which hangs below the animal when it is relaxed. To indicate their possession of a particular strip of territory they emit an unusual call consisting of a mighty screech made in unison by the male and dominant female of the group. Each morning this call notifies the other monkeys in the forest of the whereabouts of the pack.

The five species of Dusky titi monkey in Peru are distributed among flooding forests or forests close to river banks and streams and are: *Callicebus cupreus*, *Callicebus oenanthe*, *Callicebus caligatus*, *Callicebus torquatus* and *Callicebus brunneus*. Common squirrel monkeys.

Common squirrel monkeys

Also known as Frailecillo, the Common squirrel monkey (*Saimiri sciureus*) is 25 cm long and weighs slightly under 1 kg. It has yellow fur on its back, white fur on its stomach and black markings on its face, as well as a black snout. Diurnal and gregarious creatures, they form large packs of up to 70 monkeys.

Common squirrel monkeys are very active, spending most of the day roaming floodable forests in search of insects, nectar and small fruits. Often they join capuchin monkeys, developing an interesting symbiotic relationship: the squirrel monkeys, smaller and more numerous, act as look-outs for the capuchin monkeys, alerting them to the presence of predators, while the capuchin, stun insects that serve as food for squirrel monkeys.

Medium-sized primates

(up to 40 cm long and weighing up to 3,0 kg)

Capuchin monkeys

Capuchin monkeys, or capuchinos, are typical medium-sized monkeys (the classic organ grinder's monkey that used to be seen in the cities). In Peru there are two species of capuchin monkey: the brown-fronted and the white-fronted capuchin. Both weigh between 1,5 and 3 kg and measure around 40 cm in length. Brown capuchin monkeys (*Cebus apella*) are generally robust and very intelligent animals. Diurnal in nature, they roam their territory in groups of up to 20, eating almost anything they find – fruit, seeds, eggs, insects, reptiles and even small vertebrates). They have strong teeth capable of cracking the tough palm nut. The White-fronted capuchin (*Cebus albifrons*) is lighter and much more agile, active and elusive than the brown-fronted capuchin. It eats fruit, seeds and small arthropods, in particular wasps.

Saki monkeys

Saki monkeys, or Sakis, are medium- to large-sized monkeys, with long, spongy fur which makes them seem larger and heavier than they actually are. They measure some 35 cm in length and weigh up

to 2 kg, and are divided into two groups: Monk Saki monkeys (belonging to the genus *Pithecia*) and White Uakari monkeys (of genus *Cacajao*).

Monk Saki monkeys (*Pithecia aequatorialis*, *Pithecia irrorata* and *Pithecia monachus*) have large, furry, non-prehensile tails which hang like a feather duster under their bodies. Diurnal and tree-dwelling, Monk Saki monkeys from groups of between two and four and take large, sudden leaps between branches, hence their common name of "flying monkeys". Monk Saki monkeys live quietly among older and undisturbed areas of the forest, through which they roam in search of fruit, seeds and soft leaves.

The White uakari monkey (*Cacajao albus*) varies significantly in appearance from its close relative the Monk Saki monkey. It has a long spongy, white-yellow coat of fur and its face is bright red (hence its common name). Diurnal and tree-dwelling, the White uakari monkey congregates in large groups (sometimes of over 40 monkeys). Measuring 40 cm long and weighing up to 3 kg, it eats fruit, leaves, nectar and some types of insects, in particular caterpillars. It has large canine teeth capable of cracking forest nutshells. The White uakari monkey is very active, moving around in the floodable forests more than any other species of monkey in the New World.

Large primates

(up to 60 cm long and weighing up to 13 kg)

Howler monkeys

Known as howler monkeys, because of their habit of proclaiming the possession of their territory with deafening roars, these monkeys (*Alouatta* spp.) are among the largest primates in the New World. They have a strong, prehensile tail and a bony cavity in their throat which is used as a resonating cavity. Diurnal and tree-dwelling, they reach 50 cm in length and weigh up to 11 kg.

Due to the fact that it feeds exclusively on vegetable matter (fruits, leaves and flowers) which are difficult to digest, the howler monkey leads a very sedentary existence. They end up spending most of the day in a single tree in groups of up to a dozen individuals. One of their most peculiar features is that when threatened, the entire group comes together in the treetops and launches a full-scale aerial attack, showering faeces and urine on the enemy. In the dry season they come down to

drink from the river banks and visit the clay cliffs or collpas in search of salt and supplementary minerals.

Two species of howler monkeys exist in Peru: the Reddish-orange common howler monkey (*Alouatta seniculus*), typical of the Amazon jungle, and the Black Tumbes howler monkey (*Alouatta palliata*), that lives in a tiny portion of the tropical forests located in the Tumbes Reserve.

Woolly monkeys

Woolly monkeys (*Lagothrix* spp.) are large, thick-haired apes, with a powerful appearance. They are around 50 cm in height and can weigh up to 10 kg. Diurnal and tree-dwelling, they are light brown and ash-colored and congregate in groups of up to 20 individuals while they feed on fruit, seeds, nuts, leaves and insects.

