A STUDY OF BIO-DIVERSITY IN AND AROUND TREE HOUSE CHALETS AT BELIHULOYA



WILDLIFE RESEARCH AND STUDY CENTER

1. Introduction

Sri Lanka boasts an exceptional level of biodiversity and endemism, making it a prime destination for nature enthusiasts and eco-tourists. Despite its relatively small land area, the island supports a rich variety of species, extending even to private properties such as home gardens and agricultural lands.

Conducting detailed studies in specific locations is crucial for assessing species diversity, abundance, and population trends. These evaluations not only help identify the key species present but also provide insights into potential species that may inhabit the area but were not observed during initial surveys. Once a baseline species list is established for a given area or property, it can be continuously updated with new sightings over time.

1.1 A brief description of the Property

Tree House Chalets is a renowned eco-friendly hotel nestled in Belihuloya, one of Sri Lanka's premier tourist destinations. Set on a pristine 9-acre forest property, the hotel features several nature trails that offer guests the opportunity to observe the area's unique wildlife. The chalets are thoughtfully designed to blend seamlessly with the natural environment, built with minimal disturbance to the surrounding forest.

Guests can enjoy guided walks led by an in-house naturalist, offering insightful experiences within the property. The hotel also organizes wildlife tours to Horton Plains National Park and Udawalawe National Park, providing a chance to explore the diverse species inhabiting both the wet and dry zones of Sri Lanka.

Additional activities include jeep tours to the breathtaking Bambarakanda and Lanka Falls, hikes to nearby villages followed by refreshing river baths, and authentic Sri Lankan culinary experiences. The hotel also offers easy access to several notable attractions such as Pahanthudawa, Surathali Ella, and the Samanalawewa Dam.

Belihuloya is rich in biodiversity and home to many rare species of birds and butterflies. Notably, it is the only recorded habitat of the recently described Tiger Spider (Poecilotheria srilankensis), underscoring the ecological significance of the area. Combining untouched

natural beauty with modern comforts, Tree House Chalets offers a serene escape from the distractions of everyday life - inviting guests to reconnect with nature in an unforgettable setting.

1.2 Details of the Survey

A biodiversity survey was carried out by the **Wildlife Research and Study Center**, from 10th to 12th February 2025 and from 06th to 08th June 2025, within Tree House Chalets property and the surrounding area accessible by foot. During the survey, hotel property including the walking trails up to nearby village was mainly considered.

