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GUIDE  
TO  
MOULAWELA TRAIL  
IN  
SINHARAJA FOREST



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by  
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Indomalayan Realm

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- Sinharaja -

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## Introduction

The first part of this trail follows a skidding road (road constructed for the movement of heavy machines called skidders which drag logs from the interior of the forest to places on the main road where logs were stacked, i.e. a logging yard). The second part goes through a natural forest. Twelve observation points along the trail point out features of interest of the environment and/or vegetation at each point. It will take one and a half to two hours to go round the trail leisurely.

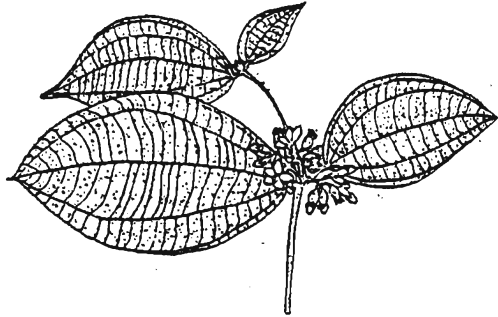
As you follow the trail you should be able to compare the microclimatic conditions, soil and vegetation of the main logging road with the skid trail and the primary forest.

If you move about quietly, listen intently and keep looking with perception, you are bound to hear the symphony of the forest dwelling animals - monkeys, squirrels, birds, even frogs and at dusk or just before a downpour the Cicardas. You might see the movement of some of them on the aerial "walkways" of the branches or through the aerospace of the forest. Your silence through this trail will certainly be compensated by what you see, feel and hear in the forest.

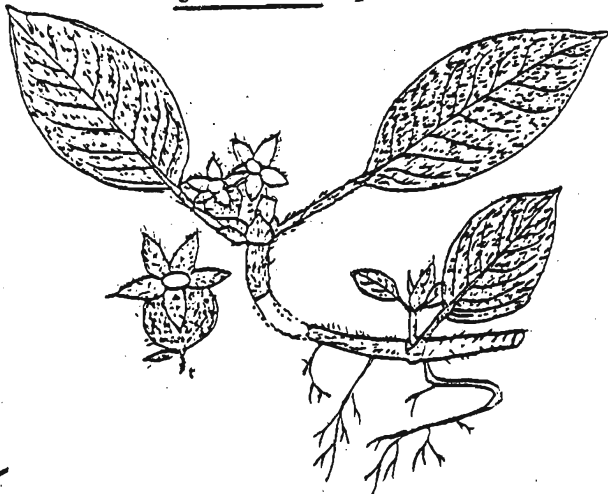
Observation points la & lb



Coleus sp.



Katakalu Bowitiya (S)  
Cleidemia sp.



Schizostigma hirsuta

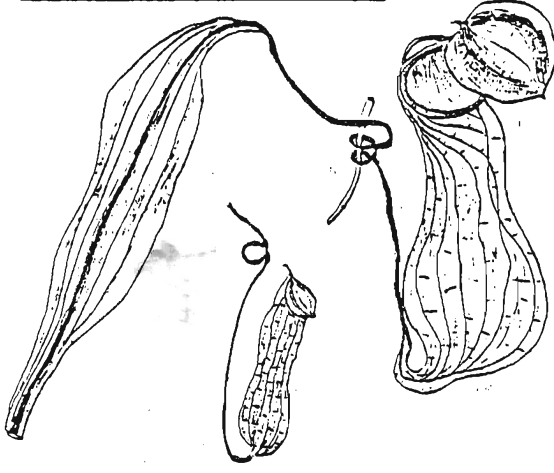


Selaginella sp.

Selaginella sp.

Observation point 1a - Some features of the skid trail

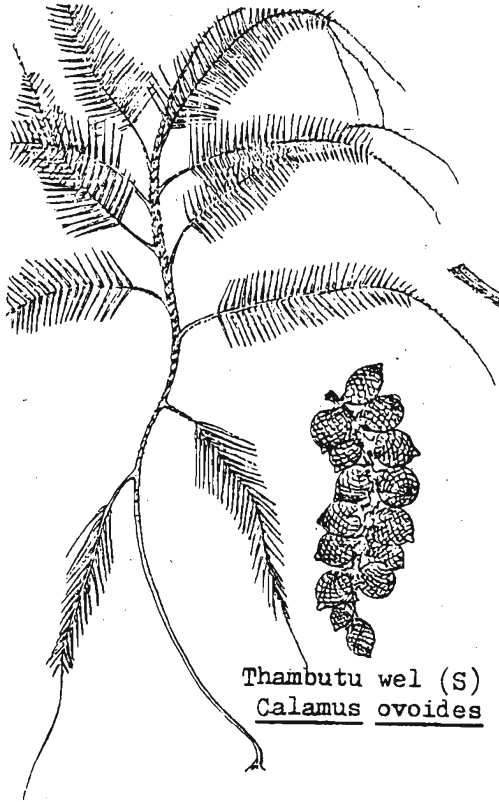
This skid trail was abandoned about 10-12 years ago and the vegetation you see here now has come up since then. Already you must have noticed that the skidding road is only about 2m wide. It is not as wide as the main access road to Sinharaja. Thus, the gap in the forest created by the skidding road is much smaller than the gaps on the main access road. The crowns of the smaller trees on either side of this trail have already closed up in most parts. Consequently, much shade is cast on the ground and a higher humidity prevails here. These conditions are favourable to the growth of many different moisture and shade loving species, such as Selaginella and Coleus among other plants, that you see along this trail. Of course leeches will continuously accompany you along the trail and will be a persistent hindrance to your concentration, but you soon get used to them.



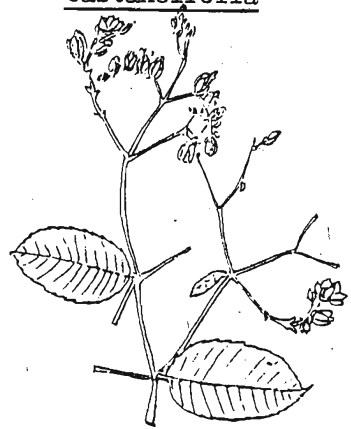
Bandura (S)  
Nepenthes distillatoria



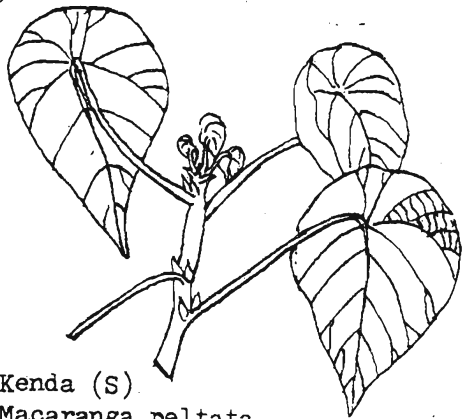
Kekiriwara (S)  
Schumacheria castaneifolia



Thambutu wel (S)  
Calamus ovoides



Kenda (S)  
Macaranga peltata



## Observation Point 1b - Some forest gap species

At this observation point two species of Cane may be seen, but superficially they resemble each other. The first of them is Thambutu Wel (A) (Calamus ovoideus). Note the regular ring like arrangement of spines on its stem. The second is Ma Wewal (B) (Calamus zeylanicus) in which the spines on the stem are closely distributed all over it. Notice how these Canes support themselves by means of the long whiplike structures at the ends of their leaves. If you are here between December and March you may see their flowers and/or fruits at the upper ends of these climbers. Their stems are used to turn out many articles of domestic use that one can imagine.

Beneath the Cane is Katakalu Bowitiya (Cleidemia sp.). It is a small shrub growing well in these trails. It has oppositely arranged, very hairy leaves. Touch them and feel their texture. The leaf margin is serrated and its surface crimped. While the flowers of Cleidemia are small and white, their fruits when mature are deep ink blue with a large number of tiny seeds which are possibly dispersed by birds. The local name Katakalu Bowitiya has been given because of the nature of the fruit which leaves a black stain in the mouth (Kata = mouth; Kalu = black). Around 1977 this plant was hardly common along these trails. It has only become abundant recently. It is an introduced plant.

On the ground itself is a trailing plant with succulent stems. It can root along the stem at intervals, thus colonizing bare areas. It appears like a light green carpet in some areas. This species is Schizostigma hirsuta. All the parts of this plant are covered with hairs. It has white flowers and greenish white fruits, which when

mature are edible. Although this plant grows well in the fringe of forests, it does not grow so well in the dense shade of undisturbed forests.

One of the plants supporting the Thambutu Well is Kekiriwara (C) (Schumacheria castaneifolia).

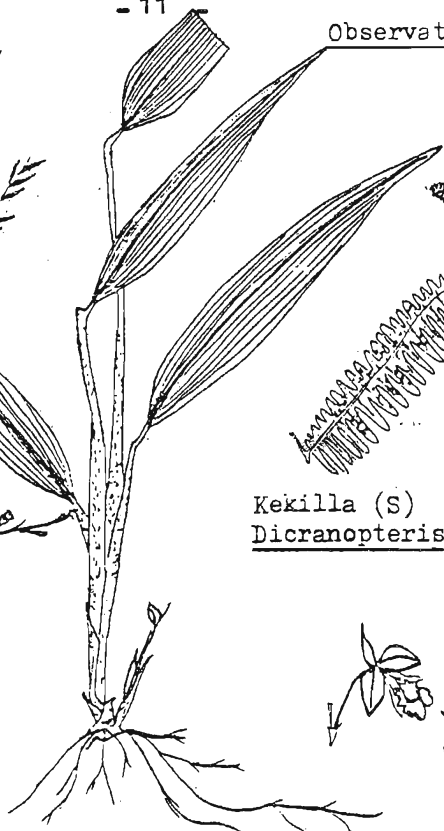
On the opposite side of the road, the tall tree is Kenda (D) (Macaranga peltata). This is one of the first tree species that grow in disturbed areas. Hence it is also called a pioneer species or a secondary forest species. Observe its crown - spread, you will see how the leaves are arranged at the ends of branches so as to capture maximum sunlight. If you are here at the time sunlight falls directly on the crown it is a beautiful sight to see the light filtering between the leaves and how the neighbouring leaves do not shade out each other.

Beneath the Kenda is Bata (Ochlandra stridula) which comes up in disturbed areas as well. The stems of Bata are used for construction poles of mud huts and their leaves for roof thatching.