Their size and large human presence in their habitat makes woolly monkeys the most heavily-hunted monkey in Peru. This and their low reproductive rate (females reach sexual maturity at five or six years) have caused the disappearance of this species from large areas, driving them to the edge of extinction.

Two species of woolly monkeys exist in Peru: the Common woolly monkey (*Lagothrix lagotricha*), native to the jungle fringe areas and distributed along the entire country, and the Yellow-tailed woolly monkey (*Lagothrix flavicauda*), that lives exclusively in the mountainous forests of the departments of Amazonas and San Martín.

Spider monkeys

The best known monkey of the Peruvian tropical jungle is, without a doubt, the spider monkey. Also known as maquisapa (from the Quechua maqui, arm and sapa, large), it has adapted extremities which allow it to move through the treetops where it lives. It reaches some 60 cm in height and weighs up to 13 kg. This monkey's strong prehensile tail is used as a fifth limb and it can often be seen suspended from its tail. Diurnal and eminent tree-dwellers, spider monkeys make up family groups of up to 20 individuals that feed on fruit, young shoots and leaves.

Like woolly monkeys, they are heavily hunted for their meat and have disappeared from areas close to human settlements. This situation has been

further aggravated by their extremely low reproductive rate (females attain sexual maturity at four or five years and have offspring every three to four years).

Two species of spider monkey live in Peru: the Black

spider monkey (*Ateles paniscus*), common in the central jungle and in the south of Peru, and the Long-haired spider monkey (*Ateles belzebuth*), whose geographic range is restricted to the extreme north of the Amazon basin (departments of Amazonas and Loreto).



Oso de anteojos, Cuzco
Heinz Plenge / PromPerú

Marine Mammals

There are a total of 33 species of marine mammals in Peru ranging from the tiniest salt-water marine otters or chingungos, that inhabit inaccessible beaches to the large whales and sperm-whales that roam the open sea. Scientists group them into nine taxonomic families, with the most important being the otariidae and the delphinus, that group the sea lions and southern fur seals and the dolphins, respectively.

Undoubtedly the most widely-seen mammals on the Peruvian coast, are the sea lions. Two different species share the coast bathed by the cold Peruvian ocean current: the large South American Sea Lion (*Otaria byronia*) weighing up to 300 kg, which prefers to gather on sandy beaches, and the smaller South American Fur Seal (*Arctocephalus australis*), which tends to group on outcrops of inaccessible rocks along the coast. Both species reproduce between November and March, ideal months for observation.

The best spots for finding them is along the southern coast: Paracas (250 km from Lima) features major breeding grounds on the Ballestas Islands (a one-and-a-half hour boat-ride from the El Chaco dock or from the Hotel Paracas), Punta Arquillo (15 minutes on a rough-grade road that runs through the peninsula) and Morro Quemado (a three-hour drive in an all-terrain vehicle) where possibly the largest number of sea lions and southern fur seals in the country congregate.

The coastal beaches of the Paracas National Reserve are also the best spots for viewing the elusive chingungo or marine otter, a marmot that inhabits the rarely-visited rocks and beaches of the central and southern Peruvian coast. The beaches of Mendieta and La Catedral have the greatest number of recorded endangered species.

A bit further south (480 km from Lima via the Pan-American Highway) is Punta San Juan, a Reserve established to protect the nesting grounds of guano birds, Humboldt penguins and a large colony of sea lions.

Cetaceans are well represented in Peruvian waters. Observing them, however, is rather difficult since there is a lack of tourist infrastructure for this end. Several species of dolphins, such as the Bottlenose Dolphin and the Short-Beaked Common Dolphin, as well as Porpoise, are habitual residents of the relatively shallow coastal waters.

The best way to observe these creatures is to rent a boat in the larger coves or ports and then to request information on the best spots and times for viewing. In Peru, all cetacean species are protected by law. The capture, consumption or sale of these animals or any product derived thereof, is strictly prohibited

Main species

Blue Whale (*Balaenoptera musculus*)
 Lesser-Beaked Whale
 (*Mesoplodon peruvianus*)
 Southern Right Whale (*Eubalaena australis*)
 Humpback Whale (*Megaptera novangliae*)
 Short-Finned Pilot Whale
 (*Globicephala macrorhynchus*)
 Sperm Whale (*Physeter catodon*)
 Short-Beaked Common Dolphin
 (*Delphinus delphis*)
 Risso's Dolphin (*Grampus griseus*)
 Bottlenose Dolphin (*Tursiops truncatus*)
 Dusky Dolphin (*Lagenorhynchus obscurus*)
 Marine Otter (*Lutra felina*)
 Porpoise (*Phocoena spinipinnis*)
 South American Sea Lion (*Otaria byronia*)
 South American Fur Seal
 (*Arctocephalus australis*)
 Orca (*Orcinus orca*)

Butterflies

For those in the know, to talk about butterflies is to talk about Peru. One of every five species of butterflies in the world is found here. However, more than just another world record of bio-diversity, this constitutes one more reason to encourage nature lovers to take a journey through the Peruvian forests.

