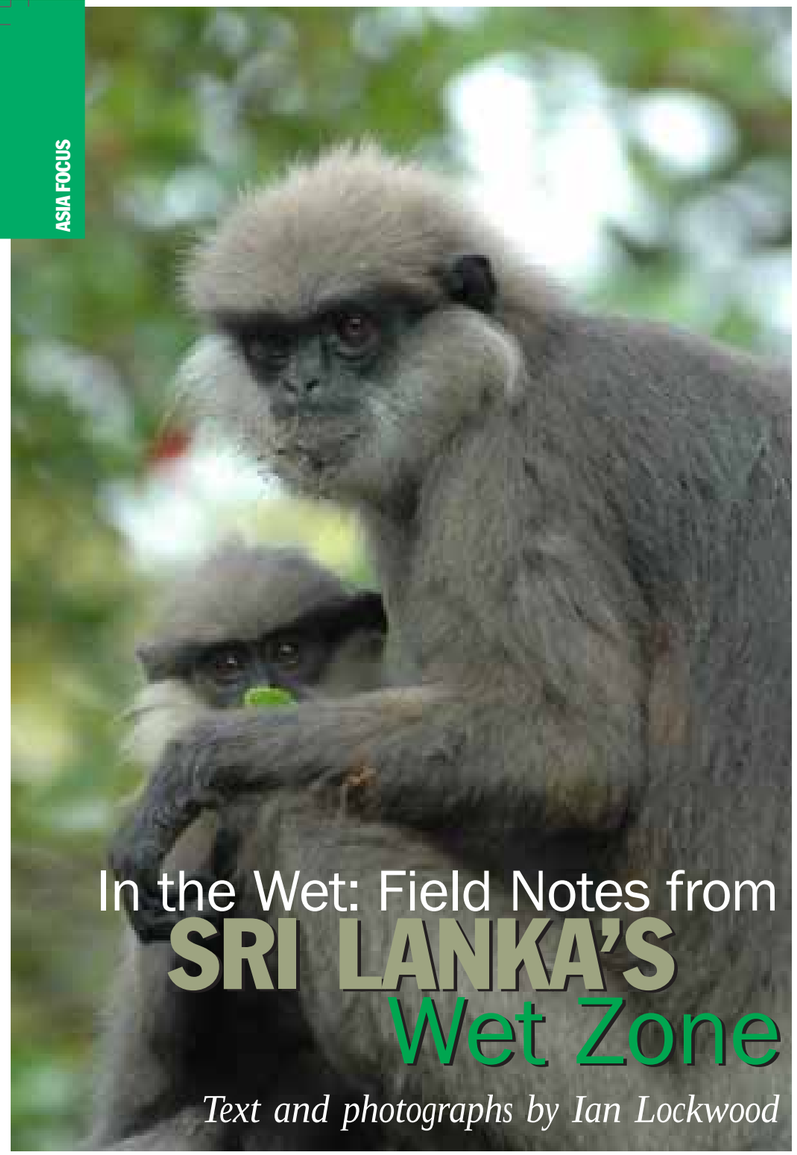

In the Wet: Field Notes from SRI LANKA'S Wet Zone

Text and photographs by Ian Lockwood

A small group of friends and I are walking along an ancient trail, actually slogging now as we encounter the physical strains of an unexpectedly challenging traverse. Thick mist envelopes us and we are soaked by incessant monsoon showers as we ascend the sacred peak of *Sri Pada*. It is off-season and we are following a deserted, overgrown path that takes the long way to the summit. Several hours earlier, the skies had been clear as we left the humid plains to climb into the mountains on foot. I am in Sri Lanka, a country most people associate with its maverick cricket team, fabulous beaches or its less glamorous civil conflict. However, I am in search of something entirely different.

