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Urban Biodiversity of Kolkata
Flowering Plants, Butterflies,
Birds and Mammals

SUCHITRA GHOSH



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**RECORDS OF THE
ZOOLOGICAL SURVEY OF INDIA**

**Urban Biodiversity of Calcutta : Flowering Plants,
Butterflies, Birds and Mammals
West Bengal, India**

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सत्यमेव जयते

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INTRODUCTION

Biodiversity, or biological diversity, refers to all life forms, with their manifold varieties that occur on our planet earth. It encompasses not only species but the different sub-units of species like races and population each possessing its unique characteristic attributes.

Biodiversity means all hereditary based variation at all levels of organization from the genes within a single local population of species to the species composing all or part of the local community, and finally to the communities themselves, that compose the living parts of the multifarious eco-system of the world.

Reason for the importance of study of biodiversity is that only a very small percentage of these biological units have been investigated in any detail. Biological diversity incorporates all the living entities occurring largely in the wild. A part of it is also recognized in the settled agriculture and animal husbandry where several plant and animal breeds are conserved. There is a vast potential to exploit this untapped resource, provided it survives.

Biodiversity has a direct consumptive value in agriculture, medicine and industry. The agricultural diversity in terms of crops (rice, wheat, oats, etc.) and vegetables, livestock, fisheries, etc. has substantial commercial value. Of the known vascular plants, about 25 % have edible properties. About 100 species are known to supply 90 % of human food. Wild plants, insects, molluscs, fishes and wild herbivores are consumed by many tribes as their daily food. According to UNDP, the tropical country's plants, animals and microbes produce pharmaceutical worth more than \$ 30 billion every year. Around 20,000 plants are believed to be used in the traditional system of Unani, Ayurveda and Siddha. The drugs containing plant extracts include tranquilizers, antibiotics, pain killers and those used to treat heart diseases and high blood pressure.

In both developed and developing countries plant and animal products are used in industries. The plants produce chemicals which are natural insecticides or herbicides. Yet other plants and animals produce waxes, lubricating oils, resins, dyes and oils for perfume, etc.

The conservation effort needed to save the threatened species is immense. Biologists, researchers and even common people can intervene to halt the extinction of species. Such action can be local for individual species or for a habitat. If managed properly, even a threatened species can be brought back from the verge of extinction.

Urban biodiversity is considered to be one of the most important elements that need to be conserved. With the increasing trend of urbanization worldwide, the conservation of biodiversity assumes even more importance. It is definitely very vital to make our future citizens aware of their neighbouring biodiversity so that they will learn to live with it in a sustainable manner.

Protecting biodiversity is not merely a matter of emotion or aesthetics; wild habitats hold the key to our water security, soil, health and thus agriculture. A destabilized environment will eventually destabilize our economy itself. If a keystone species is allowed to vanish, this will spell disaster for a host of other flora and fauna. Vital water catchments will be lost, affecting the lives of millions who depend on natural resources for their survival.

Worldwide, urban biodiversity is recognized as an important resource that has to be maintained for sustainable use of our environment. Global Biodiversity Assessment Report (Anon, 1995) pointed out to the importance of urban biodiversity. With the rapid urbanization throughout the world there is a need to assess its impact on the biodiversity of our planet. The monitoring of biodiversity is an important aspect to realize the signs of changes. But such monitoring cannot be done without creating a database of flora and fauna of the areas concerned.

HISTORICAL BACKGROUND

Calcutta (Kolkata) has had glorious history of greenery. Benthall (1946) in his *Trees of Calcutta and its neighbourhood* provided an excellent account of as many as 276 species of flowering trees that were found till 1944. Sample surveys conducted by Malhotra (1987) and Santra (1988) indicated that the tree density was far less than the minimum requirement. Ghosh (2001) estimated 5.5% of the total space of the city under parks, gardens and open spaces; ideally, it should be 15% for a city of the size of Calcutta. The urban biodiversity of Calcutta was first considered in a study by Ghosh (1988) in Urban Ecology; a case study of Calcutta. In this study, reference was drawn to relationship of wild biodiversity in urban area and agro-biodiversity in the peripheral area of East Calcutta. The issue of habitat destruction was pointed out as also the need for an appropriate management plan.

Blyth (1863) published bird lists that he recorded during his stay in Calcutta from 1841-1863. Ghosh (1990 a, b) also published two papers on 'The biological resources of Wetlands of East Calcutta and Brace Bridge Wetlands', where detailed information on the avifauna was given, including the un-published list prepared by ornithologist, B. Biswas, from East Calcutta. The richness of vertebrate fauna of Calcutta was clearly evidenced in these papers. Mookherjee (2004) of Prakriti Samsad has also published a compiled list of birds of Kolkata (Calcutta) as recorded by Samsad members during the last twenty five years of study which included 260 species. www.kolkatabirds.com publishes details of sightings of birds in and around Calcutta and regularly updates the list. Ghosh and Siddique (2005) have reported sighting of 68 butterfly species (which increased to 85 at the end of the study from Calcutta Metropolitan areas) and also made new records of birds from the same area (Ghosh and Ghose, 2007).

The issue of urban biodiversity was rather neglected before; it is now gaining increasing focus, especially during the last decade and was included in the United Nations Environment

Programme (UNEP) document on global biodiversity assessment. In India, however, urban biodiversity has generally not been systematically studied except for the following works—

Checklist of the birds of Maharashtra with notes on their status around Bombay, Maharashtra by Abdulali (1981);

Biodiversity study of Narendrapur Wildlife Sanctuary in the south-eastern fringe of Calcutta by Kushal Mookherjee, *Prakriti Samsad* of Calcutta (1985);

Some works on 'Sanjoy' Gandhi National Park (Borivali NP) near Mumbai by Monga (1986) & Paranjape (1997);

On 100' Beautiful Trees Calcutta Study by R. K. Chakraborty (1990);

On Birds and Trees of Tollygunge Club by Kushal Mookherjee (1995);

On Birds of Sultanpur, near Delhi by 'Kalpavriksh' (Anon, 1996);

On the fauna of Union Territory of Delhi by Tak and Sati, Zoological Survey of India (1997);

On Bird biodiversity study of Salt Lake, Calcutta, by *Prakriti Samsad* (Mookherjee and Chatterjee 1999);

On Urban Biodiversity of Pune (by RANWA), Published by Dixit, *et al*; (2000-1) and Nalawade, *et al* (2000-1);

On Birds in and around Kolkata by Mookherjee, PRAKRITI SAMSAD, Calcutta (2004);

On Avian Diversity in East Calcutta Wetlands by Ghosh (2004);

On Birds and Butterflies of Raj Bhavan, Kolkata (Calcutta), by Ghosh (2008).

MATERIAL AND METHODS USED

During the present study of urban biodiversity, GPS (Magellan 310) was used to obtain the latitude and the longitude of each and every study site;

Binoculars 10 x 50 / 7x 35 / 7x 50 (Nikon, Pentax & Minolta) have been used to record the bird;

Spotting scope of 20 x 50 range has been used to identify the waders and aquatic (mainly migratory) birds as well as raptors if sitting within range;

Nikon F90 camera with 400 telephoto lens for birds and Olympus OM1 with zoom and telephoto 200 lens have been used for photographic purposes;

INSPIRON 630m DELL Laptop with printer has been used for keeping the data on four different indicator species obtained from seventeen study locations during four seasons of the study period;

Study was conducted at eleven sites (covering seventeen locations within Calcutta urban area) in four seasons of the first, second and the third year according to the planned proposal.

For schedule survey work, to pay a visit to all the selected sites, morning hours were logically chosen, at least for the birds as their peak activities are seen in the morning.

Butterflies were very much active during late morning, particularly between 08.00-08.30 hrs and 13.00-15.00 hrs. In the locations where butterfly congregation was high, field visits continued till 16.00 hrs.

Mammals, which still occur in Calcutta urban area, usually come out after dusk. Therefore, evening visits were arranged during the third year of the present study with prior permission from the respective authorities. In Narendrapur Wildlife Sanctuary, Shyamkhola, Banobitan, in a small part of East Calcutta Wetlands, Indian Institute of Management, Joka, and in the garden of Raj Bhavan, night survey could be conducted.

BENCHMARK DESIGN

Living organisms serve as reliable ecosystem indicators (Hawksworth, 1995). In the present study, four indicator groups were considered, namely, flowering herbs, shrubs and trees; butterflies; bird and mammals, with the hope that our study would help record the status of these indicator groups as a benchmark which would hopefully be used in land use planning and environmental management.

Calcutta (Kolkata) Municipal Corporation area includes 141 wards but Calcutta (Kolkata) Metropolitan Development Authority includes other adjoining municipalities. We selected for our study the following eleven major sites, and a few sub-sites, that comprised orchards, urban greenery, wetlands, agricultural lands and built-up areas with vegetation (Calcutta City Map).

- I Shyamkhola and Narendrapur Wildlife Sanctuary
- II Indian Institute of Management-Calcutta, Joka
- III Part of East Calcutta Wetlands
- IV Banobitan and Subhas Sarovar
- V Tala Park and Indian Statistical Institute, Baranagore
- VI Eden Gardens, Maidan and the grounds of Victoria Memorial Hall
- VII Brace Bridge Wetlands of Mudiali Fisheries
- VIII Tollygunge Club
- IX Agri-Horticultural Society of India and Alipore Zoological

X Esplanade and the grounds of Raj Bhavan

XI Rabindra Sarovar.

SITE DESCRIPTION

Ia. *Shyamkhola* (22° 25'.24 N – 88° 23'.32 E) :

This area to the west of Narendrapur, and almost adjoining it, in Dakshin Jagatdal, consists of villages with dense orchards, a mixture of natural and planted vegetations (Appendix – II A i), open croplands and ponds of different sizes. It also has a large wetland that was created owing to removal of soil from croplands for brickfields. There are several bamboo groves which attract many birds. When the trees are in flower, or with fruit, many frugivorous and nectar eating birds as well as butterflies and even few mammals congregate; this is unique to the place. The small and medium ponds and a few large pools attract water birds.

Threat : Residential buildings are coming up replacing the greenery. Orchards are being converted into small factories or workshops disturbing the tranquility the area. Though it is very rich in its flora and fauna at present, with all its threats, what would remain here in near future, one has to wait and see.

Ib. *Narendrapur Wildlife Sanctuary (NWLS)—Presently the Chintamani Kar Bird Sanctuary* (22° 25.70' N – 88° 24.15' E) :

This area in Narendrapur, south of Calcutta (see Calcutta City Map), is of about seventeen acres comprising mainly of mango trees (*Mangifera indica*) with dense vegetative undergrowth. There are other fruit trees, such as, *Artocarpus heterophyllus*, *Syzygium jambos* (Appendix II - A – ii)

Threat : People from nearby bustee continuously collect the undergrowth to use as fuel. Lopping of trees is also a threat here. Dry leaves collection by clean sweeping interferes with the ground fauna and flora. Occasional tree felling is also a very big problem here.

II. *Indian Institute of Management, Joka* (22° 36.49' N – 88° 23.02' E) :

The area studied is the campus and adjoining area of the Indian Institute of Management-Calcutta (IIM-C), about 20 km away from Calcutta (see Calcutta City Map). The IIM-C campus (135 acres area) has wetlands and fairly densely planted areas with good ground cover (Appendix II – B) but lot of buildings are coming up, decreasing the area of vegetation. Some of the wetlands are leased out for intensive fishery. Still the *Typha* bed that remains helps several birds and few mammals to take shelter. This unique *Typha* bed does not exist anywhere else in the city where present biodiversity study was conducted. Behind the IIM-C Joka campus, there is also a marshy land where not only migratory ducks and stork forage and roost, but birds of prey also congregate there for hunting, at least in winter. New buildings which are

coming up now, both inside and outside IIM-C are likely to interfere with the wild flora and fauna which are depleting day by day.

Threat : Though entry is restricted, people from adjoining villages have unrestricted access to the campus and they collect *Imperata cylindrica* and other grass species as fodder for their cattle. They cut the grasses very close to the ground which results in interfering with the breeding of several ground nesting birds. They also disturb the whole area by traversing on foot and thereby devastating the roosting as well as the nesting places of many animals. Occasionally the grass cutting has official sanction but, it seemed, more often than not it could be illegal.

III. *East Calcutta Wetlands (22° 34' 00''N – 88° 26' 09'' E)* :

A part of what was the north Salt Lakes (see Calcutta City Map) at present is the Nalban Bheri to the south of and east of Nicco Park (Jhilmil). This bheri, owned by the Fisheries Department of the Government of West Bengal, has an area of 152 hectare and, like all other bheris of the area, is a sewage-fed fish farm. The maximum depth of water is c. 1.6m. The central part is devoid of any emergent vegetation and the fringe has water hyacinth stretches controlled by bamboo barrier. The study was generally concentrated on Teener Gheri, Charnumber Bheri, Sardar Bheri, Matar Bheri, Chintasingh Bheri and Munsir Bheri.

Threat : Though the entire area is meant for pisciculture, yet the fishing method jeopardize the birds those roost (floating vegetation) or forage. The fishermen beat the peripheral water hyacinth of the bheries with long sticks or logs vigorously that chase away the migratory birds. Such continuous disturbance during winter may prevent migratory birds, particularly ducks, from coming to the area.

IVa. *Banobitan (Salt Lake City) (22° 35' 38'' N – 88° 25' 15'' E)* :

This sprawling park has lots of trees (Appendix II - D i), some open spaces, wetlands and manicured garden. Many tall trees are used by birds like Green Pigeon, Large Indian Parakeet, and Indian Roller to nest. The garden being well maintained, it attracts a large number of butterflies. The Bottle Brush trees are the feeding ground of the Purple as well as the Purple-rumped Sunbird. The old trees attract Woodpeckers. The lake, although primarily meant for fishing, attract quite a few water birds. The south and the south-eastern part of the lake have water hyacinth.

The narrow canal in the east that connects the southern part of the lake is choked with water hyacinth. To everybody's utter dismay, the southern periphery of the lake is used for washing clothes and for bathing which is likely to disturb the roosting as well as the nesting of water birds. The nursery is well tended and location-wise remains undisturbed in the south-western border of the garden. Here the shy Ground Thrush has been seen to nest. Along the western periphery of the garden there is a large unused area where in the evening mammals



1a, 1b

Calcutta City Map

like jackal are seen regularly. This land belongs to Calcutta (Kolkata) Metropolitan Development Area and is now being cleared of its undergrowth which is likely to affect the jackal and other mammals that find shelter there.

Threat : The water body is much exploited by anglers and the park is visited by many people everyday. Throughout the day the visitors (from 6 am till 6 pm) are permitted to stay inside the park. In one of the water bodies boating is allowed which disturbs the aquatic fauna. The water body near the southern periphery is much exploited by local people who come from Karunamoyee bus terminus in Salt Lake for washing clothes as well as bathing. The detergent used by them is also likely to affect the aquatic fauna.

IVb. Subhas Sarovar (22° 34 22 N – 88° 24 14 E) :

An artificial lake with an island in the centre and has a fairly well maintained grounds along its southern periphery. The lake is used for pisciculture. On the banks of the lake there are tall, old trees some of which have huge trunks. The tree canopy is very good here. Several broadleaved trees (Appendix II – D ii), particularly along the southern periphery, cover the ground creating nesting place for some birds. Although the lake is used extensively by the public, the island remains undisturbed which is used mainly by the cormorant, shag, darter, egret, pond and night herons, waterhen, little grebe, etc, for their feeding and roosting.

Threat : The local bustee people use the lake for bathing and washing. The use of detergent has a detrimental effect on the fish fauna which may affect the fish eating birds.

Va. Tala Park (22° 36.69' N - 88° 23.06' S) :

Surrounded by high-rises it comprises three adjoining parks, playground and a godown of Calcutta (Kolkata) Municipal Corporation (see Calcutta City Map). All the areas have old, tall trees, at least along the periphery (Appendix II – E i). The northernmost side has a water body with an island. The bushes, which still remain in the third park land, attract few nesting birds.

Threat : The banks of the water body have recently been paved with concrete.. A concrete gangway has also been built as an access to the island. The island used to be a nesting place for Large Egret in the recent past. The mud-bank formerly used to attract some birds for foraging. But now because of the concrete embankment the birds have nearly abandoned the place. The second piece of land is used by different groups of boys who play something or the other throughout the day; therefore sustenance of biodiversity is not much expected here. The third piece of land, leaving aside the Municipal Corporation's godown, is used for exhibition, circus, fair, etc.

Vb. ISI, Baranagore (22° 38' 47'' N - 88° 22' 38'' E) :

Situated on Barrackpore Trunk Road (see Calcutta City Map), Indian Statistical Institute is the premier institute known for its excellence in statistical work. The campus has three ponds.

There are a number of trees with *Mangifera indica* (Aam) predominating (Appendix II - E ii). Since admittance is restricted, the health of the habitat is fairly good. However, birdlife comprises the common birds generally seen in such a garden as this. There is a dilapidated house which a family of Common Palm Civet made their home.

Threat : New buildings are coming up in the open fields and thereby the greenery is diminishing gradually. A guide book on birds was written by Home (1973) some thirty years back, frequently mentioned this campus. This being an academic institution of excellence, to meet continuous need to accommodate more and more students and other academic research, buildings would be constructed in near future and the biodiversity which still exist today would vanish soon.

VIa. Maidan (22° 32.35' N – 88° 20.28' E) :

This huge open space in the centre of the city (see Calcutta City Map) has roadside plantations with many indigenous and exotic trees. It is considered as the lung of the city. There are tents of many clubs which has groves of trees (Appendix II – F i). In between the roads the open stretches have grass which is kept short by the constant grazing by goat, sheep and pony and by the action of numerous people specially children who use this area as play ground. Maidan accounts for 50% of open space for the city. The area is highly disturbed throughout the day in winter by people practicing different forms of sports.

Victoria Memorial Hall : The sprawling grounds surrounding this imposing edifice have a number of native and exotic trees (Appendix – I B & LC; II – F i), lawns and water bodies with concrete banks. It is a very popular place for morning walkers when the place is specially crowded.

Threat : Public meetings and seasonally big exhibitions cover a large part of the area, disturbing the tranquility, covering it with garbage and disturbing the biodiversity with glaring lights.

VIb. Eden Gardens (22°33.55' N – 88° 21.01' E) :

This beautiful garden adjoining the famous cricket ground of the same name is a secluded place with many trees (Appendix – II F ii), a meandering water body and a Pagoda. Maintained by the Forest Department, it also has a nursery in one corner. It is less disturbed than most other sites though it is in an area which is otherwise congested.

Threat : No immediate threat to the site was noticed.

VII. Brace Bridge Wetlands (22° 31.24' N – 88° 17.63' E) :

The marsh west of the Brace Bridge railway station is now a very changed environment from what it was twenty years back. The Mudiali Ecological Park or the Nature Park (see Calcutta City Map), as it is now known, comprises of mixture of natural and planted vegetation (Appendix II - G) developed around networks of wetlands which is under intensive fish culture;

so most of the water body is devoid of any vegetation, either floating, submerged or emergent. There are embankments criss-crossing the whole area, which have dense plantation of trees. There is no shallow water habitats left which the waders used to visit. However, the trees do attract many arboreal birds, which were not present in such numbers and variety in the past. Earlier works on Brace Bridge Wetlands include that of 120 species of birds and 143 species of plants (Ghosh & Chattopadhyaya, 1990).

Threat : Too many picnickers assemble here during winter months and pollute the area mercilessly. Sound pollution is too annoying and this disturbs whatever biodiversity that exists there.

VIII. Tollygunge Club (22° 29.44' N – 88° 20.37' E) :

The 100-acre premises of the club in south Calcutta (see Calcutta City Map) is an eighteen-hole golf course that has tree lined golfing fairways, groves of interesting trees and the club house (Appendix II - H). Tollygunge Club lie along the eastern bank of Tolly's Nullah or Adi Ganga, which in the past meandered along the present route. The undulating grassland within the premises is picturesque and *Lantana* bed here attracts many butterflies during flowering season. Here a well manicured garden is maintained with heterogeneous vegetations of both local and exotic types (Appendix - I B & I C). The exotic and indigenous plants had been systematically planted in the Club all through its hundred years. The bushes along the boundary wall provide shelter to the considerable population of Jackal and also many birds among many other diverse type of living fauna. Mookherjee (1995) provided a detailed amount of Birds and Trees of Tolly.