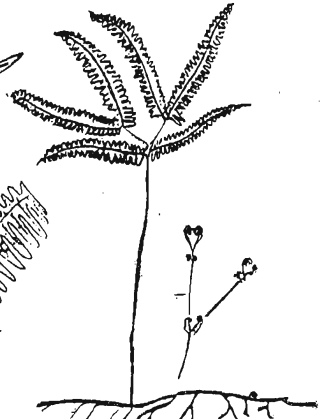
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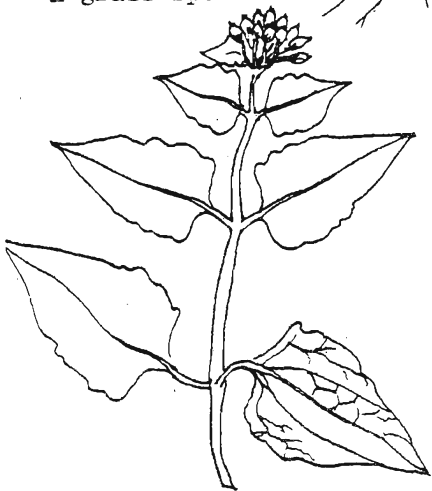
A grass sp.



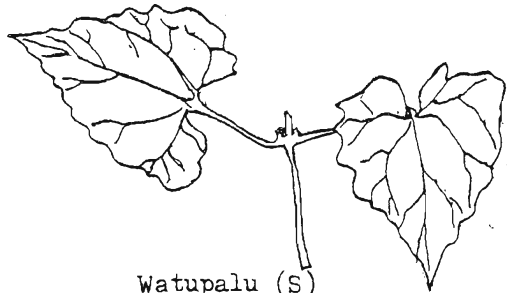
Kekilla (S)  
Dicranopteris linearis



Arundina graminifolia



Podisinghomarum  
Eupatorium odoratum



Watupalu (S)  
Mikania scandens

## Observation Point 2 - Open Area on Skid Trail

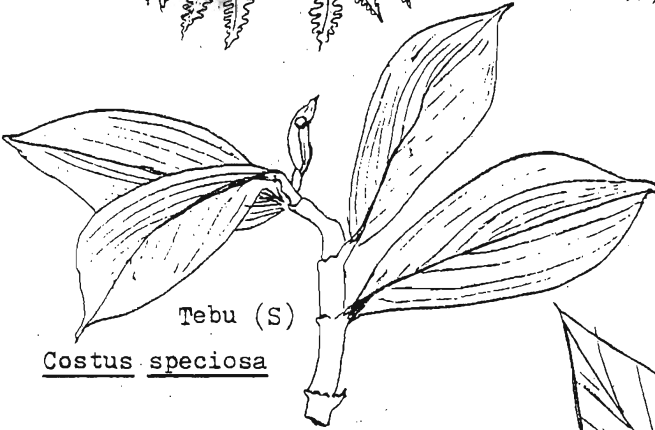
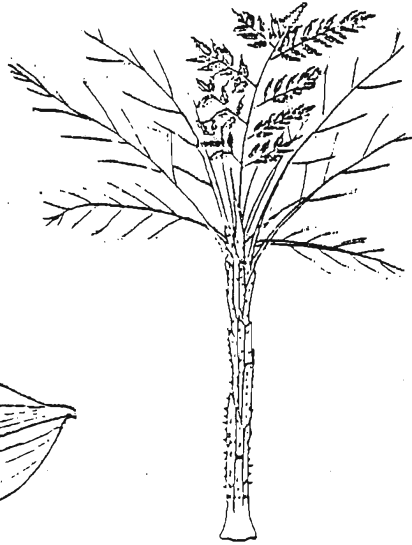
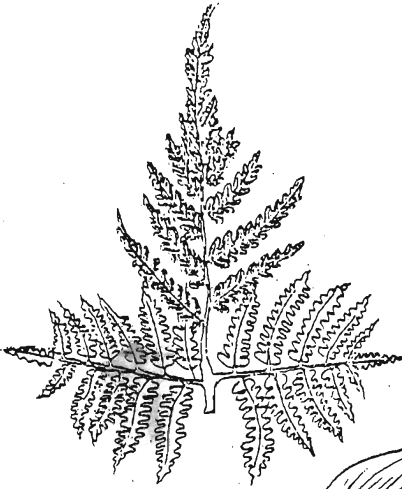
This point represents an open area on the skid trail. As there are no trees on the right much sunlight reaches the ground. Hence sun loving ferns like Baru Koku (Elechnum orientalis) and Kekilla (Dicranopteris linearis), grasses like Paspalum sp. and Pennesetum sp. and weed species like the shrub Podisinghomaram (Eupatorium odoratum) and the climber Watu Palu (Mikania scandens) as well as the purple flowered orchid species Arundina graminifolia may be seen here.

The sapling bearing the label OP 2 is Thiniya Dun (Shorea trapezifolia). One of the canopy dominant members in the family Dipterocarpaceae. If you look at the skyline ahead to your right the tallest tree with the umbrella like crown is a mature individual of this same species. A better view of its parachute like branching pattern may be seen from Observation Point 4 along this trail.

Behind the Shorea sapling note the Bandura or Pitcher plant Nepenthes distillatoria. See how it supports itself and how the pitchers are positioned. (Further details of it are given in the Main Logging Road guide).

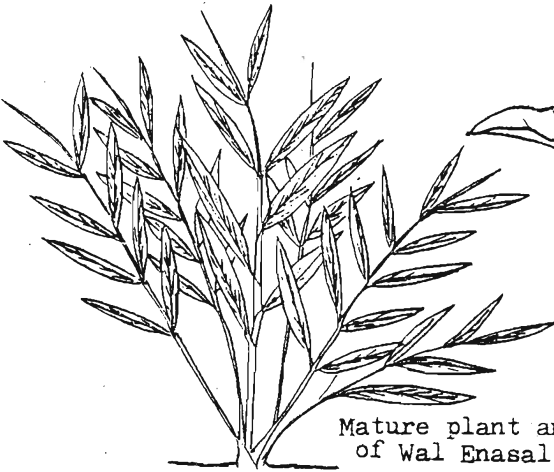
Observation points 3 & 4

Part of leaf and tree of  
Ginihota (S). Cyathia walkeri



Tebu (S)

Costus speciosa



Mature plant and seedling  
of Wal Enasal

Elattaria cardomum var. major



Observation Point 3 - Few indicator plants of disturbance and high humidity

On the bank on your left are some species which grow luxuriantly in moist, shady and disturbed areas.

- a) A moss which is one of the first colonizers of bare areas.
- b) Young plants of many fern species (Blechnum, Pteris, Adiantum, etc.) growing between the moss.
- c) Selaginella
- d) The large tree fern Ginihota (Cyathia walkeri). Observe how large a single leaf is. They are about 1-1.5m long. Turn a leaf over and see whether there are any spores or the "seeds" from which new plants may arise. Note their appearance and arrangement.
- e) Tebu, a wild ginger (Costus speciosa), which grows in shade. It is easily recognised by the spirally arranged leaves around the stem. Its flowers are bright red and held in clusters at the ends of their slender stems. Its young leaves are edible and its rootstock has medicinal properties.
- f) You will see the delicate, fine epiphytic bryophytes which hang down from twigs. You will read more about them later on along this trail. Do you think they are of any use to the higher plants?

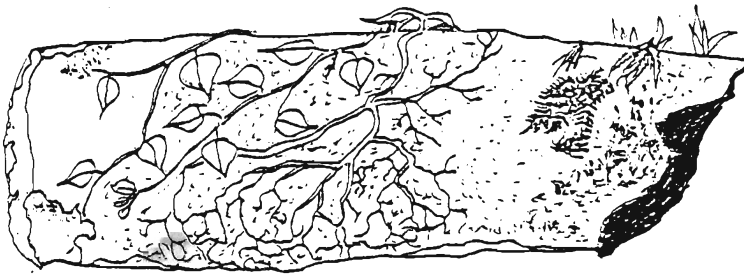
Observation Point 4 - Wal Enasal or Cardomum - a wild spice species

On the right hand side of the path is a bush with leaves over 2m tall. Each leaf has a long main axis or rachis and a number of small leaflets, which may appear to you like leaves, arranged on either side of it. The stem is not normally visible as it runs horizontally below the ground as in ginger. This is a species of wild Cardomum (Elettaria cardomum var. major). Its flowers arise near the base of the plant. Several flowers are borne on a trailing stalk. Each flower is white with pink streaks within it. Enasal too grows well in slightly disturbed areas.

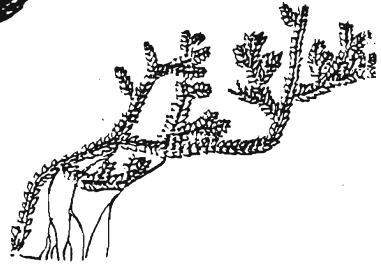
The cultivated Cardomum grows at much higher elevations. This wild species however, can be grown in the lowland wet zone. Before this forest was made a conservation area, wild Cardomum was one of the minor forest products collected by the villagers for their livelihood.

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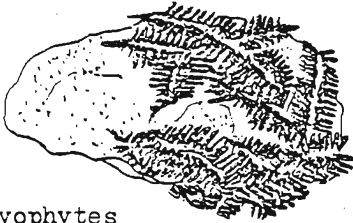
Observation point 5 - Different habitats where plants grow



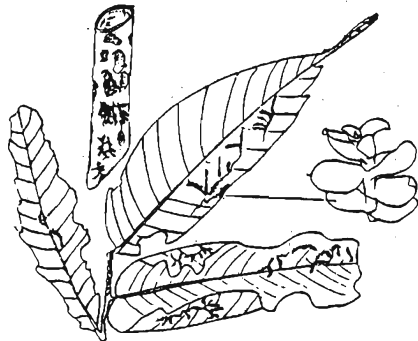
Selaginella sp.



Bryophytes on leaves and tree trunks



Bryophytes growing on rocks



Fern growing on the bark of a branch



Bryophytes on leaves and twigs

Observation Point 5 - Entry to the undisturbed forest

Within the shade of the forest the temperature is relatively cool (about 23-25 C at day time) and the humidity high (over 90%) even on a dry day. The soil too has a fair amount of moisture in it. Look around and you are bound to see many different plants growing together. Although the trees form the most obvious component of the vegetation, the entire size range of plants, ranging from microscopic algae and fungi, through mosses and liverworts, to herbaceous and shrubby flowering plants may be seen here. The forest is formed not only by plants but by all the groups of animals as well. Just look at a 4sq.m patch of forest and try counting the number of plants you see in it. Only a rainforest can sustain so many plants within such a small area. With disturbance the number of different plants a given area can support also decreases.