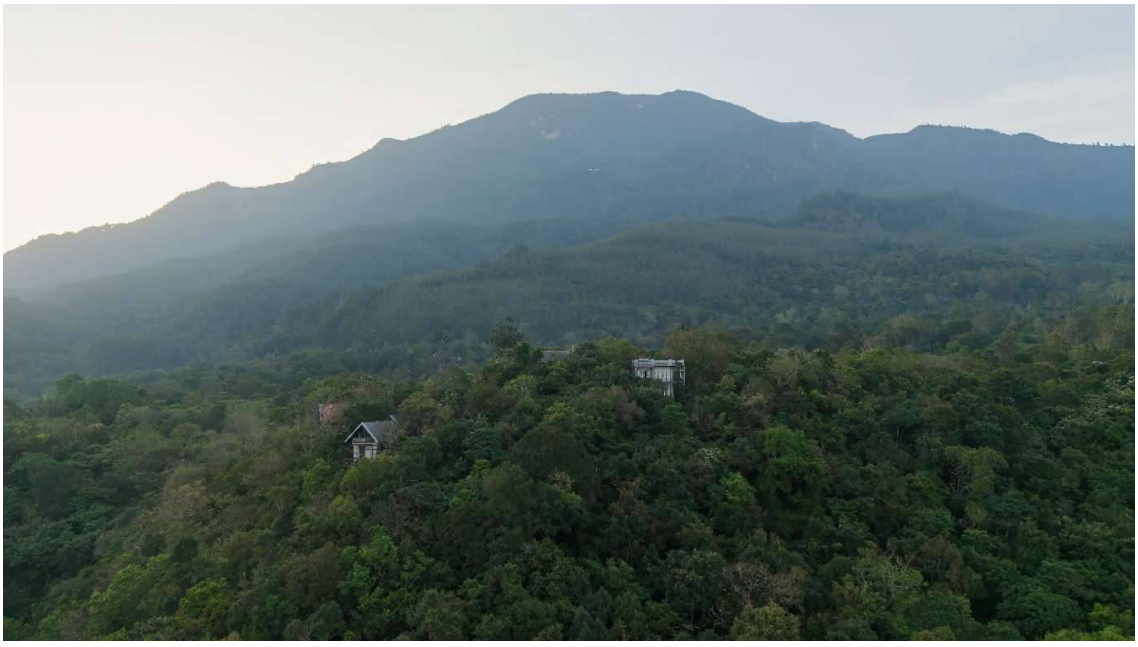

Figure 1 : An aerial view of the Hotel and the surrounding

The survey was conducted by Iroshan Rupasinghe, Pavan Thilina Bopitiya Gamage, Dilanga Madushan and Prabath Gunasekara, with a special focus on birds and butterflies. Observations were made utilizing standard optics and camera equipment; however, no camera traps or sampling methods were employed. Given that the study was conducted over a relatively short period, many species may have been overlooked, as some are seasonal and not abundant year-round. Therefore, the actual number of species inhabiting the property and surrounding area will be increased with continued observations and this study can serve as a reference for future research.



Figure 2 : Typical habitat of the area including the paddy fields of the nearby village

Species identification and recording were conducted in the field throughout the observation period. When necessary, updated scientific literature and field guides were consulted to verify identifications. Bird species were recorded in real-time using the eBird app, with photographs taken whenever possible. Other species groups were either photographed or documented with notes, as needed. All species within the surveyed groups were recorded, including the most common ones.

The following publications served as reference material for each category:

Table 1: Major publications used as references for Identification of Species

Species Group	Publications Used
Birds	Warakagoda, D., Inskipp, C., Inskipp, T., Grimmett, R. (2012) Birds of Sri Lanka
Butterflies	Van der Poorten, G.M., Van der Poorten, N.E. (2018) Field Guide to the Butterflies of Sri Lanka
Amphibians	de Silva, A., Ukuwela, K., Chathuranga, D. (2021) A Photographic Field Guide to the Amphibians of Sri Lanka
Snakes	Somaweera, R., Wijayasekara, S., Bandara, S. (2023) ශ්‍රී ලංකා වේ සර්පයින්

2.1 Findings of the Survey - Birds

Birds were the most diverse group recorded during the survey, with 84 species observed within the surveyed area, including 14 endemics, an impressive count for such a relatively small area. With continued observations, particularly during the migratory season, it is reasonable to expect that the bird list around the hotel could easily exceed 100 species.

This highlights the property and its surroundings as an excellent location to observe a wide variety of both resident and migratory birds. Walking trails near the hotel offer opportunities to encounter notable species such as the Spot-bellied Eagle Owl, Sri Lanka Frogmouth, and Sri Lanka Spurfowl, while the nearby village area supports rare and uncommon species like the Malabar Trogon and Black-throated Munia.

A detailed list of the birds recorded in the area are tabled below.

Table 2: List of Birds observed during the Survey

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
1	Indian Peafowl	*Pavo cristatus*	Least Concern
2	**Sri Lanka Spurfowl**	***Galloperdix bicalcarata***	**Vulnerable**
3	**Sri Lanka Junglefowl**	***Gallus lafayettii***	**Least Concern**
4	**Sri Lanka Wood-Pigeon**	***Columba torringtoniae***	**Vulnerable**
5	Spotted Dove	*Spilopelia chinensis*	Least Concern
6	Asian Emerald Dove	*Chalcophaps indica*	Least Concern
7	**Sri Lanka Green-Pigeon**	***Treron pompadora***	**Least Concern**
8	Green Imperial-Pigeon	*Ducula aenea*	Least Concern
9	Greater Coucal	*Centropus sinensis*	Least Concern
10	Fork-tailed Drongo-Cuckoo	*Surniculus dicruroides*	Least Concern
11	Common Hawk-Cuckoo	*Hierococcyx varius*	Vulnerable
12	Jungle Nightjar	*Caprimulgus indicus*	Vulnerable
13	Jerdon's Nightjar	*Caprimulgus atripennis*	Least Concern
14	Indian Nightjar	*Caprimulgus asiaticus*	Least Concern
15	Sri Lanka Frogmouth	*Batrachostomus moniliger*	Near Threatened
16	Alpine Swift	*Tachymarptis melba*	Endangered
17	Little Swift	*Apus affinis*	Least Concern
18	Asian Palm Swift	*Cypsiurus balasiensis*	Least Concern
19	Crested Treeswift	*Hemiprocne coronata*	Least Concern
20	Red-wattled Lapwing	*Vanellus indicus*	Least Concern
21	Asian Woolly-necked Stork	*Ciconia episcopus*	Least Concern

