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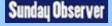
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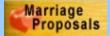
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## Rakwana-Deniyaya hills - a plea for their conservation

by Prof. Nimal Gunatilleke, University of Peradeniya

Anyone driving up from Rakwana through the picturesque Bulutota pass to Suriyakanda (Kada Muduna) and then down to Deniyaya on the narrow, winding and desolate A 17 highway would be captivated by the panoramic and breath-taking views of the imposing Rakwana - Deniyaya hill range on one side and the south-eastern lowland hills and valleys on the other.

Turning off at the end of the Rakwana town, a few kilometres on the connecting road to Kalawana is the magnificent Handapan-ella waterfall, cascading down from 1100m at its origin on the northern side of the Handapan-ella plains to the tall statured forests at about 900m above Deepdene tea estate.

Back-tracking to the a 17 again, well manicured tea estates with their exotic shade trees, so characteristic elsewhere in the mountainous landscape of the central, Uva or Matale highlands, span both sides of the road. In the past, dry patana grasslands dominated much of the surrounds of the scenic Bulutota pass, after its original forests were cleared for tea, which was eventually abandoned. Now much of the mountain slope with 16 or so elbow bends is under Pinus established by the Forest Department in the 1980s. It is now time to convert these plantations to mixed species stands using selected species from Lanka's own primary forests.

Venturing through the intricate network of estate roads and beyond to the upper limits of the verdant tea estates of Egberth, Aberfoyle, Hayes, Panilkanda, Ensalwatta, Beverley etc., brings one to the endearing wilderness, the rugged steep slopes of the imposing mountainous landscape imbued with tranquillity and mysticism. More importantly, to its remaining natural vegetation, depicting biologically diverse lower montane forests and grasslands (meadows). This area abuts the eastern perimeter of the Sinharaja World Heritage Site.

The presence of tea estates has somewhat restricted the expansion of human settlements into this area. Yet, cardamom cultivation under the shade of the natural forest canopy together with retrieval of firewood, gemming and poaching in the grasslands have all taken a heavy toll of their biological wealth. These hills are indeed a paradise for nature lovers and hikers and a dreamland to adventure travellers. More importantly, their location at the extreme end of the wet zone giving way to the south-eastern intermediate zone with their inherently high endemic faunal and











floral components, make them a rich out-door laboratory to conservation and evolutionary biologists. Yet, for some strange reason, most of these areas in the Rakwana-Deniyaya (RD) hills have escaped the attention of the conservation planners despite repeated calls from naturalists and scientists.

During the last six months we have visited three different areas in the Rakwana-Deniyaya hills while a fourth area within the Sinharaja boundary off Beverley Estate was revisited by us a couple of years ago.

Forests Around Morningside: In December 2001 we visited the lower montane forests and grasslands of one of these areas around Morningside Estate where the Forest Department has a modest Circuit Bungalow. The undergrowth in part of these forests in the area outside the Sinharaja World Heritage Site has been cleared for cardamom cultivation. Biologically, this region is relatively less studied compared to Western Sinharaja, but it is threatened with poaching and cane and firewood cutting, particularly in the Tangamale Plains, a plateau at middle altitudes. Only a part of the forests in this area has been included in the extended Sinharaja Natural Heritage Wilderness Area. Their true potential for education and recreation has not been fully explored.

Development of visitor facilities akin to those at the Kudawa end of Sinharaja, but on a more restricted scale, should be carefully planned to reduce visitor pressure on this fragile ecosystem.

Handapan Ella Plains: February 2002 took us to the second area, the Handapan-ella Plains (HPEP), which we visited over a 3-day camping hike. HPEP is a kind of a shallow basin. It has a central undulating valley encompassed all around by a rim of mountain ranges clad in windswept majestic lower montane forests, through which the peaks of Ilimbekanda (1192m), Beralagala (1385m), Suriyakanda (1310m), Kabaragala 1 (1234m) and Kabaragala 2 (1291m) may be seen.

This plateau is at about 1150-1250m elevation and several square kilometres in extent. Among others, a few wet zone elephants, a dying herd, and other large mammals like the leopard, sambur and grey langurs inhabit it. This entire plateau together with the Thangamale Plains could be considered as the tablelands of Rakwana-Deniyaya hills or more aptly the southern equivalent of Horton Plains in the RD hills.

Up to now there is only a naturalist's account of the biological wealth and threats to the Handapan-ella Plains, based on a day visit by Thilo. W. Hoffmann, published in the December 1979 issue of Loris and a record of the species of trees and selected groups of animals in a few small transects carried out for the National Conservation Review by the Forest Department with technical assistance from the IUCN.

However during the last 20 years, our repeated calls both in national (The Sri Lanka Forester Dec. 1983 p.48) and international publications (Journal of Biogeography 1987 page 281 and 282) for its inclusion in the Sinharaja MAB reserve have been of no avail. Through these scientific publications we also recommended the conservation of the other remaining fragments of lower montane forests rich in bio-diversity (viz. lower slopes of western part of the Peak Wilderness, forests of the Namunukula range and the peaks in Moneralgala) much of which have been cleared for tea in the 19th and early 20th centuries.

