# SLNHS Excursion Report Eluwankulama, Aruwakkalu, Pomparippu & Kala Oya Estuary Sri Lanka 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> August 2017





Mangroves at the edge of the water

# Participants

Ninel Fernando, Chris, Enoka, Shenuka & Shalini Corea, Magdon Jayasuriya, Sri Srikumar, Shevanthi Jayasuriya, Errol Anthonisz, Rashid & Ayesha Abdur-Rahman, Vasantha Dias, Chandana Senanayake, Prasantha Jayasekara and Lal Motha - a total of 15 happy souls venturing out together into the wetlands and mangroves North of Puttalam in the vicinity of Wilpattu NP.

## Travel Route

Colombo – Town Hall – Wattala – Ja Ela - Kandana – Negombo – Kochchikade - Chilaw – Madurankuli - Puttalam – Wanathavilluwa - Eluvankulama.

# <u>Theme</u>

The main theme of the visit was to observe and experience the various natural terrestrial and aquatic ecosystems and unique life forms in a part of Eluvankulama, Aruwakkalu, Pomparippu and Kala Oya Estuary. The handout provided by Dr. Magdon Jayasuriya, our expert resource person on this journey, is reproduced below.

#### ECOSYSTEM DIVERSITY IN THE ELUWANKULAMA AREA IN THE DRY ZONE

(Aruwakkalu, Wedi-pitiya, Gange wadiya, Ailiya, Kala Oya-Lunu Oya Estuary, Puttalam Lagoon, Pomparippu)

#### Prepared by Magdon Jayasuriya for members of the SLNHS - July 2017

**Reference:** EML Consultants (Pvt) Ltd., 2005. Kala Oya River Basin - Survey of Biodiversity, Wetland Issues and Options for Sustainable Management. Report prepared for the River Basin Planning and Management Division, Mahaweli Authority of Sri Lanka, GOSL, pp.443.

**INTRODUCTION:** Eluwankulama – Aruwakkalu area lies within the distal (lower) part of the Kala Oya Basin. Due to special geological features (Miocene limestone deposits), high ecosystem diversity, palaeontological and economic importance, this region is considered as an Environmentally Sensitive Area (ESA). It forms a part of the southern border of the Wilpattu National Park (NWP), one of the six Ramsar Wetlands in Sri Lanka.

| TERRESTRIAL ECOSYSTEMS               |  |  |
|--------------------------------------|--|--|
| Dry Mixed Evergreen Forest<br>(DMEF) | Most wide-spread natural matrix vegetation (forest) type in the Dry Zone; DMEF patches, in climax (prime and mature state, are rare).<br>Indicator species: "Palu", "Kon", "Buruta"  |  |
| Sparse and Open Forest<br>(SPOF)     | Initially natural; originates from any major vegetation (forest) type in any climatic zone;<br>anthropogenically modified by deforestation processes (e.g. timber extraction,<br>agriculture, mining etc.); exists in a state of dynamic succession. |  |
|                                      | Sites: Aruwakkalu  |  |