Threat : No immediate threat was noticed except perhaps the use of herbicide to maintain the fairways that could affect the biodiversity to a certain extent.

IXa. Agri-Horticultural Society & Nearby Area (22° 31.42' N – 88° 19.54' E) :

The grounds of the society in the Belvedere of Alipore (see Calcutta City Map) have a well manicured garden of heterogeneous vegetations of a number of rare and interesting indigenous and exotic plants (Appendix – I B & I C; Appendix II - I i) many of which were planted many years ago. The Elephant Foot Tree is the nesting as well a roosting site of one or two pair of Indian White-backed Vulture, the bird which has become Critically Endangered in the last couple of years and has been included in Schedule I under Wildlife Protection (1972) Act. The water body inside attracts the common water birds. The Wagtails and Hoopoe come to the garden in winter. The northern periphery of the garden is still kept natural and that is why butterflies move around these areas almost all day long. Most of the trees are fairly tall. As the trees are generally broadleaved, it sometimes becomes very difficult to identify the small sized warblers that are flitting among the foliage. The shrubs are frequently visited by the sunbirds.

Threat : No immediate threat to the site was observed.

IXb. Zoological Garden, Alipore (22° 32.13' N – 88° 19.56' E) :

This is located on south-western side of the *Adi Ganga* (see Calcutta City Map) and very close to the National Library. Its grounds have many old indigenous and exotic trees (Appendix – I B & I C; Appendix II - I -ii) that provide shade for the inmates and the visitors alike. The trees also act as roost for birds like Night Heron and mammals like Flying Fox and Civet. The 21-hectare premises of the zoo have a lake which used to attract lots of migratory birds. At present a handful of migratory birds do come and stay for few months. It has two islands with trees and other vegetation and is surrounded by a fenced-in embankment with many trees. The embankments were paved in 1995 after which the migratory bird population declined. The seasonal flower garden is the pasture for many butterflies. Standing by its side, particularly from late morning hours in winter as well as in post monsoon, many butterflies could be seen. The trees near the restaurant are the roosting sites of hundreds of bats, the Flying Foxes, all the year round. The large, old banyan trees are the nesting and roosting sites of many birds as well as a few mammals.

Threat : Though it used to be a tranquil area a few years back presently it is surrounded by high rise buildings and the traffic around has also increased manifold. In winter especially during the holidays and weekends very large number of visitors come to the zoo disturbing the peace of the area. They litter the entire area thoughtlessly. The administration needs to check this menace. Visitors do quite often offer food to the caged birds and mammals even after repeatedly asked not to do so. There should be people to care of such things and to take the offenders to task. Perhaps, owing to paving the banks of the lake in 1995, the large numbers of visitors and, probably, the high rise buildings have all contributed to the drastic fall in the number of winter migratory waterfowl that used to visit the zoo lake in thousands.

Xa. Esplanade (22° 33.50' E; 88° 21.01' S) :

The Curzon Park, and its immediate adjoining locality, was our study area (see Calcutta City Map). This park is situated in one of the busiest areas of the city full of air and noise pollution and full of filth. Knowing full well that the place would be very much disturbed because of the continuous movement of tram, cars and buses throughout the day and late evening owing to the existence of the Calcutta Tramways Corporation's Esplanade terminus, as well the State Transport's and public bus termini, the location was selected for this study to know the level of the urban biodiversity that may exist in such an awful situation. An attraction of this area is a corner where a colony of rats has made their home, thanks to the generosity of people passing by who feed them! The rats also come out to feed on their own. Some old, tall and good canopy trees cover the area (Appendix – J-i). Buildings in the adjoining area, few of which are preserved as heritage buildings, are the nesting as well as roosting sites of the house sparrows and house swifts. Some fig trees of the park attract fruit-eating birds and other nectar producing flowering trees attract sunbirds.

Threat : The continuous human passage and movement of trams, cars as well as buses interfere with the health of the habitat especially owing to the litter generated as a consequence.

Xb. Raj Bhavan (22° 33' 54" N – 88° 20' 49" E) :

The official residence of The Hon'ble Governor of the state of West Bengal is Raj Bhavan (see Calcutta City Map). The adjoining garden was our study area. The garden is full of huge old trees both indigenous and exotic (Appendix – J-ii). There are extensive well manicured lawns and a mini golf-course. The garden is well maintained throughout the year. The pebbled paths along the periphery allow smooth birding. During winter many season flowers are grown, which attract butterflies. There are some water bodies but the most interesting of them has a beautiful stand of the mangrove palm, *Nypa fruticans*. This is the only mangrove associate seen in Calcutta. The area has beds of ornamental flowers and a corner of vegetable garden. Once during 2002 *Victoria regia* (Amazon lily) was planted in the water body along the southern periphery of the garden but it did not survive.

The huge rock-bee hives attract the Bee-eaters to feed on the bees. Along the eastern side of the garden some abandoned one storied building are used by the palm civets to rest during the day. The Rose-ringed Parakeet has nest in the main building. Ghosh (2008) made an earlier study of birds and butterflies in the ground of Raj Bhavan.

Threat : No immediate threat to the site was noticed.

XI. Rabindra Sarovar (22° 33.54' N – 88° 20.49'E) :

This artificial wetland in south Calcutta (see Calcutta City Map) is surrounded by groves of trees (Appendix II - K). There are some tree covered islands. The water surface is free of any emergent vegetation. However, there is one water body within the Sarovar area with lotus *Nelumbo nucifera*.

Threat : People from adjoining areas bathe as well as wash their clothes in this lake. The detergent used has detrimental effect on the aquatic flora and fauna. Already the birds which were used to be seen to migrate here during winter have given the place a go by. There used to be a patch of land inside the Safari Park which had dense undergrowth, which was the ideal habitat for birds and mammals like Jackal and Mongoose. Recently it has been totally cleared on plea of beautification. Although the area has trees, it is not conducive to biodiversity-habitat, owing to disturbance by continuous human interferences and activities. Vehicular pollution and other hazards are there as well.

OBSERVATIONS

1a. Flowering Plants :

The 'flora' of a site indicates the critical information of the habitat concerned. The vegetation in and around Calcutta is now under tremendous pressure owing to spreading of urban areas.

The 'flora' may help in listing of several endangered, vulnerable and rare species. Furthermore, 'floral' study will help creating awareness among the people as a whole to protect such species from local extinction and to take necessary steps to conserve our ecosystem as well as environment. Calcutta, in parts, is floristically rich. The type of vegetation met within an area depends on the climate, the soil and the biotic factors. From the climatic point of view, Calcutta, as a whole, is humid and hot except for mild winter months. A calendar year can be divided here into four main seasons.

Plants, particularly flowering ones, attract insects like butterflies, different types of birds, small mammals and ultimately those who depend upon these. Therefore, study of flora initially and fauna like butterflies, birds and mammals ultimately would tell us about our environmental health, whether it needs to be conserved further or already protected. How far urbanization is creating pressure on our natural habitat is of extreme importance because the study of flora and fauna on comparative basis between past and present would give the actual picture of our environment.

A checklist has been prepared of c. 630 species of flowering plants (Appendix – I A), including 412 indigenous (Appendix – I B) and 215 exotic plants (Appendix – I C) found in the study sites. Among the visited sites a good deal of plant diversity was observed at Shyamkhola, Narendrapur Wildlife Sanctuary, Indian Institute of Management, Joka, Calcutta and in the part of East Calcutta Wetlands (Nalban Bheri). Most of the notable exotics were seen at Subhas Sarovar, Agri-Horticultural Society's garden, Maidan, Tollygunge Club and in the grounds of Raj Bhavan.

1b. Methodology :

Generally field identification was done for plants. The plants that could not be identified were made into herbaria and later identified with the aid of appropriate literature. The specimen were collected in a polyethylene bag which contained cotton soaked with formaldehyde. The specimen were pressed and dried in newspaper. Herbarium sheets were prepared where necessary for identification by an expert. A list of flowering plants and another site-wise as well as family-wise *illustrative* list (not exhaustive) of plants have been provided in Appendix – I A, B, C, and Appendix – II A - K, respectively.

Scientific nomenclatures of the flowering plants are based on Anon (1986) and Kehimkar (2000).

1c. Observation :

Among the observed interesting trees *Excoecaria agallocha* (East Calcutta Wetlands), *Cissus repanda*, *Casearia glomerata*, *Curculigo orchioides*, *Embelia ribes*, *Strychnos nux-vomica*, and *Gloriosa superba* (Shyamkhola) are mention worthy. The exotics that have established well are: *Parthenium hysterophorus*, *Eupatorium triplinerve*, *Lantana camara*, *Alternanthera philoxeroides*, and *Eichhornia crassipes*. Most of these were observed in almost all sites and

at some places they were interfering with the habitat. However, many of these plants attract butterflies of many hues.

During the tenure of the project, following seasonal visits, over 134 species of flowering plants at Shyamkhola, 158 species at Narendrapur Wildlife Sanctuary (presently Chintamani Kar Bird Sanctuary), over 143 species at Indian Institute of Management, Joka, Calcutta, 208 species of flowering plants at the part of East Calcutta Wetlands (present study area), 118 at Banobitan, 218 at Subhas Sarobar, 109 at Tala Park, 104 species at Indian Statistical Institute, 134 at Maidan, 91 at Eden Gardens, 55 at Brace Bridge Wetlands, 155 at Tollygunge Club, 181 at Agri-Horticultural Society, 109 at Zoological Gardens, 103 at Esplanade, 274 at Raj Bhavan and 113 species at Rabindra Sarobar were recorded. Since the grounds of IIM-C, Joka, Agri-Horticultural Society, part of Maidan (especially inside Victoria Memorial Gardens), Tollygunge Club and Raj Bhavan are well maintained the plants there are well secured. The *illustrative* list of plants is given in the Appendices – II A - K.

1d. Discussion :

Calcutta urban area has only 5.5% open space, parks and gardens (Ghosh, 2001) which offer the main habitat both birds and butterflies. Many plants are exotic (Appendix – I C). Regardless of the indigenous (Appendix – I B) or exotic (Appendix – I C) origin of the plants, living entities do depend upon all of them for roosting, nesting, foraging, sheltering or hiding purposes. While urban green has given way for development in the past, protection of Trees in the Urban Areas now part of a State Act.

Same flowering plants were recorded from majority of the present study sites which probably indicated similarity in soil structure, water availability, other climatic conditions, human interventions, maintenance pattern, etc.

Wetland degradation and water body reclamation in urban Calcutta happens to be the major present day problem. West Bengal Inland Fisheries (Amendment) Act now empowers citizen to file complaint against illegal conversion of wetland to the Police. Even then some attempts are always made by land developers to convert wetland.

2a. Butterflies :

Butterflies serve as good indicators of subtle changes in the environment that include the habitat, temperature and the weather condition. The present work was aimed at ascertaining the butterfly diversity of Calcutta and areas situated close to the city limits. For the purpose of the study locations were selected across the city where periodic surveys were conducted for three years, from April 2002 to March 2005, in order to ascertain the number of species of butterflies that were to be found in the area. Out of 1,501 species of butterflies recorded from India (Gaonkar 1996), 84 species were identified during this study period, belonging to the Families: Papilionidae – 11 species, Pieridae – 15 species, Lychnidae – 22 species, Nymphalidae – 26 species and Hesperidae – 10 species (Appendix - III). This is almost double

in number from what was reported earlier by Gupta (1997) and Ghosh (1991). They had reported about 40 species of these Lepidopterans from Calcutta. In this context it is to be stated that in West Bengal Papilionids are represented by 26 species in 6 genera, Danainae by 17 species in 5 genera (Mondal and Maulik, 1997), Hesperidae by 32 species in 29 genera, Pieridae by 25 species and 23 subspecies (Ghosh and Chaudhury, 1997), Satyridae by a total of 39 species and subspecies (Bhattacharya, 1997) and Lycaenidae by 83 species distributed over 47 genera. These reports were from 11 out of 17 districts of this state. Calcutta alone represents nearly 35 percent of the butterfly species of these families. Earlier Rothney (1882) had left a list of butterflies captured from Barrackpore Park. Sanders (1944) also prepared a list of butterflies of Calcutta.

Butterflies inhabit diverse habitats with the exception of aquatic ones, though some forms like the Tawny Coster, Peacock Pansy may be seen around the water bodies but that is mainly because their host plants grow there in abundance. The main areas of activity of the butterflies were the parks, gardens, orchards within the city limits of Calcutta, which, like all other large metropolis, included mostly built up areas. Most of the butterfly species recorded from Calcutta metropolis showed adaptability to any available habitat, though some forms like the Common Banded Peacock, Blue Mormon, Dark Palm Dart, and Common Red Eye did show preferences for the woodlands, flowering vegetation as well as associated grassy tracts in localities with low pollution. Brief descriptions of the selected seventeen localities in different areas within the city as well as in the areas close to the city along with the number of butterfly species vulnerable therein, are provided in Table 1.

Table 1 : Butterfly Species from the Sampling Sites.

Name of the Site	Vegetation Assemblage (Flowering Plants)	No. of Identified Butterfly sp.	Remarks on Vegetation
Shyamkhola	Approximately 73 species	43	Mostly indigenous species. Very few exotics were seen. All of them are natural vegetation.
Narendrapur	Approximately 127 species	55	Well wooded with profusion of old trees, native trees, besides exotic ones. All of them are natural vegetation.
IIM Joka	Approximately 200 species	52	Mostly indigenous species. Very few exotics were seen. Mostly natural, except the garden & agricultural variety.
Nalban	Approximately 115 species	39	Marshes, wetlands and scrubs along with indigenous species; prone to a little grazing.

Cont'd.

Name of the Site	Vegetation Assemblage (Flowering Plants)	No. of Identified Butterfly sp.	Remarks on Vegetation
Bonobitan	Approximately 118 species	34	Mostly horticultural plants.
Subhas Sarovar	Approximately 215 species	29	Water body surrounded by a few old native & exotic species, prone to a little grazing.
ISI Baranagar	Approximately 71 species	34	Mostly horticultural plants with a few old fruit trees.
Tala Park	Approximately 109 species	38	Old trees, native trees, besides exotic ones.
Maidan & Victoria	Approximately 138 species	35	Good number of indigenous species besides the exotic ones.
Eden Gardens	Approximately 91 species	38	Mostly horticultural plants with a few old native & exotic species.
Brace-Bridge Wetlands	Approximately 218 species	38	Marshes, wetlands and scrubs along with indigenous species. Very few exotics were seen. As much as 85% of species are planted in recent past. Garden varieties are prevalent.
Tollygunge Club	Approximately 154 species	46	Mostly old profusion of exotic and indigenous plants in the ratio of 50:50.
AHSI	Approximately 135 species	35	Well maintained protected place mostly with horticultural plants.
Zoo Garden	Approximately 92 species	38	Exotic and indigenous plants are in the ratio of 50:50.
Esplanade	Approximately 103 species	18	Much human interferences exist here. Few old trees draw birds; Man-made garden-plants attract butterflies and sunbirds too.
Rajbhawan	Approximately 269 species	28	Exotic and indigenous plants are in the ratio of 50:50. Many of them are introduced in recent past.
Rabindra Sarovar	Approximately 113 species	28	Water body surrounded by many exotic species; prone to a little grazing.
Total No. of Flowering Plants seen	630 species	84 species	Well manicured gardens, sites with heterogeneous vegetation of local and exotic plants proved rich habitats.

All the areas lie between longitude 88°26'09 E–88°17'63 E and latitude 22° 38'47 N–22° 25'24 N

2b. Methodology :

The study was conducted in four different seasons for three years. The study area was visited twice every season. During the field study the butterflies were caught with the help of a butterfly net, kept for the time being in wide-mouthed transparent plastic bottles, and then identified by comparing their markings on the scales with keys provided in the identification manuals and released thereafter in the same habitat (this was permitted by the Forest Department, Wildlife Wing, Government of West Bengal).

Butterflies were counted along definite paths in each location and their relative abundance had been recorded according to the scale of Clench, 1979 (Table 2) :

Table 2 : Scale to Record Abundance of Butterflies in Study Area.

Code	No. of Specimens Seen in the Study Areas
0	125 – 625 specimens in 1 hour
1	25 – 125 specimens in 1 hour
2	5 – 25 specimens in 1 hour
3	1 – 5 specimen in 1 hour
4	1 specimen in 1 hour
5	1 specimen in 1 – 5 hour
6	1 specimen in 5 – 25 hour
7	1 specimen in 25 – 125 hour
8	1 specimen in 125 – 625 hour

Further, habitats of butterflies have been classified on the basis of impact assessment (Table - 3).

2c. Observations :

During the present study the number of butterfly species identified in the field was almost double than what was mentioned in the works of Ghosh (1991) and Gupta (1997). The present count was 84 species in total (Appendix - III). Maximum number of butterfly species was identified from those localities which showed a rich habitat diversity and diversity of plants including both fruit yielding as well as flowering forms (Table – 1). The entire study area was classified into three habitat zones with special reference to man-made disturbances and occurrence of butterflies and state of affairs of the habitats namely, i) Low Impact Zone, ii) Moderate Impact Zone, and iii) Influenced Zone (Table – 3).

Table 3 : The Classified Habitats of Butterflies in and around Calcutta.

Low Impact Zone Sites		Moderate Impact Zone Sites		Influenced Zone Sites
Suburban Orchard	Wetlands	Urban Greenery	Agriculture	Built up Areas With Vegetation
Ia, Ib, II	III, VII	IVa, Vb, VIb, VIII, IXa, IXb, Xb, Ib	VII, Ia	IVb, Va, VIa, Xa, XI

As many as 80 % of the enlisted butterfly species were recorded from the moderate impact zones in and around Calcutta since many of them depend upon specific natural vegetation for their survival. The sites like Narendrapur, Shyamkhola, Tollygunge Club, Agri-Horticultural Society of India, Alipore Zoological Gardens, Raj Bhavan, Eden Gardens, and Banobitan were found to be fairly rich in butterfly diversity. About 6 % of the species were recorded from the influenced zones and therefore, these zones seemed to be more vulnerable to further habitat loss. There was overlapping butterfly diversity in different habitats in Calcutta. Indian Statistical Institute, Indian Institute of Management (Joka), Rabindra Sarovar, Subhas Sarovar, and Maidan showed moderate butterfly richness. About 60 % of the total butterfly species sighted during this study period was recorded from the aforesaid places. However, the butterfly count was pretty low at Esplanade and Tala Park, which might be attributed to the amount of disturbance that occurs at these locations due to different activities of the humans, daily.

Among the different habitats of butterflies, orchards and the scrubs appeared to be the richest, from where more than 57 butterfly species were recorded. The woodlands harboured nearly 5 species that were unique to it. The vegetation along the built up areas along with agricultural land also harboured about 50 % of the total identified butterfly species and these were mostly danajids.

Butterflies in all habitats showed distinct flight periods. Single, short flight period was shown by Rounded Pierrot at Shyamkhola. Multiple peaks of flight periods of Tailed Jay, Grey Pansy, etc. were exhibited during different periods of our study. One but fairly long flight period was exhibited by Chocolate Pansy, Blue Mormon, etc. at Narendrapur Wildlife Sanctuary (presently named as Chintamani Kar Bird Sanctuary). Among the whites, the Cabbage White showed the most erratic flight. Psyche was proved to be the weakest flier, flapping within a range up to 1 metre above grass level and was found in all most all the habitats. Species like Peacock Pansy, Plain Tiger, Common Emigrant Psyche, etc. showed similar abundance throughout the year with subtle fluctuations. The Commander was seen during post monsoon and in winter months. Butterfly species like Tawny Coster, Blue Tiger, Common Jezebel, etc. were seen throughout the year with a short population peak in summer and winter respectively.