Observe where the plants are growing. Some grow directly on the soil. Others on rock surfaces, fallen tree trunks, cracking or flaking barks, small twigs, even leaf surfaces of the living plants. These plants growing on other living plants are called epiphytes ("Epi" = on; "phytes" = plants). The outer bark of trees is usually dead. They provide decomposing bark material which can also trap moisture, so naturally, epiphytes find it a suitable place to grow on, and at the same time get enough sunlight for their growth.

Before you leave this point observe the fallen log. What do you see on it? Notice the intricate network of roots that ramify in it as well as the mosses, liverworts, ferns and climbers that grow on it.

It is generally felt that removal of mature trees that would die anyway out of the forest would do no harm to the forest ecosystem. Removal of trees mean removing some of the nutrients that help to maintain this system. Even before this tree trunk is completely converted to soil, plants already grow on it and use up the nutrients in it.

This way nutrient losses, if any, out of the system are a minimum. Removal of a large number of trees would certainly upset the delicate equilibrium in this forest.

As you go along, notice the decomposing tree trunks and look for the organisms growing on them.



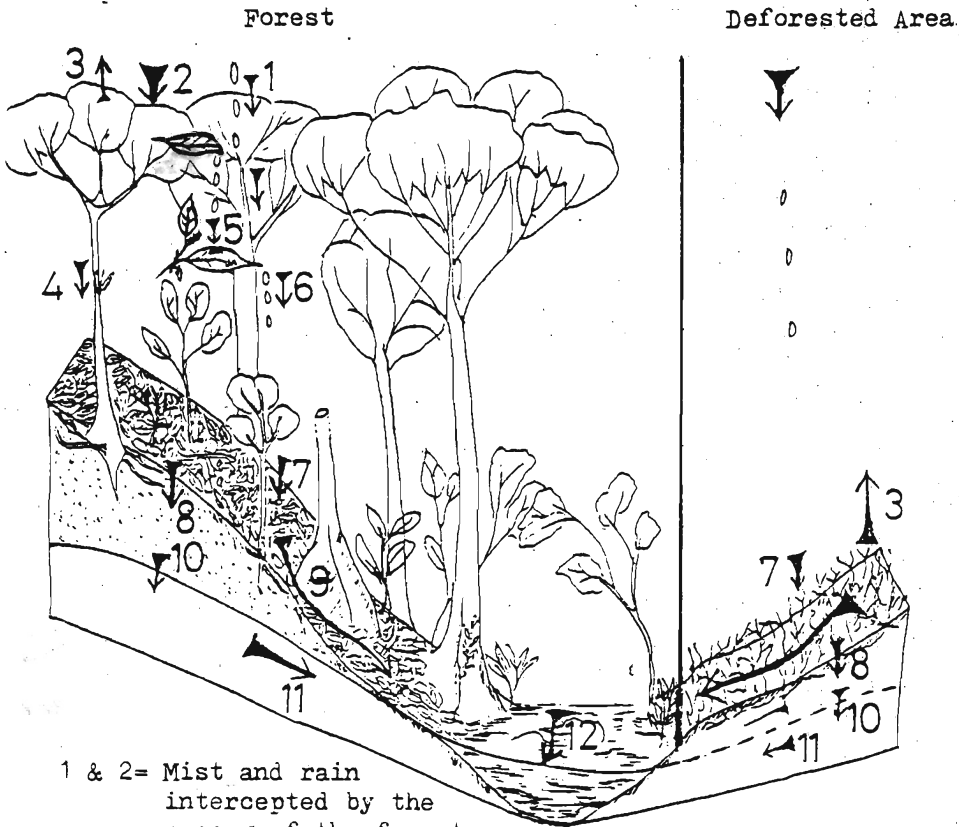
Halmandiya Dola

Observation point 6 - Halmandiya Dola

- 1 = Fallen tree trunk with a luxurious growth of bryophytes and other plants.
- 2 = Different types of ferns.
- 3 = The "ant plant" - Gal Karanda (S), Humboldtia laurifolia

Observation point 6

The path of water from rain and mist through a forest and a deforested area. Do you see how much water the forest can retain?



- 1 & 2 = Mist and rain intercepted by the canopy of the forest
- 3 = Evapo-transpiration from leaf surfaces
- 4 = Stem flow
- 5 = Interception by epiphyllous bryophytes and leaves of understory trees
- 6 = Through fall
- 7 = Absorption by leaf litter on soil surface
- 8 = Infiltration through humus and soil
- 9 = Surface run off when litter and soil are saturated
- 10 = Soil water reaching the ground water table
- 11 = Movement of ground water to streams
- 12 = Stream flow

Observation Point 6 - The Stream Halmandiya Dola,  
some aspects of forest  
hydrology and shade loving  
ferns

Here you cross the Halmandiya Dola (Dola = stream). During the rainy season this stream has clear flowing water. During the dry season there is little or no water in it. It is this stream that supplies the drinking water at the field station. Therefore, PLEASE DO NOT POLLUTE IT.

Look around you and see what happens to rain water that falls on the forest. Rain water cannot fall directly on the soil surface. It is first trapped by the crowns of the canopy trees or by the vegetation below it. Some of the water that is intercepted by the foliage will remain on the leaf surfaces and get evaporated. The rest will flow down to the soil via other plant surfaces or its own stem. At the soil surface, the decaying leaves and humus layer get soaked and only when these surfaces are fully saturated that surface run off begins. This water and the water that enters the soil water table eventually gives rise to streams as the one you see here. Can you imagine what would happen to all the rain water if there was no vegetation and humus? It would all flow away leaving a very dry environment. Trees on the other hand are able to trap and keep a large proportion of the rain water in the environment itself.

How does the water continuously flow in these streams? At night the temperature outside the forest decreases by about 8-10 C (night temperatures are between 18 - 24 C, day temperatures 26 - 30 C at the field station. Within the forest the corresponding temperature ranges would be even lower). As a result night mist is a frequent feature in these rain forests.

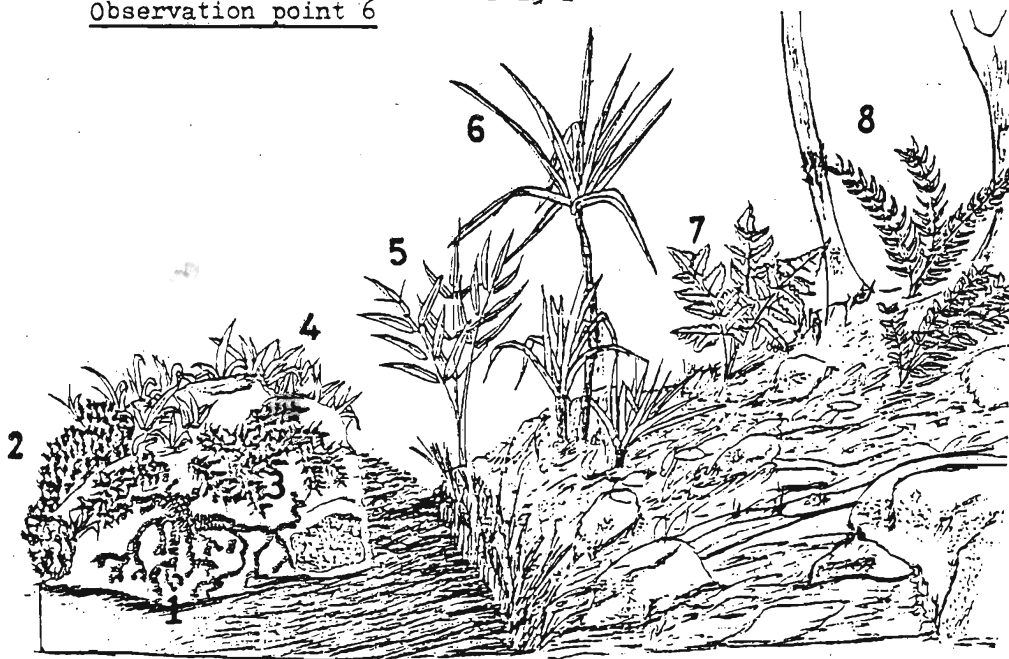
The mosses and lichens have the ability to absorb this moisture and if there is a lot of water as during the rainy period they become spongy and succulent. Look at the leaf surfaces and other plant parts and see whether you can recognise this group of plants which make a valuable contribution to maintain the high humidity of the rain forest environment.

The water in this stream is very clear even when the rainfall is very heavy. Though the land is quite steep the soil does not erode away. You will learn the reason for this at Observation Points 7 and 8.

Before you go on notice some of the plants around the stream. The ferns you see here are water loving ones. Their presence indicates high moisture. They are Pyrrosia gardneri, a simple leaved trailing stemmed plant, often seen on rock surfaces; Bolbitis sp., Adiantum, Tectaria paradoxa, Trigonospora zeylanica and Cyathia sinuata. These ferns have been illustrated for you.

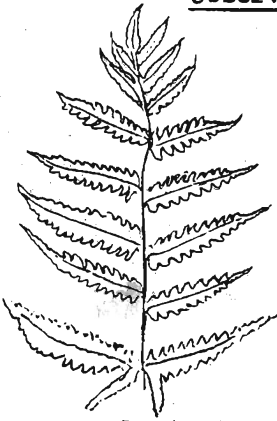
The twiggy treelet behind the fallen tree trunk, is Gal Karanda (Humboldtia laurifolia). The young twigs of this plant are swollen. In their hollow cavities live an ant species. There is a special association between these ants and the plants. The ants do not harm the plant and the plant does no harm to the plant. PLEASE DO NOT DESTROY THE PLANT, but certainly look at it.