Today, butterflies make up the best-known group of land invertebrates and much of this knowledge is attributable to scientists working in the remote jungles of Peru. In recent years, theories stating that the natural diversity of the Amazon region increases in relation to its proximity to the Andes have been proven true by overwhelming statistics.

For example, the extraordinary number of species (1.300) were recorded in the community of Pakitza, in the Manu National Park, in southeast Peru and only 235 km away, in a small hostel on the Tambopata river, 1.260 species were recorded. What is amazing about these findings is that only 60% of the entries of both places overlapped! Researchers estimate that the total diversity of butterflies in the country must be over 4.200 species,

of which 3.700 have been registered. The scale of this figure can be appreciated when making comparisons of total number of species with other parts of the world: Australia (396), Europe (441) and North America (679).

The narrow band of coastal desert with its agricultural valleys, as well as the Andean highlands at more than 5.000 masl have relatively few but very interesting species that have adapted to their rigorous environment. Tropical forests are the environments that by far are home to the greatest variety of butterflies. In the high-jungle, as well as in the Amazon lowlands, there are areas where diversity is such that that a nature lover could be kept busy for weeks on end.

These places range from the northeastern jungles (Tarapoto and Moyobamba), to the southern jungles (Tambopata and Manu), passing through the Chanchamayo Valley and the area surrounding Tingo María, famous for its importance as part of the great butterfly collections made by botanists at the turn of the century.



*Butterfly in Tambopata, Madre de Dios
Anibal Solimano / PromPerú*

Areas of interest

Tumbes

The Tumbes Reserve, located 50 km east of the city on a dirt road. Tumbes (1.267 km north of Lima) receives regular commercial flights from Lima. All-terrain vehicle required.

Loreto

Tourist lodges on the outskirts of Iquitos (Napo, Nanay and Itaya Rivers). This city has an international airport and regular commercial flights.

Amazonas

Dirt roads inter-connect the cities of Chachapoyas - Molinopampa - Rodríguez de Mendoza and Chachapoyas - Leimebamba and Kuélap. Chachapoyas receives regular commercial flights from Lima. All-terrain vehicle required.

San Martín

Paved highway to Pomacochas-Rioja-Moyobamba and a dirt road to Tarapoto and Yurimaguas cities (all-terrain vehicle is recommended for this final stage of the route.) Tarapoto receives regular commercial flights from Lima.

Huánuco

Tingo María National Park (outside the city) is home to the Cueva de las Lechuzas, or the owl

cave, and can be reached by a dirt road leading to La Divisoria (en route to Pucallpa). The city of Pucallpa receives regular commercial flights from Lima.

Pasco

Rough-graded road inter-connect the cities of Oxapampa, Huancabamba and Pozuzo. Lowlands formed by the Pozuzo and Palcazu river basins. All-terrain vehicle required.

Junín

Paved highway inter-connects San Ramón-La Merced-Satipo. Tropical valleys producing different varieties of fruit as well as coffee in the basins of the Chanchamayo and Perené rivers, respectively.

Cusco

Historic Sanctuary of Machu Picchu. Dirt roads, Cusco-Paucartambo-Valle de Kosñipata and Cusco-Quincemil. All-terrain vehicle required.

Madre de Dios

Tourist lodges on the Tambopata, Alto Madre de Dios, Madre de Dios and Manu Rivers. The city of Puerto Maldonado receives regular commercial flights from Lima and Cusco.

Wild Flowers

Peru is home to an enormous variety of climates and eco-systems because of its geographic location and the presence of the Andes, which gives way to countless valleys –at varying altitudes and latitudes– that descend to either the coast or the jungle. This climatic variety has forced wildlife to adapt to a series of ecosystems by developing survival strategies.

Plants are, without a doubt, the best example of this exceptional effort to adapt, colonizing practically all the environs possible –from the bottom of the sea and frozen lakes to the arid deserts or the Andean highlands. Plants have become the key players in the survival of the rest of the creatures inhabiting the natural world.

The species of Peruvian flora are a source of amazement because of the diversity of species and families, their tiny or gigantic proportions, colors, scents and flavors they give off, shapes they take while they grow and finally because most of them are unique in the world.

Peruvian geography offers a majestic setting for lovers of wildflowers, since there is always a seemingly unlimited variety of flowers, regardless of time of year or location: at sea-level or 5.000 meters above it, in the tropical jungle or in the Equatorial dry forests.

The forests of Tumbes (650 – 900 masl)

There is a small area in Peru filled with huge trees and luxuriant forests, where jaguars, cocodriles and howling monkeys abide. What is curious about this spot is that it is located very close to the ocean. It is the Tropical Forest of the Pacific, a special spot wedged right in the heart of the department of Tumbes.

The area is very damp and has a distinct rainy season between December and March, and a prolonged dry season lasting the rest of the year. This part of the Peruvian coast receives more rainfall than any other. This is why the abundant vegetation is always green. Many of the plants inhabiting this forest have their origins in other regions. For example, the cedar tree, the strangler-fig and the marmalade tree, come from the Amazon jungles

while the ceibo and guayacán can also be found in the Equatorial dry forests.