2d. Results :

During the present study period a large number of the butterflies like the Common Mormon, Tailed Jay, Common Jay, Common Emigrant, Psyche, Common Gull, Common Grass Yellow, Peacock Pansy, and Blue Tiger were recorded almost at all the localities sampled. On the other hand species like the Common Mime, Crimson Rose, Indian Cabbage White, Common Albatross, Lime Blue, Acacia Blue, and Slaty Flash had some degree of restrictions as far as their distribution is concerned, not much stringently though. These forms were usually recorded from localities such as Indian Institute of Management, Narendrapur, Agri-Horticultural Society of India, Alipore Zoological Garden, Brace Bridge Wetland, which have suitable habitat for these species, along with the other forms.

It may be mentioned in this context that majority of the butterflies recorded during all the three years of the study (Appendix - IV) were with variable frequencies except Spot Swordtail, Spotless Grass Yellow, Great Orange Tip, Blue Pansy, Painted Lady, and Chocolate Pansys which were sighted very rarely. These individuals were probably from one of the few species that occasionally drift beyond their usual range. Problems were faced while identifying the Hesperid members because of their cryptic nature. More field visits would possibly yield recording of new Hesperids along with other members.

It has been seen that though the overall species count might have varied marginally during each season, the frequency of the individuals of each species did tend to go down considerably during the monsoon and winter months (Table - 4). However, their frequency went up by a few notches during the summer and post monsoon seasons, which co-related with their flight periods.

Table 4 : Yearly Count of Butterflies in Different Seasons.

Year	Summer	Monsoon	Post-monsoon	Winter
2002-2003	35	23	43	28
2003-2004	37	49	53	46
2004-2005	46	50	43	36

Maximum number of butterflies was recorded during early summer and fairly good number was recorded during post-monsoon, while least number of butterflies was recorded during monsoon (Fig. 1). Nymphalids were seen always, while Hesperids rarely (Fig. 2).

2e. Discussion :

The present butterfly diversity study within Calcutta urban area (Appendix - III) has enabled to develop a comprehensive baseline data. This would help in future assessment of biodiversity and any impact on the habitat of the area concerned. Identification of any change in the environment of Calcutta and its neighbourhood would generate sharp, firm, healthy and emphatic argument that could possibly help in proper land use planning and hence sustainable

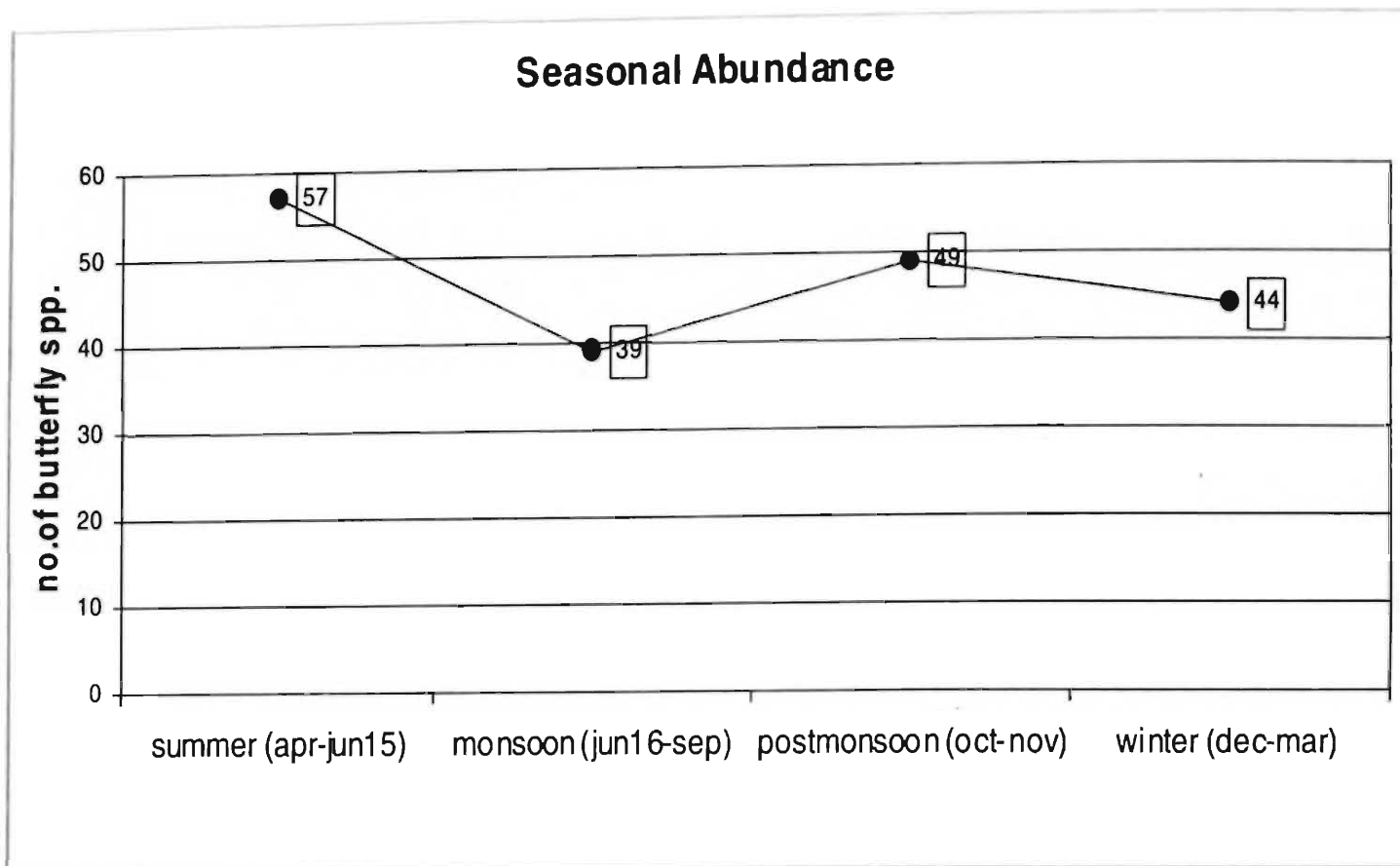


Fig. 1 : Seasonal Abundance of Butterfly in and around Calcutta during 2002–2005.

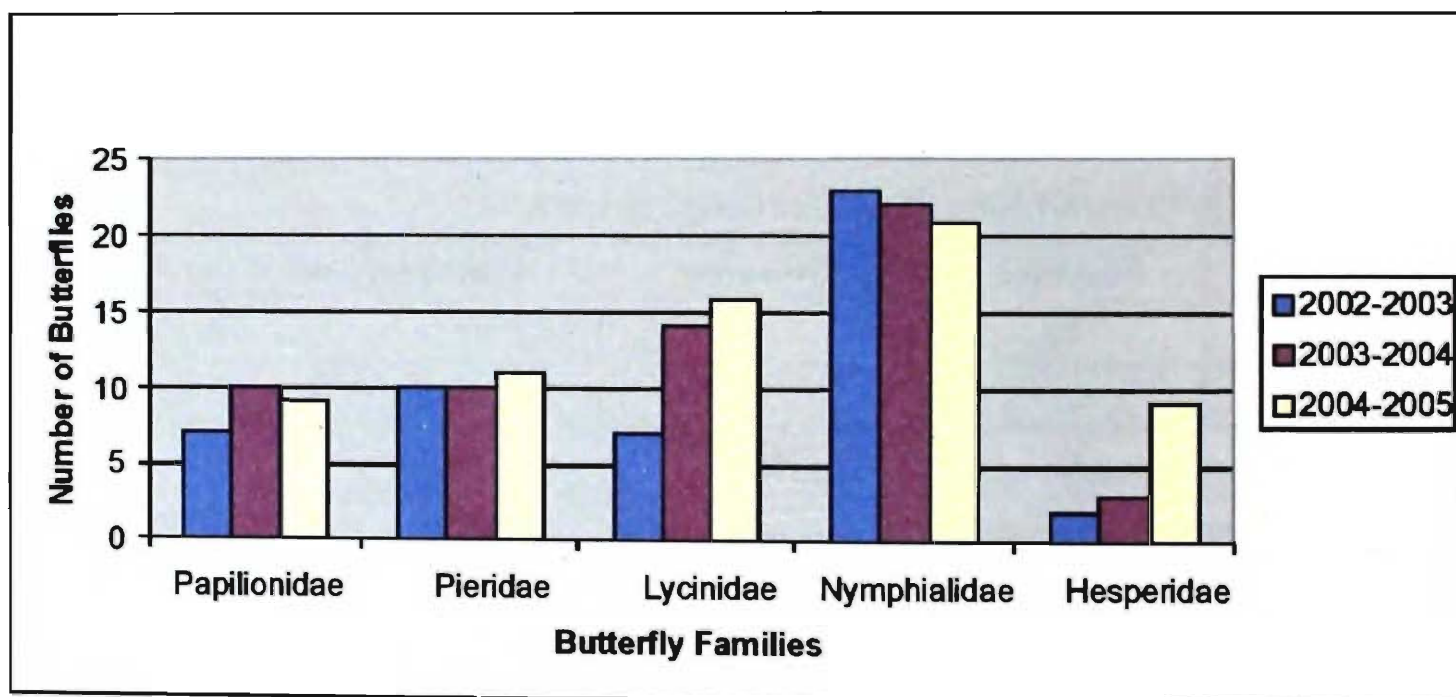


Fig. 2 : Number of Butterfly Families per Year.

development. This would further allow developing systems to conduct detailed studies on the butterflies as well as on other environmental issues taking butterflies as the indicator group which responds readily to the slightest fluctuation in the natural conditions. Any stress would

be enough to determine the effects with the changing behavioural patterns of these insects. At the same time, little has been done to understand the general behavioural patterns of butterflies and their adaptability to the natural conditions of the city which needs a detailed look-in too.

3a. Birds :

Birds comprise a significant part of any given ecosystem and interact crucially with other species to maintain ecosystem health. Birds from a major group that help in seed dispersal, pollination and thereby play a key role in shaping the plant community structure and diversity (Whitney & Smith 1998). Birds in any ecosystem also play the major role of predators, form major prey basis in some cases and participate in a wide range of apparently mutualistic (Weeks 2000) as well as host-parasite interaction. Therefore, in the ecosystem where any bird species is no longer represented, major ecological changes (Smith et al. 1955) and chains of extinction can result. It is already obvious that loss of avian biodiversity can have much wider ramifications, apart from the individual loss. Home (1973) recorded quite a number of birds from West Bengal in his book.

Out of the total seventeen study sites, Shyamkhola, Narendrapur Wildlife Sanctuary, Indian Institute of Management-Calcutta, East Calcutta Wetlands (part), Banobitan, Brace Bridge Wetlands and Tollygunge Club proved to be very rich in bird biodiversity especially the first four named sites. The birds enlisted during this study are given in Appendix - V.

3b. Methodology :

The study was conducted in four different seasons for three years (Table - 5). The study areas were visited at least twice every season. During the field study the birds were observed with binoculars and spotting scope. Birds' calls were recorded during field visits for proper identification. Field Guide books by Grimmett, *et al.* (1999); Krys (2000); Heinzel *et al.* (1995); Ben King *et al.* (1975) and the Handbook by Ali and Ripley (1987) were used.

3c. Observations :

Throughout the year at least 70-75 bird species appeared to be available in and around Calcutta. These could be considered as the resident or local migrant birds of Calcutta urban area. The avenue trees, gardens maintained by the forest department or NGOs or the grounds of personal as well as of government residential quarters, privately owned orchards, etc. harbored all the aforementioned resident birds. From the large campuses of educational institutions different plant species were recorded which emerged to protect as well as attract different species of birds and butterflies.

A total of 229 species and 6 subspecies of birds (Appendix - V) were recorded from Calcutta Urban area, and out of these from, Shyamkhola - 137, Narendrapur Wildlife Sanctuary - 97, IIM Calcutta - 123, East Calcutta Wetland (part) - 140, Banobitan - 95 and Tollygunge Club - 70 bird species were enlisted in different seasons (Appendix – VI A,B,C,D; Table - 5).

Table 5 : Bird Biodiversity recorded from Calcutta Urban Area in different seasons during 2002-05.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Seasons ↓																	
Summer																	
2002-3	89	68	75	72	56	37	28	40	36	39	44	44	34	35	15	36	32
2003-4	91	63	76	98	56	38	33	37	43	44	46	43	38	37	23	37	36
2004-5	94	67	74	91	69	43	29	48	41	42	58	51	47	45	25	35	37
Monsoon																	
2002-3	37	24	54	44	33	24	26	28	33	31	32	42	32	21	15	37	35
2003-4	56	31	59	60	45	26	26	32	32	39	43	49	34	31	22	31	33
2004-5	53	44	56	76	51	24	20	33	36	29	48	46	35	30	22	30	42
Post-Monsoon																	
2002-3	71	54	55	53	47	31	21	45	34	39	40	39	36	27	23	38	39
2003-4	72	60	50	46	41	28	19	34	32	34	39	42	32	26	13	31	30
2004-5	77	59	58	70	60	33	24	41	45	35	50	41	42	36	15	31	46
Winter																	
2002-3	113	77	86	96	57	40	32	40	47	44	67	61	45	45	30	48	40
2003-4	95	76	83	101	69	43	21	31	45	43	56	52	40	42	27	43	44
2004-5	106	75	107	120	85	41	34	52	50	52	66	53	50	41	29	47	41

A portion of East Calcutta Wetlands (from 22° 33'.80 N – 34'.00N and 88° 24'.99 – 26'.14 E which is centred around Nalban Bheri c. 6 sq km) was studied out of its vast span. East Calcutta Wetlands has been declared a 'Ramsar Site' in the recent past. The area called 'Nalban Bheri' known for fish culture attracted thousands of water birds, such as, ducks, storks, cormorants, egrets, herons and other waders. From this Nalban Bheri and adjoining area several birds, like, Pallas's Gull, Curlew Sandpiper, Terek Sandpiper and a sub-species of Yellow Wagtail *M. f. zaisanensis* were recorded. The Watercock was always seen in a particular water hyacinth aggregation in 'Nalban Bheri' Here, Baillon's Crakes and Ruddy-breasted Crake were also seen. In the postmonsoon months, this wetland becomes thickly populated by the Asian Openbill Storks, besides Grey Herons and Purple Heron.

Two to three Crested Serpent Eagles were almost always seen in Shyamkhola and also in Narendrapur Wildlife Sanctuary either roosting or flying and also circling over head, while calling. The characteristic call pattern always attracted the birders. Brown Fish-Owl, Emerald Dove, Paradise Flycatcher, Black-naped Monarch-Flycatcher, White-throated Fantail-Flycatcher and Little Spiderhunter like birds could definitely be seen in Shyamkhola and Narendrapur Wildlife Society.

Two other birds—a sub-species of Rufous-backed Shrike *Lanius schach erythronotus* and Western Crowned Warbler were recorded from Narendrapur Wildlife Sanctuary, the last one for the first time from Calcutta urban area. Sooty Flycatcher and Large Pied Wagtail

were recorded only from Brace Bridge Wetland; the first one was observed for the first time in Calcutta. White-eyed Buzzard and Indian Pitta were recorded for the first time in and around Calcutta area from Shyamkhola. Indian Plaintive Cuckoo was recorded for the first time from Banobitan, Calcutta (Ghosh and Ghose, 2008). In all 11 new species of birds were recorded from the study area during the course of this study (Table-6).

Indian White-backed Vultures, the critically endangered bird species, was seen on the very tall trees inside Victoria Memorial Garden, Agri-Horticultural Society of India, and in front of Ladies Golf Club, Maidan, to roost as well as nest. In Shyamkhola and Narendrapur Wildlife Sanctuary these birds were occasionally seen to fly overhead during the present study. Very recent visits to some of these places confirmed the 'return' of these vultures to their original sites.

A large roost of Rose-ringed Parakeet in Raj Bhaban, that of Alexandrine Parakeet in Banobitan and roosts of Red-breasted Parakeet, could almost always be seen in Victoria Memorial Garden and also in Banobitan.

Table 6 : New Record of Birds From Calcutta During 2002- 2005.

Common English Names*	Scientific Names
01. White-eyed Buzzard	<i>Butastur teesa</i> (Franklin, 1832)
02. Booted Eagle	<i>Hieraaetus pennatus</i> (Gmelin, 1788)
03. Terek Sandpiper	<i>Xenus cinereus</i> (Guldenstadt, 1774)
04. Curlew Sandpiper	<i>Calidris ferruginea</i> (Pontoppidan, 1813)
05. Indian Plaintive Cuckoo	<i>Cacomantis passerinus</i> (Vahl., 1797)
06. Indian Pitta	<i>Pitta brachyura</i> (Linnaeus, 1766)
07. Western Crowned Warbler	<i>Phylloscopus occipitalis</i> (Blyth, 1845)
08. Eastern Crowned Warbler	<i>Phylloscopus coronatus</i>
09. Sooty Flycatcher	<i>Muscicapa sibirica</i> Gmelin, 1789
10. Orange-flanked Bush-Robin	<i>Tarsiger cyanurus</i> (Pallas, 1773)
11. Lesser Racket-tailed Drongor	<i>Dicrurus remifer</i> (Temminck, 1823)

* Common Names are after Manakadan and Pittie (2001).

3d. Discussion :

Birds like Pallas's Fishing Eagle and vultures are no longer seen owing to non-availability of suitable large, tall trees for nesting. Such trees as were used by the birds for nesting have been felled for development of the area. Besides this, probably, owing to fish poisoning, the population of Brahminy Kite has nearly disappeared which we used to see in group of 15-20 in East Calcutta Wetlands area some twenty to twenty-five years back. A large population of

gull was regularly seen in 'Brace Bridge wetlands' Wagtail and Pipit roost in emergent vegetation were also seen. Since such areas have been cleared, it has deprived the Wagtail and Pipit of their roosting site. In the 'Zoological Gardens', Alipore, a few pair of Darter was seen nesting in 1980s but they are no longer there. A large number of Common Woodshrike was seen in 'Narendrapur Wildlife Sanctuary' but they are seen no more. People have been discussing about the declining House Sparrow that was attributed to the mobile phone towers. However, in the present study area we have almost always come across the bird. It is possible the bird may have difficulty to nest owing to lack of ventilators (or suitable nest holes) in the modern housing complexes.

The species that have increased in number are House Crow, Jungle Myna and Black Kite. Population increase of House Crow and Black Kite might have been aided by enormous accumulation of garbage in the city. The Stork-billed Kingfisher has also increased owing to availability of the type of fish that they like to feed on. The Small Blue Kingfisher is not readily seen, though it was seen more often in the past. For some unknown reason, Black-naped Oriole come to city in post-monsoon and stay till early summer (March). It was first recorded from Calcutta in 1978 but thereafter records were missing. The migratory water birds that used to come to the Zoological Gardens, Alipore, now favour Santragachhi Jheel a few kilometers away from the city. This could be due to the high-rise buildings around the Zoo, paving of the banks as well as increase in vehicular traffic causing noise and air pollution. Besides, far too many people visit the Zoo that could be creating a stress for the birds. The water quality of the water bodies within the Zoo also calls for serious attention.

Some previous record indicates that altogether 291 birds were documented from Calcutta and its environs between 1964 and 1999 (Appendix-VII). During the present study, from April 2002 to March 2005, along with several other birds, 185 out of those above mentioned 291 (Appendix-VII) birds were enlisted, although 20 more birds were seen which were not recorded during 1964 - 1999. Moreover, many birds which were visible in the last century quite easily, became locally extinct at present.