We pass through splendid tracts of lowland and then montane rainforest. The pathway below our feet has been worn smooth by those of pilgrims for more than 2,000 years. Other than that, there is little evidence of human mischief here, and the forest around us is as pristine as in the beginning of time. A group of endemic Sri Lanka Blue Magpies *Urocissa ornata* flies across the path, chattering into the deep forest. Insectivorous pitcher plants *Nepenthes distillatoria* hang in knots on the side of the path. Their nearest relative is found around Baghmara, Meghalaya leaving 2,300 km. of unexplained isolation between them! Fresh elephant dung litters the pathway. Memories of climbing Agasthyamalai in southern India flash through my head as we struggle through dense bamboo breaks into the darkness and uncertainty (see *Sanctuary Asia* Vol. XXIII No. 1, February 2003). This trip into the hills of the wet zone is more than a weekend hike in the woods for me. It is a pilgrimage of discovery as I seek to experience the connections between Sri Lanka's diversity and that of the Western Ghats located a short distance across the Palk Strait.

WILD CONNECTIONS

Several years ago, I was at Kanyakumari appreciating the beginnings of the Western Ghats and dreaming about seeing the blue highlands of Ceylon across the water. According to the Indian epic *Ramayana*, the monkey warrior Hanuman left a piece of his medicinal mountain here as he prepared to fly to Lanka to heal the gravely injured Lakshman on his way from the Himalaya. The myth makes an interesting connection between the Himalaya, the Western Ghats and Sri Lanka, something that is actually seen in the distribution of numerous plant and animal species! Conservation International has linked Sri Lanka and the Western Ghats as one of its 24 designated biodiversity hotspots (now revised to 34). I've had a long-running fascination with the island, thanks to old family roots and my interest in the landscape, ecology and cultures of India's Western Ghats. Two years ago, I moved my family here from Pune so I could teach in Colombo, explore the island and look for links with the Western Ghats.

Broadly speaking, Sri Lanka is separated into three distinct climatic geographies: the dry, wet and intermediate zones. The dry zone covers about three-fourths of the island and the wet zone encompasses most of the last quarter in the southwestern portion of the island. The intermediate zone is a smaller transition zone with shared characteristics of both climatic areas. Overall, 29 per cent of Sri Lanka's land mass is designated as formal Protected Areas (PAs) (13 per cent) or reserved forests (16 per cent), an impressive statistic for South Asia.

When people visualise Sri Lankan wildlife, large herds of elephants grazing on marshy plains or walking on the sandy coastline are some of the images that come to mind. Many of the images of Sri Lanka that we see in India focus on the dry zones of the island. The focus has often been on the enormous Protected Areas of Yala and Wilpattu. These grand national parks host leopards, sambar, elephants, Malabar Pied Hornbills, peafowl and a range of wildlife that share a direct affinity with peninsular India.

Less publicised are the forested areas of the wet zone in the southwestern portion of the country. Like the moist state of Kerala, which is separated from the dry plains of Tamil Nadu by the spine of the Western Ghats, Sri Lanka's Central Highlands help separate the island's two climatic zones. The wet zone was historically neglected during the Anuradhapura and Polonnaruwa periods dating back 2,000 years, but is now the most densely populated part of the island! It is thought that only 4.6 per cent of the original closed-canopy forest remains here. What makes the wet zone interesting is the high level of species endemism. It is the wet zone that harbours most of the 24 endemic bird species, almost all the endemic amphibians and 88 per cent of the flowering plants!

The forests of the wet zone are said to be ecological relics dating back to the time when Sri Lanka and India were attached to Gondwanaland. A host of new discoveries in recent years has highlighted just how important this ecosystem is. In 2001, the Serendib Scops Owl *Otus thilohoffmanni*, a completely new bird species, was discovered by Deepal Warakagoda in Kitugala and Sinharaja. A year later, a group of scientists announced a host of new frog discoveries from the wet zone. The Wildlife Heritage Trust and its leader Rohan Pethiyagoda have been key players in many of these new discoveries. Sri Lanka, in fact, is now recognised as a global amphibian hotspot and is thought to have the highest amphibian species density in the world (140 species squeezed into 65,610 sq. km.).

A mother and infant purple-faced langur *Trachypithecus vetulus* (facing page). These endemic leaf-eating monkeys, put out whooping calls, similar to those of the Nilgiri langurs *Trachypithecus johnii* of the Western Ghats. The monkeys are major seed dispersers. Several sub-species are found across the wet zone of Sri Lanka, even on the outskirts of Colombo. A strand of cloud forest dominated by large *Calophyllum walkeri* trees in the Horton Plains National Park (above). This disturbed area has witnessed a significant "dieback" of the forest, which some scientists ascribe to a combination of acid deposition and climate change.