Others though are endemic to this peculiar environment and are not found in any other place in the country. This is the case for the many species of bromeliads, tillandsias such as spanish moss and the small and delicate flowers that belong to several species of lianas and shade-dwelling plants such as the malvaceae and the amaranthaceae.

Access to these forests is via a dirt road heading east from the city of Tumbes along the road that leads to the communities of Pampas de Hospital and El Caucho. An all-terrain vehicle is recommended, as is contacting a local guide and taking along plenty of food and water.

Species: Abutilón (*Abutilon reflexum*), Anturio (*Anthurium scandens*), Bromelia (*Aechmia* sp.), Caliandra (*Caliandra tumbeziana*), Caña-caña (*Costus* sp.), Espino de árbol (*Epiphyllum phyllanthus*), Fuego del bosque (*Malvaviscus arboreus*), Granadilla silvestre (*Passiflora punctata*), Lantana (*Lantana glutinosa*), Palo de yuca (*Carica parviflora*), Pashaco (*Phitecelobium exelsum*) and Rojo-rojo (*Ludwigia peruviana*).

The dry forest (250 – 600 masl)

Dry forests are a typical natural formation occurring on the northern coast where two species have adapted to the harsh desert conditions: carob and ceibo. The presence of these trees is common in the departments of Tumbes, Piura and Lambayeque, and these are vital to the inhabitants' survival.

The climate in this region is warm and dry, with rains during the summer that allow for ample and singular vegetation to develop. The dry forest covers an area starting from the seashore and reaching inland 100 to 150 km. The land is flat and prairie-like, with small hills in the coastal area as well as small mountain ranges further inland, such as the Cerros de Amotape.

The vegetation is mostly deciduous; in other words, it loses its leaves during the prolonged dry period. The flowers, on the contrary, stand out against

the landscape and are like bright signs attracting hungry hummingbirds and other flower piercers.

The dry forest is easily accessed via many of the rough-grade roads that branch off the North Pan-American highway and head east. The areas of Sullana, Máncora and Zorritos are of special interest.

Species: Azul (*Ipomoea purpurea*), Begonia (*Begonia pleiopetala*), Borrachera (*Ipomoea carnea*), Cardenal (*Euphorbia cotinifolia*), Granadilla silvestre (*Passiflora tenella*), Guayacán (*Tabebuia chrysantha*), Heliotropo (*Heliotropium ferreyrae*), Overo (*Leucaena trichodes*), Palo santo (*Bursera graveolens*), Porotillo (*Erythrina velutina*), Pretino (*Bombax discolor*) and Zapallito de monte (*Cucumis dipsaeus*).

The Andes

(1.000 – 3.500 masl)

The Andes can be divided into two large altitude and climate areas: one low area with a benign climate, consisting of the fertile inter-Andean valleys that sit at 1.000 to 2.500 masl, and another area, known as the puna, at an altitude of over 3.500 masl. It is in the latter area, with its usually hostile weather where the altitude, oxygen and cold temperature limit the existence of many forms of life, that the small Andean flowers begin to reveal their beauty and coloring. The area between 2.500 and 3.500 masl is one of transition where, for topographical and climatic reasons, both types of flowers –valley and puna– can be found.

It is impossible to imagine the Andes without its wildflowers that range from the minute flower of the yareta to the gigantic pods of the puya Raimondi and all the delicate passion flowers to colorful chochos and the imperceptible contrahierbas or the poison ivy in between.

Visitors to the Andean highlands will be awed by the color and design of its flowers, which in general are very different from the ones city dwellers are used to seeing. Given tough environment and that flowers represent a plant's maximum effort to attract the attention of the few pollinating agents in order to be able to produce seeds and propagate, competition between plants is vicious. The beneficiaries of this process are the observers who have hundreds of flowers, each more beautiful than the next, at their entire disposition.

Species: Achupaya (*Puya angusta*), Cantuta (*Cantua buxifolia*), Contrahierba (*Perezia pinnatifidia*), Curicasha (*Matucana yunganucensis*), Chekchi (*Berberis lutea*), Chinchircuma (*Mutisia acuminata*), Chocho (*Lupinus mutabilis*), Lleqllish qora (*Werneria nubigena*), Ñuqchu (*Salvia oppositiflora*), Ortiga macho (*Loasa grandiflora*), Porporo (*Passiflora trifoliata*), Puya Raimondi (*Puya raimondii*), Retama, qarwash (*Spartium junceum*), Shillcu (*Bidens alticola*), Wamanpinta (*Chuquiraga spinosa*) and Yareta (*Azorella yareta*).

The foothills

(300 – 450 masl)

If one had to choose the most singular environments in Peru, the coastal highland range would undoubtedly lie within that select group. The foothills, located in the middle of an apparently lonely, coastal desert, are one of nature's most unique formations. These foothills that rest on sand and rock face west and owe their existence to the excess humidity that comes from the masses of cold air pushed up against the continent by the trade winds, depositing moisture on the hills facing the sea, which condenses and gives rise to, albeit seasonal and fleeting, vital and beautiful vegetation.