4a. Mammals :

Mammals are one of the groups that have been studied in details along with the birds and significant work has been done on this group of animals over the years. Blyth (1863) during his stint as curator of museum at Asiatic Society of Bengal from 1845 to 1863, has worked in immense details on this group of vertebrates, though his main focus was on the birds. In the following years J. Anderson (1881), who was appointed as a curator at the Indian Museum between 1866 and 1869 (cited in Agrawal, 1992), carried out the good work of registration of the faunal diversity, that were found within the environs of Calcutta. He made reports on mammalian, reptilian and amphibian fauna of the area mainly, adding a few note on the avifauna too (Majumder, 1992). Results of his works were consolidated and were published in 1877 in

the Catalogue of Mammalia in the Indian Museum, Calcutta Part-I (1881). Later Blanford published his '*Fauna of British India*', including Ceylon and Burma: Mammalia (1888-91), which provided an elaborate account of the mammalian fauna of India, mainly. In his work he provided valuable notes on the mammalian fauna from Calcutta. In the following years Sclater (1891) published his works in 'Catalogue of Mammalia in the Indian Museum', Calcutta, Part II. In the twentieth century most of the studies in this field were conducted by the Zoological Survey of India and as a result of these extensive explorations a significant database regarding the mammalian fauna of Calcutta has developed over the years.

During the present study, about twenty mammalian species were recorded from the study areas. Information regarding majority of the macro-fauna was availed with much ease, but the chiropteran species became difficult to collect (prior permission to trap, identify and release of bats were obtained from Wildlife Wing of Department of Forests, Govt. of W.B.) due to lack of proper trapping devices and expertise. A few were, however, identified by the experts following trapping (Appendix-VIII).

4b. Methodology :

The study was conducted in four different seasons for three years. The study areas were visited twice every season. During the field study the mammals were observed through transect method of field observation, where this method could be implemented. However, rodents and chiropterans were trapped, identified and released in the same locality with proper care. For identification, the books by Prater (1971) and Menon (2003) were followed.

4c. Observations :

The mammals recorded during the present urban biodiversity study are enlisted in Appendix VIII. The most abundant group of wild mammals present were undoubtedly the rats and mice. These are the commensals with humans and that live in the houses, godowns, factory sheds and in the sewers. The species recorded were House Mouse *Mus musculus*, House Rat *Rattus rattus*, Norway Rat *Rattus norvegicus* and Lesser Bandicoot Rat *Bandicota bengalensis*. The Five-striped Palm Squirrel *Funumbulus pennanti* was common in most of the larger parks, gardens and open areas and also in the well-vegetated fringe of the city as well as among the human habitations within the city.

Among the Insectivore, the only species present was the House Shrew *Suncus murinus*, which was common throughout the study area. Their presence was facilitated by the presence of many refuse dumps all over the city, which provide them with food.

Among the bats, the most conspicuous species was perhaps the Indian Flying Fox *Pteropus giganteus*. Every evening in most parts of the city they could be seen winging their way out into their feeding grounds which consisted of fruiting trees. The only known big daytime roost, which was regularly monitored, was within the Alipore Zoo premises in the city along with

some smaller haunt along Tolly Nala and inside Bethune College campus. In the Zoological Garden, it is an old roost on tamarind and Casuarina trees by the side of a water body and at present the number of Flying Foxes is approximately 800.

Among fruit bats, the Short-nosed Fruit Bat, *Cynopterus sphinx*, were regularly observed mostly during the day when they had accidentally dislodged from their roost and were usually chased by crows. At the same time they were probably the most common smaller fruit bat seen to invade garden and orchards and even the fruiting avenue trees at the fall of the evenings.

Among the smaller insectivorous bats, perhaps the commonest was the Indian Pygmy Pipistrelle, *Pipistrellus tenuis*, but several other species were present including Indian Pipistrelle, *Pipistrellus coromandra*, Greater Yellow Bat, *Scotophilus heathii*, Smaller Yellow Bat, *Scotophilus kuhli*, Indian False Vampire, *Megaderma lyra*, etc. During this study, barely a few bats were come across and these were *Pipistrellus tenuis*, *Pipistrellus coromandra*, *Scotophilus heathii*, *Cynopterus sphinx*, etc. As a matter of fact comprehensive study in this regard was hampered due to lack of proper trapping skill and identification knowledge. There are a handful of experts in Calcutta who can identify bats.

Among primates, though groups of Common Langur *Semnopithecus entellus*, were known to occur in the periphery of the study area, only occasionally one lone male langur was encountered—one in the Tollygunge area, that was possibly an erstwhile pet now released to fend for itself; and the other was also a single individual, and probably a male, at Sodepur. This second individual was probably one of a troop that got separated somehow, and entered the residential areas. In this context, it should be mentioned that though Sodepur was not included in the present study area, it is an extension of Calcutta.

Among Canids the Jackal, *Canis aureus* happened to be the most conspicuous wild carnivore that still roamed certain parts of Calcutta. These could still be found in Banabitan and other areas of Bidhannagar, the Tollygunge area especially in the Tollygunge Golf Clubs, Narendrapur and Shyamkhola and perhaps in the Maidan and Rabindra Sarobar, as well as in the wetlands of East Calcutta. No information about the occurrence of the Indian Fox, *Vulpes bengalensis* was obtained from the present study areas though they used to be quite common some fifty years back.

Among otters, though Common Otter *Lutra lutra* had been recorded in the 1980s, no information was available about their existence while surveying.

Among Civets, the Common Palm Civet, *Paradoxurus hermaphroditus* still survives inside the city and in the surrounding areas wherever there are old buildings and old trees for them to hide. They regularly raid kitchens and often kill pigeons. They are common in Maidan, Alipore, Ballygunge, Tollygunge and in the orchards south of Garia. No confirmed record was

obtained about the presence of Small Indian Civet *Viverricula indica* in the study area but they once were found in the areas covered, and possibly they still survive. There was a record of a Large Indian Civet *Viverra zibetha* that was killed by tribals working in the brickfields in Shyamkhola in the early 1980s, but their present day status is not confirmed.

Among the mongoose, three species occur in the Calcutta urban area. The Small Indian Mongoose *Herpestes (auro-punctatus) javanicus*, and the Indian Grey Mongoose *Herpestes edwardsii* used to be common in most of the area but were only occasionally encountered in the well-vegetated parts of the study area. In Tollygunge Club, the Indian Grey Mongoose was common a decade back but couldn't be seen any more though the Small Indian Mongoose was recorded to survive still now. The third species, the enigmatic Marsh Mongoose *Herpestes palustris*, which had only been recorded from the Salt Lakes (Ghose, 1965) and a small part of 24 Parganas (South) district, was observed several times at the Nalban Bheri in the East Calcutta Wetland.

Among cats no direct evidence of the survival of any species was obtained except a dead Jungle Cat, *Felis chaus* was observed in Shyamkhola. Over a couple decades back, we suddenly encountered a living jungle cat inside Narendrapur Wildlife Sanctuary at least for once while searching for the migratory bird Siberian Rubythroat But this cat could also be surviving in some other localities like the Nalban Bheri, Tollygunge Club and Joka. The Fishing Cat *Prionailurus viverrinus* used to be found in and around Calcutta but whether they still exist is not known. Local fishermen in Joka asserted the Fishing Cat existed in their area.

The Gangetic River Dolphin, *Platanista gangetica* still survives in small numbers in a stretch of the Hooghly River flowing along the western edge of the study cites. This is one animal belonging to Schedule-I of the Wildlife (Protection) Act, 1972 that still exists in the study area. The data on mammals are summarised in Appendix-VIII which are not significantly different from what was recorded from Salt Lake by Biswas (data published by Ghosh, 1990a).

4d. Sites of significance for the Conservation of Mammals :

Shyamkhola and the Narendrapur Wildlife Sanctuary area probably have the largest representation of wild mammals in the whole of the study area. In these two sites, there are still comparatively wild places left for these wild mammals to live, but at the same time they are also very vulnerable because the fast expanding city has reached these places and soon most of the area will be lost, if not protected. These areas are unprotected at present, so killing of mammals is also happening. Proper protection of 'Narendrapur Wildlife Sanctuary' could save the local wildlife at least for the time being. Banabitan has a good population of Jackal which are protected due to the presence of the Forest Department, who maintains the site. Inside the city, the Alipore areas with the Alipore Zoological Garden and the Agri-Horticultural Society of India sites have civets as also in the Maidan area. The Tollygunge Club site is totally protected and is one of the best site for mammals having healthy population of Jackal, Civet

and Mongoose. The single storied buildings in the eastern periphery of Raj Bhavan harbour a fairly good population of Civet.

4e. Threats to Mammals :

The main threat to mammals as well as to biodiversity in general is the fast changing habitat. The rapid spread of urbanization is depleting the area of proper habitats in which these mammals can hide, survive and complete their life cycle. Even in the urban Calcutta, only a few decades back, there were many old buildings with old dense trees, abandoned gardens, abandoned factory sheds, all of which were ideal shelters for mammals like civets and mongooses to hide and breed. The fast changing scenario of urban Calcutta with so many new buildings coming up all over the area leaves little for the urban mammal biodiversity to survive. This is perhaps inevitable in any growing city but even in the fringe area too the wild mammals are facing a tough time. Sometimes in the 1970s there was a great pressure of hunting for skin of mammals.

The otter population fell during that time. The fall in the mongoose population in the recent times can perhaps be attributed to the demand for their hair for paintbrushes. During the 1980s, when there were many brick fields around the fringe of the city, there were many migratory labourers from the tribal belts of the country. They were expert hunters and they honed their hunting skill by going out in group hunts on each holidays. They had killed a significant number of wild mammals, birds and reptiles and are possibly responsible for the local extermination of many mammal species from many areas. The civets and the cats have also been prosecuted for being poultry and pigeon lifters. The ever growing population of domestic dogs and cats also compete and often chases away and kill some of the wild small mammals. We have no idea about what effect the indiscriminate use of pesticide has on the lives of wild mammals in the city.

GENERAL DISCUSSION

Biodiversity of a city like Calcutta will always be interesting because of the fact that this polluted and densely populated city with so little greenery supposedly should not be holding much in terms of biodiversity. Yet during the past three years we have managed to record 630 species of flowering plants, 85 species of butterfly, 229 species and six subspecies of birds and 20 species of mammals from the environs of this city. It speaks volumes about how resilient nature actually is. In spite of the apparent inhospitable environment a substantial biodiversity still exists. However, this diversity is much less compared to what used to be present about half a century ago. We have lost many species that used to flourish in this environment. Also the numbers reflect the quality of the biodiversity, it does not show that whatever present is now in a much reduced quantity. If not properly conserved this present biodiversity will be drastically reduced in the face of the rapid urbanization that is taking place.

Appendix-IA : List of flowering plants recorded during Urban Biodiversity study in and around Calcutta from 2002-2005.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
01. <i>Abelmoschus manihot</i>	+																
02. <i>Abrus precatorius</i>	+	+															
03. <i>Abutilon indicum</i>				+		+	+		+		+						+
04. <i>Acacia auriculaeformis</i>			+			+				+	+				+	+	+
05. <i>Acacia catechu</i>																	+
06. <i>Acacia mangium</i>																+	
07. <i>Acacia nilotica</i>															+		
08. <i>Acalypha hispida</i>	+														+	+	
09. <i>Acalypha indica</i>	+	+		+		+	+		+					+			+
10. <i>Acalypha macrophylla</i>			+													+	
11. <i>Acampe praemorsa</i>		+															
12. <i>Achras zapota</i>		+		+												+	
13. <i>Achyranthes aspera</i>		+	+	+		+					+	+		+			+
14. <i>Adansonia digitata</i>														+		+	+
15. <i>Adenantha pavonina</i>						+	+		+	+				+	+	+	+
16. <i>Adenium obesum</i>																+	
17. <i>Adhatoda zeylonica</i>	+			+								+					
18. <i>Aegle marmelos</i>	+	+		+		+			+						+	+	
19. <i>Aerva lanata</i>		+							+								
20. <i>Aeschynomene aspera</i>			+														
21. <i>Ageratum conyzoides</i>	+	+	+	+		+	+	+	+	+	+		+			+	
22. <i>Ailanthus excelsa</i>															+		

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
45. <i>Aphanamixis polystachya</i>																+	
46. <i>Araucaria columnaris</i>						+	+			+						+	
47. <i>Ardisia solanacea</i>	+	+												+		+	
48. <i>Areca catechu</i>	+			+		+		+									
49. <i>Argemone mexicana</i>			+	+		+					+						+
50. <i>Argyreia nervosa</i>			+														
51. <i>Artabotrys hexapetalus</i>							+									+	
52. <i>Artocarpus altilis</i>						+	+						+			+	
53. <i>Artocarpus heterophyllus</i>	+	+	+	+			+	+					+	+	+	+	+
54. <i>Artocarpus lakoocha</i>	+	+	+											+	+	+	
55. <i>Arundo donax</i>			+		+												
56. <i>Asperagus racemosus</i>																+	
57. <i>Averrhoa carambola</i>																+	
58. <i>Azadirachta indica</i>		+	+	+	+	+		+	+					+	+	+	
59. <i>Azanza lampas</i>											+	+					
60. <i>Azolla pinnata</i>				+													
61. <i>Bacopa monnieri</i>				+		+											
62. <i>Bambusa</i> sp.	+	+															
63. <i>Bambusa ventricosa</i>																+	
64. <i>Bambusa vulgaris</i>					+					+						+	
65. <i>Barleria prionitis</i>		+														+	
66. <i>Barringtonia acutangula</i>							+							+			+

Appendix-IA : Cont'd

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
67. <i>Basella alba</i>				+													
68. <i>Basella rubra</i>				+													
69. <i>Bauhinia acuminata</i>																+	
70. <i>Bauhinia purpurea</i>			+	+		+				+						+	
71. <i>Bauhinia racemosa</i>				+													
72. <i>Bauhinia variegata</i>						+			+						+	+	+
73. <i>Beaucarnea recurvata</i>																+	
74. <i>Beaumontia grandiflora</i>							+										
75. <i>Beloporne amhertea</i>																+	
76. <i>Benincasa hispida</i>				+													
77. <i>Biophytum sensitivum</i>	+	+															
78. <i>Bischofia javanica</i>									+								
79. <i>Bixa orellana</i>						+											
80. <i>Blumea lacera</i>	+	+					+										
81. <i>Boerhavia diffusa</i>	+	+	+	+	+	+	+		+				+	+			+
82. <i>Bombax ceiba</i>				+		+	+	+							+	+	+
83. <i>B. ellipticum</i> var. <i>rubra</i>	+												+				
84. <i>Borassus flabellifer</i>	+	+	+			+				+				+		+	+
85. <i>Bougainvillea</i> spp						+									+	+	
86. <i>Brassia actinophylla</i>						+											
87. <i>Brassica campestris</i>									+								
88. <i>Brassica nigra</i>				+		+											

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
111. <i>Carica papaya</i>	+	+		+													
112. <i>Carissa carandas</i>	+	+														+	
113. <i>Caryota urens</i>							+							+		+	
114. <i>Casearia glomerata</i>	+																
115. <i>Cassia alata</i>				+		+	+		+						+		
116. <i>Cassia auriculata</i>										+							
117. <i>Cassia bicapsularis</i>																+	
118. <i>Cassia fistula</i>	+	+	+		+	+			+	+				+	+	+	+
119. <i>Cassia grandis</i>										+							
120. <i>Cassia nodosa</i>														+		+	
121. <i>Cassia occidentalis</i>				+							+						
122. <i>Cassia renigera</i>														+		+	
123. <i>Cassia siamea</i>			+			+	+									+	
124. <i>Cassia sophera</i>		+		+		+			+		+						+
125. <i>Cassia surattensis</i>																+	
126. <i>Cassia tora</i>	+	+		+		+			+			+					+
127. <i>Castanospermum australe</i>												+					+
128. <i>Casuarina equisetifolia</i>			+		+	+				+					+	+	+
129. <i>Catharanthus roseus</i>				+	+			+						+		+	
130. <i>Cayratia carnosa</i>	+	+		+		+	+				+			+			+
131. <i>Cedrela toona</i>	+	+					+										
132. <i>Ceiba pentandra</i>		+		+		+	+				+				+	+	+

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
133. <i>Centella asiatica</i>			+	+													
134. <i>Cerbera manghas</i>						+											
135. <i>Cestrum diurnum</i>	+	+		+					+						+		
136. <i>Cestrum nocturnum</i>															+	+	
137. <i>Chenopodium album</i>																	+
138. <i>Chonemorpha griffithsii</i>																+	
139. <i>Chromolaena odorata</i>													+				
140. <i>Chrozophora rotleri</i>				+		+			+								+
141. <i>Chrysalidocarpus lutescens</i>			+			+	+								+	+	
142. <i>Chrysopogon aciculatus</i>				+													
143. <i>Cinnamomum camphora</i>																+	
144. <i>Cinnamomum tamala</i>	+						+									+	
145. <i>Cinnamomum zeylanicum</i>	+															+	
146. <i>Cissus repanda</i>	+																
147. <i>Ceideroxylon quadrangularis</i>										+				+		+	
148. <i>Citrus aurantifolia</i>				+												+	
149. <i>Citrus jambhiri</i>																+	
150. <i>Citrus japonica</i>																+	
151. <i>Citrus maxima</i>				+												+	
152. <i>Citrus sinensis</i>																+	
153. <i>Cleome gynandra</i>	+			+						+							
154. <i>Cleome rutidosperma</i>	+	+	+	+	+		+	+	+	+	+	+	+	+		+	+

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
155. <i>Cleome viscosa</i>	+	+	+	+		+			+			+					
156. <i>Clerodendrum indicum</i>	+		+									+					
157. <i>Clerodendrum inerme</i>						+			+					+			
158. <i>Clerodendrum nutans</i>																+	
159. <i>Clerodendrum splendens</i>																+	
160. <i>Clerodendrum thomsonae</i>										+							
161. <i>Clerodendrum viscosum</i>	+	+	+	+		+	+		+			+					+
162. <i>Clitoria ternatea</i>				+													
163. <i>Coccinia grandis</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+
164. <i>Cochlospermum religiosum</i>																+	
165. <i>Cocos nucifera</i>	-	+	+	+	+	+	+	+								+	+
166. <i>Coffea bengalensis</i>	+	+															
167. <i>Colocasia esculenta</i>	+	+	+	+			+					+		+			+
168. <i>Colvillea racemosa</i>						+							+			+	+
169. <i>Commelina benghalensis</i>	+	+	+	+	+	+	+	+	+	+	+					+	
170. <i>Commelina diffusa</i>		+		+													
171. <i>Congea</i> spp																+	
172. <i>Cordia dichotoma</i>	+						+										
173. <i>Cordia sebestina</i>						+			+	+				+		+	
174. <i>Costus speciosus</i>		+															
175. <i>Couropita guianensis</i>						+	+		+	+					+	+	+
176. <i>Crataeva religiosa</i>												+					

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
177. <i>Crescentia cujete</i>									+					+			
178. <i>Crinum</i> sp.		+															
179. <i>Crossandra infundibuliformis</i>												+					
180. <i>Crotalaria mucronata</i>				+													
181. <i>Crotalaria pallida</i>				+					+								
182. <i>Crotalaria verrucosa</i>				+													
183. <i>Croton bonplandianum</i>	+			+					+		+						+
184. <i>Cucumis melo</i> var. <i>agrestis</i>						+											
185. <i>Cucurbita maxima</i>				+													
186. <i>Curcuma aromatica</i>	+																
187. <i>Cuscuta reflexa</i>			+	+	+			+									+
188. <i>Cynodon dactylon</i>	+	+	+	+		+				+							
189. <i>Cyperus alternifolius</i>																+	
190. <i>Cyperus kyllingia</i>		+															
191. <i>Cyperus pygmaeus</i>							+		+					+			
192. <i>Cyperus rotundus</i>				+		+											
193. <i>Cyperus</i> sp.				+	+												
194. <i>Dalbergia assamica</i>																	+
195. <i>Dalbergia latifolia</i>																+	
196. <i>Dalbergia sissoo</i>			+	+	+	+									+	+	+
197. <i>Datura metel</i>				+		+			+								
198. <i>Datura stramonium</i>							+										