PEAK WILDERNESS

The mountains known as the Central Highlands dominate the middle of Sri Lanka. The similarities with the southern Western Ghats are uncanny. Both hill ranges are Pre-Cambrian formations of crystalline rocks (mainly granite) and some consider them one large formation separated by the shallow Palk Strait. Both areas were once covered in dense vegetation that has now mostly been replaced by plantation crops. Ceylon tea, the commodity that defined British colonialism on the island is largely grown on tea estates that were carved out of dense forests in the Central Highlands. Sri Lanka's highest peak Pidurutalagala at 2,524 m. is just shy of Anaimudi (2,695 m.), the highest point in the Western Ghats. Most of the rivers of the

BIRDING IN SINHARAJA

I first visited Sinharaja in 1999 to log as many of the endemic bird species that are found here. In four days of serious birding, I was able to see 20 of the 22 endemics and a host of other species! The mixed feeding flocks were particularly rewarding. They included gregarious Orange-billed Babblers *Turdoides rufescens*, Crested Drongos *Dicrurus paradiseus lophorhinus* and a pair of shy Red-faced Malkohas *Phaenicophaeus pyrrhocephalus*. There were flights of Layard's Parakeets *Psittacula calthropae* and bright Legge's Flowerpeckers *Dicaeum vincens* in path side shrubbery. Several handsome Sri Lanka Junglefowl *Gallus lafayeti* crossed our path and I heard the inimitable call of the Sri Lanka Spurfowl *Galloperdix bicalcarata*. Amidst the flocks, I had prolonged views of several Malabar Trogons *Harpactes fasciatus*, a bird I associate with Periyar and the Anamalais. At night, I viewed a pair of Sri Lanka Frogmouths *Batrachostomus moniliger*.

Like most discerning wildlife enthusiasts, I stayed at Martin's Lodge, set on the western edge of Sinharaja's boundary. Sitting on Martin's balcony, sipping tea and eating string hoppers, I was rewarded with up-close and personal views of Sri Lanka Grey Hornbills *Ocyceros gingalensis*, Spot-winged Thrushes *Zoothera spiloptera* and an amazing group of Sri Lanka Blue Magpies *Urocissa ornata* that fed on caterpillars in his kitchen garden!

I often take students to Sinharaja to help them appreciate differences in forest types, patterns of succession and the magic of birdwatching. We've been privileged to have the company of Professor Sarath Kotagama, one of the country's leading ornithological authorities and a veteran of the campaign to protect Sinharaja. He has helped our groups understand the interesting mixed feeding flocks of birds that Sinharaja is known for. Together with the Field Ornithology Group of Sri Lanka, he is reviewing the status of endemic bird species. They have proposed to add a further nine near-endemics to the list of 24 accepted endemic birds.

The endemic green pit viper *Trimerusurus trigoncephalus,* is the slightly larger cousin of the Malabar and large-scaled pit viper of the Western Ghats.

The elevated plateau of Horton Plains has rolling *patanas* (grasslands) with scattered red *Rhododendron arboretum* blooms. The combination of *patanas* and cloud forests comprise an unique mosaic similar to the *shola* grasslands of the upper Western Ghats. Rhododendrons are migrant plants that are also found in the high reaches of the Western Ghats and the Himalaya.

Central Highlands have been dammed up as is the case with those of the Western Ghats (Sri Lanka gets about half its electricity from renewable hydro sources). Non-native plantations of *eucalyptus*, *pinus* and *acacia* have replaced large tracts of native forest in the Central Highlands, no surprise to anyone familiar with the Palni and Nilgiri Hills! Nuwara Eliya, the hill station located at the epicentre of these tea estates, is a veritable carbon copy of Ooty, albeit on a smaller scale. Several significant areas of original vegetation still remain in the Central Highlands, with two enjoying full protection.

