

= Horton Plains National Park =

Horton Plains National Park in Ohiya is a protected area in the central highlands of Sri Lanka and is covered by montane grassland and cloud forest . This plateau at an altitude of 2 @, @ 100 ? 2 @, @ 300 metres (6 @, @ 900 ? 7 @, @ 500 ft) is rich in biodiversity and many species found here are endemic to the region . This region was designated a national park in 1988 . It is also a popular tourist destination and is situated 8 kilometres (5 @. @ 0 mi) from Ohiya , 6 kilometres (3 @. @ 7 mi) from the world famous Ohiya Gap / Dondra Watch and 32 kilometres (20 mi) from Nuwara Eliya .

The Horton Plains are the headwaters of three major Sri Lankan rivers , the Mahaweli , Kelani , and Walawe . In Sinhala the plains are known as Maha Eliya Plains . Stone tools dating back to Balangoda culture have been found here . The plains ' vegetation is grasslands interspersed with montane forest , and includes many endemic woody plants . Large herds of Sri Lankan sambar deer feature as typical mammals , and the park is also an Important Bird Area with many species not only endemic to Sri Lanka but restricted to the Horton Plains . Forest dieback is one of the major threats to the park and some studies suggest that it is caused by a natural phenomenon .

The sheer precipice of World 's End and Baker 's Falls are among the tourist attractions of the park .

= = Physical features = =

Horton Plains is located on the southern plateau of the central highlands of Sri Lanka . The peaks of Kirigalpoththa (2 @, @ 389 metres (7 @, @ 838 ft)) and Thotupola Kanda (2 @, @ 357 metres (7 @, @ 733 ft)) , the second and the third highest of Sri Lanka , are situated to the west and north respectively . The park 's elevation ranges from 2 @, @ 100 ? 2 @, @ 300 metres (6 @, @ 900 ? 7 @, @ 500 ft) . The rocks found in the park belong to the Archaean age and belong to the high series of the Precambrian era and are made up of Khondalites , Charnockites and granitic gneisses . The soil type is of the red @-@ yellow podsolic group and the surface layer is covered with decayed organic matter .

The mean annual rainfall is greater than 2 @, @ 000 millimetres (79 in) . Frequent cloudy cover limits the amount of sunlight that is available to plants . The mean annual temperature is 13 ° C (55 ° F) but the temperature varies considerably during the course of a day , reaching as high as 27 ° C (81 ° F) during the day time , and dipping as low as 5 ° C (41 ° F) at night . During the southwest Monsoon season , the wind speed sometimes reaches gale force . Although some rain falls throughout the year , a dry season occurs from January ? March . The ground frost is common in February . Mist can persist in the most of the day during the wet season . Many pools and waterfalls can be seen in the park , and Horton Plains is considered the most important watershed in Sri Lanka . The Horton Plains are the headwaters of important rivers such as the Mahaweli , Kelani , and Walawe . The plains also feeds Belihul Oya , Agra Oya , Kiriketi Oya , Uma Oya , and Bogawantalawa Oya . Due to its high elevation , fog and cloud deposit a considerable amount of moisture on the land . Slow moving streams , swamps , and waterfalls are the important wetland habitats of the park .

= = History = =

The original name of the area was Maha Eliya Thenna (?? ????? ??? ? ? - " great open plain ") . But in the British period the plains were renamed after Sir Robert Wilmot @-@ Horton , the British governor of Ceylon from 1831 to 1837 , who travelled to the area to meet the Ratemahatmaya of Sabaragamuwa in 1836 , in 1834 by Lt William Fisher of the 78th Regiment and Lt. Albert Watson of the 58th Regiment , who ' discovered ' the plateau . Stone tools dating back to Balangoda culture have been found here . The local population who resided in the lowlands ascended the mountains to mine gems , extract iron ore , construct an irrigational canal and fell trees for timber . A 6 @-@ metre (20 ft) pollen core extracted from a mire revealed that in the late quaternary period the area

had a semi arid climate and a species restricted plant community .

Sir Joseph Dalton Hooker had advised the British Government " to leave all Montane Forests above 5000 ft. undisturbed " and an administrative order to this effect had been issued in 1873 that prevented clearing and felling of forests in the region . Horton Plains was designated as a wildlife sanctuary on 5 December 1969 , and because of its biodiversity value , was elevated to a national park on 18 March 1988 . The Peak Wilderness Sanctuary which lies in west is contiguous with the park . The land area covered by Horton Plains is 3 , 160 hectares (12 . 2 sq mi) . Horton Plains contains the most extensive area of cloud forest still existing in Sri Lanka . On July 2010 , the Central Highlands of Sri Lanka which incorporates Horton Plains National Park , Peak Wilderness Sanctuary and Knuckles Mountain Range was inscribed on the World Heritage List .