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
22	Oriental Honey-buzzard	*Pernis ptilorhynchus*	Vulnerable
23	Crested Serpent-Eagle	*Spilornis cheela*	Least Concern
24	Changeable Hawk-Eagle	*Nisaetus cirrhatus*	Least Concern
25	Black Eagle	*Ictinaetus malaiensis*	Near Threatened
26	Brahminy Kite	*Haliastur indus*	Least Concern
27	Spot-bellied Eagle-Owl	*Ketupa nipalensis*	Near Threatened
28	Malabar Trogon	*Harpactes fasciatus*	Near Threatened
29	**Sri Lanka Gray Hornbill**	***Ocyceros gingalensis***	**Least Concern**
30	Malabar Pied-Hornbill	*Anthracoceros coronatus*	Least Concern
31	Blue-tailed Bee-eater	*Merops philippinus*	Least Concern*
32	White-throated Kingfisher	*Halcyon smyrnensis*	Least Concern
33	**Crimson-fronted Barbet**	***Psilopogon rubricapillus***	**Least Concern**
34	Brown-headed Barbet	*Psilopogon zeylanicus*	Least Concern
35	**Yellow-fronted Barbet**	***Psilopogon flavifrons***	**Least Concern**
36	**Red-backed Flameback**	***Dinopium psarodes***	**Least Concern**
37	Rose-ringed Parakeet	*Psittacula krameri*	Least Concern
38	Plum-headed Parakeet	*Psittacula cyanocephala*	Near Threatened
39	**Layard's Parakeet**	***Psittacula calthrapae***	**Near Threatened**
40	**Sri Lanka Hanging-Parrot**	***Loriculus beryllinus***	**Least Concern**
41	Indian Pitta	*Pitta brachyura*	Least Concern*
42	Small Minivet	*Pericrocotus cinnamomeus*	Least Concern
43	Orange Minivet	*Pericrocotus flammeus*	Least Concern
44	Black-hooded Oriole	*Oriolus xanthornus*	Least Concern
45	Bar-winged Flycatcher-shrike	*Hemipus picatus*	Least Concern
46	Common Iora	*Aegithina tiphia*	Least Concern
47	White-bellied Drongo	*Dicrurus caerulescens*	Least Concern
48	Black-naped Monarch	*Hypothymis azurea*	Least Concern
49	Indian Paradise-Flycatcher	*Terpsiphone paradisi*	Least Concern
50	Large-billed Crow	*Corvus macrorhynchos*	Least Concern
51	Asian Tit	*Parus cinereus*	Least Concern
52	Common Tailorbird	*Orthotomus sutorius*	Least Concern
53	Zitting Cisticola	*Cisticola juncidis*	Least Concern
54	Barn Swallow	*Hirundo rustica*	Least Concern
55	Yellow-browed Bulbul	*Acritillas indica*	Least Concern
56	Square-tailed Bulbul	*Hypsipetes ganeesa*	Least Concern
57	**Black-capped Bulbul**	***Rubigula melanictera***	**Least Concern**
58	White-browed Bulbul	*Pycnonotus luteolus*	Least Concern
59	Red-vented Bulbul	*Pycnonotus cafer*	Least Concern
60	Green Warbler	*Phylloscopus nitidus*	Least Concern*
61	Indian White-eye	*Zosterops palpebrosus*	Least Concern
62	Tawny-bellied Babbler	*Dumetia hyperythra*	Least Concern
63	Dark-fronted Babbler	*Dumetia atriceps*	Least Concern
64	Brown-capped Babbler	*Pellorneum fuscocapillus*	Least Concern
65	Yellow-billed Babbler	*Argya affinis*	Least Concern