The Peak Wilderness Sanctuary is a large 250 sq. km. forested area that surrounds the sacred slopes of Sri Pada (Adam's Peak). Its intact vegetation from the lowland rainforest north of Ratnapura, through montane rainforest to the dwarf, *shola*-like cloud forest near its 2,243 m. summit make it a significant Protected Area. In the pilgrimage season, thousands trek up to the peak, mainly to view the sacred footprint. Most will take in a breathtaking dawn and an incredible view over the mosaic of forest that makes up Peak Wilderness. I've been drawn to the peak ever since I first visited Sri Lanka and each visit has produced different experiences and emotions. The climb offers some of the best opportunities to see the handsome Yellow-eared Bulbuls *Pycnonotus penicillatus*, Dull Blue Flycatchers *Eumyias sordida* and Sri Lanka White Eyes *Zosterops ceylonensis*. All three are locally common. The bulbuls like to feed on crumbs at the tea stalls that line the pathway to the summit. This January, on the steps below the summit, I finally encountered a Sri Lanka Whistling Thrush *Myophonus blighi*, considered to be the most difficult endemic bird to see in the country!

HORTON PLAINS

To the east of Peak Wilderness is an elevated tableland that is protected as the Horton Plains National Park. It's an easy hour's drive from Nuwara Eliya and now attracts a large number of visitors. Horton Plains is significant for its cloud forests and *patanas*, which bear a remarkable similarity to the *shola*-grasslands of the high Western Ghats. An interesting paradox is that the grasslands dominate valleys in Horton Plains while cloud forests carpet ridges and slopes (a reversal of what is found in places such as Eravikulam and Mukkurthy). On several visits to Horton Plains, I have found the walk to the viewpoint at World's End to be highly rewarding, provided I made an early start. Highlights of the walk include fine examples of rhododendron *Rhododendron arboreum*, a tree that is a migrant from the Himalaya and is also found in the upper reaches of the Western Ghats. Many visitors walk to

SIMILARITIES & DIFFERENCES IN THE WET ZONE & WESTERN GHATS

There are distinct endemic species that are confined to either the Western Ghats or Sri Lanka. For example, the Western Ghats has the Nilgiri langur *Trachypithecus johnii*, a leaf-eating monkey found in rainforests and *sholas* in the southern Ghats. Sri Lanka has the similar-looking, but distinctive purple-faced monkey *Presbytis vetulus* found in the Central Highlands and wet rainforests (there are several sub-species). The Dull-Blue Flycatcher *Eumyias sordida* is only found in Sri Lanka's hills while the Nilgiri flycatcher *Eumyias albicaudata* is restricted to similar hills in the Western Ghats. Species names, however, can be confusing when considering endemic status! Species like the Ceylon Frogmouth and Malabar Trogon illustrate this phenomenon. The Malabar Trogon is a bird often associated with the Western Ghats. It is, however, not truly 'endemic' since it is found widely in Sri Lanka. Likewise, the Ceylon Frogmouth is found in several rainforest sanctuaries in southern India! For unclear evolutionary reasons several distinct Western Ghats animal species never made it across to Sri Lanka. These include the lion-tailed macaque *Macaca silenus*, Nilgiri tahr *Hemitragus hylocrius*, Nilgiri marten *Martes gwatkinsi* and gaur *Bos gaurus*.

Listed as vulnerable in the IUCN's Red Data Book, the Sri Lanka Blue Magpie *Urocissa oronata* (above left), lives in the lowland and montane rainforests of the Wet Zone. Largely feeding on small animals, insects and even fruit, this is one of the most colourful of the 26 recognised endemic birds of the island country. Rainforests are famous for their high reptilian diversity, represented here by this hump-nosed chameleon *Lyriocephalus scutatus* (above right).

World's End, the edge of a dramatic escarpment that has close parallels to view points in south India's hill stations. Like similar places in India, the park has struggled with visitors coming to "create nuisance" instead of appreciating its wildlife and stunning habitat. After a campaign and funding from the private sector, the park is now impressively managed and kept clean. Horton Plains now boasts what must be the cleanest, most scenic public toilets in a South Asian national park!

SINHARAJA

Sinharaja (See *Sanctuary Asia*, Vol. II No. 3, July-September 1982) is Sri Lanka's flagship wet zone Protected Area. It has a near-mythical ring to its name although few local and foreign visitors make the effort to brave its leeches and wet conditions. The 112 sq. km. Protected Area is the largest remaining lowland rainforest left in the wet zone. Sinharaja is located in a range of low hills just inland from the historic port of Galle. Like Silent Valley in Kerala, Sinharaja might have ended up very differently had it not been for an active citizens' campaign to protect it. The area, though protected in historical times, was slated to provide wood for a plywood factory in the 1960s. Mechanised logging penetrated deep into the forest through a network of quickly-constructed roads. A group of students, scientists and other individuals raised alarm bells in the early 1970s. The pressure was such that Sinharaja's fate became a political issue and after the 1977 election, all logging was halted. It became a national wilderness area in the early 1980s, and then a World Heritage Site in 1989.