| Scrub<br>(also Scrubland or Scrub Jungle)                         | There is a variety of scrub depending on the origin, edaphic (upland and lowland situation), soil, hydrology, stage of succession and species composition etc., e.g. Scrub on flood plains, scrub on sand, chena regrowth, beach scrub etc.   |
|---|---|
| Dry Deciduous Thorn Scrub<br>(DDTS)                               | True DDTS is considered climax vegetation   |
|   | Indicator species: "Andara", "Kukuruman", "Maila"   |
|   | Sites: Aruwakkalu   |
| Riparian Forests  |   |
| [Dry Riverine Evergreen Forest<br>(DREF)]                         | Interphase between river and typical DMEF; hydrological (water) and edaphic (soil) ecosystem influenced by high water table; linear zone of variable widths up to 100 m; characteristically taller and evergreen trees with mesophyllous leaves.  |
|   | Indicator species: "Kumbuk", "Hal milla", "Timbiri"   |
|   | Sites: Kala Oya upper estuary   |
| Coastal Forests   | Exist in terrestrial / marine interphase; influenced by salinity and wind; dense low stature forest not exceeding 4-6 m; trees strongly anchored in sandy soils and lean towards land.  |
|   | Indicator species: "Takkada", "Kiri-maran", "Sooriya", "Midi"   |
|   | Sites: Gange wadiya, Wilpattu coast   |
|   | AQUATIC ECOSYSTEMS  |
| Mangroves   | Evergreen woodlands bordering lagoons and river estuaries; considered as a coastal ecosystem; variable salinity; rich alluvial deposits; soils are water-logged, hence poorly aerated; subject to 'physiological drought'; plants develop special anatomical and morphological adaptations. |
|   | True Mangroves: occur exclusively in mangrove habitats, e.g. "Kadol.  |
|   | Mangrove associates: occur also in other habitats, e.g. "Bola kaduru"   |
|   | Sites: Lunu Oya, Kala Oya, Pomparippu Oya, Wilpattu fringes   |
| Salt marsh  | A plant community in high saline habitats; high exposure, high evapotranspiration; poor plant biodiversity; only salt –tolerant species   |
|   | Species: "Omari", "Kiri"  |
|   | Sites: Ailiya, Wilpattu coastal fringes   |
| Basin Mangrove  | A special mangrove formation with no connection to open water bodies such as lagoon or estuaries.   |
|   | Site: Wedipitiya  |
| Waterholes  | Fresh and brackish water holes.   |
|   | Sites: Aruwakkalu, Ailiya   |
| River and Streams   | Kala Oya, Lunu Oya, Pomparippu Oya  |
| Estuary: Upper estuary and Lower<br>Estuary and a transition zone | Kala Oya  |
| Coastal Waters: Puttalam Lagoon -                                 | Wilpattu coastal area   |
| Dutch Bay   |   |



Kumbuk Tree - a sign of fresh water



the fresh waters Kala Oya - during the drought

# DAY 1 – Saturday 5th August 2017

The 14 of us rendezvoused at the residence of Chris Corea. We set off from Colombo at 0540 hours in a 25 seater AC bus with driver Nishantha at the wheel and our luggage loaded onto the rear seat. Dr.Magdon Jayasuriya joined us at Kandana. Those who were habitually used to an early breakfast appeased their hunger at 0700 hours at the Thavalama Rest just past Kochchikade. At the bridge over the Gin Ganga Dr.Magdon Jayasuriya showed us the 'Gin Pol' palm (Nypa fruiticans), a mangrove plant, which lined the river banks. We drove on past the 111 km post and stopped for breakfast at Kincha at 0850 hours, just before Madurankuliya.

We re-commenced our journey at 0930 hours and reached Puttalam around 1000 hours. On the way Enoka read out aloud relevant parts from the the IUCN publication "A new awakening Rehabilitation of an Ecosystem : Eluvankulam" for our benefit. This book was passed around and the beautiful photographs were admired by many. We turned off near the 25 km post towards the Aruwakkalu Quarry site operated by Insee Cement, and drove down the 5 km gravel road to reach their site office. We were treated to a refreshing cup of tea at their canteen after which we left at 1040 hours to visit the active quarry site with Quarry Engineer, Mr. Amila Batagala, as our guide and armed guard Wimalasiri, whose task was to protect us from the unwanted attention of any stray elephants.

Photography at the active guarry site was discouraged, as a matter of policy. Mr. Batagala explained to us the many layered formations which generally prevailed all over the quarry area – the first 15 meters of reddish top soil and earth and the next 10 meters of the yellowish limestone layer which was mined by Insee Cement for the manufacture of cement. The reddish colour of the soil was attributed to the predominant presence of the mineral Rutile which is an ore of Titanium Dioxide; the blackish ilmenite ore of Titanium was also observed to a lesser extent. The discarded top layer from the train cars loaded with limestone awaiting their journey mechanized open pit mines was used as a backfill to



to the cement factory

fill up the mined area so as to prepare the land for rehabilitation. The many Kohomba trees that were observed in the rehabilitated areas were said to be as result of the initial attempts at rehabilitation by monoculture, since these trees were drought resistant and were able to survive in the sparse nutrient deficient soil. Other species of trees, well-suited to grow in the harsh climatic conditions, had been planted during subsequent rehabilitation programs, thereby enhancing the biodiversity of the tree cover in the rehabilitated region. The success of the reforestation programme was encouraging.