The foothills tour a bright shade of green each year during the winter and the best time for a visit is between August and October. The most accessible foothills and perhaps the best preserved ones along the Peruvian coast, are found in the Lachay National Reserve located 105 km north of Lima. Access is via the Pan-American Highway and along a 3-km stretch of rough-grade road leading to the heart of the reserve. Required gear includes food and water as well as a camera.

Species: Amancae (*Hymenocallis amancaes*), Azucena del Inca (*Alstroemeria pelegrina*), Heliotropo (*Heliotropium peruvianum*), Lomas Orchid (*Chloraea undulata*), Ortiga (*Loasa incana*), Papita de San Juan (*Begonia geraniifolia*), Tabaco silvestre (*Nicotiana tabacum*), Valeriana (*Valeriana robusta*) and Zapatito amarillo (*Calceolaria* sp.).

The cloud forests

(2.000 – 3.000 masl)

Cloud forests are one of the most spectacular as well as most threatened environments in Peru and run along a high, narrow band of the eastern Andes at 2.000 to 3.000 masl.

With humidity at close to 100% and almost 5.000 mm of yearly rainfall, vegetation reaches proportions that are almost impossible to imagine. Each available branch or rock is covered in a thick mantle of moss and abounds with hundreds of orchids, bromeliads and other epiphytic plants. Ferns grow to the size of trees and the ever-shiny green leaves fight over every millimeter of space in search of the scarce sunlight.

The cloud forests are home to some of the most beautiful and rare flowers in the world such as bomareas and the gigantic begonias. Depending upon the time of year, visiting nature lovers will always find new and fascinating flowers hiding between the vegetation. Even today, on the eve of a new century, investigators are continually discovering more and more new species in these enchanted forests.

Many areas in the country provide relatively easy access to the cloud-forests. Highways leading to the Chanchamayo Valley (Tarma-San Ramón sector); Bagua-Rioja (Pardo de Miguel mountain pass); Cusco-Atalaya (Kosñipata Valley) and Ollantaytambo-Quillabamba (Málaga mountain pass) are only a few of the more spectacular highway stretches that pass through this natural formation. All-terrain vehicles and warm clothing, especially at night, are recommended since the weather is often unpredictable.

Species: Giant Begonia (*Begonia* sp.), Bijagua (*Calathea insignis*), Bromelia (*Aechmia* sp.), Chakpá, saltaperico (*Oreocallis grandiflora*), Llicsa zapatito, potocshu (*Calceolaria* sp.), Pico de loro (*Mucuna rostrata*), Sacha pashullo (*Erythrina* sp.), Sullun sullu (*Bomarea dulcis*) and Toro urco (*Panicum pilosum*).

The tropical forest (90 – 80 masl)

Despite its renowned fame for having the most profuse vegetation on the planet, flowers in the tropical forest are less abundant than one would expect.

The explanation for this is the enormous diversity of its forests which impedes the presence of large concentrations of plants of the same species in small areas and in the fierce competition for survival in an environment teeming with all sorts of living creatures. For this same reason flowers in the tropical forest have had to adapt to announce their presence to the forest and its creatures: spreading potent scents into the air, creating striking shapes and colors worthy of even the most creative painter. The flowers of the tropical forest stand out like jewels in the middle of the ever-present green thicket.

One of the best examples that illustrates this situation is that of the Heliconias. These plants, with more than 200 different varieties, have had to create singular shapes and colors in order to attract different pollenating agents to disseminate their genetic characteristics (the ultimate objective of every flower). This is why one can find heliconias only a few millimeters long next to relatives whose pods reach over a meter in length. Aside from their evolutionary characteristics, the flowers of the tropical forest will always charm visitors.

Species: Achiote (*Bixa orellana*), Amarillo (*Centrolobium* sp.), Bijao (*Heliconia latispatha*), Bobinsana (*Caliandra* sp.), Jengibre (*Costus* sp.), Gramalote (*Eichornia azurea*), Granadilla silvestre (*Passiflora vitifolia*), Labios ardientes (*Cordia* sp.), Palo balsa (*Ochroma pyramidale*), Platanillo (*Heliconia rostrata*), San Miguel (*Blakea gracilis*) and Victoria real (*Victoria regia*).

Orchids

Orchids make up the planet's largest group of flowering plants. They are representative of a very singular evolutionary line that, –over millions of years– has managed to produce 20.000 to 30.000 different species, with the forests of Malaysia and South America blessed with the greatest diversity of this family. Their variety of shapes, sizes and structures is unparalleled in the plant kingdom and range from plants of less than a millimeter in size –including flowers– to those of more than seven meters in height. There are diminutive shrub-shaped orchids and other vine-like plants that grow to more than 30 meters in length. Their curious adaptations to their environment has allowed orchids to establish complex relationships with other organisms, favoring their existence in places once presumed to be too hostile to allow them to develop (arid deserts or the high-Andean frozen tundra). Extracting nutrients from an environment filled with competitors (tropical jungles) is without a doubt a key factor, in their survival.

Orchids developed certain morphological modifications to eliminate competition and increase their nutrient gathering capacity, such as tree roots that are capable of attaching themselves to the high branches or rocks, thus rendering them independent of the rare fertile soil; or developing a relationship with ants to take advantage of their waste and thereby benefit from the protection these insects offer against abundant predators.