I've returned to Sinharaja several times and each time I find something new to experience. Increasingly, I've enjoyed looking for reptiles and had encounters with the endemic green pit viper *Trimeresurus trigonocephalus*, a slightly larger cousin of the Malabar, bamboo and large-scaled pit vipers of the Western Ghats. Apart from being one of the most beautiful snakes in Sri Lanka's forest it is slow moving and likes to sit in one spot above the forest floor for extended periods of time, thus facilitating the patient photography that I prefer. Then there are the spectacular hump-nosed *Lyriocephalus scutatus*, rough horned *Ceratophora aspera*, and kangaroo *Otocryptis weigmanni* lizards that are relatively easy to see in Sinharaja. The park hosts dazzling numbers of amphibians, jumping spiders, dragonflies, butterflies, freshwater fish, orchids and other plants. Truly, Sinharaja offers an unlimited number of natural history delights!

KNUCKLES

Separated from the Central Highlands by the Mahaweli Ganga (Sri Lanka's longest and

Sri Lanka's wet zone hosts several rare and endangered endemic plants including this fern (above left), photographed on the path to Sri Pada (Adam's Peak) in the Peak Wilderness. The insectivorous pitcher plant *Nepenthes distillatoria* (above right, seen here with an ant) survives poor soils, by supplementing its nutritional requirements with small insects that will be digested in modified leaf "pitchers." In a quirk of biogeography, its nearest relative is found 2,300 km away in the Garo Hills of Meghalaya! Abundant rains ensure that the plant diversity is very high in these wet forests.

largest river) basin, the 210 sq. km. Knuckles or Dumbara range is an island of wet zone-like habitat surrounded by drier plains. Although within sight of the cultural centre and former capital at Kandy, the Knuckles range is actually one of the most remote, least-studied areas of the entire country. The area comprises a rugged mountain range that hosts at least eight distinct vegetation types. A high spinal ridge that denotes the range is dominated by montane and cloud forests and there are drier scrublands in the lower hills. On my visits here, I've been struck by the grand landscape and the undeniable similarities to the Kalakad-Mundanthurai Tiger Reserve in the southern Ghats.

The Knuckles Range has been attracting wildlife biologists, especially for its herpetofauna. There are several endemic lizards, including the Tennet's leaf-nosed lizard *Ceratophora tennentii* and the newly-discovered pygmy lizard relative *Cophotis dumbaraensis*. The country's leading expert on the area and its herps is Professor Anslem De Silva. I met him just before I subjected my family to six days in the heart of the Knuckles this spring. A friendly, slightly Bohemian-looking man, he freely gave advice and suggestions as to where I should look for some key species. His books on the Knuckles, Horton Plains and the reptiles of Sri Lanka are essential reading for people interested in Sri Lanka's natural history. Knuckles is protected as a national Man and Biosphere Reserve, although there are significant threats posed by the expanding cardamom and tea plantations nibbling at its edges.

There are a handful of other lesser-protected areas in the wet zone that I have not detailed in this short overview. The future of the Protected Area is relatively secure here and the challenge for Sri Lanka's conservationists is to protect and study the remaining fragments of forests. The pressure of human populations in the wet zone is undeniably a concern as people expand tea and other spice plantations. Ecological literacy on the island is impressive and cultural traditions have certainly helped to protect some of its amazing biodiversity. As I put the finishing touches on this text and edit the last pictures, there is a troop of purple-faced monkeys *Trachypithecus vetulus* feeding on the last of this season's mangoes in our garden. I'm not in a Protected Area, just a suburb of Colombo! They look remarkably similar to the Nilgiri langur *Trachypithecus johnii* that I grew up with in the Western Ghats. It is a treat hearing their booming calls every day and I hope that future generations of Sri Lankans will be able to enjoy such close encounters with the amazing wildlife of their wet zone.

Further examples of the author's work can be found at http://highrangephotography.com/