small ponds of brackish water. Dr.Magdon J, pointed out clumps of 'Keran-koku' (Acrostichum aureum) fern which had established around the edges of the water bodies; this plant he stated was an indicator species for the presence of brackish water. The 'Boru-pan' (Fimbristylis ferruginea), a sedge growing in clumps was also identified - this plant which abounds in the open brackish villu-s of Wilpattu NP lends its name to Borupanvila.

We drove down to a base pit of an old quarry site which contained

the fern like Keran-koku in the middle and towards mid right and the grass like bushes of Boru-pan in the foreground



examining the fossils

the fossils - close up

fossil explorers, with guide and guard

On our return journey we examined with interest the many fossil remains strewn and dumped beside certain parts of the road. These were mainly of marine creatures such as mulluscs and shells of a bygone age. The absence of our Patron Dr.Malik was felt, since he would have given us a bellyful (it was close to lunch time by now and our bellies were rumbling) with his expert knowledge on molluscs and shells. Enoka thoughtfully collected a few samples for his examination. We went back to the canteen at the quarry site office around 1300 hours for a tasty rice and curry lunch buffet followed by yogurt for dessert.



discourse at a rehabilitated area

the inquiry – what is this plant ???

examining, crushing and smelling the leaves

We continued our visit to the rehabilitated areas along the road sides with Dr. Magdon J, identifying and showing us the unique plant species, some of them rare, which had taken root in this sparse environment.

Close to Gangewadiya we braved our way through the thorny scrub jungle to reach the bottom of an old quarry pit at Wedipitiya which had a few ponds of brackish water. Basin mangroves were observed along with their associated plant species. These mangroves, which are not connected to a lagoon or other water body, are formed in artificial depressions by the periodic inundation during the rainy period and the subsequent drying out during the longer dry periods resulting in a high concentration of salts in the little water that remained. The vegetation that thrived in this mini ecosystem consisted of species which were adapted to survive in brackish water. On the higher grounds above Wedipitiya, Dr.Magdon J. showed us a medium-sized creeper covering some bushes. This has been his recent find of 'Boo-kollu' (*Rhynchosia velutina*), a critically endangered legume that he has recorded for the first time in the western coast of Sri Lanka. Hitherto it was known only from Yala and Bundala and Dr.Magdon J. has published a paper on this in the Ceylon Journal of Science in 2014.

Around 1630 hours we departed from the Aruwakkalu quarry area and headed towards Eluvankulama town. A herd of 12 elephants, of various sizes, were observed entering the water on the far side of Nelum wewa close to Eluvankulama and a few Brown Headed Gulls were seen in the shallow water. We turned off the main road onto a gravel road to reach Wilpattu House at Eluvankulama. The owner Mr.Sereno Barr Kumarakulasingham was at hand to welcome us to our lodgings. We unloaded our baggage, set up the tents and settled into our lodgings.



the gents cottage at Wilpattu House, Eluvankulam

After a cup of tea we left by van to the Eluvankulama wewa for a bath beside the wewa bund and in the water flowing through the sluice gates which was chanelled towards the paddy fields. The cool waters were a special treat after the rather hot day. Thereafter we went back to our lodgings around 1830 hours to rest for a while. We met at 1930 hours for an interesting power-point presentation by Dr.Magdon J, on the terrestrial and aquatic ecosystems present in the areas of our visit and the many specialized vegetation and species which thrived in each area.



cooling off at Eluvankulama wewa

A period of comradeship followed with lively banter and many reminiscences from field visits of the past. Around 2030 hours we walked in the moonlight to the open air dining area underneath the tall Tamarind tree and met our meal-time hostess Kumari. The dinner of Noodles and roast chicken followed by slices of pineapple for desert was well appreciated. We returned to our lodgings around 2130 hours to sleep and make up for having got up so early in the morning.