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
243. <i>Eucalyptus citriodora</i>			+			+		+	+					+	+	+	
244. <i>Eupatorium triplinerve</i>	+	+		+	+	+			+								
245. <i>Euphorbia cotinifolia</i>																+	
246. <i>Euphorbia cyathophora</i>																+	
247. <i>Euphorbia heterophylla</i>			+	+	+				+							+	
248. <i>Euphorbia hirta</i>	+	+	+	+	+		+	+	+	+		+	+	+		+	+
249. <i>Euphorbia leucocephala</i>															+		
250. <i>Euphorbia neriifolia</i>				+													
251. <i>Euphorbia pulcherrima</i>						+									+		
252. <i>Euphorbia splendens</i>								+				+	+			+	
253. <i>Euphorbia longan</i>	+	+														+	
254. <i>Evodia splendens</i>																+	
255. <i>Evolvulus nummularius</i>	+	+	+	+					+			+		+		+	
256. <i>Excoecaria agallocha</i>				+													
257. <i>Excoecaria bicolour</i>			+									+				+	
258. <i>Feronia limonia</i>		+				+											
259. <i>Ficus benghalensis</i>	+	+	+	+	+	+		+		+	+			+	+	+	+
260. <i>Ficus benjamina</i>			+			+		+						+	+	+	+
261. <i>Ficus elastica</i>			+	+		+				+					+	+	
262. <i>Ficus elastica belgica</i>			+													+	
263. <i>Ficus elastica rubra</i>																+	
264. <i>Ficus heterophylla</i>	+	+					+		+			+					

Appendix-IA : Cont'd

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
265. <i>Ficus hispida</i>	+	+	+	+		+	+	+						+	+	+	
266. <i>Ficus lucescens</i>		+	+			+	+	+	+					+	+	+	+
267. <i>Ficus lyrata</i>													+			+	
268. <i>Ficus racemosa</i>	+	+	+	+		+		+		+			+		+		+
269. <i>Ficus religiosa</i>	+	+	+	+		+	+	+	+	+				+	+	+	
270. <i>Ficus retusa</i>	+	+	+					+		+						+	
271. <i>Ficus rumphii</i>		+	+	+		+	+	+	+	+					+	+	
272. <i>Filicium decipiens</i>													+			+	
273. <i>Flacourtia ramontchi</i>	+	+															
274. <i>Fleurya interrupta</i>				+		+											
275. <i>Foeniculum vulgare</i>		+															
276. <i>Franciscea hopeana</i>													+			+	
277. <i>Fuegosia hakaefolia</i>													+			+	
278. <i>Furcrea striata</i>													+			+	
279. <i>Garcinia mangostana</i>																+	
280. <i>Gardenia jasminoides</i>						+	+								+	+	
281. <i>Gardenia kirkii</i>																+	
282. <i>Gelonium multiflorum</i>	+	+															
283. <i>Gliricidia sepium</i>						+	+							+		+	+
284. <i>Gloriosa superba</i>	+	+											+	+		+	
285. <i>Glycosmis pentaphylla</i>	+	+		+		+											
286. <i>Gmelina arborea</i>			+						+		+			+		+	

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
331. <i>Jasminum sambac</i>						+										+	
332. <i>Jatropha gossypifolia</i>				+					+								
333. <i>Jatropha integerrima</i>						+									+		
334. <i>Jatropha panduarefolia</i>						+										+	
335. <i>Jatropha podagrica</i>			+			+				+			+		+	+	
336. <i>Juniperus chinensis</i>																+	
337. <i>Jussiaea repens</i>						+											+
338. <i>Jussiaea suffruticosa</i>						+											
339. <i>Justicia gendarussa</i>														+			
340. <i>Justicia procumbens</i>														+			
341. <i>Kalanhoe integra</i>						+											
342. <i>Kentia macarthurii</i>																+	
343. <i>Kigelia pinnata</i>							+										+
344. <i>Kirganelia reticulata</i>	+	+	+	+	+		+		+	+	+	+		+			+
345. <i>Kleinhovia hospita</i>						+	+								+	+	
346. <i>Kopsia fruticosa</i>			+			+			+				+		+	+	
347. <i>Lagerstroemia indica</i>							+		+	+					+	+	
348. <i>Lagerstroemia speciosa</i>			+	+	+	+	+	+	+	+					+	+	+
349. <i>Lagerstroemia thorellii</i>						+			+	+				+	+	+	
350. <i>Lanea coromandelica</i>	+	+															
351. <i>Lantana camara</i>		+	+	+	+	+	+	+	+						+		+
352. <i>Lantana depressa</i>																+	

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
375. <i>Luffa cylindrica</i>			+	+				+	+					+			
376. <i>Lycopersicon esculentum</i>						+											
377. <i>Lygodium flexuosum</i>	+																
378. <i>Madhuca indica</i>			+			+		+	+	+				+	+	+	+
379. <i>Magnolia grandiflora</i>								+								+	
380. <i>Magnolia pterocarpa</i>																+	
381. <i>Malachra capitata</i>				+		+		+	+								
382. <i>Malpighia coccigera</i>																+	
383. <i>Malvastrum coromandelianum</i>											+						
384. <i>Malvaviscus arboreus</i>		+				+									+		
385. <i>Mangifera indica</i>	+	+	+	+		+	+	+		+			+	+		+	+
386. <i>Merremia hederacea</i>		+															
387. <i>Martinezia caryolaefolia</i>																+	
388. <i>Martynia annua</i>			+					+					+	+			
389. <i>Melia azedarach</i>																	+
390. <i>Melochia corchorifolia</i>				+													
391. <i>Melothria maderaspatana</i>				+									+				
392. <i>Memecylon edule</i>												+	+				
393. <i>Mesua ferrea</i>						+								+			
394. <i>Michelia champaca</i>						+			+						+	+	
395. <i>Michelia champaca alba</i>																+	
396. <i>Mikania cordata</i>	+	+	+	+	+		+	+	+	+	+	+	+	+			+

Appendix-IA : Cont'd

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
397. <i>Milletia peguensis</i>			+			+		+	+						+	+	+
398. <i>Milligtonia hortensis</i>						+	+								+	+	
399. <i>Mimosa pudica</i>	+	+	+	+													
400. <i>Mimusops elengi</i>			+	+	+	+	+		+	+				+	+	+	+
401. <i>Mirabilis jalapa</i>				+		+			+								
402. <i>Mollugo cerviana</i>				+													
403. <i>Momordica charantia</i>				+					+								
404. <i>Monodora grandiflora</i>													+				
405. <i>Monostera deliciosa</i>																+	
406. <i>Morinda citrifolia</i>		+								+			+			+	
407. <i>Moringa oleifera</i>	+	+		+												+	
408. <i>Morus alba</i>																+	
409. <i>Mucuna prurita</i>		+															
410. <i>Muntingia calabura</i>	+													+			
411. <i>Murraya koenigii</i>	+	+	+	+		+					+			+		+	
412. <i>Murraya paniculata</i>		+	+		+	+	+	+		+				+		+	
413. <i>Musa paradisiaca</i>	+	+		+													
414. <i>Mussaenda erythophylla</i>																+	
415. <i>Mussaenda frondosa</i>									+						+		
416. <i>Mussaenda phillipica</i>			+					+		+					+	+	
417. <i>Nasturtium indicum</i>				+		+											
418. <i>Nauclea orientalis</i>										+			+				

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
419. <i>Nerium oleander</i>						+									+	+	
420. <i>Nicotiana plumbaginifolia</i>	+	+	+	+		+	+	+	+	+	+		+			+	+
421. <i>Nipa fruticans</i>																+	
422. <i>Nyctanthes arbor-tristis</i>				+		+			+	+					+	+	
423. <i>Nymphaea nouchali</i>			+					+				+	+			+	
424. <i>Nymphaea pubescens</i>					+			+				+					
425. <i>Nymphaea stellata</i>						+											
426. <i>Nymphoides hydrophylla</i>								+				+					
427. <i>Ochna jabotapita</i>			+	+													
428. <i>Ochna pumila</i>			+	+			+										
429. <i>Ocimum sanctum</i>	+		+			+											
430. <i>Operculina turpethum</i>		+	+														
431. <i>Oplismenus burmannii</i>	+	+															
432. <i>Opuntia dillenii</i>			+														
433. <i>Oreodoxa regia</i>	+																
434. <i>Oroxylum indicum</i>	+	+															
435. <i>Oxalis corniculata</i>	+	+	+	+	+	+	+	+	+			+	+	+		+	
436. <i>Oxalis latifolia</i>		+	+	+			+										
437. <i>Pandanus odoratissimus</i>	+																
438. <i>Pandanus pacifucus</i>	+																
439. <i>Pandanus sanderi</i>	+																
440. <i>Pandanus tectorium</i>	+																

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
463. <i>Phoenix sylvestris</i>	+	+	+	+				+		+	+		+				+
464. <i>Phyla nodiflora</i>	+			+		+			+		+						+
465. <i>Phyllanthus acidus</i>				+		+									+		
466. <i>Phyllanthus fraternus</i>	+	+	+	+	+		+	+	+	+				+		+	+
467. <i>Phyllanthus nivosus</i>																+	
468. <i>Physalis minima</i>	+		+	+		+		+	+								+
469. <i>Pinus roxburghii</i>																+	
470. <i>Piper longum</i>		+															
471. <i>Piper nigrum</i>	+															+	
472. <i>Piper retrofractum</i>	+	+															
473. <i>Pistia stratistes</i> v. <i>cuneata</i>			+	+		+					+						+
474. <i>Pitchardia dactylifera</i>																+	
475. <i>Pitchardia grandis</i>																+	
476. <i>Pithecellobium dulce</i>			+	+		+	+				+				+	+	+
477. <i>Pleomela reflexa variegata</i>																+	
478. <i>Pluchea indica</i>	+	+															
479. <i>Plumbago zeylanica</i>											+						
480. <i>Plumeria acuminata</i>																+	
481. <i>Plumeria alba</i>						+									+	+	
482. <i>Plumeria rubra</i>						+									+	+	
483. <i>Plumeria</i> yellow																+	
484. <i>Podocarpus elongata</i>																+	

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
507. <i>Quassia amara</i>																+	
508. <i>Quisqualis indica</i>						+	+									+	
509. <i>Randia spinosa</i>	+	+															
510. <i>Raphis humilis</i>																+	
511. <i>Rauvolfia serpentina</i>	+	+						+									+
512. <i>Ravenala madagascariensis</i>					+	+		+		+					+		
513. <i>Ravenia spectabilis</i>						+										+	
514. <i>Ravenia spectabilis</i>						+									+		
515. <i>Rhaphidophora decursiva</i>								+					+				
516. <i>Rhinacanthus nasuta</i>												+					
517. <i>Ricinus communis</i>	+	+		+		+	+		+			+	+				
518. <i>Rivina humilis</i>												+	+	+			
519. <i>Rondeletia odorata</i>													+				
520. <i>Rorippa dufia</i>									+								
521. <i>Roystonea regia</i>			+	+		+	+		+	+			+		+		+
522. <i>Ruellia tuberosa</i>			+	+	+	+			+	+			+	+		+	+
523. <i>Rumex dentatus</i>												+					
524. <i>Rumex maritimus</i>	+					+											
525. <i>Rungia sp.</i>			+					+					+				
526. <i>Saccharum spontaneum</i>				+		+											
527. <i>Sagittaria sinensis</i>				+		+											
528. <i>Salix babylonica</i>										+							

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
529. <i>Salvia coccinea</i>						+											
530. <i>Samanea saman</i>			+	+		+	+	+		+					+	+	+
531. <i>Sambucus nigra</i>																+	
532. <i>Saraca asoca</i>			+		+	+	+	+	+	+				+	+	+	
533. <i>Saraca thapingensis</i>													+			+	
534. <i>Scindapsus aurea</i>																+	
535. <i>S. aurea alba</i> variegate																+	
536. <i>Scindapsus aurea</i> golden																+	
537. <i>Scoparia dulcis</i>	+	+	+	+		+	+	+	+		+		+	+			+
538. <i>Sesamum orientale</i>				+		+		-									+
539. <i>Sesbania cannabina</i>			+									+					
540. <i>Sesuvium portulacastrum</i>			+														
541. <i>Setaria glauca</i>				+		+											
542. <i>Sida acuta</i>		+		+	+			+				+					
543. <i>Sida cordifolia</i>				+		+			+								
544. <i>Sida rhombifolia</i>		+		+		+		+	+		+	+					+
545. <i>Smilex ovalifolia</i>	+	+															
546. <i>Solanum anguivi</i>								+				+					
547. <i>Solanum grandiflorum</i>													+				
548. <i>Solanum indicum</i>		+	+				+				+		+				
549. <i>Solanum nigrum</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+
550. <i>Solanum sisymbriifolium</i>				+		+					+						+

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
551. <i>Solanum surattense</i>								+					+				
552. <i>Solanum torvum</i>	+	+	+	+		+					+	+					
553. <i>Sonchus asper</i>	+	+							+								
554. <i>Spathodea campanulata</i>				+	+	+	+							+	+	+	
555. <i>Spilanthes acmella</i>		+		+										+			
556. <i>Spondias pinnata</i>						+	+										
557. <i>Stachytarpheta jamaicensis</i>												+					
558. <i>Stephania japonica</i>		+															
559. <i>Sterculia foetida</i>						+	+	+	+	+					+		+
560. <i>Streblus asper</i>	+	+	+					+			+			+			
561. <i>Strychnos nux-vomica</i>	+																
562. <i>Swietenia macrophylla</i>						+	+		+					+	+	+	
563. <i>Swietenia mahagoni</i>	+		+	+		+	+	+	+	+				+	+	+	+
564. <i>Synedrella nodiflora</i>	+	+		+			+		+			+		+			+
565. <i>Syzygium cuminii</i>			+	+		+	+	+	+	+					+	+	+
566. <i>Syzygium fruiticosum</i>															+		
567. <i>Syzygium jambos</i>		+														+	
568. <i>Syzygium javanica</i> var. <i>alba</i>																+	
569. <i>Syzygium javanica</i> v. <i>rosea</i>																+	
570. <i>Syzygium malaccense</i>	+		+					+					+				
571. <i>Syzygium smarangense</i>	+	+	+	+				+					+			+	
572. <i>Tabebuia chrysantha</i>										+							

Appendix-IA : Cont'd

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
573. <i>Tabebuia pallida</i>						+				+		+			+	+	
574. <i>Tabebuia pentaphyllum</i>																+	
575. <i>Tabebuia rosea</i>			+					+									+
576. <i>Tabernaemontana coronaria</i> v.nana																	+
577. <i>T. c. floro-plenoaurea</i>																	+
578. <i>T. c. var. plana</i>																	+
579. <i>T. c. var. variegata</i>																	+
580. <i>Tamarindus indica</i>		+		+		+		+						+	+	+	+
581. <i>Tecoma gaudicaudi</i>	+	+	+														+
582. <i>Tecoma stans</i>				+		+											
583. <i>Tectona grandis</i>				+			+		+					+			
584. <i>Tephrosia purpurea</i>				+					+								
585. <i>Terminalia arjuna</i>			+	+		+	+	+	+	+				+	+	+	+
586. <i>Terminalia bellirica</i>							+										
587. <i>Terminalia catappa</i>			+	+		+	+	+	+	+	+			+	+	+	+
588. <i>Terminalia chebula</i>									+					+			
589. <i>Thespesia populnea</i>			+			+	+	+		+				+	+	+	+
590. <i>Thevetia peruviana</i>			+	+		+	+	+							+	+	
591. <i>Thuja orientalis</i>																	+
592. <i>Thunbergia erecta</i>																	+
593. <i>Thunbergia grandiflora</i>																	+
594. <i>Tiliacora auminata</i>		+		+								+					

Appendix-IA : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
595. <i>Tinospora cordifolia</i>	+	+		+			+	+					+	+			
596. <i>Tragia involucrata</i>	+							+								+	
597. <i>Trapa natans</i>								+									
598. <i>Trema orientalis</i>	+	+	+	+	+	+	+	+	+	+			+	+		+	+
599. <i>Trewia nudiflora</i>						+									+		+
600. <i>Trianthema portulacastrum</i>				+		+											
601. <i>Trichosanthes cucumerina</i>			+	+				+	+				+				
602. <i>Trichosanthes tricuspidata</i>						+											
603. <i>Tridax procumbens</i>				+	+	+			+		+			+			
604. <i>Triumfetta rhomboidea</i>		+		+		+			+								
605. <i>Typha australis</i>			+	+		+											
606. <i>Typhonium trilobatum</i>	+	+	+	+									+	+		+	
607. <i>Urena lobata</i>	+	+		+		+			+		+	+	+				
608. <i>Urena sinuata</i>				+		+			+								
609. <i>Artabotrys hexapetalus</i>							+										
610. <i>Vallisneria spiralis</i>						+											
611. <i>Vanda tessellate</i>		+										+					
612. <i>Vernonia cinerea</i>	+	+	+	+		+			+		+	+		+			+
613. <i>Vernonia elaeagnifolia</i>			+				+			+						+	
614. <i>Vetiveria zizanioides</i>			+														
615. <i>Vitex negundo</i>			+												+		
616. <i>Wattakaka volubilis</i>	+																
617. <i>Wedelia chinensis</i>	+		+	+					+								
618. <i>Wedelia chinensis</i>	+		+									+				+	+

Appendix-IB : List of Indigenous flowering plants recorded during Urban Biodiversity study in and around Calcutta from 2002-2005.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
01. <i>Abelmoschus manihot</i>	+																
02. <i>Abrus precatorius</i>	+	+															
03. <i>Abutilon indicum</i>				+		+	+		+		+						+
04. <i>Acacia catechu</i>																	+
05. <i>Acacia mangium</i>																+	
06. <i>Acacia nilotica</i>															+		
07. <i>Acalypha hispida</i>	+														+	+	
08. <i>Acalypha indica</i>	+	+		+		+	+		+					+			+
09. <i>Acalypha macrophylla</i>			+													+	
10. <i>Acampe praemorsa</i>		+															
11. <i>Achyranthes aspera</i>		+	+	+		+					+	+		+			+
12. <i>Adenium obesum</i>																+	
13. <i>Adhatoda zeylonica</i>	+			+								+					
14. <i>Aegle marmelos</i>	+	+		+		+			+						+	+	
15. <i>Aerva lanata</i>		+							+								
16. <i>Aeschynomene aspera</i>			+														
17. <i>Albizia lebbek</i>				+		+									+		+
18. <i>Albizia lucida</i>												+				+	
19. <i>Alocasia indica</i>				+		+											
20. <i>Alstonia scholaris</i>		+	+		+	+	+	+	+	+				+	+	+	+
21. <i>Amaranthus spinosus</i>	+	+	+	+		+	+	+	+	+	+	+		+		+	+
22. <i>Amaranthus viridis</i>	+	+	+	+	+	+	+	+	+			+		+			+

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
45. <i>Barringtonia acutangula</i>							+							+			+
46. <i>Basella alba</i>				+													
47. <i>Basella rubra</i>				+													
48. <i>Bauhinia acuminata</i>																+	
48. <i>Bauhinia purpurea</i>			+	+		+				+						+	
49. <i>Bauhinia racemosa</i>				+													
50. <i>Bauhinia variegata</i>						+			+						+	+	+
51. <i>Beaucarnea recurvata</i>																+	
52. <i>Beloporne amhertea</i>																+	
53. <i>Benincasa hispida</i>				+													
54. <i>Biophytum sensitivum</i>	+	+															
55. <i>Bischofia javanica</i>									+								
56. <i>Bixa orellana</i>						+											
57. <i>Blumea lacera</i>	+	+					+										
58. <i>Boerhavia diffusa</i>	+	+	+	+	+	+	+		+				+	+			+
59. <i>Borassus flabellifer</i>	+	+	+			+				+				+		+	+
60. <i>Brassia actinophylla</i>						+											
61. <i>Brassica campestris</i>									+								
62. <i>Brassica nigra</i>				+		+											
63. <i>Brownia ariza</i>													+				
64. <i>Bryophyllum pinnatum</i>						+											
65. <i>Butea monosperma</i>					+	+			+	+		+			+	+	+