= = Flora = =

The vegetation of the park is classified into two distinctive groups , 2 , 000 hectares (7 . 7 sq mi) of wet patana (Sinhalese for " montane grasslands ") and 1 , 160 hectares (4 . 5 sq mi) of subtropical montane evergreen forests . Nearly 750 species of plants belonging to 20 families have been recorded from the park . The forest canopy reaches the height of 20 metres (66 ft) and features *Calophyllum walkeri* , forming communities with varieties of Myrtaceae species such as *Syzygium rotundifolium* , and *S. sclerophyllum* , and Lauraceae members including *Litsea* , *Cinnamomum* , and *Actinodaphne speciosa* . The undergrowth layer is characterised by *Strobilanthes* spp . The thickness of the *Strobilanthes* vegetation hinders the development of a herb layer . Dwarf bamboo species such *Indocalamus* and *Ochlandra* also found in the undergrowth layer . *Rhodomyrtus tomentosa* bushes specially grow in forest margin and near the mountain peaks . Species such as *Gordonia* and *Rhododendron arboreum* have spread to Sri Lanka , along the Western Ghats of South India from the Himalayas and are now common . Nearly 54 woody plant species have been recorded from the park , of which 27 (50 %) are endemic to Sri Lanka .

Frequent fire and grazing characterises Plagioclimax communities of the grassland flora . Grasslands are dominated by *Arundinella villosa* and *Chrysopogon zeylanicus* . Waterlogged swamps or slow moving streams are found in low lying areas , and macrophytes such as *Aponogeton jacobsenii* , sedge species *Isolopis fluitans* and *Utricularia* spp. are found near the slow moving streams . The bamboo *Chimonobambusa densifolia* thrive along the banks of the streams , and near the swampy areas grass species such as *Juncus prismatocarpus* , *Garnotia mutica* , *Eriocaulon* spp. and *Exacum trinervium* are common . Tussock grasses such as *Chrysopogon zeylanicus* and *Cymbopogon confertiflorus* are found in the wet hollows . Herbaceous flora of the grasslands include temperate species including *Ranunculus* , *Pedicularis* , *Senecio* , *Gentiana* and *Alchemilla* and also tropical species such as *Eriocaulon* and *Ipsea speciosa* (a rare endemic daffodil orchid) . The most widespread boreal herbaceous plants of the park are *Viola* , *Lobelia* , *Gaultheria* , *Fragaria* , and *Plantago* .

Tree trunks and branches are ornamented with many species of ferns , *Lycopodium* , lichens , and orchids . Old man 's beard (*Usnea barbata*) hanging from branches adds to the beauty of the forests . About 16 of the orchid species being endemic . Other notable plants include shrubs such as *Rhodomyrtus tomentosa* , *Gaultheria fragrantissima* , herbs , *Exacum trinervium* , *E. walkeri* , *Drosera indica* , and tree ferns *Cyathea* spp . *Anzia* , a foliose lichen genus belonging to *Parmeliaceae* family , which had not been recorded in Sri Lanka before , was discovered here in 2007 . There are conflicting views on how the grasslands of the park came into being , whether man made or natural . It is now believed that the grasslands on the dry slopes were created by forest clearance and fires while grasslands in low lying areas were naturally created by wet conditions , frost and soil erosion .

= = Fauna = =

The vertebrate fauna of the region includes 24 species of mammals , 87 species of birds , nine species of reptiles and eight species of amphibians . The Sri Lankan elephant disappeared from the

region in the 1940s at the latest . At present , the largest and the most commonly seen mammal is the sambar deer . Some research findings estimate the population of sambar deer to be around 1500 to 2000 , possibly more than the carrying capacity of the plains . Other mammal species found in the park include Kelaart 's long @-@ clawed shrews , toque macaques , purple @-@ faced langurs , rusty @-@ spotted cat , Sri Lankan leopards , wild boars , stripe @-@ necked mongooses , Sri Lankan spotted chevrotains , Indian muntjacs , and grizzled giant squirrels . Fishing cats and European otters visit the wetlands of the park to prey on aquatic animals . A subspecies of red slender loris , the Horton Plains slender loris (*Loris tardigradus nycticeboides* formerly sometimes considered as *Loris lydekkerianus nycticeboides*) is found only in highlands of Sri Lanka and is considered one of the world 's most endangered primates . In July 2010 a group of researchers from the Zoological Society of London was able to photograph the mammal for the first time .