DAY 2 - Sunday 6th August 2017



morning tea/coffee with biscuits



Eluvankulama Wewa



Eluvankulama wewa

Morning tea/coffee with biscuits and Halape was served under the Tamarind tree at 0600 hours after which we drove to the Eluvankulama wewa. We disembarked at the start of the wewa and sent the van up ahead to the other end. We walked along the tank bund observing the many birds in the water, on the trees and in the paddy fields on the opposite side. This proved to be a very good area for birding and many different birds were seen. We were back at our lodgings by 0800 hours for breakfast of Pol Rotti and Katta Sambol followed by slices of juicy Water Melon, in the shade of the Tamarind tree.



Coppersmith Barbet



Indian Black Robin



Common Kingfisher



Pol Rotti for breakfast



Little Green Bee-eater



Red Water Melons for dessert







the scene up ahead

pre-briefing session

away we go...

Barr K, accompanied us on our journey during the rest of the day. We drove past Gangewadiya and hired two boats powered by outboard motors for boat rides to the Pomparippu Oya within the Wilpattu National Park, Lunu Oya and the Kala Oya lower estuary, going across the Puttalam Lagoon (Dutch Bay). We observed long patches of Mangroves, the intermediate zones, riverine forest and the salt marshes.



typical mangrove with ariel roots, which are exposed to the air for at least part of the day, to breathe.



typical mangrove with pneumatophores (straw like root structures sticking out of the ground) to breathe

Along Pomparippu Oya we disembarked into the Wilpattu National Park to view closely the two giant baobab trees (*Adansonia digitata*) known as 'Ali-gas' and the other vegetation in the area. Baobab trees are generally attributed to the presence of Arab traders who visited the island many hundreds of years ago.



the massive Baobab Treeat Pomparippu



Baobab Tree...up closer

Back to the lagoon and then up the Kala Oya Estuary, we stopped on the banks of the Kala Oya for a river bath. One of the boats was sent back to collect our lunch whilst we enjoyed a soak in the

cool waters of the river. This area was a popular picnic spot and other boatloads of holiday makers were seen passing by. The packed rice and curry was consumed under the tall Kumbuk trees on the banks of Kala Oya.



choosing a bathing spot at Kala Oya

ready for a bath at Kala Oya

Lunch time at Kala Oya

After a short rest we walked into the flood plains of the riverine forest area with Dr. Magdon J, pointing out the many species of trees and explaining their unique characteristics which made them suitable for growing in this special wetland habitat.



take a look at the trees in the forest ...



examining the fruits



lush vegetation in the riverine forest

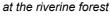


fresh water plant on the river's edge



wild fig tree







Barr K tows the drifting boat back



Baby Croc in the mangroves



back to Gangewadiya by boat



Wara - Calotropis gigantea

A small social service was performed by some of our members in collecting for disposal the visible rubbish in the area left behind by previous picnic parties. In the meantime one of the boats which had not been securely tethered had drifted down the river and Barr K, obliged by going down-river and towing it

back. On the way back we observed two baby crocodiles by the mangroves. We returned to the Gangewadiya area by boat and then drove back to our lodgings by van.



bathing in the water flowing out of the sluice gate at Eluvankulama Wewa

The pleasures of the previous day's river bath had not been forgotten and a few of us were back at the Eluvankulama wewa to bathe and an over one hour soak up in the refreshing and fast flowing waters by the sluice gate. As darkness gathered we went back by van to our lodgings. We gathered again at 1900 hours in the garden outside the cottages for comradeship and lively banter. Dinner followed in the open air dining area, in the cool breeze under the Tamarind tree, around 2000 hours after which we retreated to our lodgings for a well-earned rest from the hectic activities of the day.

#### DAY 3 – Monday 7<sup>th</sup> August 2017

Morning tea/coffee with biscuits was served under the Tamarind tree at 0600 hours after which we drove to the Eluvankulama wewa. We walked along the tank bund observing the many birds in this extremely beautiful wetland environment.