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
66	Velvet-fronted Nuthatch	*Sitta frontalis*	Least Concern
67	**Sri Lanka Myna**	***Gracula ptilogenys***	**Vulnerable**
68	Southern Hill Myna	*Gracula indica*	Least Concern
69	Common Myna	*Acridotheres tristis*	Least Concern
70	Asian Brown Flycatcher	*Muscicapa dauurica*	Least Concern*
71	Brown-breasted Flycatcher	*Muscicapa muttui*	Least Concern*
72	Oriental Magpie-Robin	*Copsychus saularis*	Least Concern
73	**Sri Lankan Shama**	***Copsychus leggei***	**Least Concern**
74	**Dull-blue Flycatcher**	***Eumyias sordidus***	**Vulnerable**
75	Tickell's Blue Flycatcher	*Cyornis tickelliae*	Least Concern
76	Indian Blue Robin	*Larvivora brunnea*	Least Concern*
77	Pale-billed Flowerpecker	*Dicaeum erythrorhynchos*	Least Concern
78	Purple-rumped Sunbird	*Leptocoma zeylonica*	Least Concern
79	Purple Sunbird	*Cinnyris asiaticus*	Least Concern
80	Loten's Sunbird	*Cinnyris lotenius*	Least Concern
81	Golden-fronted Leafbird	*Chloropsis aurifrons*	Least Concern
82	Baya Weaver	*Ploceus philippinus*	Least Concern
83	Black-throated Munia	*Lonchura kelaarti*	Endangered
84	White-rumped Munia	*Lonchura striata*	Least Concern

2.2 Findings of the Survey - Butterflies

Out of the 248 butterfly species recorded in the country, 50 species were observed during the survey. It is important to note that butterfly populations are highly seasonal and may not be consistently abundant throughout the year. Weather conditions also play a significant role, as rainy or prolonged dry weather can greatly limit butterfly activity. Notably, the survey documented the endangered Ceylon Palmfly and the national butterfly, the Sri Lanka Birdwing, which is also the largest butterfly species in the country.

A detailed list of the butterflies recorded in the area are tabled below.

Table 3: List of Butterflies observed during the Survey

Ref.	Common Name	Scientific Name	IUCN Status
	Family : Hesperiidae		
1	Brown Awl	*Badamia exclamationis*	Least Concern
2	Common Banded Awl	*Hasora chromus*	Least Concern
3	White-banded Awl	*Hasora taminatus*	Near Threatened
4	Common Dartlet	*Oriens goloides*	Near Threatened
5	Chestnut Bob	*Iambrix salsala*	Least Concern
6	Indian Palm Bob	*Suastus gremius*	Least Concern
7	Wallace's Swift	*Borbo cinnara*	Least Concern
	Family : Lycaenidae		
8	Malayan	*Megisba malaya*	Least Concern
9	Common Hedge Blue	*Acytolepsis puspa*	Least Concern
10	Monkey Puzzle	*Rathinda amor*	Least Concern
11	Metalic Cerulean	*Jamides alecto*	Least Concern
12	Dark Cerulean	*Jamides bochus*	Least Concern
13	Angled Pierrot	*Caleta decidia*	Least Concern
14	Common Lineblue	*Prosotas nora*	Least Concern
15	Cornelian	*Deudorix epijarbas*	Vulnerable
	Family : Nymphalidae		
16	Gladeye Bush Brown	*Mycalesis patnia*	Least Concern
17	Medus Brown	*Orsotriaena medus*	Least Concern
18	Common Palm Fly	*Elymnias hypermnestra*	Least Concern
19	**Ceylon Palmfly**	***Elymnias singhala***	Endangered
20	Common Evening Brown	*Melanitis leda*	Least Concern
21	Dark Evening Brown	*Melanitis phedima*	Near Threatened
22	White Four-ring	*Ypthima ceylonica*	Least Concern
23	Common Indian Crow	*Euploea core*	Least Concern
24	Glassy Tiger	*Parantica aglea*	Least Concern