NOTES

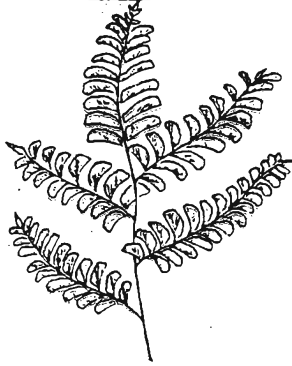


The near bank of Halmandiya Dola

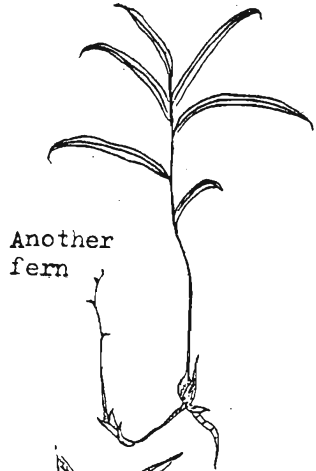
- 1 = Selaginella
- 2 = Moss sp.
- 3 = Bryophytes
- 4 = Pyrrosia gardneri
- 5 = Bolbitis sp.
- 6 = Cyathia sinuata
- 7 = Tectaria sp.
- 8 = Trigonospora zeylanica



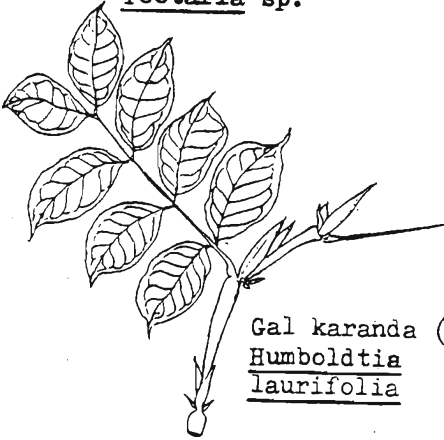
Tectaria sp.



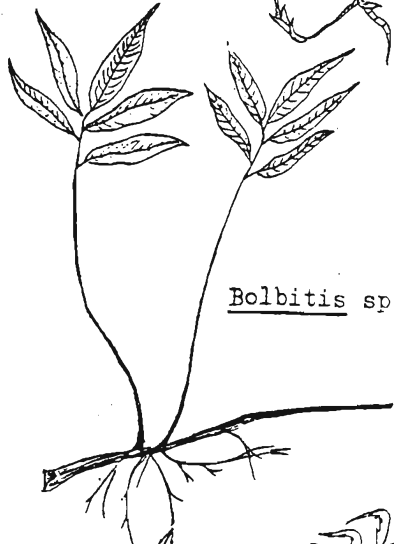
Adiantum sp.



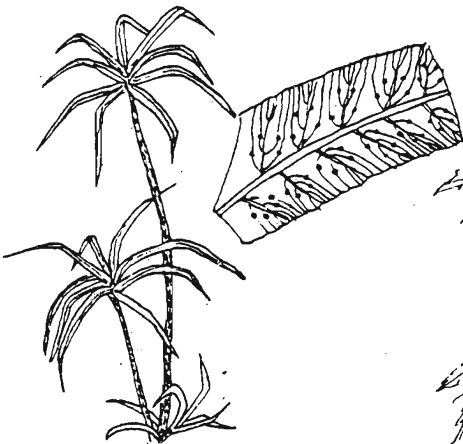
Another  
fern



Gal karanda (S)  
Humboldtia  
laurifolia



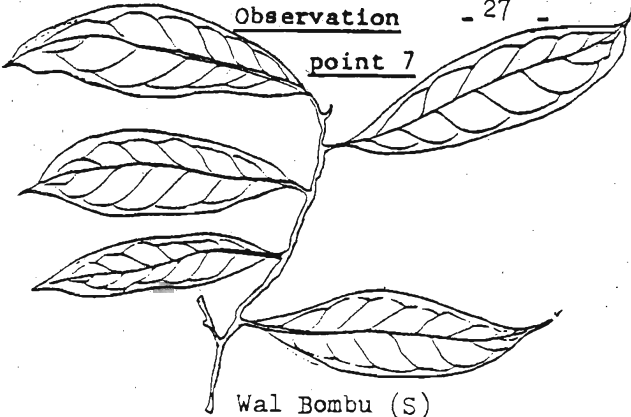
Bolbitis sp.



Cyathia sinuata with part of the under surface of leaf.



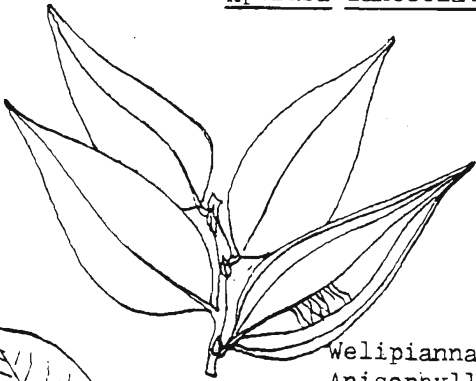
Trigonospora zeylanica



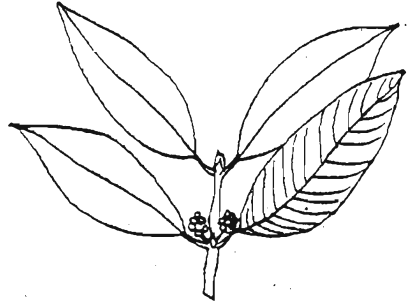
Wal Bombu (S)  
Aporusa lanceolata



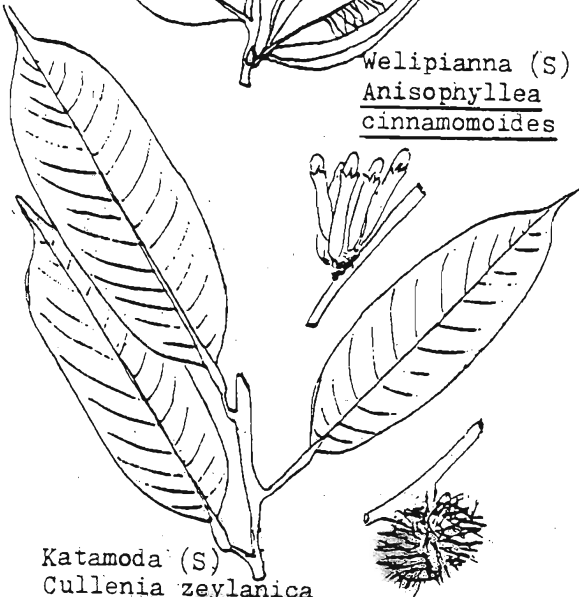
Gal Karanda (S)  
Humboldtia laurifolia



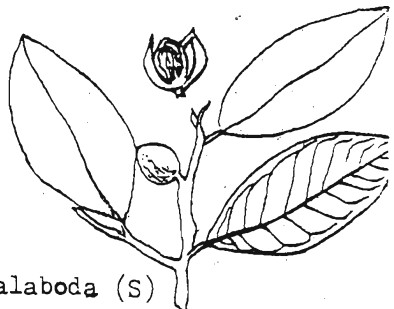
Welipianna (S)  
Anisophyllea  
cinnamomoides



Urophyllum ellipticum



Katamoda (S)  
Cullenia zeylanica



Malaboda (S)  
Myristica dactyloides

Observation Point 7 -- Plants of different forest strata and some features of the vegetation

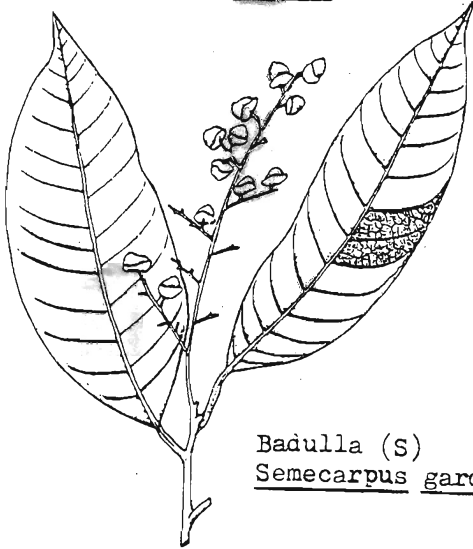
From this point observe the stratification or layers within the forest.

The ground layer is sparse. There is a lot of bare ground where the decomposing leaves are seen. The soil is dark brown in colour because of the large amount of decomposing leaves (on the skid trail you came through it was reddish yellow). Crush a little of the soil between your fingers. It is fine and not so sticky. This is because there is the right amounts of clay, silt and humus in it. Notice the intricate network of roots that grow on the soil surface. These roots, leaf litter and humus protect the soil and prevent its erosion. As compared to this in deforested areas there are fewer roots, much less humus and relatively little vegetation to protect the soil from erosion.

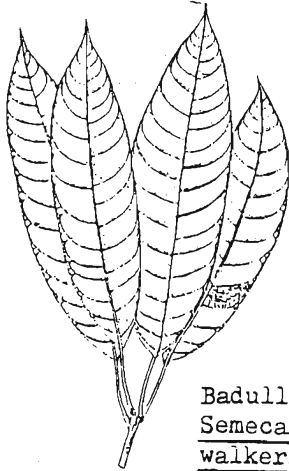
In the ground layer, are shade loving plants such as the ferns, members of the ginger and grass families Zingiberaceae and Graminae respectively, and seedlings of plants that grow in the strata above it.

In the 3-5m layer are plants like Beru (A1) (Agrostistachys coreacea), Gal Karanda (A2) (Humboldtia laurifolia), Pinibaru (A3) (Memecylon sp.), Urophyllum ellipticum (B1) and Wal Bombu (B2) (Aporusa lanceolata).

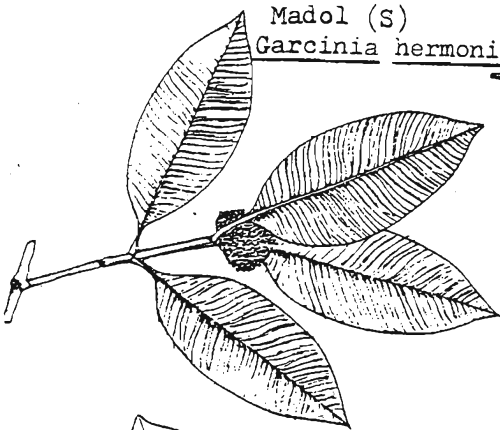
A few of the species characteristic of the 10-15m layer are Madol (C) (Garcinia hermoni), Athuketiya (D) (Xylopia championi) and Badulla (E) (Semecarpus gardneri and Semecarpus walkeri).