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
66. <i>Caesalpinia crista</i>		+															
67. <i>Caesalpinia pulcherrima</i>				+		+	+	+	+	+					+	+	
68. <i>Caesalpinia pulcherrima</i> v. <i>flava</i>															+	+	
69. <i>Calliandra brevipes</i>																+	
70. <i>Calophyllum inophyllum</i>									+					+		+	+
71. <i>Campsis grandiflora</i>				+		+											+
72. <i>Canna orientalis</i>				+	+	+	+			+					+		
73. <i>Capparis zeylanica</i>	+											+					
74. <i>Capsicum frutescens</i>				+													
75. <i>Cardiospermum helicacabum</i>	+					+											
76. <i>Carissa carandas</i>	+	+														+	
77. <i>Casearia glomerata</i>	+																
78. <i>Cassia bicapsularis</i>																+	
79. <i>Cassia fistula</i>	+	+	+		+	+			+	+				+	+	+	+
80. <i>Cassia sophera</i>		+		+		+			+		+						+
81. <i>Cassia surattensis</i>																+	
82. <i>Cassia tora</i>	+	+		+		+			+			+					+
83. <i>Cayratia carnosa</i>	+	+		+		+	+				+			+			+
84. <i>Cedrela toona</i>	+	+					+										
85. <i>Centella asiatica</i>			+	+													
86. <i>Cerbera manghas</i>						+											
87. <i>Chonemorpha griffithsii</i>																+	

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
88. <i>Chromolaena odorata</i>													+				
89. <i>Chrozophora rottleri</i>				+		+			+								+
90. <i>Chrysalidocarpus lutescens</i>			+			+	+								+	+	
91. <i>Chrysopogon aciculatus</i>				+													
92. <i>Cinnamomum tamala</i>	+						+									+	
93. <i>Cissus repanda</i>	+																
93. <i>Ceideroxylon quadrangularis</i>										+				+		+	
94. <i>Citrus aurantifolia</i>				+												+	
95. <i>Citrus jambhiri</i>																+	
96. <i>Citrus japonica</i>																+	
97. <i>Citrus maxima</i>				+												+	
98. <i>Cleome gynandra</i>	+			+						+							
99. <i>Cleome rutidosperma</i>	+	+	+	+	+		+	+	+	+	+	+	+	+		+	+
100. <i>Cleome viscosa</i>	+	+	+	+		+			+			+					
101. <i>Clerodendrum indicum</i>	+		+									+					
102. <i>Clerodendrum inerme</i>						+			+					+			
103. <i>Clerodendrum nutans</i>																+	
104. <i>Clerodendrum splendens</i>																+	
105. <i>Clerodendrum thomsonae</i>										+							
106. <i>Clerodendrum viscosum</i>	+	+	+	+		+	+		+			+					+
107. <i>Clitoria ternatea</i>				+													
108. <i>Coccinia grandis</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
130. <i>Cyperus</i> sp.				+	+												
131. <i>Dalbergia assamica</i>																	+
132. <i>Dalbergia latifolia</i>																+	
133. <i>Dalbergia sissoo</i>			+	+	+	+									+	+	+
134. <i>Datura metel</i>				+		+			+								
135. <i>Datura stramonium</i>							+										
136. <i>Dedygium</i> sp																	+
137. <i>Delonix elata</i>																	+
138. <i>Delonix lutea</i>																	+
139. <i>Dendrocalamus giganteus</i>																	+
140. <i>Dendrocalamus strictus</i>														+		+	
141. <i>Dendrophthoe falcata</i>		+												+			
142. <i>Dentella repens</i>				+					+								
143. <i>Desmodium gangeticum</i>	+	+		+													
144. <i>Desmodium laxiflorum</i>			+	+								+					
145. <i>Desmodium triflorum</i>		+															
145. <i>Desmostachya bipinnata</i>			+														
146. <i>Dillenia indica</i>	+		+	+		+							+			+	
147. <i>Dillenia pentagyna</i>												+					
148. <i>Dioscorea alata</i> var <i>globosa</i>				+													
149. <i>Dioscorea bulbifera</i>		+							+								
150. <i>Dipteracanthus prostratus</i>	+	+	+	+					+	+	+					+	+

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
173. <i>Euphoria longan</i>	+	+														+	
174. <i>Evodia splendens</i>																+	
175. <i>Excoecaria agallocha</i>				+													
176. <i>Excoecaria bicolour</i>			+									+				+	
177. <i>Ficus benghalensis</i>	+	+	+	+	+	+		+		+	+			+	+	+	+
178. <i>Ficus benamina</i>			+			+		+						+	+	+	+
179. <i>Ficus elastica</i>			+	+		+				+					+	+	
180. <i>Ficus elastica belgica</i>			+													+	
181. <i>Ficus elastica rubra</i>																+	
182. <i>Ficus heterophylla</i>	+	+					+		+			+					
183. <i>Ficus hispida</i>	+	+	+	+		+	+	+						+	+	+	
184. <i>Ficus lucescens</i>		+	+			+	+	+	+					+	+	+	+
185. <i>Ficus lyrata</i>													+			+	
186. <i>Ficus racemosa</i>	+	+	+	+		+		+		+			+		+		+
187. <i>Ficus religiosa</i>	+	+	+	+		+	+	+	+	+				+	+	+	
188. <i>Ficus retusa</i>	+	+	+					+		+						+	
189. <i>Ficus rumphii</i>		+	+	+		+	+	+	+	+					+	+	
190. <i>Filicium decipiens</i>													+			+	
191. <i>Flacourtia ramontchi</i>	+	+															
192. <i>Fleurya interrupta</i>				+		+											
193. <i>Foeniculum vulgare</i>		+															
194. <i>Franciscea hopeana</i>													+			+	

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
217. <i>Imperata cylindrica</i>	+	+	+			+											
218. <i>Ipomoea mauritana</i>									+								
219. <i>Ixora arborea</i>							+				+					+	
220. <i>Ixora barbata</i>			+											+			
221. <i>Ixora</i> sp.			+		+			+		+				+	+	+	
222. <i>Jasminum pubescens</i>																+	
223. <i>Jatropha gossypifolia</i>				+					+								
224. <i>Jussiaea repens</i>						+											+
225. <i>Jussiaea suffruticosa</i>						+											
226. <i>Justicia gendarussa</i>														+			
227. <i>Justicia procumbens</i>														+			
228. <i>Kalanchoe integra</i>						+											
229. <i>Kentia macarthurii</i>																+	
230. <i>Kirganelia reticulata</i>	+	+	+	+	+		+	+	+	+	+	+		+			+
231. <i>Lanea coromandelica</i>	+	+															
232. <i>Lantana depressa</i>																+	
233. <i>Lantana montevidensis</i>																+	
234. <i>Lantana sanguinea</i>																+	
235. <i>Launaea aspleniifolia</i>	+		+		+			+		+		+					
236. <i>Lawsonia inermis</i>						+										+	
237. <i>Leea crispa</i>	+	+															
238. <i>Lemna minor</i>			+	+		+		+			+	-				+	

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
239. <i>Leonotis nepetiifolia</i>			+					+									
240. <i>Leonurus sibiricus</i>				+		+	+		+							+	+
241. <i>Lepisanthes tetraphylla</i>												+					
242. <i>Leucas aspera</i>	+	+	+	+	+	+		+	+								
243. <i>Leucas cephalotes</i>		+															
244. <i>Leucas lavandulaefolia</i>																+	
245. <i>Licuala peltata</i>									+								
246. <i>Licuala spinosa</i>																+	
247. <i>Lindenbergia indica</i>									+								
248. <i>Lippia alba</i>		+															
249. <i>Litchi chinensis</i>	+	+														+	
250. <i>Litsea glutinosa</i>	+	+						+		+		-				+	
251. <i>Ludwigia perennis</i>		+															
252. <i>Luffa cylindrica</i>			+	+				+	+					+			
253. <i>Lygodium flexuosum</i>	+																
254. <i>Madhuca indica</i>			+			+		+	+	+				+	+	+	+
255. <i>Malachra capitata</i>				+		+		+	+								
256. <i>Malpighia coccigera</i>																+	
257. <i>Mangifera indica</i>	+	+	+	+		+	+	+		+			+	+		+	+
258. <i>Martinezia caryolaefolia</i>																+	
259. <i>Martynia annua</i>			+					+					+	+			
260. <i>Melochia corchorifolia</i>				+													

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
261. <i>Michelia champaca</i>						+			+						+	+	
262. <i>Michelia champaca alba</i>																+	
263. <i>Mimusops elengi</i>			+	+	+	+	+		+	+				+	+	+	+
264. <i>Mollugo cerviana</i>				+													
265. <i>Momordica charantia</i>				+					+								
266. <i>Monostera deliciosa</i>																+	
267. <i>Morinda citrifolia</i>		+								+			+			+	
268. <i>Morus alba</i>																+	
269. <i>Mucuna prurita</i>		+															
270. <i>Musa paradisiaca</i>	+	+		+													
271. <i>Nasturtium indicum</i>				+		+											
272. <i>Nauclea orientalis</i>										+			+				
273. <i>Nyctanthes arbor-tristis</i>				+		+			+	+					+	+	
274. <i>Ochna jabotapita</i>												+	+				
275. <i>Ochna pumila</i>									+	+						+	
276. <i>Operculina turpethum</i>		+	+														
277. <i>Oplismenus burmannii</i>	+	+															
278. <i>Oreodoxa regia</i>																+	
279. <i>Oroxylum indicum</i>	+	+															
280. <i>Oxalis corniculata</i>	+	+	+	+	+	+	+	+	+			+	+	+		+	
281. <i>Oxalis latifolia</i>								+				+	+			+	
282. <i>Pandanus odoratissimus</i>							+										

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
283. <i>Pandanus pacificus</i>																+	
284. <i>Pandanus sanderi</i>																+	
285. <i>Pandanus tectorium</i>																+	
286. <i>Parkia biglandulosa</i>					+	+											
287. <i>Pavetta indica</i>	+	+	+														
288. <i>Pedaliium murex</i>				+													
289. <i>Peperomia pellucida</i>				+		+	+							+			
290. <i>Pergularia daemia</i>				+													
291. <i>Persea americana</i>																+	
292. <i>Petrea arborea</i>																+	
293. <i>Petrea volubilis</i>								-					+				
294. <i>Phaulopsis dorsiflora</i>		+															
295. <i>Phoenix roebelenii</i>																+	
296. <i>Phoenix sylvestris</i>	+	+	+	+				+		+	+		+				+
297. <i>Phyla nodiflora</i>	+			+		+			+		+						+
298. <i>Phyllanthus acidus</i>				+		+									+		
299. <i>Phyllanthus fraternus</i>	+	+	+	+	+		+	+	+	+				+		+	+
300. <i>Phyllanthus nivosus</i>																+	
301. <i>Pinus roxburghii</i>																+	
302. <i>Piper longum</i>		+															
303. <i>Piper nigrum</i>	+															+	
304. <i>Piper retrofractum</i>	+	+															

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
345. <i>Saraca asoca</i>			+		+	+	+	+	+	+				+	+	+	
346. <i>Saraca thapingensis</i>													+			+	
347. <i>Scindapsus aurea</i>																+	
347. <i>Scindapsus aurea alba variegata</i>																+	
348. <i>Scindapsus aurea golden</i>																+	
349. <i>Sesamum orientale</i>				+		+		-									+
350. <i>Sesbania cannabina</i>			+									+					
351. <i>Sesuvium portulacastrum</i>			+														
352. <i>Setaria glauca</i>				+		+											
353. <i>Sida acuta</i>		+		+	+			+				+					
354. <i>Sida cordifolia</i>				+		+			+								
355. <i>Sida rhombifolia</i>		+		+		+		+	+		+	+					+
356. <i>Smilax ovalifolia</i>	+	+															
357. <i>Solanum anguivi</i>								+				+					
358. <i>Solanum indicum</i>		+	+				+				+		+				
359. <i>Solanum nigrum</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+
360. <i>Solanum surattense</i>								+					+				
361. <i>Solanum torvum</i>	+	+	+	+		+					+	+					
362. <i>Sonchus asper</i>	+	+							+								
363. <i>Spondias pinnata</i>						+	+										

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
384. <i>Trapa natans</i>								+									
385. <i>Trema orientalis</i>	+	+	+	+	+	+	+	+	+	+			+	+		+	+
386. <i>Trewia nudiflora</i>						+									+		+
387. <i>Trianthema portulacastrum</i>				+		+											
388. <i>Trichosanthes cucumerina</i>			+	+				+	+				+				
389. <i>Trichosanthes tricuspidata</i>						+											
390. <i>Triumfetta rhomboidea</i>		+		+		+			+								
391. <i>Typha australis</i>			+	+		+											
392. <i>Typhonium trilobatum</i>	+	+	+	+									+	+		+	
393. <i>Urena lobata</i>	+	+		+		+			+		+	+	+				
394. <i>Urena sinuata</i>				+		+			+								
395. <i>Artabotrys hexapetalus</i>							+										
396. <i>Vallisneria spiralis</i>						+											
397. <i>Vanda tessellate</i>		+										+					
398. <i>Vernonia elaeagnifolia</i>			+				+			+						+	
399. <i>Vetiveria zizanioides</i>			+														
400. <i>Vitex negundo</i>			+												+		
401. <i>Wattakaka volubilis</i>	+																
402. <i>Wedelia chinensis</i>	+		+	+					+								
403. <i>Wedelia chinensis</i>	+		+									+				+	+

Appendix-IB : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
404. <i>Withania somnifera</i>		+															
405. <i>Wolffia arrhiza</i>						+											
406. <i>Wormia burbidgei</i>			+										+				
407. <i>Wrightia tomentosa</i>										+						+	
408. <i>Zephyranthes</i> sp.												+					
409. <i>Zeuxine strateumatica</i>				+													
410. <i>Zingiber cassumunar</i>		+															
411. <i>Ziziphus mauritiana</i>	+	+		+		+		+				+			+		
412. <i>Ziziphus oenoplia</i>	+	+						+									
Ia = Shyamkhola																	
Ib = Narendrapur Wildlife Sanctuary										VIb = Eden Gardens							
II = Indian Institute of Management, Joka, Calcutta											VII = Brace Bridhe Wetlands						
III = East Calcutta Wetlands (Part)												VIII = Tollygunge Club					
IVa = Banobitan, Saltlake, Calcutta													IXa = Agri-Horticultural Society				
IVb = Subhas Sarovar													IXb = Zoological Garden				
Va = Indian Statistical Institute, Baranagore													Xa = Esplanade				
Vb = Tala Park													Xb = Raj Bhavan (Garden)				
VIa = Maidan													XI = Rabindra Sarovar				

Appendix-IC : List of Exotic flowering plants recorded during Urban Biodiversity study in and around Calcutta from 2002-2005.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
01. <i>Abelmoschus manihot</i>	+																
01. <i>Acacia auriculaeformis</i>			+			+				+	+				+	+	+
02. <i>Achras zapota</i>		+		+												+	
03. <i>Adansonia digitata</i>														+		+	+
04. <i>Adenantha pavonina</i>						+	+		+	+				+	+	+	+
05. <i>Ageratum conyzoides</i>	+	+	+	+		+	+	+	+	+	+		+			+	
06. <i>Ailanthus excelsa</i>															+		
07. <i>Allemanda neriifolia</i>																+	
08. <i>Alternanthera paronychioides</i>						+											
09. <i>Alternanthera philoxeroides</i>	+	+	+	+	+	+	+	+	+	+		+	+	+			+
10. <i>Alternanthera sessilis</i>		+		+		+			+		+	+		+			+
11. <i>Amherstia nobilis</i>													+				
12. <i>Anacardium occidentale</i>			+		+				+								
13. <i>Ananas comosus</i>	+	+															
14. <i>Annona reticulata</i>		+		+													
15. <i>Annona squamosa</i>		+		+		+										+	
16. <i>Anogeissus acuminata</i>														+			
17. <i>Antigonon leptopus</i>																+	
18. <i>Araucaria columnaris</i>						+	+			+						+	
19. <i>Artocarpus altilis</i>						+	+						+			+	
20. <i>Arundo donax</i>			+		+												
21. <i>Averrhoa carambola</i>																+	

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
44. <i>Castanospermum australe</i>													+				+
45. <i>Casuarina equisetifolia</i>			+		+	+				+					+	+	+
46. <i>Catharanthus roseus</i>				+	+			+						+		+	
47. <i>Ceiba pentandra</i>		+		+		+	+				+				+	+	+
48. <i>Cestrum diurnum</i>	+	+		+					+						+		
49. <i>Cestrum nocturnum</i>															+	+	
50. <i>Chenopodium album</i>																	+
51. <i>Cinnamomum camphora</i>																+	
52. <i>Cinnamomum zeylanicum</i>	+															+	
53. <i>Citrus sinensis</i>																+	
54. <i>Cocos nucifera</i>	-	+	+	+	+	+	+	+								+	+
55. <i>Colvillea racemosa</i>						+							+			+	+
56. <i>Cordia sebestina</i>						+			+	+				+		+	
57. <i>Couroupita guianensis</i>						+	+		+	+					+	+	+
58. <i>Crescentia cujete</i>									+					+			
59. <i>Croton bonplandianum</i>	+			+					+		+						+
60. <i>Cucumis melo var. agrestis</i>						+											
61. <i>Datura suaveolens</i>		+															
62. <i>Delonix regia</i>			+	+		+	+	+	+		+			+	+	+	+
63. <i>Diospyros discolor</i>													-			+	
64. <i>Diospyros peregrina</i>	+	+	+							+						+	+
65. <i>Dombeya caryenxii</i>									+							+	

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
66. <i>Dombeya wallichii</i>						+											
67. <i>Duranta repens</i>															+	+	
68. <i>Durio zibethinus</i>																+	
69. <i>Eclipta prostrata</i>		+	+	+	+	+	+	+	+	+			+	+		+	+
70. <i>Eichhornia crassipes</i>		+	+	+	+	+		+				+	+			+	+
71. <i>Elaeis guineensis</i>						+									+	+	
72. <i>Eranthemum bicolor</i>																+	
73. <i>Erythrina blakei</i>																+	
74. <i>Eucalyptus citriodora</i>			+			+		+	+					+	+	+	
75. <i>Eupatorium triplinerve</i>	+	+		+	+	+			+								
76. <i>Euphorbia leucocephala</i>															+		
77. <i>Euphorbia pulcherrima</i>						+									+		
78. <i>Euphorbia splendens</i>								+				+	+			+	
79. <i>Evolvulus nummularius</i>	+	+	+	+					+			+		+		+	
80. <i>Feronia limonia</i>		+				+											
81. <i>Furcrea striata</i>													+			+	
82. <i>Garcinia mangostana</i>																+	
83. <i>Gardenia jasminoides</i>						+	+								+	+	
84. <i>Gliricidia sepium</i>						+	+							+		+	+
85. <i>Gmelina philippensis</i>						+									+		

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
106. <i>Jacquinia rusacifolia</i>													+				
107. <i>Jasminum sambac</i>						+										+	
108. <i>Jatropha integerrima</i>						+									+		
109. <i>Jatropha panduarefolia</i>						+										+	
110. <i>Jatropha podagrica</i>			+			+				+			+		+	+	
111. <i>Juniperus chinensis</i>																+	
112. <i>Kigelia pinnata</i>							+										+
113. <i>Kleinhovia hospita</i>						+	+								+	+	
114. <i>Kopsia fruticosa</i>			+			+			+				+		+	+	
115. <i>Lagerstroemia indica</i>							+		+	+					+	+	
116. <i>Lagerstroemia speciosa</i>			+	+	+	+	+	+	+	+					+	+	+
117. <i>Lagerstroemia thorellii</i>						+			+	+				+	+	+	
118. <i>Lantana camara</i>		+	+	+	+	+	+	+	+						+		+
119. <i>Leucaena leucocephala</i>			+	+		+	+	+		+	+				+	+	+
120. <i>Livistona chinensis</i>						+				+						+	
121. <i>Livistona rotundifolia</i>																+	
122. <i>Lycopersicon esculentum</i>						+											
123. <i>Magnolia grandiflora</i>								+								+	
124. <i>Magnolia pterocarpa</i>																+	
125. <i>Malvastrum coromandelianum</i>												+					