Its spectrum of pollenating agents, with which it has an elaborate relationship attraction-benefit, includes –in decreasing order of importance– bees, flies, moths, butterflies, wasps, birds and beetles as links for the reproduction and dissemination of the different species.

It is estimated that, in Peru, the family Orchidaceae has around 3.000 species, most of which grow in the tropical forests on the eastern slopes of the Andes: the mountain fringes and the cloud-forests (600 to 3.300 masl). It is here, among the luxuriant growth resulting from almost 5.000 mm of annual rainfall, that the orchids multiply and form actual gardens.

Tumbes and Piura (7 – 2.000 masl)

The northwestern corner of Peru is the habitat of

the Equatorial dry forest, an ecosystem marked by two distinct seasons: the rains, between December and March and a prolonged dry season throughout the rest of the year. These conditions, along with the geographic latitude (close to the Equator), sparked the existence of large forests with species adapted to arid deserts as well as to the ephemeral abundance of the wet season.

Dense thickets and patches of native trees such as ceibo, guayacanes and porotillos hold some of the most attractive and interesting types of orchids for orchid-lovers. Such is the case of *Cattleya maxima*, with its huge violet colored flowers, known locally as the “orquídea de los bailes”, or the dance orchid. This orchid is in heavy demand as it is used for decorative purposes.

Entering the dry forests is relatively simple: a series of rough dirt roads extend in an easterly direction (Quebrada Fernández, in Máncora, or Quebrada Bocapán, in Zorritos) from the cities of Piura and Tumbes (981 and 1.267 km north of Lima, respectively). All-terrain vehicles are recommended, as is hiring a guide and taking along plenty of food and water.

There is also a small habitat that can be accessed by a dirt road, usually in poor condition, located a few kilometers from the city of Tumbes. This is the tropical forest of the Pacific, protected under the name of the Tumbes Reserved Zone.

The site is home to one of the last tropical forests that exists on the western side of the Andes and is refuge to an abundant and diverse fauna and flora, and of course, to orchids.

Species: *Aspasia* sp., *Catasetum macroglossum*, *Cattleya maxima*, *Cycnoches lehmannii*, *Cyrtochilum macranthum*, *Encyclia fragans*, *Lockhartia schunkei*, *Lycaste mezae*, *Oncidium onustum*, *Ornithocephalus* sp., *Pteroglossa* sp., *Telipogon* sp. and *Trichocentrum tigrinum*.

Amazonas and San Martín (750 – 2.400 masl)

The department of Amazonas, located on the extreme northern tip of the country on the eastern slopes of the Andes, is home to large mountain-forests that are home to a series of highly beauti-

ful orchids. Especially abundant are the orchids from the genus *Masdevalia*, famous for its colors and singular sepals. Generally, Amazonas can be reached from the city of Cajamarca, located some 800 km northeast of Lima. Access is via a paved highway, a 50-minute flight with a commercial carrier and then on dirt roads to the communities of Jaén, San Ignacio and Namballe. All-terrain vehicles are recommended as is hiring a guide.

The Mayo River valley, in the department of San Martín, is known by orchid-lovers as Tierra de las Orquídeas or Land of the Orchids. Local inhabitants of the area make this fact well-known since they are aware of the potential development of ecotourism around these flowers. The swallow orchid, *Cattleya rex*, is particularly abundant, and is considered to be a symbol of the regional flora. The areas of greater interest are accessible via the recently-paved highway starting at Bagua, passing through the community of Pedro Ruiz and heading up to the Pardo de Miguel mountain pass (2.400 masl). Afterwards, the road descends into luxuriant cloud-forests inhabited by orchids and toward the jungle communities of Rioja and Moyobamba. Wildlife lovers should walk through the renowned Morro Calzada, a limestone massif rising from the ground just outside of Moyobamba. For those wishing to go further, it is possible to continue on via a partially-paved road or by a daily 70-minute flight, toward Tarapoto and the waterfall region. This is an area also covered by dense mountain forests where orchids are abundant as well as multicolored birds.

Species: *Anguloa* spp., *Brassia* spp., *Brassia villosa*, *Cattleya luteola*, *Cattleya rex*, *Coryanthes* spp., *Lycaste* spp., *Masdevalia amabilis*, *Masdevalia constricta*, *Masdevalia decumana*, *Masdevalia replicata*, *Phragmipedium besseae*, *Phragmipedium boisserianum*, *Phragmipedium wallisii* and *Stenia wendieae*.

Huánuco and Tingo María (1.894 – 2.700 masl)

Huánuco has been called the “traveler’s oasis” since ancient times. Because of its geographic location, in a covered and fertile valley with a temperate climate, this city seems like an oasis to weary travelers who reach it after a long trip across Junín’s high-Andean puna. Huánuco is reached by a road branching off the Central Highway which starts in Lima and then splits, 175 km afterwards, at 3.800 masl, at La Oroya (take the detour to Cerro de Pasco).