Ref.	Common Name	Scientific Name	IUCN Status
25	**Ceylon Tree Nymph**	***Idea iasonia***	**Vulnerable**
26	Common Leopard	*Phalanta phalantha*	Least Concern
27	Rustic	*Cupha erymanthis*	Least Concern
28	Tamil Yeoman	*Cirrochroa thais*	Least Concern
29	Tawny Rajah	*Charaxes psaphon*	Near Threatened
30	Angled Castor	*Ariadne ariadne*	Least Concern
31	Common Sailor	*Neptis hylas*	Least Concern
32	Chestnut Streaked Sailor	*Neptis jumbah*	Least Concern
33	Commander	*Moduza procris*	Least Concern
34	Chocolate Soldier	*Junonia iphita*	Least Concern
35	Grey Pansy	*Junonia atlites*	Least Concern
36	Lemon Pansy	*Junonia lemonias*	Least Concern
37	Great EggFly	*Hypolimnas bolina*	Least Concern
38	Tamil Lacewing	*Cethosia nietneri*	Least Concern
	Family : Papilionidae		
39	Common Rose	*Pachliopta jophon*	Least Concern
40	Common Mormon	*Papilio polytes*	Least Concern
41	Red Helen	*Papilio helenus*	Vulnerable
42	Blue Mormon	*Papilio polymnester*	Least Concern
43	Narrow-banded Bluebottle	*Graphium teredon*	Least Concern
44	Tailed Jay	*Graphium agamemnon*	Least Concern
45	Common Banded Peacock	*Papilio crino*	Vulnerable
46	**Sri Lanka Birdwing**	***Troides darsius***	Least Concern
	Family : Pieridae		
47	Psyche	*Leptosia nina*	Least Concern
48	Lemon Emigrent	*Catopsilia pomona*	Least Concern
49	Three-spot Grass Yellow	*Eurema blanda*	Least Concern
50	Common Jezebel	*Delias eucharis*	Least Concern

2.3 Findings of the Survey – Reptiles

During the survey, only a few reptile species were observed, as conditions were not ideal for herpetological activity. Prolonged dry weather significantly reduces sightings, making it essential to conduct continuous monitoring to accurately document the reptile diversity in the area.

Among the species recorded, a notable observation was a Green Vine Snake exhibiting a reddish ventral coloration—a relatively rare variation in this species.

A detailed list of the recorded reptiles is provided in the table below. For IUCN conservation status, the report "Assess to Plan: Conservation Action Planning for the Snakes and Lizards of Sri Lanka" (April 2020) was used. For species not evaluated in that report, the IUCN Red List 2012 was referenced.

A detailed list of the Reptiles recorded in the area are tabled below.

Table 4: List of Reptiles observed during the Survey

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
1	**Green Vine Snake - ඇහැවුල්ලා**	***Ahaetulla nasuta***	**Least Concern**
2	Merrem's Hump-nosed Pit Viper - කුණකටුවා	*Hypnale hypnale*	Least Concern
3	**Sri Lanka Kangaroo Lizard**	***Otocryptis wiegmanni***	Least Concern
4	**Hump-nosed Lizard**	***Lyriocephalus scutatus***	**Vulnerable**
5	**Common Lanka Skink**	***Lankascincus fallax***	Least Concern
6	**Common Skink**	***Eutropis lankae***	**N/A**
7	**Spotted Bow-fingered Gecko**	***Cyrtodactylus triedrus***	**Near Threatned**
8	**Lokuge's Day Gecko**	***Cnemaspis lokuge***	**N/A**
9	Bark Gecko	*Hemidactylus leschenaultii*	Least Concern
10	Common House Gecko	*Hemidactylus frenatus*	Least Concern
11	Spotted House Gecko	*Hemidactylus parvimaculatus*	Least Concern
12	**Kandyan Gecko**	***Hemidactylus depressus***	**Least Concern**

2.4 Findings of the Survey – Amphibians

Even though the survey was mainly focused on Birds and Butterflies, few species of frogs were also recorded. Given the dry weather sustained for few weeks, the activities of amphibians were very low. More observations need to be carried out at better weather conditions in order to assess the amphibian diversity in the area.

A detailed list of the Amphibians recorded in the area are tabled below.

Table 5: List of Amphibians observed during the Survey

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
1	**Bronzed Frog**	***Hylarana temporalis***	**Vulnerable**
2	**Corrugated Water Frog**	***Lankanectes corrugatus***	**Near Threatned**
3	Common Paddyfield Frog	*Minervarya agricola*	Least Concern
4	**Common Hour-glass Tree frog**	***Polypedates cruciger***	**Least Concern**
5	**Common Shrub frog**	***Pseudophilautus popularis***	**Vulnerable**

2.4 Findings of the Survey – Mammals

The area is home to many species of Mammals including many species of bats and rodents. Wild elephants are known to roam the area, even though we were unable to observe them during the survey period. Indian Giant Flying Squirrel (Petaurista philippensis), a species very difficult to observe in the wild, gave superb views in close proximity to a chalet.