Eluvankulama Wewa

Eluvankulama Wewa

Eluvankulama Wewa

We were back at our lodgings by 0800 hours for breakfast of String Hoppers, Pol Sambol, boiled eggs and Parrippu followed by slices of juicy Water Melon under the Tamarind tree. Breakfast was followed by a short walk to the far end of Barr's garden where we were treated by the beauty of the waterfront of the Lunu Oya. On the flood plains bordering the Lunu Oya, Dr. Magdon J. observed a population of 'Tela-kiriya' trees (*excoecaria agallocha*) producing above ground, stick-like air roots (pneumatophores), an unusual feature in this species. Chris also picked up a few freshwater mollusc shells for Dr Malik's perusal.

We left by van after breakfast and went past Gangewadiya and stopped at the Rapid Deployment Unit of the Navy and obtained their permission to enter their wired off area. We were thereafter accompanied by a Navy soldier who showed interest in our activities. We walked along the beach examining the pristine vegetation in this very interesting coastal forest. The Gan Suriya with its beautiful yellow flowers was common here. A most striking find was the extremely rare and critically endangered 'Moodu-delum' (*Xylocarpus rumphii*). Another was the endangered Moodulolu' (*Cordia subcordata*) which was recorded for the first time in the west coast of Sri Lanka by Dr. Magdon J. a couple of years ago at this spot. This is an endangered species that was hitherto known only from Trincomalee and he has published a research paper in the Ceylon Journal of Science in 2015. Still another was the 'Heen-kadol' (*Bruguiera cylindrical*), a rare and endangered mangrove species in Sri Lanka. Although not rare, other common species noted in this high biodiversity-rich ecosystem were 'Kiri Maram', 'Midi', 'Malittan' and 'Manda' etc. Special characteristics which enabled these species to survive in such a sandy coastal habitat were explained by Dr.Magdon J.



the Coastal Habitat bordering the Puttalam Lagoon (Dutch Bay), near Gangewadiya



Gan Suriya with its bloom



Moodu Delun (Xylocarpus rumphii)



Malittan

In one area, the changes in vegetation just a few feet away where the sandy soil ended and the reddish forest earth commenced on the rising gradient was clearly seen. The existence of forest trees such as Palu of which the roots were almost touching the lagoon water, a rare phenomenon, was noted. We re-traced our steps along this pristine beach in the scorching hot sun and were delighted to be back inside the cool AC van.



the "emerging" Palu with large leaves



Omari plant at Ailiya....edible...sourish...



at Ailiya in the hot sun

We journeyed on and visited the Ailiya salt marsh. The almost sole shrub seen was the waist high 'Omari' (*Sueda maritima*) shrubs. The adaptation of this shrub with rounded stick shaped leaves, much like a cactus, which helped them to conserve moisture in this harsh environment, was observed. Some of us tasted the delicious and salty leaves of this plant, supposedly used for salad. We walked back along the Kumbuk tree shaded bund of the completely dried up tank to reach our "cool" van. We returned to our lodgings by 1400 hours after visiting the rather basic Museum maintained by Insee Cement. Wimalasiri, our armed escort took leave of us at the museum and we were thankful that he did not have to use his bulky gun nor the large dusty looking elephant crackers. Back at our lodgings, Kumari was ready with the rice and curry lunch which included a tastily prepared dish of Nelum Ala.



a shady avenue of Kumbuk Trees



We loaded our packed bags into the van and gathered for the last time under the shade of the Tamarind tree at 1530 hours to celebrate Enoka's birthday by singing the traditional birthday song and being treated to birthday cake and iced coffee. We wished our hosts Barr.K and Kumari goodbye and departed from Eluvankulama at 1600 hours.

celebrating Enoka's birthday

The comfort stop was at Marawila around 1800 hours and the warm hoppers being served was a temptation that was difficult to resist. After a bit of initial hesitation we settled down to an early dinner of hoppers and katta sambol; which proved to be a good decision in view of the subsequent delay along the road. We journeyed at a good pace until we reached a traffic grid lock between Waikkala and Kochchikade where we encountered bumper to bumper traffic for quite a while, mostly due to the returning pilgrims from the feast of Saint Anne, Talawila. The traffic cleared after some time and we sped smoothly along and reached Colombo at 2220 hours, thus bringing to an end an educative and enjoyable excursion.