Above all, Huánuco is the gateway to the tropical jungle. The paved highway that leads to Tingo María, goes through a small mountain pass known as Paso de Carpish (2.700 masl). This spot is ideal for viewing orchids: cloud forests and dense vegetation hide hundreds of plants –especially the abundant *Epidendrum*– that grows on tree branches, between rocks and on the ground moss. Once in Tingo María, a visit to the National Park of the same name is a must, as is the area of the Owl Cave, a habitat for many colored and beautiful species of orchids.

Species: *Ackermania* spp., *Catasetum* spp., *Cynoches pentadactylon*, *Elleanthus* spp., *Epidendrum* spp., *Gongora* spp., *Lycaste jarae*, *Masdevallia lamprotyria*, *Maxillaria setigera* and *Stanhopea haseloviana*.

Cordillera Blanca Mountain Range (3.450 masl)

Orchids are not the exclusive legacy of tropical forests. Travelers will find this out by visiting the Callejón de Huaylas and the Cordillera Blanca Mountain Range, located some 410 km northeast of Lima on a paved highway. A series of dirt roads head out from the city of Huaraz, capital of the department of Ancash and commercial and tourist hub of the region, up to the Cordillera Blanca. This mountain range, located east of the Santa River valley is the highest tropical mountain range, and lies almost entirely within the limits of Huascarán National Park. One of the most well-traveled roads by visitors is the one starting out from the community of Yungay (50 km north of Huaraz) and winding up to the narrow glacial valley of Llanganuco, with its two emerald colored lakes and its native queñual (*Polylepis* spp.) forests.

Once at the lakes, take the bridle path known as “Sendero de María Josefa”, down to the Park’s control booth. Besides finding a beautiful scenic landscape, there are also several interesting species of orchids, of which ‘wakanku’ (*Masdevalia amabilis*) is the most striking.

Species: *Aa* spp., *Altenstenia* spp., *Epidendrum* spp., *Masdevalia amabilis*, *Stelis* spp. and *Trichocero* spp.

Chanchamayo Valley (650 masl)

The Chanchamayo Valley, located some 350 km from Lima (seven hours on a paved highway, tak-

ing the Central Highway and then heading toward Tarma, in La Oroya), a large tropical valley of orange groves and fruit orchards, deserves to be called the "Valley of the Orchids".

The narrow ravines starting at the cities of San Ramón and la Merced are ideal observation circuits for orchid-buffs. All-terrain vehicles are recommended, as is hiring a guide. Of special interest is the road that leads toward the communities of Pampa Hermosa and Monobamba, outside of San Ramón.

Chanchamayo offers the possibility of finding an enormous diversity of species, with the most interesting one being the endemic royal butterfly (*Psychopsis sanderae*) and the beautiful David's star (*Huntleya vargasii*).

Species: *Cynoches coperii*, *Elleanthus koehleri*, *Epidendrum coinnabarinum*, *Huntleya vargasii*, *Lycaste* spp., *Masdevalia ayabacana*, *Mormodes revolutum*, *Oncidium* spp., *Phragmipedium reticulatum*, *Psychopsis sanderae*, *Rodriguezia secunda*, *Stigmatostalix* sp. and *Trichopilia fragrans*.

Machu Picchu (1.600 – 2.000 masl)

The most important tourist destination in Peru is more than just a magnet for archaeology fans. Although few persons are aware of it, Machu Picchu is a natural sanctuary that protects territories that range from the high-Andean plains (at more than 4.000 masl) to the cloud forests that surround this famous site. It is precisely these forests that are home to a large number of plant and animal species and to more than 200 varieties of orchids. Among those that stand out are the renowned wakanki, Quechua for "you-will-cry" (*Masdevalia vetchiana*) and wiñaywayna, "forever young" (*Epidendrum secundum*). The best way to get to know the orchids and at the same time admire the many

charms of the country's spectacular region, is to hike the Inca Trail that interconnects the community of Qorihuayrachina (outside of Ollantaytambo) with the Inca citadel of Machu Picchu. This trek takes about three to four days and passes through a wide range of altitudes and ecosystems. There are many companies based in Cusco that can facilitate the logistic aspects of the trip for travelers.

Species: *Aa* spp., *Allenstenia fimbriata*, *Epidendrum secundum*, *Lycaste* spp., *Masdevalia vetchiana*, *Maxillaria* spp., *Obralia* spp., *Odontoglossum* spp., *Oncidium* spp. and *Sobralia dichotoma*

Manu and Tambopata (250 – 350 masl)

The tropical jungles of Manu and Tambopata, located in southeastern Peru, are nature's paradise in the Americas and curiously lack a great number of orchids, due mainly to lowland living conditions. Nevertheless, orchid fans will find some interesting species in these jungles such as those from the genus *Catasetum* and *Oncidium*.

Manu is accessible via commercial flights in light aircraft (30 minutes from Cusco) or via highway (12 hours through Paucartambo) with the last leg of the trip being a four-hour motorboat ride. Hiring the services of a Cusco based tourist operator, authorized to operate in the area, is recommended. To visit the jungles of Tambopata one starts from the city of Puerto Maldonado (regular commercial flights) and motors two or three hours up the Tambopata river. There are hostels and lodges in Tambopata that provide complete packages that can be arranged for from their offices in Cusco or Lima.