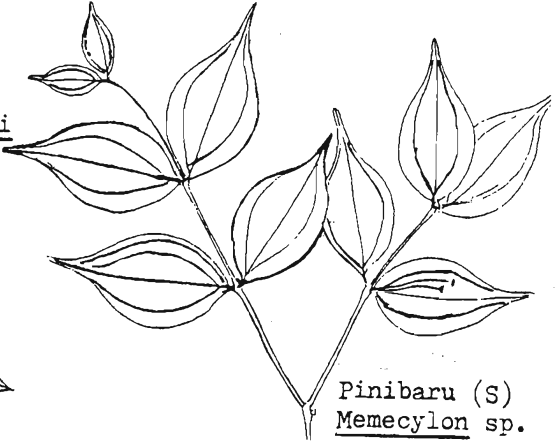
Badulla (S)  
Semecarpus gardneri



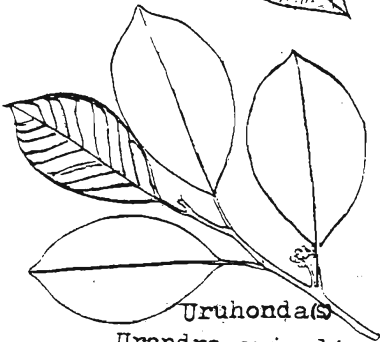
Badulla (S)  
Semecarpus walkeri



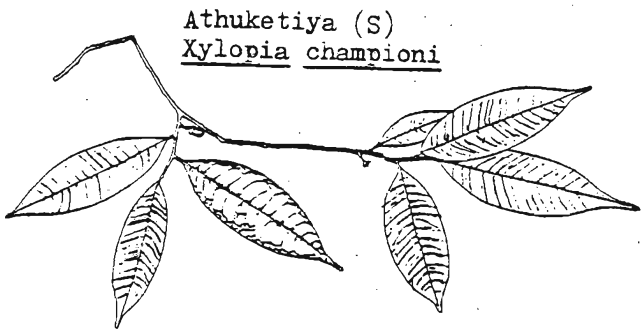
Madol (S)  
Garcinia hermoni



Pinibaru (S)  
Memecylon sp.



Uruhonda(S)  
Urandra apicalis



Athuketiya (S)  
Xylopiya championi

In the sub canopy layer are species like Katamoda (Cullenia zeylanica and Cullenia rosayroana), Malaboda (F) (Myristica dactyloides) and Uruhonda (Urandra apicalis).

Species that are found in the upper most strata are Na (G) (Mesua nagassarium), Thiniya Dun (Shorea trapezifolia) Beraliya (Shorea megistophylla), Navada (Shorea stipularis), Welipianna (Anisophyllea cinnamomoides), Hora (Dipterocarpus zeylanicus) and Thalang (H) (Litsea gardneri).

The obvious lianas here are Bambara Wel (Dalbergia championii) and Apassa Wel (Uncaria thwaitesii).

Some of the trees also bear epiphytic bryophytes, ferns, orchids and herbaceous root climbers. Almost all of them have crustose lichens of different shades of green, white or grey growing on their tree trunks.

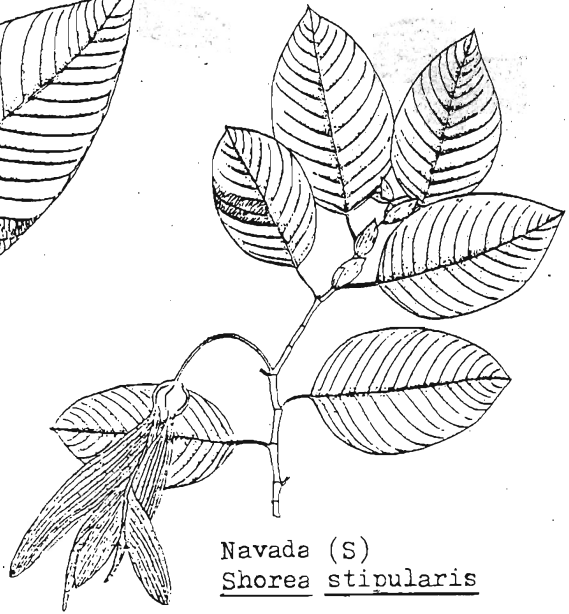
Notice the straight tall tree trunks without any branches on the lower parts of their stems. They are called "pole trees" because of this. Some of the very big trees have spreading bases or buttresses which give them much stability so that they do not get blown down easily. The crowns of these trees are exposed to the air at heights of 25 - 30m and are also subject to strong winds.

Another feature of the vegetation in rain forests is that most plants have relatively large leaves. Small leaved species are few. On the other hand leaves of the dry or montane zone forest trees are much smaller.

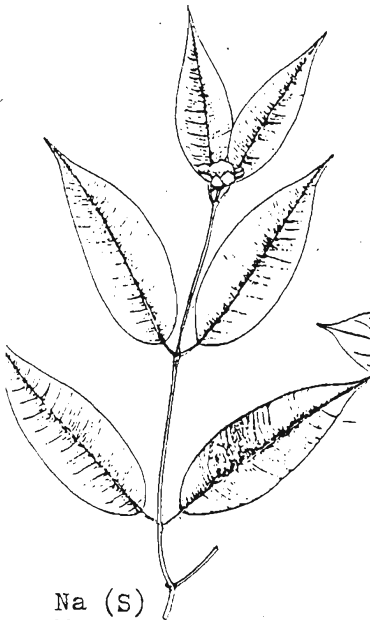
As compared to the skid trail you came through and the road sides of the main access road, isn't the undisturbed forest easy to walk through? One of the ways to find out whether a forest has been disturbed or not is to look inside a forest and see how sparse or dense the understorey vegetation is; sparse suggests that it is undisturbed and dense that it is disturbed.



Hora (S)  
Dipterocarpus zeylanicus



Navada (S)  
Shorea stipularis



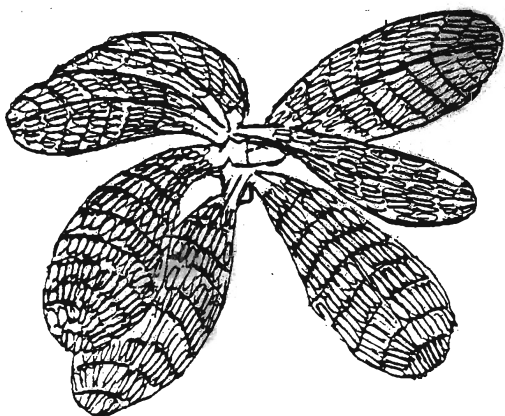
Na (S)  
Mesua nagassarium



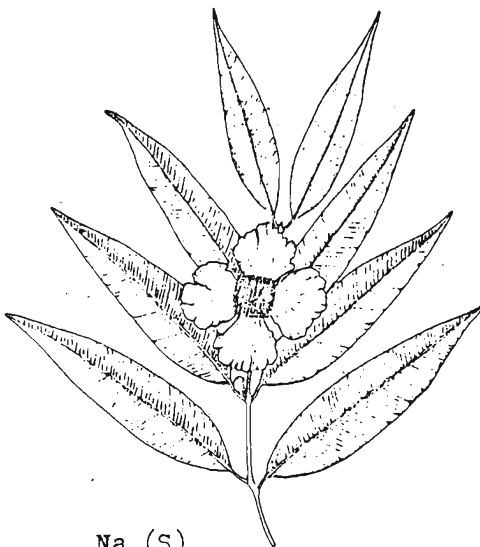
Apassa Wel (S)  
Uncaria thwaitesii



Beraliya (S)  
Shorea megistophylla



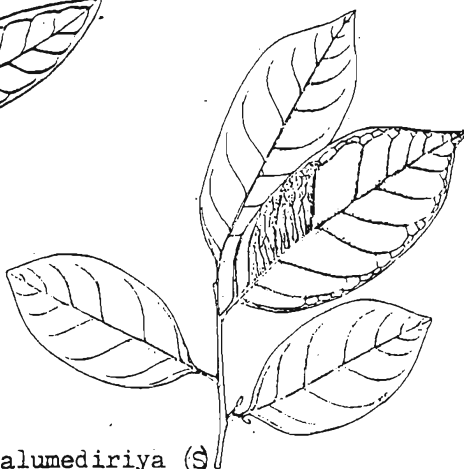
Acranthera ceylanica



Na (S)  
Mesua nagassarium



Stemonoporus sp.



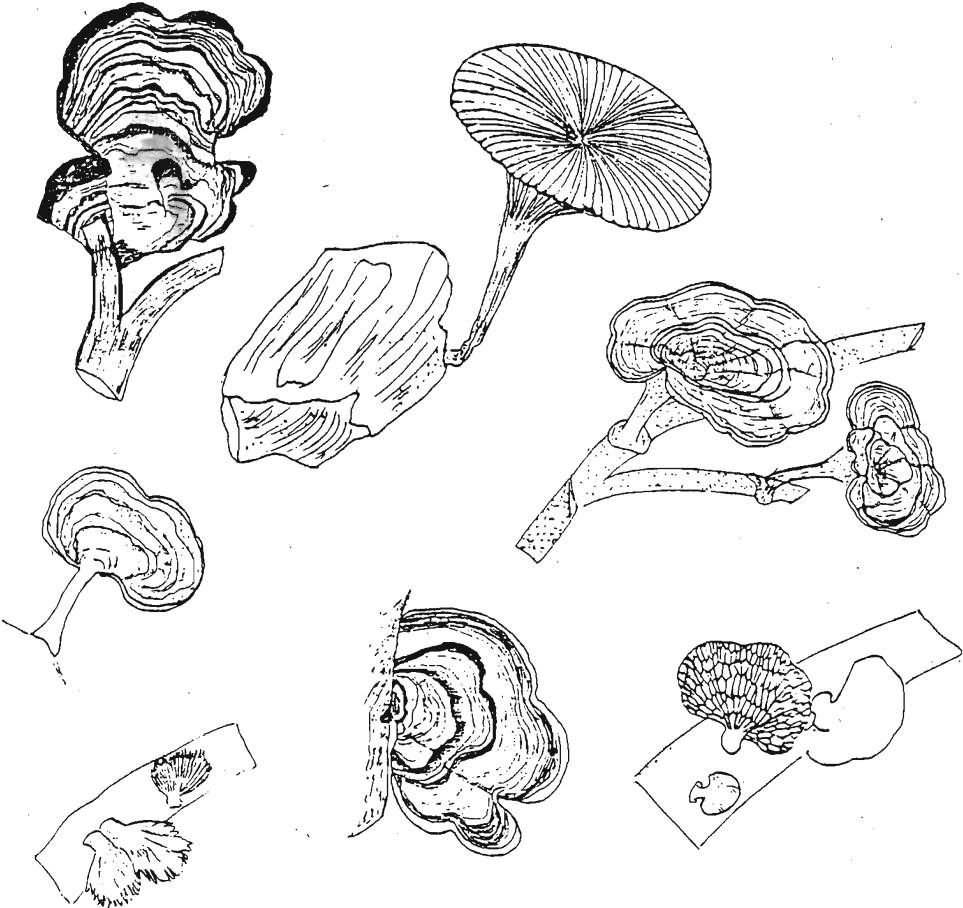
Kalumediriya (S)  
Diospyros quaesita

Observation Point 8 - Rocks and Roots, their role  
in soil formation and soil  
conservation

Notice how rocky this area is. Yet it has a reasonable cover of vegetation upon it. Even saplings of Beraliya (A) (Shorea megistophylla) and Etamba (B) (Mangifera zeylanica) and big trees of Na (C) (Mesua nagassarium) are seen here even though there is hardly any soil. The crevices, depressions and cracks in the rocks retain decaying leaves. The large roots growing on the rocks also retain leaves. Thus, together they provide a surface for growth of plants. The large roots also bind the rocks. Thus, even during heavy rains they will not get dislodged. Earthslips have never been seen by us in these well forested, undisturbed areas despite the heavy rainfall these areas receive. Imagine an exposed surface without such roots. Would not much erosion take place on them?