Appendix-IC : Cont'd

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
126. <i>Malvaviscus arboreus</i>		+				+									+		
127. <i>Merremia hederacea</i>		+															
128. <i>Melia azedarach</i>																	+
129. <i>Melothria maderaspatana</i>				+									+				
130. <i>Memecylon edule</i>												+	+				
131. <i>Mesua ferrea</i>						+								+			
132. <i>Mikania cordata</i>	+	+	+	+	+		+	+	+	+	+	+	+	+			+
133. <i>Milletia peguensis</i>			+			+		+	+						+	+	+
134. <i>Milligtonia hortensis</i>						+	+								+	+	
135. <i>Mimosa pudica</i>	+	+	+	+													
136. <i>Mirabilis jalapa</i>				+		+			+								
137. <i>Monodora grandiflora</i>													+				
138. <i>Moringa oleifera</i>	+	+		+												+	
139. <i>Muntingia calabura</i>	+													+			
140. <i>Murraya koenigii</i>	+	+	+	+		+					+			+		+	
141. <i>Murraya paniculata</i>		+	+		+	+	+	+		+				+		+	
142. <i>Mussaenda erythophylla</i>																+	
143. <i>Mussaenda frondosa</i>									+						+		
144. <i>Mussaenda phillipica</i>			+					+		+					+	+	
145. <i>Nerium oleander</i>						+									+	+	

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
146. <i>Nicotiana plumbaginifolia</i>	+	+	+	+		+	+	+	+	+	+		+			+	+
147. <i>Nipa fruticans</i>																+	
148. <i>Nymphaea nouchali</i>			+					+				+	+			+	
149. <i>Nymphaea pubescens</i>					+			+				+					
150. <i>Nymphaea stellata</i>						+											
151. <i>Nymphoides hydrophylla</i>								+				+					
152. <i>Ocimum sanctum</i>				+		+			+								
153. <i>Opuntia dillenii</i>						+											
154. <i>Parkinsonia aculeata</i>							+										
155. <i>Parmentiera cereifera</i>																	+
156. <i>Parthenium hysterophorus</i>	+	+		+	+	+	+		+		+	+	+	+		+	+
157. <i>Passiflora foetida</i>			+	+			+										
158. <i>Pedilanthus tithymaloides</i>				+													+
159. <i>Pedilanthus variegata</i>																	+
160. <i>Peltophorum brasiliense</i>																	+
161. <i>Peltophorum pterocarpum</i>			+	+		+	+	+	+	+	+				+	+	+
162. <i>Pentace burmanica</i>													+				
163. <i>Pentapates phoenicea</i>		+						+					+				
164. <i>Pentas alba</i>																	+
165. <i>Pentas rosea</i>																	+

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
166. <i>Physalis minima</i>	+		+	+		+		+	+								+
167. <i>Pithecellobium dulce</i>			+	+		+	+				+				+	+	+
168. <i>Plumeria acuminata</i>																+	
169. <i>Plumeria alba</i>						+									+	+	
170. <i>Plumeria rubra</i>						+									+	+	
171. <i>Poinsettia pulcherrima</i>																+	
172. <i>Pongamia pinnata</i>						+		+		+	+			+	+	+	+
173. <i>Psidium guajava</i>		+	+	+		+		+				-				+	
174. <i>Punica granatum</i>									+						+	+	
175. <i>Pyrus malus</i>																+	
176. <i>Quassia amara</i>																+	
177. <i>Rauvolfia serpentina</i>	+	+						+									+
178. <i>Ravenala madagascariensis</i>					+	+		+		+					+		
179. <i>Ricinus communis</i>	+	+		+		+	+		+			+	+				
180. <i>Rivina humilis</i>												+	+	+			
181. <i>Rondeletia odorata</i>													+				
182. <i>Roystonea regia</i>			+	+		+	+		+	+			+		+		+
183. <i>Ruellia tuberosa</i>			+	+	+	+			+	+			+	+		+	+
184. <i>Salix babylonica</i>										+							
185. <i>Samanea saman</i>			+	+		+	+	+		+					+	+	+

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
186. <i>Scoparia dulcis</i>	+	+	+	+		+	+	+	+		+		+	+			+
187. <i>Solanum grandiflorum</i>													+				
188. <i>Solanum sisymbriifolium</i>				+		+					+						+
189. <i>Spathodea campanulata</i>				+	+	+	+							+	+	+	
190. <i>Spilanthus acmella</i>		+		+										+			
191. <i>Stachytarpheta jamaicensis</i>												+					
192. <i>Stephania japonica</i>		+															
193. <i>Sterculia foetida</i>						+	+	+	+	+					+		+
194. <i>Swietenia macrophylla</i>						+	+		+					+	+	+	
195. <i>Swietenia mahagoni</i>	+		+	+		+	+	+	+	+				+	+	+	+
196. <i>Synedrella nodiflora</i>	+	+		+			+		+			+		+			+
197. <i>Syzygium javanica</i> var. <i>alba</i>																+	
198. <i>Syzygium javanica</i> var. <i>rosea</i>																+	
199. <i>Syzygium malaccense</i>	+		+					+					+				
200. <i>Tabebuia chrysantha</i>										+							
201. <i>Tabebuia pallida</i>						+				+		+			+	+	
202. <i>Tabebuia pentaphyllum</i>																+	
203. <i>Tabebuia rosea</i>			+					+									+
204. <i>Tamarindus indica</i>		+		+		+		+						+	+	+	+
205. <i>Tecoma stans</i>				+		+											

Appendix-IC : Cont'd.

Study Sites →	Ia	Ib	II	III	IVa	IVb	Va	Vb	VIa	VIb	VII	VIII	IXa	IXb	Xa	Xb	XI
Flowering Plants ↓																	
206. <i>Tectona grandis</i>				+			+		+					+			
207. <i>Terminalia catappa</i>			+	+		+	+	+	+	+	+			+	+	+	+
208. <i>Thevetia peruviana</i>			+	+		+	+	+							+	+	
209. <i>Thunbergia erecta</i>																+	
210. <i>Thunbergia grandiflora</i>																+	
211. <i>Tridax procumbens</i>				+	+	+			+		+			+			
212. <i>Vernonia cinerea</i>	+	+	+	+		+			+		+	+		+			+
213. <i>Xanthium strumarium</i>				+			+		+		+						+
214. <i>Yucca elephantips</i>																+	
215. <i>Zamia furfuracea</i>																+	
Ia = Shyamkhola																	
Ib = Narendrapur Wildlife Sanctuary									VIb = Eden Gardens								
II = Indian Institute of Management, Joka, Calcutta												VII = Brace Bridhe Wetlands					
III = East Calcutta Wetlands (Part)												VIII = Tollygunge Club					
IVa = Banobitan, Saltlake, Calcutta												IXa = Agri-Horticultural Society					
IVb = Subhas Sarobar												IXb = Zoological Garden					
Va = Indian Statistical Institute, Baranagore												Xa = Esplanade					
Vb = Tala Park												Xb = Raj Bhavan (Garden)					
VIa = Maidan												XI = Rabindra Sarobar					

Appendix-II : Family-wise and site-wise list of flowering plants recorded during Urban Biodiversity study in and around Calcutta from 2002 - 2005.

II-A (i) : Shyamkhola.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Adhatoda vasica</i>	40	Gramineae	<i>Bambusa arundinacea</i>
02	Acanthaceae	<i>Dipteracanthus prostratus</i>	41	Gramineae	<i>Imperata cylindrica</i>
03	Acanthaceae	<i>Ecbolium viride</i>	42	Labiatae	<i>Leucas aspera</i>
04	Acanthaceae	<i>Justicia gendarussa</i>	43	Lauraceae	<i>Litsea glutinosa</i>
05	Amaranthaceae	<i>Alternanthera philoxeroides</i>	44	Malvaceae	<i>Urena lobata</i>
06	Amaranthaceae	<i>Amaranthus viridis</i>	45	Moraceae	<i>Artocarpus lakoocha</i>
07	Amaryllidaceae	<i>Curculigo orchioides</i>	46	Moraceae	<i>Ficus heterophylla</i>
08	Annonaceae	<i>Polyalthia suberosa</i>	47	Moraceae	<i>Ficus hispida</i>
09	Apocynaceae	<i>Ervatamia divaricata</i>	48	Moraceae	<i>Ficus racemosa</i>
10	Apocynaceae	<i>Rauvolfia serpentina</i>	49	Moraceae	<i>Streblus asper</i>
11	Araceae	<i>Colocasia esculanta</i>	50	Myrsinaceae	<i>Ardisia solanacea</i>
12	Asclepiadaceae	<i>Hemidesmus indicus</i>	51	Myrsinaceae	<i>Embelia ribes</i>
13	Asclepiadaceae	<i>Wattakaka volubilis</i>	52	Oxalidaceae	<i>Oxalis corniculata</i>
14	Averrhoaceae	<i>Averrhoa carambola</i>	53	Palmae	<i>Phoenix sylvestris</i>
15	Bignoniaceae	<i>Oroxylum indicum</i>	54	Papilionaceae	<i>Desmodium gangeticum</i>
16	Caesalpiniaceae	<i>Cassia fistula</i>	55	Piperaceae	<i>Piper nigrum</i>
17	Caesalpiniaceae	<i>Cassia tora</i>	56	Polygonaceae	<i>Polygonum orientale</i>
18	Cleomaceae	<i>Cleome gynandra</i>	57	Rhamnaceae	<i>Ziziphus mauritiana</i>
19	Cleomaceae	<i>Cleome rutidosperma</i>	58	Rhamnaceae	<i>Ziziphus oenoplia</i>
20	Commelinaceae	<i>Commelina benghalensis</i>	59	Rubiaceae	<i>Coffea bengalensis</i>
21	Compositae	<i>Ageratum conyzoides</i>	60	Rubiaceae	<i>Randia splnosa</i>
22	Compositae	<i>Blumea lacera</i>	61	Rutaceae	<i>Aegle marmelos</i>

II-A (i) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
23	Compositae	<i>Eupatorium odoratum</i>	62	Rutaceae	<i>Glycosmis pentaphylla</i>
24	Compositae	<i>Launaea aspleniifolia</i>	63	Samydaceae	<i>Casearia glomerata</i>
25	Compositae	<i>Mikania cordata</i>	64	Sapindaceae	<i>Cardiospermum halicacabum</i>
26	Compositae	<i>Parthenium hysterophorus</i>	65	Schizaeaceae	<i>Lygodium flexuosum</i>
27	Compositae	<i>Vernonia cinerea</i>	66	Scrophulariaceae	<i>Scoparia dulcis</i>
28	Compositae	<i>Wedelia chinensis</i>	67	Solanaceae	<i>Nicotiana plumbaginifolia</i>
29	Cucurbitaceae	<i>Coccinia grandis</i>	68	Solanaceae	<i>Physalis minima</i>
30	Dilleniaceae	<i>Dillenia indica</i>	69	Solanaceae	<i>Solanum nigrum</i>
31	Ebenaceae	<i>Dispyros peregrina</i>	70	Solanaceae	<i>Solanum torvum</i>
32	Euphorbiaceae	<i>Acalypha indica</i>	71	Tiliaceae	<i>Muntingia calabura</i>
33	Euphorbiaceae	<i>Croton bonplandianum</i>	72	Ulmaceae	<i>Trema orientalis</i>
34	Euphorbiaceae	<i>Euphorbia hirta</i>	73	Verbenaceae	<i>Clerodendrum indicum</i>
35	Euphorbiaceae	<i>Gelonium multiflorum</i>	74	Verbenaceae	<i>Clerodendrum viscosum</i>
36	Euphorbiaceae	<i>Kirganelia reticulata</i>	75	Vitaceae	<i>Cissus repanda</i>
37	Euphorbiaceae	<i>Phyllanthus fraternus</i>	76	Vitaceae	<i>Leea crispa</i>
38	Euphorbiaceae	<i>Ricinus communis</i>	77	Zingiberaceae	<i>Curcuma aromatica</i>
39	Flacourtiaceae	<i>Flacourtia ramoutchi</i>			

II-A (ii) : Narendrapur Wildlife Sanctuary (Presently Chintamoni Kar Bird Sanctuary).

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Andrographis paniculata</i>	64	Malvaceae	<i>Sida rhomboidea</i>
02	Acanthaceae	<i>Dipteracanthus prostrates</i>	65	Malvaceae	<i>Urena lobata</i>
03	Acanthaceae	<i>Phaulopsis dorsiflora</i>	66	Meliaceae	<i>Azadirachta indica</i>
04	Amaranthaceae	<i>Achyranthes aspera</i>	67	Meliaceae	<i>Cedrela toona</i>
05	Amaranthaceae	<i>Aerva lanata</i>	68	Menispermaceae	<i>Stephania japonica</i>
06	Amaranthaceae	<i>Alternanthera philoxeroides</i>	69	Menispermaceae	<i>Tiliacora acuminata</i>
07	Amaranthaceae	<i>Alternanthera sessilis</i>	70	Menispermaceae	<i>Tinospora cordifolia</i>
08	Amaranthaceae	<i>Amaranthus spinosus</i>	71	Moraceae	<i>Artocarpus heterophyllus</i>
09	Amaranthaceae	<i>Amaranthus viridis</i>	72	Moraceae	<i>Artocarpus lakoocha</i>
10	Anacardiaceae	<i>Lannea coromandelica</i>	73	Moraceae	<i>Ficus benghalensis</i>
11	Anacardiaceae	<i>Mangifera indica</i>	74	Moraceae	<i>Ficus glomerata</i>
12	Annoaceae	<i>Annona squamosa</i>	75	Moraceae	<i>Ficus heterophylla</i>
13	Annonaceae	<i>Annona reticulata</i>	76	Moraceae	<i>Ficus hispida</i>
14	Annonaceae	<i>Polyalthia suberosa</i>	77	Moraceae	<i>Ficus ramphii</i>
15	Araceae	<i>Colocasia esculanta</i>	78	Moraceae	<i>Ficus religiosa</i>
16	Araceae	<i>Typhorium trilobatum</i>	79	Moraceae	<i>Streblus asper</i>
17	Bignoniaceae	<i>Oroxylum indicum</i>	80	Moringaceae	<i>Moringa oleifera</i>
18	Bombacaceae	<i>Ceiba pentandra</i>	81	Musaceae	<i>Musa paradisiaca</i>
19	Boraginaceae	<i>Heliotropium indicum</i>	82	Myrsinaceae	<i>Ardisia solanacea</i>
20	Bromeliaceae	<i>Ananas comosus</i>	83	Myrtaceae	<i>Psidium guajava</i>
21	Caesalpiniaceae	<i>Caesalpinia bonducella</i>	84	Myrtaceae	<i>Syzygium jambos</i>
22	Caesalpiniaceae	<i>Cassia fistula</i>	85	Myrtaceae	<i>Syzygium samarangense</i>
23	Caesalpiniaceae	<i>Cassia sophera</i>	86	Nyctaginaceae	<i>Boerhavia diffusa</i>

II-A (ii) : *Cont'd*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Caesalpiaceae	<i>Cassia tora</i>	87	Onagraceae	<i>Ludwigia perennis</i>
25	Caesalpiaceae	<i>Tamarindus indica</i>	88	Orchidaceae	<i>Acampe praemorsa</i>
26	Cleomaceae	<i>Cleome rutidosperma</i>	89	Orchidaceae	<i>Vanda tessellata</i>
27	Commelinaceae	<i>Commelina benghalensis</i>	90	Oxalidaceae	<i>Oxalis corniculata</i>
28	Commelinaceae	<i>Commelina diffusa</i>	91	Palmae	<i>Cocos nucifera</i>
29	Compositae	<i>Ageratum conyzoides</i>	92	Palmae	<i>Phoenix sylvestris</i>
30	Compositae	<i>Blumea lacera</i>	93	Papilionaceae	<i>Desmodium gangeticum</i>
31	Compositae	<i>Chromolaena odorata</i>	94	Piperaceae	<i>Piper longum</i>
32	Compositae	<i>Eclipta prostrate</i>	95	Piperaceae	<i>Piper retrofractum</i>
33	Compositae	<i>Eupatorium odoratum</i>	96	Polypodiaceae	<i>Pteridium aquilinum</i>
34	Compositae	<i>Mikania scandens</i>	97	Pontederiaceae	<i>Eichhornia crassipes</i>
35	Compositae	<i>Parthenium hysterophorus</i>	98	Portulacaceae	<i>Portulaca oleracea</i>
36	Compositae	<i>Pseudelephantopus spikatus</i>	99	Rhamnaceae	<i>Ziziphus mauritiana</i>
37	Compositae	<i>Spilanthes acmella</i>	100	Rhamnaceae	<i>Ziziphus oenoplia</i>
38	Compositae	<i>Synedrella nodiflora</i>	101	Rubiaceae	<i>Anthocephalus cadamba</i>
39	Compositae	<i>Vernonia cinerea</i>	102	Rubiaceae	<i>Coffea bengalensis</i>
40	Convolvulaceae	<i>Evolvulus nummularius</i>	103	Rubiaceae	<i>Pavetta indica</i>
41	Convolvulaceae	<i>Ipomoea sepiaria</i>	104	Rubiaceae	<i>Randia spinosa</i>
42	Convolvulaceae	<i>Merremia chrysoides</i>	105	Rutaceae	<i>Glycosmis pentaphylla</i>
43	Convolvulaceae	<i>Operculina turpethum</i>	106	Sapindaceae	<i>Euphoria longan</i>
44	Cucurbitaceae	<i>Coccinia grandis</i>	107	Sapotaceae	<i>Achras zapota</i>
45	Dioscoreaceae	<i>Dioscorea bulbifera</i>	108	Scrophulariaceae	<i>Scoparia dulcis</i>
46	Ebenaceae	<i>Diospyros peregrina</i>	109	Solanaceae	<i>Nicotiana plumbaginifolia</i>

II-A (ii) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Euphorbiaceae	<i>Acalypha indica</i>	110	Solanaceae	<i>Solanum indicum</i>
48	Euphorbiaceae	<i>Euphorbia hirta</i>	111	Solanaceae	<i>Solanum nigrum</i>
49	Euphorbiaceae	<i>Gelonium multiforum</i>	112	Solanaceae	<i>Solanum torvum</i>
50	Euphorbiaceae	<i>Kirganelia reticulate</i>	113	Solanaceae	<i>Withania somnifera</i>
51	Euphorbiaceae	<i>Phyllanthus fraternus</i>	114	Sterculiaceae	<i>Ambroma augusta</i>
52	Euphorbiaceae	<i>Ricinus communis</i>	115	Sterculiaceae	<i>Pentapetes phoenicea</i>
53	Fabaceae	<i>Desmodium triflorum</i>	116	Sterculiaceae	<i>Pterospermum acerifolium</i>
54	Fabaceae	<i>Mucuna prurita</i>	117	Tiliaceae	<i>Triumfetta rhomboidea</i>
55	Flacourtiaceae	<i>Flacourtia ramontchi</i>	118	Ulmaceae	<i>Trema orientalis</i>
56	Gramineae	<i>Bambusa sp.</i>	119	Verbenaceae	<i>Clerodendrum viscosum</i>
57	Gramineae	<i>Imperata cylindrica</i>	120	Verbenaceae	<i>Lantana camara</i>
58	Labiatae	<i>Anisomeles indica</i>	121	Verbenaceae	<i>Lippia alba</i>
59	Labiatae	<i>Leonurus sibiricus</i>	122	Vitaceae	<i>Cayratia trifolia</i>
60	Lauraceae	<i>Litsea glutinosa</i>	123	Vitaceae	<i>Leea crispa</i>
61	Liliaceae	<i>Smilax ovalifolia</i>	124	Zingibaraceae	<i>Costus speciosa</i>
62	Loranthaceae	<i>Dendrophthoe falacata</i>	125	Zingiberaceae	<i>Zingiber cassumunar</i>
63	Malvaceae	<i>Sida acuta</i>			