On this recent visit by me and my companions Messers Suranjan Fernando and Pradeep Samarawickrama, both experienced field biologists, we made some significant discoveries on its biological value. The continued threats to its survival are disheartening. This compels me to make one more plea for the inclusion of Handapan-ella plains as a priority area for conservation. The forests are short-statured, dominated by species of Syzygium (Dambu), Calophyllum (Keena), Semecarpus (Badulla), Eleocarpus (Weralu) in the canopy and members of Rubiaceae (the coffee family) and Acanthaceae (Nelu) in the understorey. Bamboo species along with Eriocaulon (Kokmota) and Osbeckia (Bowitiya) were common in the open grasslands near rocky outcrops.

The areas we visited on the plains as well as its outer and inner forested rim showed an exceptionally rich orchid flora, some of them rare and endangered elsewhere in the island. The rare and cryptic root parasite Christisonia of the plant family Orobanchaceae seen only when it flowers was in bloom on the forest floor in a few areas. Some rare amphibians, molluscs and reptiles were also recorded on the plains and in the surrounding forests.

The entire area frequently shrouded in thick mist swept by gale force cold winds during some months of the year and chequered with streams appears to be the last refugium for a number of rare and endangered animals and plants, probably confined to this high plateau and its associated mountain range. We are in the process of preparing a comprehensive list of animals and plants recorded from this area to further support the claim for its conservation.

Handapan-ella waterfall: Another most spectacular attraction on this plateau is the immediate area leading to the point at which the Handapan-ella fall begins. The three main streams that run through the plains converge on a rocky substratum. Over time they have eroded and carved out large more or less rectangular boulders that virtually sit on each other giving rise to a formation similar to a very wide flight of steps up the top one third of the water fall.

Though an ideal camping site during the dry periods, the fresh and decomposing dung and the tracts confirmed that it is a frequent crossing point for elephants who descend the plains through Bowitiyatenna to the west. Looking over the escarpment at the point of origin of the Handapanella falls, is a magnificent and panoramic view of the valley below through which the Rakwana-Kalawana road runs and of the hill range beyond. The natural beauty, the calm and the tranquillity we experienced at this site over the three days was well worth the 2-3 kilometre arduous trek on the plateau to reach this point.

Elephants: The few elephants (about three according to eye-witnesses) that roam the plains descend the steep slopes along several migratory routes. These may perhaps be a pocketed group of descendents of the large herds that were known to roam the Kolonne and Panamure areas before the advent of tea to the region. The night before we arrived, one of the elephants on its way towards Pothupitiya area had visited the Suriyakanda temple and caused some damage to its banana and coconut trees. It probably came down along the forest above the temple and Aberfoyle Division of Egberth Estate. The villagers told us that during the two dry periods of February and August every year, the elephants descend from the HPEP to the villages and forests lower down.

Another elephant migratory route pointed out by the villagers is the descent west of Handapan-ella falls through an area known as Bowitiyatenna, then across the Rakwana-Kalawana road around Deepdene estate and on to the forest range of Walankanda, Trincowatta and Panilkanda north of Sinharaja. It is worthwhile to bear in mind this particular migratory route, which may be lying on or near the area earmarked for the Golf Course off the Rakwana-Kalawana road.

In the preparation of the EIA for the Gold Course, this claim should be verified and measures to mitigate its effects should be advocated, particularly as the wet zone elephants are among the most endangered among our elephants populations and if at all possible their conservation be ensured. Being a flagship species, the role of the elephant in the functioning and maintenance of these complex but least understood rain forest ecosystems needs to be explored.

Threats: The threats to the fragile ecosystems of HPEP appear to be quite extensive, particularly on the meadows and on the banks of the streams, where over the years literally thousands of gem pits (about a meter deep in most cases) have been dug by prospectors from the surrounding estates and villages. Our guides, who were themselves gem prospectors, told us that on any given day in the dry season over 200 people from different sides on the plains congregate to this unprotected, yet biologically invaluable landscape for gem mining, all done illegally. We also witnessed tools used for improvising trap guns and contraptions, which could be remotely controlled, presumably used to kill sambur. Most of these illegal encroachers stay several days on the plains on each visit. They cut pole trees from the forest to construct their temporary huts, both at ground level as well as on tree-tops, and for cooking.

Forest Around Ensalwatta Plantation: In March 2002 we visited the third area in the southern part of the RD hills. It was the forest area belonging to the Ensalwatta Plantation bordering Sinharaja World Heritage Site. These forests and also those bordering Beverley and Manikkawatta estates near the south-eastern boundary of the Sinharaja WHS being a part of the estate property appeared to be relatively free of any encroachments for gem prospecting and wood cutting. The forests in the area surrounding the Sinharaja Division of the Ensalwatta Plantation represented the Shorea gardneri (Rath Dun) and Shorea trapezifolia (Yakahalu Dun) tree formations at their very best. These magnificent forest stands, with streams and spectacular waterfalls running through them, harbour abundant wildlife and are an important watershed for the downstream communities.

Similarly, there are other forest areas in this region including the highest peaks of the RD hills Abbey Rock (1300m) and Gongala (1358m), forests near Panilkanda and Aninkanda estates and Naigala that need to be explored to evaluate their conservation value. Several species new to science have been collected from this region which are unique to the RD hills.

Surprisingly, they have received little or no attention from the relevant authorities despite their worth as habitats of exceptional biological importance, as watershed protection areas and of aesthetic beauty and therefore, of high conservation value. In contrast, the biological value of the forests in close proximity to the Northern, Western and also Southern borders of the Sinharaja World Heritage Site have been recognised by declaring them as conservation forests.

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