Along the way there is a herbaceous plant resembling a domesticated indoor plant, growing close to the ground in very wet areas. This is Gondiva (Acranthera ceylanica). Its leaves are hairy, dark green and crimped. Like this one, there are many species of horticultural, medicinal and agricultural value in the forest that man could bring into domestication.

Observation point 9



The fruiting bodies or reproductive structures of different wood decomposing fungi.

Observation Point 9 - Decaying Trees, fungi as decomposers, Stemonoporus, & Kalumediriya (Calamander)

A fallen tree trunk of Na (*Mesua nagassarium*) and two dead trunks still standing on either side of it may be seen here. The tree on the far side has spreading buttresses and is that of a Shorea sp. That on the near side does not have buttresses. Both show how trees die naturally in the forest. First they shed their leaves, twigs and larger branches. Only then does the stem start rotting away while it is still standing. Trees that die naturally do not cause much damage to the vegetation around it. However, should a tree fall due to wind or when they are cut down for timber, then a certain degree of damage is caused to the surrounding trees.

If you look carefully on the decomposing tree trunks you will see many different wood rotting bracket fungi and even mushroom fungi. These fungi are of different shapes, sizes, textures and colours. Just as the trees are important to the forest, these fungi are vital in the decomposition of complex organic material into simple inorganic substances. Only the latter can be absorbed by the roots of higher plants, but these fungi can use complex substances for their growth. It is the fungi, along with the ants, termites, earthworms and other soil animals that form a link between the dead material and higher plants. If these organisms are not present there would be a great accumulation of dead material. Do you think this important group of plants and animals would survive, if the area is disturbed or deforested. Some of the many fungi that help in decomposition of dead material have been illustrated for you.

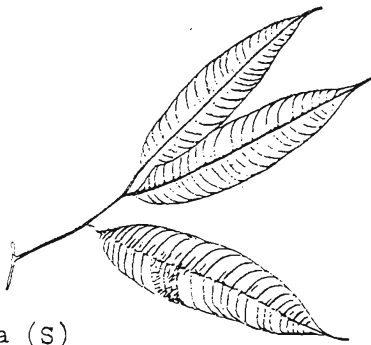
Before you leave this point look at the small tree marked (B). It is a Stemonoporus and belongs to the most primitive group in the rain forest dominant family Dipterocarpaceae. It is a group found only in Sri Lanka and no other rainforests in the world. If we do not protect and look after them in these rain forests they would be lost to the world.

Tree C that you see on your left and further down, is Kalumediya or Calamander (Diospyros quaesita). It is a member of the Kaluwara or Ebony family Ebenaceae. If you care to go down you will see it growing on a rock surface. The bark of these trees are usually darker compared to the rest of the species. Do you recognise its darker colour? In this species there are separate trees that bear the male flowers and female flowers. Only the latter will produce fruits. The wood of Calamander is durable, ornamental, and highly priced. Unlike the Ebony (Diospyros ebenum) which grows only in the dry zone and has a timber that is black throughout, Calamander has timber that is black but with yellowish brown bands. Calamander grows only in the rain forests of the lowland wet zone of the country. It is a very rare species and what you see here is among the very few left in Sri Lanka. Is there some way you would like to conserve such rare species only found in Sri Lanka?

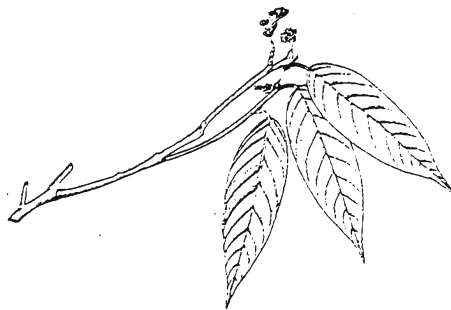
NOTES



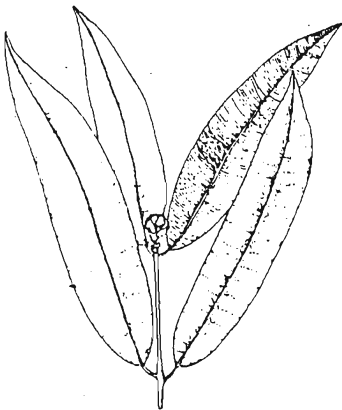
Anastomosing roots of a dead  
Fig tree that has died



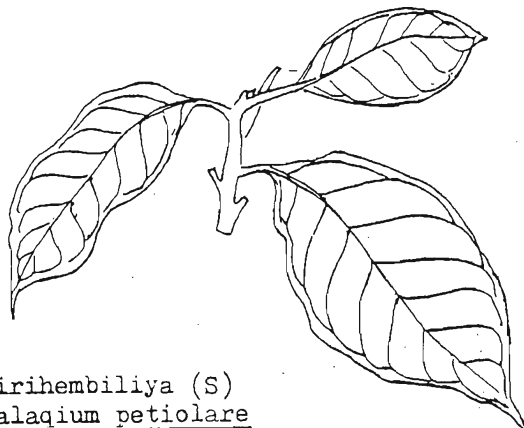
Bala (S)  
Nothopegia beddomei



Beraliya (S)  
Shorea disticha



Diya Na (S)  
Mesua thwaitesi



Kirihembiliya (S)  
Palaquium petiolare

Observation Point 10 - A dead, fallen and decomposing strangling Fig

At this point the most obvious feature is the dead Fig tree (A1). In its centre would have been the host tree that once supported it. Although the host tree gave its seed a place to germinate, establish, and grow, with time it has destroyed the supporting tree and consequently itself as well.

This point also shows the destruction caused by prematurely falling trees. Notice how many trees have been thrown over here. If you look up you will see that the crowns of many smaller trees have been blown down. Notice the gap created in the canopy and the sunlight reaching the ground. This encourages some of the smaller plants that are sun loving to grow up fast.

In some of the damaged trees you may observe the sprouting of young leaves, near the base if the tree is broken as in A2 or along the trunk of the bent tree (A3). A2 is Welipianna or Anisophyllea cinnamomoides and A3 is Bala or Nothopogia beddomei.

The large canopy tree (B) with plank buttresses is Shorea distica, a member of the family Dipterocarpaceae. The sapling (C) is Diya Na (Mesua ferrea) of the Clusiaceae, the Goraka and Domba family. You might sometimes see the white resin of Diya Na hardened on its stem.

The tree bearing the Observation Post label is Myristica dactyloides of the Nutmeg family, Myristicaceae. Notice the stilt roots at the base of the tree. Several other rain forest species

also show this feature. Tree D is a sapling of Palaquim petiolare. Mature individuals of this species grow right up to the canopy. It is a member of the Sapotaceae, the Sapadilla or Sapota and Lawulu family.

One of the fallen trees has been uprooted turning the soil with it. It shows the shallow and horizontally spreading root system of the plant, which is so typical of rain forest species.

Can you guess the reason why the trees have surface feeding root systems? The depression also shows one of the ways in which soil is mixed up in the forest. Can you guess other ways? Burrowing animals, earthworms, termites, wild boar and porcupine are a few animals that help to mix up the soil. As you continue along the trail look out for these animals or signs that suggest their activity.

Observation Point 11 - Another fallen tree trunk

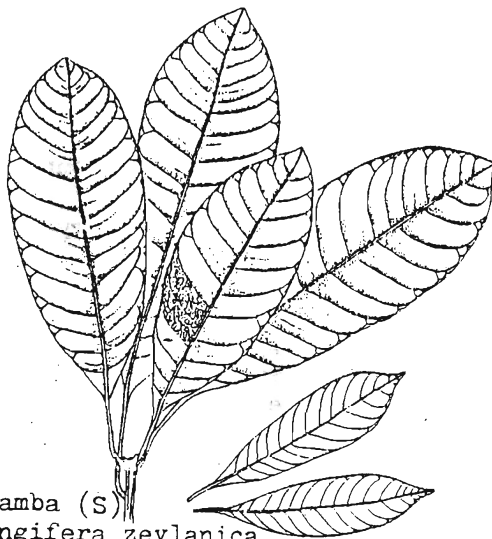
At this point you see how the roots of this fallen tree have brought up the soil on which it has been growing, leaving behind a large depression on the ground.

Note the primary colonizers of this exposed soil. They are mostly bryophytes and ferns and a few seedlings of higher plants. These plants can grow here without competition from the roots of other plants. Only when they are much bigger and well established that they would have to compete with the neighbouring plants.

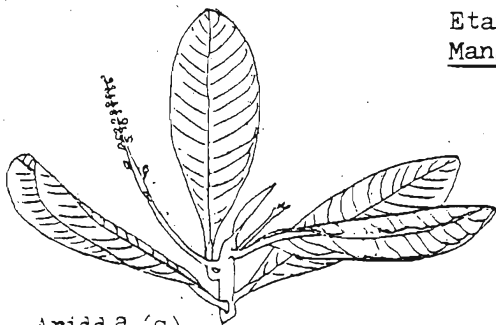
In time the depression will fill up with decomposing leaf material and the micro-site will provide a favourable spot for the growth of other plants. Does this not remind you of the refuse pits in home gardens, where kitchen refuse and leaf litter are collected and dumped. After allowing the collected material to rot for a while, the humus formed is dug out and used to nourish other plants or a new plant may be grown in the pit itself. The forest has its own way of creating such pits. Isn't it?