Along with Ohiya , Pattipola and Ambewela , Horton Plains forms one of the Important Bird Areas (IBAs) in Sri Lanka . Together with the adjacent Peak Wilderness Sanctuary , Horton Plains contains 21 bird species which occur only on Sri Lanka . Four , Sri Lanka blue magpie , dull @-@ blue flycatcher , Sri Lanka white @-@ eye , and Sri Lanka wood pigeon , occur only in Horton plains , while other endemic species include Sri Lanka spurfowl , Sri Lanka junglefowl , yellow @-@ fronted barbet , orange @-@ billed babbler , Sri Lanka bush warbler , and Sri Lanka whistling @-@ thrush . Many birds migrate here in winter including swiftlets , and alpine swift . Crested serpent eagle , mountain hawk @-@ eagle , black @-@ winged kite , and peregrine falcon are among the birds of prey found in Horton Plains . Harriers are among the migratory raptors . This is a key wildlife area . All six highland endemic birds are found here , including dull @-@ blue flycatcher , Sri Lanka white @-@ eye , Sri Lanka wood pigeon , and Sri Lanka bush warbler . Yellow @-@ eared bulbul and black @-@ throated munia are widespread throughout the highlands .

Sri Lanka is considered a herpetological paradise in the world . Possibly about 15 amphibian species inhabit the park . Among them are *Microhyla zeylanica* , *Ramanella palmata* , *Fejervarya greenii* , *Rana gracilis* , *Philautus alto* , *Philautus femoralis* , *Philautus frankenbergi* , *Philautus microtypanum* , *Philautus schmarda* , and *Polypedates eques* . De Silva has observed six endemic reptiles from the plains . They are *Calotes nigrilabris* , rhino horn lizard , *Cophotis ceylanica* , *Lankascincus taprobanensis* , common rough @-@ sided snake , and rat snake . Two fish species found in the park , common carp and rainbow trout ; both are introduced species . Horton Plains is also home to many endemic crustaceans including *Caridina singhalensis* and *Perbrinckia* species . The endemic freshwater shrimp *Caridina singhalensis* is found only in streams that have a temperature of less than 15 degrees C and is now restricted to only a stretch of 10 km of one stream .

= = Threats and conservation management = =

Horton Plains was a part of a large system of plains and forest cover that included Agra @-@ Bopats , Moon Plains and Elk Plains . Between 1831 and 1948 , it became a Sambar deer hunting ground . Elephants and Wild Boar were also hunted to a lesser extent . During this period lower slopes were cleared initially for coffee and then for tea plantations . As a result , Horton Plains and Peak Wilderness became isolated from other forest and grassland areas . Potatoes were cultivated in the grasslands but planting ceased in 1977 . After being declared a National Park , these areas were reinstated as grasslands . Tourism @-@ related issues such as plant removal , littering , fires and noise pollution are major conservation issues . Gem mining , timber logging , the collection of plants for ornamental and medicinal purposes , encroachment , poaching and vehicle traffic are the other threats . The spread of invasive alien species such as gorse (*Ulex europaeus*) , Mist Flower (*Ageratina riparia*) , Crofton Weed (*Ageratina adenophora*) , (*Austroeupatorium*) , Blue Stars (*Aristea ecklonii*) , brackens , and *Pennisetum* spp. threaten the native flora . The introduced rainbow trout may have affected endemic species of fish , amphibia and crustaceans .

Some sambar deer have died due to eating polythene litter that blocked their food passages , and visitors are banned from bringing polythene into the park . Sambar have benefited from the introduced *Pennisetum* grass species .

A recent threat , first reported in 1978 , is forest dieback . In some areas , especially in the peripheral region , this has been severe with nearly a 50 % in vegetation . Water deficiency has been attributed as the main cause of dieback as droughts are becoming more frequent . Regrowth of forest is hindered by frost which is increasingly severe . The forest dieback has affected 22 species of plants with *Calophyllum walkeri* being the most affected . A study has suggested that low calcium causes soil acidification and increased toxicity caused by metallic elements such as aluminium may be causing the dieback . Leaching of nutrients and the resulting imbalance in soil micronutrients may also be contributing to the dieback .

= = Tourist attractions = =

Horton Plains is a popular tourist destination , with World 's End being the key attraction . In the six months ending in August 2009 , Horton Plains National Park earned a revenue of Rs . 20 @. @ 1 million (US \$ 0 @. @ 17 million) . The park is accessed by the Nuwara Eliya @-@ Ambewela @-@ Pattipola and Haputale @-@ Boralanda roads , and there are railway stations at Ohiya and Ambewela .

World 's End is a sheer precipice with a 870 m (2 @, @ 854 ft) drop . It is situated at the southern boundary of the park . Another cliff known as the Lesser World 's End of 270 m (886 ft) is located not far from World 's End .

Baker 's Falls , a waterfall formed by Belihul Oya , a tributary of the Walawe River is named after Sir Samuel Baker , a hunter and explorer who attempted to establish a European agricultural settlement at Nuwara Eliya . The falls are 20 metres (66 ft) high . Slab Rock Falls is another well known waterfall in the plains .