Species: *Catasetum semicirculatum*, *Cochleantes amazonica*, *Chauvardia* spp., *Masdevalia setacea*, *Mormodes* spp., *Oncidium* spp., *Pleurothallis* spp. and *Psychopsis* spp.

RECOMMENDATIONS

Always inform the local authorities before entering Protected Areas.

Rent an appropriate vehicle or hire the services of a driver to reach the nature viewing areas. Local guides are ideal and in this case local children tend to be "experts" in detecting all types of wildlife.

Always carry pencil and notebook as well as maps, field-guides and binoculars.

After each entry or observation, record the date, weather and other interesting data of the community you are in. Don't forget to ask the local inhabitants about the names they give the species and for the best spots for observing wildlife. They will provide you with the most accurate information.

Take detailed notes of the morphological characteristics (color, size, shape) of all species you cannot identify and include data on its behavior and habitat. These will be very useful for later identification.

Feathers, nests and even excrement of certain birds are useful keys for identifying the species from a certain place. Become a detective.

Be an active participant in conservation efforts of Peruvian flora and fauna and inform the proper authorities (INRENA) in the event of any damage to habitats.

Do not cut or pull out live plants. Remember, under government regulations, any extraction, sale and export of wild orchids is punishable by law.

Do not light fires in the forest.

Don't pollute, take your waste with you.

Do not tamper with path signs or signposts.

Visit the specimen collections in the museums of natural history to get to know the local species better and to clear up any doubts you may have on your entries.

LOCATION AND WEATHER

The Pacific Ocean borders the Peruvian coast, which is located in the central region of South America. Its population is 24 million inhabitants while its surface area covers 1.285.215 km² (com-

parable to all of Spain, France and Italy combined). Peru ranks as one of the 20 largest countries on the planet. Owing to its location, its coasts have always been a vital link for seafaring vessels and for trade in the sub-continental region. Additionally, Peru claims sovereignty over 200 nautical miles and has territorial rights over 60 million hectares in the Antarctic.

Coast

Peru's extensive and arid desert coast is the result of the cold Humboldt ocean current and the presence of the Andes to the East. There is almost never any rainfall in the central and southern regions of the Peruvian coast. Which has two distinct seasons: winter between April and October and the summer between November and March. During the winter a dense layer of cloud covers the sky and there are frequent light showers and drizzle. Although it seems much colder because of the high humidity, the temperature rarely falls below 12° C. During the summer on the other hand, the sun beats down fiercely and temperatures often rise to 30° C. The northern region of the coast does not endure the effect of the cold ocean current which in effect yields almost 300 days of sunshine and warm temperatures all year (up to 35° C in the summer).

Rainy season in this region is from November to March which are considerably increased due to The El Niño weather phenomenon.

The Andes

The Andes has two very well-defined seasons: a dry season, between April and October, characterized by sunny days, very cold nights (often freezing) and the absence of rain (ideal for touring); and the wet season (improperly called "winter"), between November and March when rainfall is heavy (generally over 1.000 mm). A typical characteristic of this region is the marked variation in temperature throughout the day. Normal daily temperatures range from highs of 24° C at mid-day and lows of -3° C at day-break. The climate in the highlands is dry, pleasant and ideal for growing a great variety of crops.

Jungle

The jungle can be divided into the high-jungle or mountain fringe (over 700 masl) and lower jungle (less than 700 masl). The climate in the high jungle is subtropical and temperate, with plenty of rain,

(around 3.000 mm per year) between November and March and sunny days between April and October. Nights are always cool. The lower jungle, on the other hand, has two distinct seasons, that are marked in direct relation directly to their distance from the Equator. The dry season, between April and October (ideal for tourism), features sunny days and high temperatures that usually top 35° C.

River water levels during these months drop and roads are easily traveled. The rainy season, between November and March is characterized by frequent downpours (at least once a day) and by tough road conditions. Humidity in the jungle is very high throughout the year. The southern region also sees the occurrence of "friajes" or "surazos": cold fronts that drift up from the extreme southern tip of the continent and that appear from May through August. Temperature during these cold snaps tends to fall to 8-12° C.

Mountain Climate

There is a saying about the tropical mountain ranges that claims "there are no yearly seasons but rather days that contain all four". So, while

the morning sun in the Peruvian Andes shines bright, the wind is cool, this being equivalent to spring-like weather. After mid-day, the heat sends everyone running for the shade, like in the summer time. Afternoon sees the culmination of the formation of small cumulus clouds that have been taking shape all morning and the weather feels like autumn. When the sun finally sets, which happens quite fast in the tropics, it gets very cold, like winter time. This singular multiplicity of climatic conditions is caused by the location of this extensive mountain range that in Peru runs from north to south and that separates the warm and humid winds of the eastern Amazon from the masses of cold air generated in the Pacific Ocean.

The tropical nature of the Peruvian Andes –because of their latitudinal location on the continent– creates two distinct seasons throughout the year: dry and rainy, which succeed each other, with sudden changes from one to the other, slightly buffered only by tenuous middle periods.

Because Peru is situated in the southern hemisphere, it is winter during the European and North American summer.

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