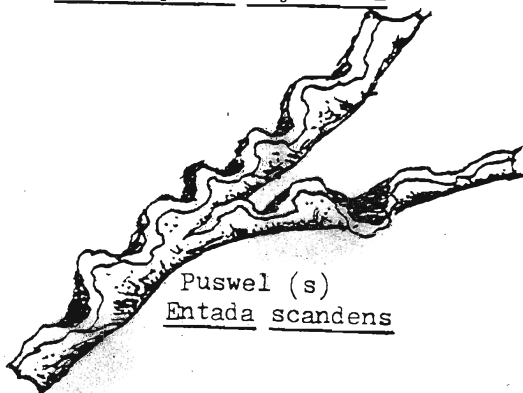
Kurumbetiya (S)  
Syzygium rubicundum



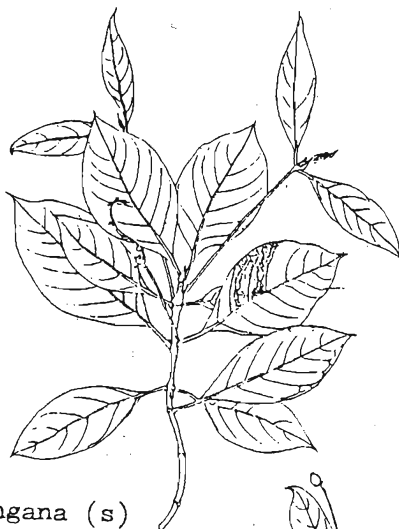
Etamba (S)  
Mangifera zeylanica



Aridda (S)  
Camptosperma zeylanica



Puswel (s)  
Entada scandens



Angana (s)  
Timonius jambosella



Observation Point 12 - Primary forest species, a peculiar woody climber, and rare species

The following trees may be seen here:

- A) Kurumbetiya (Syzygium rubicundum) of the Guava family Myrtaceae. This species produces a large number of small fruits which are eaten by birds when mature. They are dark blue in colour.
- B) Angana (Timonius jambosella) of the coffee or Ixora family, Rubiaceae.
- C) Athuketiya (Xylopia championii) of the Anoda family, Anonaceae.
- D) Aridda (Camptosperma zeylanica) of the Mango family, Anacardiaceae.
- E) Thiniya or Dun (Shorea congestiflora) of the family Dipterocarpaceae.

The liana or woody climber you see ahead fluted to one side is Puswel (Entada scandens). See how it spreads through the forest. More about it is described in the guide to the vegetation of the Main Logging Road.

## Epilogue

Walking through the trail it would have struck you that there are so many different plants. As much as 40% of these different types of trees or tree species are extremely rare and are represented only by one individual of its kind in an area of 2.5ha. Yet they contribute to the richness of the forest. A good example of one of them you have already seen is Kalumediriya or Calamander. If these forests are destroyed the world will never be able to produce this beautiful and very rare timber. We would only know it from the antique furniture that has been made from it.

Having gone through the trail, we hope that you have a better idea of what a natural forest appears and feels like. At a time when forests are rapidly disappearing, much effort is being made to conserve these unique habitats. In five different parts of the undisturbed natural forest in Sinharaja, in an extent of 25ha, there are 211 different types of trees or tree species. Of them over 64% i.e. 135 species are endemic or found only in the lowland wet zone of Sri Lanka. These endemics are not found in any other part of the world. If they are destroyed or made extinct, then the world will lose them altogether. So the forest you have just walked through is exclusive to Sri Lanka because of its high endemic component. Let us conserve what little is left of this rich, complex, valuable and fragile habitat. Protect this legacy gifted to us by Nature carefully, so that sons and daughters of future Sri Lanka and the world at large may benefit from it. Do not let it be DESTROYED because we know little about it.

**NOTES**

List of Animals of Sinharaja

Although it is quite difficult to observe a good proportion of the animal species in Sinharaja, yet you would wish to know what species do exist there. Consequently, the following pages list some of the species of the major animal groups that have been sighted. Alongside their name, the feeding habit of the animal, whether insectivorous (I), carnivorous (C), herbivorous (H) or omnivorous (O) has been indicated. According to the vertical stratum each animal occupies, they have been grouped as (G) ground- or (T) tree-dwellers.

Mammals

English Name	Local Name	Food Habit	Inhabiting- vertical strata in forest
Leopard	Kotiya	C	G,T
Fishing Cat	Handun Diviya	C	G,T
Otter	Diya Balla	C	G
Torque Monkey	Rilawa	C,H	T
Purple Faced Leaf Monkey	Hali Wandura	H	T
Loris	Una Hapuluwa	H,I	T
Pole Cat	Uguduwa	H,I	T
Golden Palm Civit	Ranhothambya	C,H	T
Mouse Deer	Meeminna	C,H	G
Barking Deer	Weli Muwa	H	G
Sambhur	Gona	H	G
Porcupine	Iththewa	H	G
Fire back squirrel	Pulutu lena	H	T
Giant squirrel	Dandu lena	H	T
Flying squirrel	Hambawa	H	T
Bat	Wavula	I,C	Aerial
Common Fruit Bat	Maha Wavula	H	T
Shrew	Hik Meeya	I,O	G
Rats	Meeyan	C,H	G,T
Ant Eater	Kaballawa	C	G
(Pangolin) Bandicoot	Uru Meeya	H	G

Birds

<u>Above The Canopy &amp; Canopy Layer</u>	<u>Local Name</u>	<u>Food Habit</u>
Spine Tail Swift	Katupenda-Thurithaya	I
Edible Nest Swiftlet	Kadal-Thurithaya	I
Serpent Eagle	Sarapakussa	C
Black Eagle	Kalu Kussa	C
Crested Hawk Eagle	Konda Kussa	C
<u>Canopy Layer</u>		
Jungle Owlet	Wana-Bassa	C
Chestnut Backed Owlet	Pitathambala Wana- Bassa	C
Frogmouth	Madimuhuna	I
Brown Hawk Owl	Dumburu Ukusu Bassa	C
Little Scops Owl	Singithi Bassa	C
White Headed Starling	Hisa Sudu Sharikawa	H, I
Sri Lanka Grackle	Lanka Sela Lihiniya	I, H
Orange Minivet	Maha Miniviththa	I, H
Layards Parakeets	Alu Giraw	H
Green Imperial Pigeon	Maila Goya	H
<u>Sub Canopy Layer</u>		
Crested Drongo	Kalu Silu Kauda	I
Crested Goshawk	Siluwath Kurulugoya	C
Blue Magpie	Kehibella	I, H
Red Faced Malkoha	Vatha Rathu Malkoha	I, H
Yellow Fronted Barbet	Ranalal Kottoruwa	H
<u>Understorey Tree &amp; Shrub Layer</u>		
Trogon	Lohawannichchiya	I
Bronze Winged Pigeon	Nila Kobeyiya	H
Azure Blue Fly Catcher	Nil Radamara	I
Yellow Browed Bulbul	Kaha Caluguduwa	I, H
Black Bulbul	Kalu Caluguduwa	I, H
Black Fronted Babbler	Hisa Kalu Panduru Demalichcha	I, H
Rufous Babbler	Ratu Demalichcha	I, H
Ashy Headed Babbler	His Alu-Demalichcha	I, H

Ground Layer

Spurfowl	Haban Kukula	H/I Granivorus
Jungle Fowl	Wali Kukula	H/I Granivorus
Spotted Wing Thrush	Tithpiya Thirasikaya	I
Scaly Thrush	Pethigomara	I

Arthropoda

Local Names

1. rustacea

Crabs  
Shrimps

2. Insecta

Above Ground

Bees	Bambaru, Debaru, Mee	Messo
Flies	Masso	
Mosquitoes	Maduruwo	
Bugs	Keedewo	
Butterflies, Moths	Samanalayo, Salabayo	
Dragonflies	Bath Kuro	
Beetles	Kuruminiyo	
Cicardas	Rahaiyo	
Grass Hoppers	Palangetiyo	
Leaf Insects	--	
Stick Insects	--	