#### **IN GENERAL**

The Wilpattu House was located in spacious premises with many fruit trees and is bordered by a 'wewa' at the rear end which is also the Lunu Oya headwaters. The extremely dry weather which had prevailed for some time was revealed by the dry vegetation all around. The accommodation at Wilpattu House in Eluvankulama was basic with most of us housed in the available cottages, a few on the veranda of the cottages and a few others in tents. The weather though hot and sunny during the day was accompanied by a breeze and it was cool and windy at night. Meals were served in the open dining area underneath the shade of a tall Tamarind tree.

The weather was hot and sunny during the day and the almost ever present wind kept us cool and comfortable. We were afforded the opportunity to view at first hand the many climatic zones, varied plants, trees and other vegetation at close quarters. The presence of Dr. Magdon J, with his expert knowledge and skills, made this experience all the more interesting and educative. A total of 68 species of birds were seen along with many butterflies during the few hours that we spent in the mornings at the Eluvankulama Wewa. The area along the tank bund was rich in bird life; more time spent here would no doubt have resulted in many more birds sightings. The list of birds and butterflies sighted during our visit is attached.



Ashy Woodswallow



Indian Cormorant



Blue faced Malkoha



Common lora



Baya Weaver nests in the early morning sun



Green Imperial Pigeon



Speckled Munia



Stork billed Kingfisher

White Rumped Munia



SL Small Barbet



Tri Coloured Munia

Our appreciation to :-

- SLNHS and specially to Ninel for the time and effort spent in organizing the trip and the meticulous logistical arrangements
- Dr. Magdon Jayasuriya for sharing his valuable knowledge on climatic systems, and ecosystem diversity and unique plant species which was very interesting and educative
- Mr. Wathsara Wedage, Quarry Manager of Insee Cement for facilitating our visit to the Aruwakkalu area and providing us with lunch and tea during the visit
- Quarry Engineer, Mr. Amila Batagalla, for being our guide within the quarry area and armed guard Wimalasiri for accompanying us and keeping a look out for stray wild elephants

- The officers of the Rapid Deployment Unit of the Sri Lanka Navy at Gangewadiya for permitting us access to areas along the beach, within their perimeter
- · Van driver Nishantha for his careful driving and bringing us home safe and sound
- The two boatmen at Gangewadiya for the safe and comfortable rides
- Mr.Sereno Barr Kumarakulasingham of Wilpattu House, Eluvankulama for cheerfully looking after our creature comforts
- The obliging and pleasant Ms.Kumari of Wilpattu House, Eluvankulama for cooking tasty meals and serving them on time
- All our participants for their pleasant friendly companionship and camaraderie which added greatly to an enjoyable and memorable trip.



This excursion report was compiled by Sri, reviewed and added to by Chris and Dr.Magdon J, with photographs by Sri. The views expressed are those of the writer and not necessarily those of the SLNHS.



Rutile, an ore of Titanium Dioxide, in abundance at the Aruwakkalu Quarry site



Muhudu Lolu (Cordia subcordata) a rare and endangered plant seen at the coastal habitat



Dr. Magdon J, sharing his expert knowledge with us at the coastal habitat



cruising through the river mouth





approaching the Baobab Tree

 $\frac{\text{BIRD TALLY LIST} - 5^{\text{th}} \text{ to } 7^{\text{th}} \text{ August 2017}}{\text{Compiled by Sri}}$ 

# <u>Name</u>

- 1 Ashy Woodswallow
- 2 Asian Koel
- 3 Asian Openbill
- 4 Baya Weaver
- 5 Black-headed Ibis
- 6 Black-hooded Oriole
- 7 Black-throated Munia
- 8 Black-winged Stilt
- 9 Blue-faced Malkoha
- 10 Brahminy Kite