A detailed list of the Amphibians recorded in the area are tabled below.

Table 6: List of Mammals observed during the Survey

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
1	**Purple-faced Langur**	***Semnopithecus vetulus***	**Endangered**
2	**Toque Macaque**	***Macaca sinica***	**Endangered**
3	Indian Palm Squirrel	*Funambulus palmarum*	Least Concern
4	Sri Lankan Giant Squirrel	*Ratufa macroura*	Endangered
5	Indian Giant Flying Squirrel	*Petaurista philippensis*	Least Concern

Ref.	Common Name	Scientific Name	IUCN Status/Global Status*
6	Indian Flying Fox	*Pteropus medius*	Least Concern
7	Rufous Horseshoe Bat	*Rhinolophus rouxii*	Least Concern
8	Beddome's Wooly Horseshoe Bat	*Rhinolophus beddomei*	Least Concern
9	Indian Grey Mongoose	*Urva edwardsii*	Least Concern
10	Barking Deer	*Muntiacus malabaricus*	Least Concern

3. Images of the species encountered at the survey

Images of some of the species observed during the survey are included below.



Figure 3 : A male Black-naped Monarch (*Hypothymis azurea)* was observed at close range.



Figure 4 : Black-capped Bulbul (Rubigula melanictera) is one of the most common endemics in the property.



Figure 5 : Malabar Trogon (Harpactes fasciatus) is one of the most colourful birds in the country.



Figure 6 : A pair of Velvet-fronted Nuthatch (Sitta frontalis) running on the branches in search of food.



Figure 7 : Tickell's Blue Flycatcher (Cyornis tickelliae) can be both seen and heard well in the walking trails of the property.



Figure 8 : Sri Lanka Frogmouth (Batrachostomus moniliger) is a nocturnal bird with unique features.



Figure 9 : Endemic Layard's Parakeets (Psittacula calthrapae) were feeding on trees at the forest edge near the village.



Figure 10 : Sri Lanka Junglefowl (Gallus lafayettii) is the national bird of Sri Lanka.



Figure 11 : Tamil Yeoman (Cirrochroa thais) sunbathing in the open, showing it's bright orange upper wings.



Figure 12 : Sri Lanka Birdwing (Troides darsius), a newly emerged specimen warming up for its first flight.



Figure 13 : Hump-nosed Lizard (Lyriocephalus scutatus), is abundant within the property.



Figure 14 : Spotted Bow-fingered Gecko (Cyrtodactylus triedrus), is a near threatened gecko species.



Figure 15 : Common Hour-glass Tree frogs (Polypedates cruciger) near a small water source.



Figure 16 : Beddome's Wooly Horseshoe Bat (Rhinolophus beddomei, prefer heavily forested areas.



Figure 17 : Poecilotheria srilankensis is Tiger Spider species found only in Belihuloya area.

4. Conclusion

The survey was conducted to assess the rich biodiversity of the area and to serve as a baseline for future studies. Observations were carried out over five days, during both daytime and nighttime. The primary focus was on birds and butterflies, which represent the most diverse faunal groups in this region of the country.

The findings indicate that the area is a significant birding hotspot, ideal for observing both resident and migratory bird species. Butterflies were also recorded in notable numbers - over 20% of Sri Lanka's butterfly species were observed during the survey. This is an impressive figure, considering that many butterfly species are seasonal, while only a few are present year-round. A long-term study would provide a clearer understanding of the butterfly diversity in the area. The Belihuloya region is known to host some of Sri Lanka's rarest butterfly species, and many of these can potentially be observed within the property under favorable conditions.

There is considerable scope for further research on other faunal groups, particularly reptiles and mammals. The property has recently begun using camera traps, which will aid in identifying elusive mammal species that are difficult to observe during the day time. Additionally, other biodiversity components such as insects and plants warrant detailed evaluation to develop a more comprehensive understanding of the area's ecological richness.

This preliminary survey clearly demonstrates the high species diversity of birds and butterflies around the hotel, as reflected in the recorded species lists. The study underscores the area's value as one of the best locations in Sri Lanka to observe a wide range of bird and butterfly species, including many endemics, making Tree House Chalets a premier destination for nature enthusiasts from around the world.