Ground Level

Mosquitoes  
Ants  
Termites  
Mites  
Grass Hoppers  
Mole Cricket

Maduruwo  
Kumbi  
Weyo  
Kinitullo  
Palangetiyo  
Bin Ura

3. Arachnida  
Tarantula  
Wood Spiders  
Web Spiders

Divi Makuluwa

4. Myriopoda

Millipede  
Centipede

Hekarella, Kitul Etaya  
Paththaya

Annalida

Leeches  
Earthworms

Koodello  
Gedawilo

Mammals & Other Animals



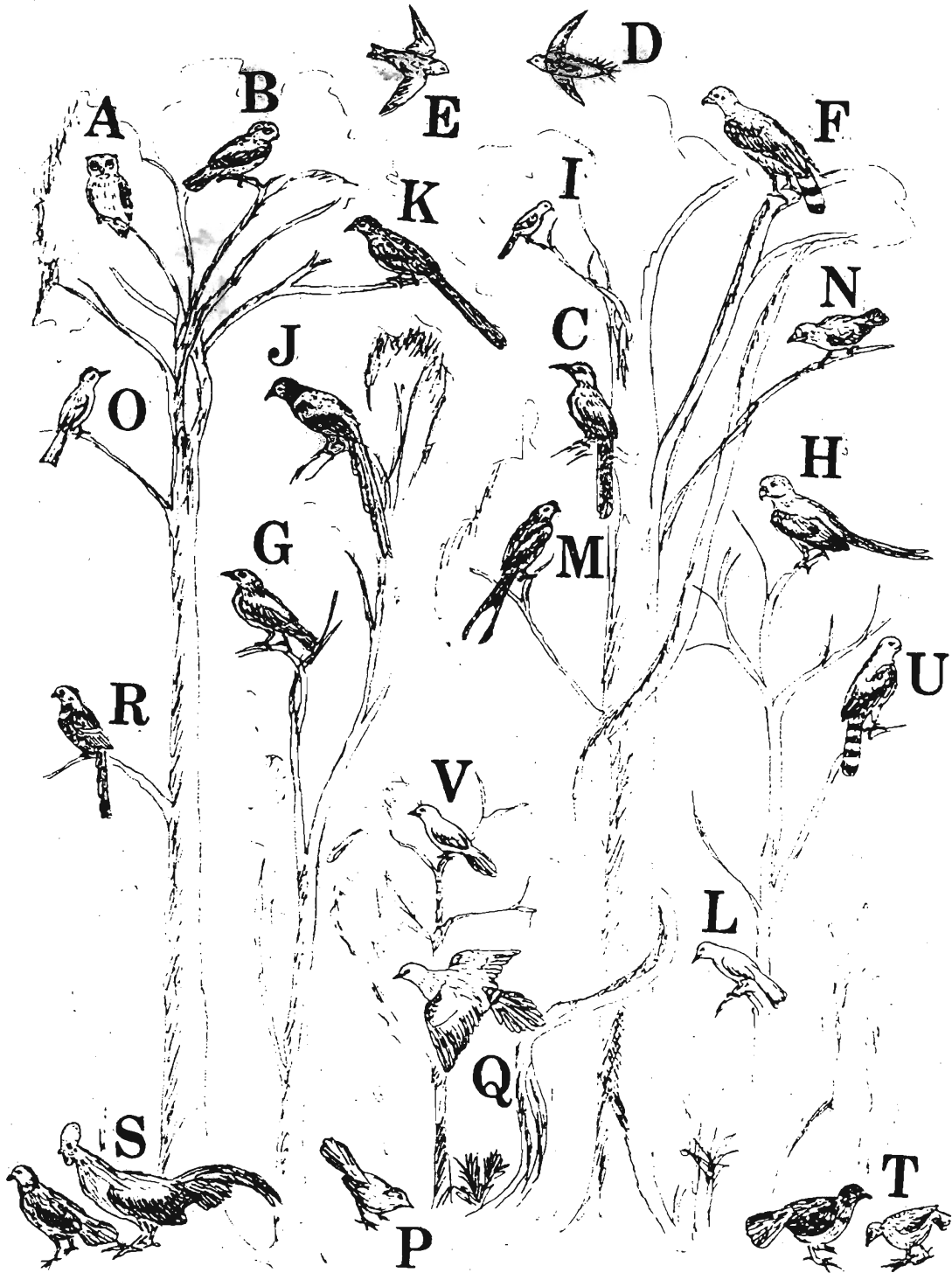
Some Animals in the Forest

Mammals:

<u>English Name</u>		<u>Sinhala Name</u>
1 = Purple faced leaf monkey		= Hali Wandura
2 = Giant squirrel		= Dandu lena
3 = Flying squirrel		= Hambawa
4 = Insectivorous bats		= Kiri wavulan
5 = Loris		= Una hapuluwa
6 = Fireback squirrel		= Pulutu lena
7 = Sambur		= Gonna
8 = Elephant		= Aliya
9 = Mouse Deer		= Meeminna
10 = Rat		= Miya
11 = Wild boar		= Wal Ura
12 = Porcupine		= Iththewa
13 = Leopard		= Kotiya

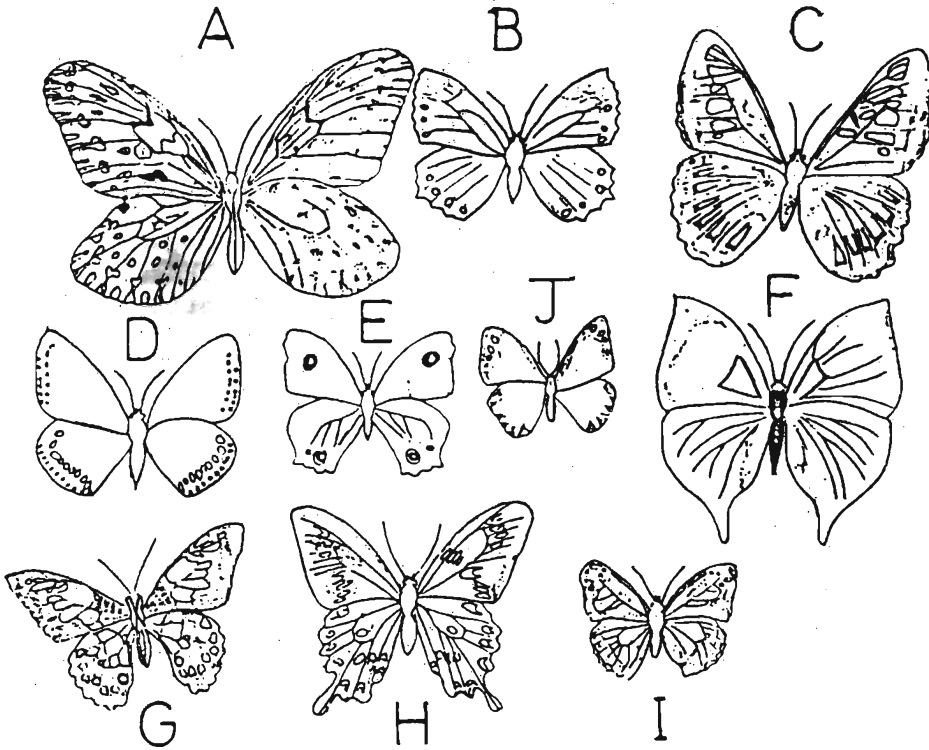
Other Animals:

<u>English Name:</u>		<u>Sinhala Name</u>
14 = Fly		= Massa
15 = Bees		= Meemassa
16 = Spider		= Makuluwa
17 = Stick Insect		= -
18 = Leaf Insect		= -
19 = Serpent		= Sarpaya
20 = Catapillar		= Dalambuwa
21 = Termites		= Weya
22 = Scorpion		= Gonussa
23 = Beetle		= Kuruminiya
24 = Lizard		= Katussa
25 = Frog		= Gemba
26 = Giant Millipede		= Hekeralla



Some Birds seen in Different Strata  
of the Forest

<u>English Name</u>	<u>Sinhala Name</u>
A = Little Scops Owl	= Singithi Bassa
B = Brown Hawk	= Dumburu Ukusu Bassa
C = Grey Hornbill	= Alu Kandetta
D = Spine Tail Swift	= Katupenda Thurithaya
E = Edible Nest Swift	= Kadal Thurithaya
F = Crested Hawk Eagle	= Konda Kussa
G = Sri Lanka Grackle	= Lanka Sela Lihiniya
H = Layards Parakeet	= Alu Giraw
I = Orange Minivet	= Maha Miniviththa
J = Blue Magpie	= Kehibella
K = Red Faced Malkoha	= Yatha Rathu Malkoha
L = Yellow Browed Bulbul	= Kaha Galuguduwa
M = Crested Drongo	= Kalu Silu Kavda
N = Yellow fronted Barbet	= Mukalana kottoruwa
O = Black Bulbul	= Kalu Galuguduwa
P = Ashy Headed Babbler	= Hisa Alu Demalichcha
Q = Bronze Winged Pigeon	= Nila Kobeyiya
R = Trogon	= Lohawannichchiya
S = Jungle Fowl	= Wali Kukula
T = Spur Fowl	= Haban Kukula



- A = Ceylon tree Nymph
- B = Common palm fly
- C = **Clipper**
- D = Double banded black crow
- E = Common evening brown
- F = Blue oak leaf
- G = Lime butterfly
- H = Common mormon
- I = Painted lady
- J = Common albatross

Notes

<u>List of Botanical Names</u>	<u>Family</u>	<u>Local Name</u>
Arundina graminifolia	Graminae	-----
Agrostistachys coreacea	Euphorbiaceae	Beru
Aporusa lanceolata	Euphorbiaceae	Wal Bombu
Anisophyllea cinnamomoides	Rhizophoraceae	Welipianna
Acranthera ceylanica	Rubiaceae	Gondiva
Calamus ovoide	Palmae	Thambotu Wel
Calamus zeylanicus	Palmae	Ma Wewal
Cleidemia sp.	Melastamataceae	Katakalu Bowitiya
Coleus sp.	Labiatae	-----
Costus speciosa	Zingiberaceae	Thebu
Cullenia zeylanica	Bombacaceae	Kataboda
Cullenia rosayroana	Bombacaceae	Kataboda
Camptosperma zeylanica	Anacardiaceae	Aridda
Garcinia hermoni	Clusiaceae	Madol
Dipterocarpus zeylanicus	Dipterocarpaceae	Hora
Dalbergia championi	Leguminosae	Kalu Bambara Wel
Diospyros quaesita	Ebenaceae	Kalumediriya
Humboldtia laurifolia	Leguminosae	Gal Karanda
Litsea gardneri	Lauraceae	Thalang
Macaranga peltata	Euphorbiaceae	Kenda
Mangifera zeylanica	Anacardiaceae	Etamba
Memecylon sp.	Melastomataceae	Pinibaru
Mesua nagassarium	Clusiaceae	Na
Mesua ferrea	Clusiaceae	Diya Na
Mikania scandens	Compositae	Watupalu
Myristica dactyloides	Myristicaceae	Malaboda
Nepenthes distillatoria	Nepenthaceae	Bandura Wel
Nothopegia beddomei	Anacardiaceae	Bala
Ochlandra stridula	Bambusaceae	Bata
Palaquium petiolare	Sapotaceae	Kirihembiliya
Paspalum conjugatum	Graminae	-----
Penesetum sp.	Graminae	-----
Schizostigma hirsuta	Rubiaceae	-----
Semecarpus gardneri	Anacardiaceae	Badulla
Semecarpus walkeri	Anacardiaceae	Badulla
Shorea congestiflora	Dipterocarpaceae	Tiniya
Shorea distica	Dipterocarpaceae	Beraliya
Shorea megistophylla	Dipterocarpaceae	Maha-beraliya

<i>Shorea stipularis</i>	Dipterocarpaceae	Nawada
<i>Shorea trapezifolia</i>	Dipterocarpaceae	Yakahalu Dun
<i>Schumacheria castaneifolia</i>	Dilleniaceae	Kekiri Wara
<i>Stemonoporus</i> sp.	Dipterocarpaceae	Mandora
<i>Syzygium rubicundum</i>	Myrtaceae	Kurumbetiya
<i>Timonius jambosella</i>	Rubiaceae	Angana
<i>Uncaria thwaitesii</i>	Rubiaceae	Apassa Wel
<i>Urandra apicalis</i>	Icacinaceae	Uruhonda
<i>Urophyllus ellipticum</i>	Rubiaceae	-----
<i>Xylopia championi</i>	Anonaceae	Athuketiya