- <u>Scientific Name</u>
- Artamus fuscus Eudynamys scolopaceus
- Anastomus oscitans
- Ploceus philippinus
- Threskiornis melanocephalus
- Oriolus xanthornus
- Lonchura kelaarti
- Himantopus himantopus
- Phaenicophaeus viridirostris
- Haliastur indus

#### Name

11 Brown-headed Barbet 12 Brown-headed Gull 13 Common lora 14 Common Kingfisher 15 Common Moorhen 16 Common Myna 17 Common Tailorbird 18 Crested Serpent Eagle 19 Greater Coucal 20 Green Imperial Pigeon 21 Grey Heron 22 Grey Wagtail 23 House Crow 24 Indian Black Robin 25 Indian Cormorant 26 Indian Peafowl 27 Indian Pond-heron 28 Intermediate Egret 29 Jungle Crow 30 Little Cormorant 31 Little Egret 32 Little Grebe 33 Little Green Bee-eater 34 Malabar Pied Hornbill 35 Orange-breasted Green-pigeon 36 Oriental Indian Darter 37 Oriental Magpie Robin 38 Paddyfield Pipit 39 Pheasant-tailed Jacana 40 Plain Prinia 41 Purple Heron 42 Purple Sunbird 43 Purple Swamphen 44 Purple-rumped Sunbird 45 Red-vented Bulbul 46 Red-wattled Lapwing 47 Rose Ringed Parakeet 48 Scaly-breasted Munia 49 SL Coppersmith Barbet 50 SL Lesser Flameback 51 SL Pompador Green-pigeon 52 Spotted Dove Stork-billed Kingfisher 53 54 Brown Capped Pygmy Woodpecker 55 Streaked Weaver 56 Thick-billed Flowerpecker 57 Tricoloured Munia 58 Whiskered Tern 59 Whistling Teal 60 White-bellied Drongo 61 White-bellied Sea Eagle 62 White-breasted Waterhen 63 White-browed Bulbul

64 White-rumped Munia

Scientific Name Megalaima zeylanica Larus brunnicephalus Aegithina tiphia Alcedo atthis Gallinula chloropus Acridotheres tristis Orthotomus sutorius Spilornis cheela Centropus sinensis Ducula aenea Ardea cinerea Motacilla cinerea Corvus splendens Saxicoloides fulicatus Phalacrocorax fuscicollis Pavo cristatus Ardeola grayii Mesophoyx intermedia Corvus levaillantii Phalacrocorax niger Egretta garzetta Tachybaptus ruficollis Merops orientalis Anthracoceros coronatus Treron bicinctus Anhinga melanogaster Copsychus saularis Anthus rufulus Hydrophasianus chirurgus Prinia inornata Ardea purpurea Nectarinia asiatica Porphyrio porphyrio Nectarinia zeylonica Pycnonotus cafer Vanellus indicus Psittacula krameri Lonchura punctulata Megalaima haemacephala Dinopium benghalense Treron pompadora Stigmatopelia chinensis Pelargopsis capensis Dendrocopus nanus Ploceus manyar Dicaeum agile Lonchura malacca Chlidonias hybrida Dendrocygna javanica Dicrurus caerulescens Haliaeetus leucogaster Amaurornis phoenicurus Pycnonotus luteolus Lonchura striata

#### <u>Name</u>

- 65 White-rumped Shama66 White-throated Kingfisher
- 67 Woolly-necked Stork
- 68 Yellow-billed Babbler

Copsychus malabaricus Halcyon smyrnensis Ciconia episcopus Turdoides affinis

Scientific Name

 $\frac{BUTTERFLY \ LIST - 5^{th} \ to \ 7^{th} \ August \ 2017}{Compiled \ by \ by \ Ninel \ F}$ 

<u>Name</u>

- 1 Common Jezebel
- 2 Common Sailor
- 3 Leopard
- 4 Plain Tiger
- 5 Small Salmon Arab
- 6 Tawny Coster
- 7 White Four Ring

<u>Scientific Name</u> Delias eucharis Neptis hylas Phalanta phalantha Danaus chrysippus Colotis amata Acraea violae Ypthima celonica