II-B : Indian Institute of Management Calcutta, Joka.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Dipteracanthus prostratus</i>	59	Lemnaceae	<i>Lemna minor</i>
02	Acanthaceae	<i>Ruellia tuberosa</i>	60	Lythraceae	<i>Lagerstroemia speciosa</i>
03	Amaranthaceae	<i>Achyranthes aspera</i>	61	Malvaceae	<i>Thespesia populnea</i>
04	Amaranthaceae	<i>Alternanthera philoxeroides</i>	62	Meliaceae	<i>Azadirachta indica</i>
05	Amaranthaceae	<i>Amaranthus spinosus</i>	63	Meliaceae	<i>Swietenia mahagoni</i>
06	Amaranthaceae	<i>Amaranthus viridis</i>	64	Mimosaceae	<i>Acacia auriculaeformis</i>
07	Anacardiaceae	<i>Anacardium occidentale</i>	65	Mimosaceae	<i>Leucaena glauca</i>
08	Anacardiaceae	<i>Mangifera indica</i>	66	Mimosaceae	<i>Pithecellobium dulce</i>
09	Annonaceae	<i>Polyalthia longifolia</i>	67	Mimosaceae	<i>Samanea saman</i>
10	Apocynaceae	<i>Alstonia scholaris</i>	68	Moraceae	<i>Artocarpus heterophyllus</i>
11	Apocynaceae	<i>Ervatamia divaricata</i>	69	Moraceae	<i>Artocarpus lakoocha</i>
12	Apocynaceae	<i>Thevetia peruviana</i>	70	Moraceae	<i>Ficus benghalensis</i>
13	Araceae	<i>Colocasia esculanta</i>	71	Moraceae	<i>Ficus elastica</i>
14	Araceae	<i>Pistia stratistes v.cuneata</i>	72	Moraceae	<i>Ficus hispida</i>
15	Arecaceae	<i>Cocos nucifera</i>	73	Moraceae	<i>Ficus racemosa</i>
16	Bignoniaceae	<i>Tabebuia rosea</i>	74	Moraceae	<i>Ficus religiosa</i>
17	Boraginaceae	<i>Heliotropium indicum</i>	75	Moraceae	<i>Ficus rumphii</i>
18	Caesalpiniaceae	<i>Bauhinia purpurea</i>	76	Moraceae	<i>Streblus asper</i>
19	Caesalpiniaceae	<i>Cassia fistula</i>	77	Myrtaceae	<i>Callistemon lanceolatus</i>
20	Caesalpiniaceae	<i>Cassia siamea</i>	78	Myrtaceae	<i>Eucalyptus citriodora</i>
21	Caesalpiniaceae	<i>Delonix regia</i>	79	Myrtaceae	<i>Psidium guajava</i>
22	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	80	Myrtaceae	<i>Syzygium cuminii</i>
23	Caesalpiniaceae	<i>Saraca asoca</i>	81	Myrtaceae	<i>Syzygium samarangense</i>

II-B : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Casuarinaceae	<i>Casuarina equisetifolia</i>	82	Nyctaginaceae	<i>Boerhavia diffusa</i>
25	Cleomaceae	<i>Cleome rutidosperma</i>	83	Oxalidaceae	<i>Oxalis corniculata</i>
26	Cleomaceae	<i>Cleome viscosa</i>	84	Papilionaceae	<i>Milletia peguensis</i>
27	Combretaceae	<i>Terminalia arjuna</i>	85	Palmae	<i>Borassus flabellifer</i>
28	Combretaceae	<i>Terminalia catappa</i>	86	Palmae	<i>Chrysalidocarpus lutescens</i>
29	Commelinaceae	<i>Commelina benghalensis</i>	87	Palmae	<i>Phoenix sylvestris</i>
30	Compositae	<i>Ageratum conyzoides</i>	88	Palmae	<i>Roystonea regia</i>
31	Compositae	<i>Eclipta alba</i>	89	Papaveraceae	<i>Argemone mexicana</i>
32	Compositae	<i>Launaea procumbens</i>	90	Papilionaceae	<i>Aeschynomene aspera</i>
33	Compositae	<i>Mikania cordata</i>	91	Papilionaceae	<i>Dalbergia sissoo</i>
34	Compositae	<i>Mikania scandans</i>	92	Papilionaceae	<i>Desmodium sp.</i>
35	Compositae	<i>Vernonia cinerea</i>	93	Papilionaceae	<i>Sesbania cannabina</i>
36	Compositae	<i>Vernonia elaeagnifolia</i>	94	Passifloraceae	<i>Passiflora foetida</i>
37	Compositae	<i>Wedelia chinensis</i>	95	Pontederiaceae	<i>Eichhornia crassipes</i>
38	Convolvulaceae	<i>Argyreia nervosa</i>	96	Rubiaceae	<i>Anthocephalus cadamba</i>
39	Convolvulaceae	<i>Cuscuta reflexa</i>	97	Rubiaceae	<i>Ixora spp.</i>
40	Convolvulaceae	<i>Evolvulus nummularius</i>	98	Rutaceae	<i>Murraya koenigii</i>
41	Convolvulaceae	<i>Ipomoea sepiaria</i>	99	Rutaceae	<i>Murraya paniculata</i>
42	Convolvulaceae	<i>Ipomoea turpethum</i>	100	Sapotaceae	<i>Mimusops elengi</i>
43	Cucurbitaceae	<i>Coccinia cordifolia</i>	101	Scrophulariaceae	<i>Scoparia dulcis</i>
44	Cucurbitaceae	<i>Luffa cylindrical</i>	102	Solanaceae	<i>Nicotiana plumbaginifolia</i>
45	Dilleniaceae	<i>Wormia burbridgei</i>	103	Solanaceae	<i>Physalis minima</i>
46	Euphorbiaceae	<i>Emblica officinalis</i>	104	Solanaceae	<i>Solanum indicum</i>

II-B : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Euphorbiaceae	<i>Euphorbia heterophylla</i>	105	Solanaceae	<i>Solanum nigrum</i>
48	Euphorbiaceae	<i>Euphorbia hirta</i>	106	Solanaceae	<i>Solanum torvum</i>
49	Euphorbiaceae	<i>Jatropha podagrica</i>	107	Sterculiaceae	<i>Pterospermum acerifolium</i>
50	Euphorbiaceae	<i>Kirganelia reticulata</i>	108	Tiliaceae	<i>Grewia subinaequalis</i>
51	Euphorbiaceae	<i>Phyllanthus fraternus</i>	109	Typhaceae	<i>Typha australis</i>
52	Euphorbiaceae	<i>Putranjiva roxburghii</i>	110	Ulmaceae	<i>Trema orientalis</i>
53	Gramineae	<i>Arundo donax</i>	111	Umbelliferae	<i>Centella asiatica</i>
54	Gramineae	<i>Cynodon dactylon</i>	112	Verbenaceae	<i>Clerodendrum indicum</i>
55	Gramineae	<i>Desmostachya bipinnata</i>	113	Verbenaceae	<i>Clerodendrum viscosum</i>
56	Gramineae	<i>Eragrostis tenella</i>	114	Verbenaceae	<i>Gmelina arborea</i>
57	Gramineae	<i>Imperata cylindrical</i>	115	Verbenaceae	<i>Lantana camara</i> v. <i>aculeata</i>
58	Gramineae	<i>Vetiveria zizanioides</i>			

II-C : Nalban – (Part of East Calcutta Wetlands) :

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Adhatoda vasica</i>	101	Euphorbiaceae	<i>Ricinus communis</i>
02	Acanthaceae	<i>Dipteracanthus prostrates</i>	102	Fabaceae	<i>Clitoria ternatea</i>
03	Acanthaceae	<i>Hemigraphis hirta</i>	103	Fabaceae	<i>Crotalaria saltiana</i>
04	Acanthaceae	<i>Ruellia tuberosa</i>	104	Fabaceae	<i>Crotalaria striata</i>
05	Aizoaceae	<i>Mollugo cerviana</i>	105	Fabaceae	<i>Crotalaria verrucosa</i>
06	Aizoaceae	<i>Trianthema portulacastrum</i>	106	Fabaceae	<i>Dalbergia sissoo</i>
07	Alismataceae	<i>Sagittaria sinensis</i>	107	Fabaceae	<i>Desmodium laxiflorum</i>
08	Amaranthaceae	<i>Alternanthera sessilis</i>	108	Fabaceae	<i>Desmodium triflorum</i>
09	Amaranthaceae	<i>Achyranthes aspera</i>	109	Fabaceae	<i>Erythrina variegata orientalis</i>
10	Amaranthaceae	<i>Alternanthera philoxeroides</i>	110	Fabaceae	<i>Tephrosia purpurea</i>
11	Amaranthaceae	<i>Amaranthus spinosus</i>	111	Hydrocharitaceae	<i>Hydrilla verticillata</i>
12	Amaranthaceae	<i>Amaranthus viridis</i>	112	Labiatae	<i>Anisomeles indica</i>
13	Anacardiaceae	<i>Mangifera indica</i>	113	Labiatae	<i>Hyptis suaveolens</i>
14	Annonaceae	<i>Anona squamosa</i>	114	Labiatae	<i>Leucas aspera</i>
15	Annonaceae	<i>Polyalthia longifolia</i>	115	Labiatae	<i>Ocimum sanctum</i>
16	Annonaceae	<i>Anona reticulata</i>	116	Lamiaceae	<i>Leonurus sibiricus</i>
17	Apiaceae	<i>Centella asiatica</i>	117	Lemniaceae	<i>Lemna minor</i>
18	Apocynaceae	<i>Catharanthus roseus</i>	118	Lythraceae	<i>Largerstroemia speciosa</i>
18	Apocynaceae	<i>Tabernaemontana divaricata</i>	119	Malvaceae	<i>Abutilon indicum</i>
20	Apocynaceae	<i>Thevetia peruviana</i>	120	Malvaceae	<i>Hibiscus rosa-sinensis</i>
21	Araceae	<i>Alocasia indica</i>	121	Malvaceae	<i>Malachra capitata</i>
22	Araceae	<i>Amorphophallus campanulatus</i>	122	Malvaceae	<i>Sida acuta</i>
23	Araceae	<i>Colocasia esculanta</i>	123	Malvaceae	<i>Sida cordifolia</i>

II-C : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Araceae	<i>Pistia stratiotes</i> var. <i>cuneata</i>	124	Malvaceae	<i>Sida rhombifolia</i>
25	Araceae	<i>Typhonium trilobatum</i>	125	Malvaceae	<i>Urena lobata</i>
26	Arecaceae	<i>Areca catechu</i>	126	Malvaceae	<i>Urena lobata</i> var. <i>sinuata</i>
27	Arecaceae	<i>Cocos nucifera</i>	127	Meliaceae	<i>Azadirachta indica</i>
28	Asclepiadaceae	<i>Calotropis gigantea</i>	128	Meliaceae	<i>Swietenia mahagoni</i>
29	Asclepiadaceae	<i>Pergularia daemia</i>	129	Menispermaceae	<i>Tiliacora acuminata</i>
30	Asteraceae	<i>Ageratum conyzoides</i>	130	Menispermaceae	<i>Tinospora cordifolia</i>
31	Asteraceae	<i>Eclipta prostrata</i>	131	Mimosaceae	<i>Albizia lebbek</i>
32	Asteraceae	<i>Enhydra fluctuans</i>	132	Mimosaceae	<i>Luecaena leucocephala</i>
33	Asteraceae	<i>Eupatorium odoratum</i>	133	Mimosaceae	<i>Mimosa pudica</i>
34	Asteraceae	<i>Spilanthes acmella</i>	134	Mimosaceae	<i>Pithcellobium dulce</i>
35	Asteraceae	<i>Tridax procombens</i>	135	Mimosaceae	<i>Samanea saman</i>
36	Asteraceae	<i>Wedelia calendulacea</i>	136	Moraceae	<i>Artocarpus heterophyllus</i>
37	Asteraceae	<i>Xanthium strumarium</i>	137	Moraceae	<i>Ficus benghalensis</i>
38	Balsaminaceae	<i>Impatiens balsamina</i>	138	Moraceae	<i>Ficus elastica</i>
39	Basellaceae	<i>Basella alba</i>	139	Moraceae	<i>Ficus glomerata</i>
40	Basellaceae	<i>Basella rubra</i>	140	Moraceae	<i>Ficus hispida</i>
41	Bignoniaceae	<i>Spathodea campanulata</i>	141	Moraceae	<i>Ficus religiosa</i>
42	Bignoniaceae	<i>Tecoma stans</i>	142	Moraceae	<i>Ficus rumphii</i>
43	Bombacaceae	<i>Bombax ceiba</i>	143	Moringaceae	<i>Moringa oleifera</i>
44	Bombacaceae	<i>Ceiba pentandra</i>	144	Myrtaceae	<i>Psidium guajava</i>
45	Boraginaceae	<i>Heliotropium indicum</i>	145	Myrtaceae	<i>Syzygium cumini</i>
46	Brassicaceae	<i>Brassica nigra</i>	146	Myrtaceae	<i>Syzygium samarangensa</i>

II-C : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Brassicaceae	<i>Nasturtium indicum</i>	147	Nyctaginaceae	<i>Boerhavia diffusa</i>
48	Caesalpinaceae	<i>Bauhinia purpurea</i>	148	Nyctaginaceae	<i>Mirabilis jalapa</i>
49	Caesalpinaceae	<i>Bauhinia racemosa</i>	149	Oleaceae	<i>Nyctanthes arbor-tristis</i>
50	Caesalpinaceae	<i>Caesalpinia pulcherrima</i>	150	Orchidaceae	<i>Zeuxine strateumatica</i>
51	Caesalpinaceae	<i>Cassia alata</i>	151	Oxalidaceae	<i>Oxalis corniculata</i>
52	Caesalpinaceae	<i>Cassia occidentalis</i>	152	Palmae	<i>Phoenix sylvestris</i>
53	Caesalpinaceae	<i>Cassia sophera</i>	153	Palmae	<i>Roystonea regia</i>
54	Caesalpinaceae	<i>Cassia tora</i>	154	Papaveraceae	<i>Argemone mexicana</i>
55	Caesalpinaceae	<i>Delonix regia</i>	155	Passifloraceae	<i>Passiflora foetida</i>
56	Caesalpinaceae	<i>Peltophorum pterocarpum</i>	156	Pedaliaceae	<i>Pedaliium murex</i>
57	Caesalpinaceae	<i>Tamarindus indica</i>	157	Pedaliaceae	<i>Sesamum indicum</i>
58	Cannaceae	<i>Canna indica</i>	158	Piperaceae	<i>Peperomia pellucida</i>
59	Capparidaceae	<i>Cleome gynandra</i>	159	Poaceae	<i>Chrysopogon aciculatus</i>
60	Capparidaceae	<i>Cleome rutidosperma</i>	160	Poaceae	<i>Cynodon dactylon</i>
61	Capparidaceae	<i>Cleome viscosa</i>	161	Poaceae	<i>Eleusina indica</i>
62	Caricaceae	<i>Carica papaya</i>	162	Poaceae	<i>Erianthus munja</i>
63	Combretaceae	<i>Terminalia arjuna</i>	163	Poaceae	<i>Saccharum spontaneum</i>
64	Combretaceae	<i>Terminalia catappa</i>	164	Poaceae	<i>Setaria glauca</i>
65	Commelinaceae	<i>Commelina benghalensis</i>	165	Polygonaceae	<i>Polygonum hydropiper</i>
66	Commelinaceae	<i>Commelina diffusa</i>	166	Polygonaceae	<i>Polygonum orientale</i>
67	Compositae	<i>Gnaphalium indicum</i>	167	Pontederiaceae	<i>Eichhornia crassipes</i>
68	Compositae	<i>Mikania cordata</i>	168	Rhamnaceae	<i>Ziziphus mauritiana</i>
69	Compositae	<i>Parthenium hysterophorus</i>	169	Rhamnaceae	<i>Zizyphus jujube</i>

II-C : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
70	Compositae	<i>Synedrella nodiflora</i>	170	Rubiaceae	<i>Anthocephalus cadamba</i>
71	Compositae	<i>Vernonia cinerea</i>	171	Rubiaceae	<i>Dentella repens</i>
72	Convolvulaceae	<i>Cuscuta reflexa</i>	172	Rubiaceae	<i>Oldenlandia carymbosa</i>
73	Convolvulaceae	<i>Ipomoea aquatica</i>	173	Rutaceae	<i>Aegle marmelos</i>
74	Convolvulaceae	<i>Ipomoea cairica</i>	174	Rutaceae	<i>Citrus aurantifolia</i>
75	Convolvulaceae	<i>Ipomoea carnea</i>	175	Rutaceae	<i>Citrus maxima</i>
76	Convolvulaceae	<i>Ipomoea obscura</i>	176	Rutaceae	<i>Glycosmis pentaphyla</i>
77	Convolvulaceae	<i>Ipomoea pes-tigridis</i>	177	Rutaceae	<i>Murraya koenigii</i>
78	Convolvulaceae	<i>Ipomoea sepiaria</i>	178	Sapotaceae	<i>Mimusops elengi</i>
79	Cucurbitaceae	<i>Benincasa hispida</i>	179	Scrophulariaceae	<i>Bacopa monnieri</i>
80	Cucurbitaceae	<i>Coccinia grandis</i>	180	Scrophulariaceae	<i>Scoparia dulcis</i>
81	Cucurbitaceae	<i>Cucurbita maxima</i>	181	Solanaceae	<i>Capsicum frutescens</i>
82	Cucurbitaceae	<i>Luffa cylindrica</i>	182	Solanaceae	<i>Cestrum diurnum</i>
83	Cucurbitaceae	<i>Mimordica charantia</i>	183	Solanaceae	<i>Datura metel</i>
84	Cucurbitaceae	<i>Mukia madeaspatana</i>	184	Solanaceae	<i>Nicotiana plumbaginifolia</i>
85	Cucurbitaceae	<i>Trichosanthes cucumerina</i>	185	Solanaceae	<i>Physalis minima</i>
86	Cyperaceae	<i>Cyperus rotundus</i>	186	Solanaceae	<i>Solanum nigrum</i>
87	Dilleniaceae	<i>Dillenia indica</i>	187	Solanaceae	<i>Solanum sisymbriifolium</i>
88	Dioscoreaceae	<i>Dioscorea alata</i> var. <i>globosa</i>	188	Solanaceae	<i>Solanum torvum</i>
89	Euphorbiaceae	<i>Acalypha indica</i>	189	Sterculiaceae	<i>Melochia corchorifolia</i>
90	Euphorbiaceae	<i>Chrozophora rotleri</i>	190	Filiaceae	<i>Grewia asiatica</i>
91	Euphorbiaceae	<i>Croton bonplandianum</i>	191	Tiliaceae	<i>Triumfetta rhomboidea</i>
92	Euphorbiaceae	<i>Euphorbia heterophylla</i>	192	Typhaceae	<i>Typha australis</i>

II-C : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
93	Euphorbiaceae	<i>Euphorbia hirta</i>	193	Ulmaceae	<i>Trema orientalis</i>
94	Euphorbiaceae	<i>Jatropha gossypifolia</i>	194	Urticaceae	<i>Fleurya interrupta</i>
95	Euphorbiaceae	<i>Kirganelia reticulata</i>	195	Verbenaceae	<i>Clerodendrum viscosum</i>
96	Euphorbiaceae	<i>Pedilanthus</i> sp.	196	Verbenaceae	<i>Lantana camara</i>
97	Euphorbiaceae	<i>Phyllanthus distichus</i>	197	Verbenaceae	<i>Phyla nodiflora</i>
98	Euphorbiaceae	<i>Phyllanthus fraternus</i>	198	Verbenaceae	<i>Tectona grandis</i>
99	Euphorbiaceae	<i>Phyllanthus reticulata</i>	199	Vitaceae	<i>Caryrattia trifolia</i>
100	Euphorbiaceae	<i>Putranjiva roxburghii</i>	200	Vitaceae	<i>Cayratia trifolia</i>

II-D (i) : Banobitan.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Dipteracanthus prostratus</i>	60	Lemnaceae	<i>Lemna minor</i>
02	Acanthaceae	<i>Ruellia tuberosa</i>	61	Lytharaceae	<i>Lagerstroemia speciosa</i>
03	Alismataceae	<i>Sagittaria sagittifolia</i>	62	Malvaceae	<i>Hibiscus rosa-sinensis</i>
04	Amaranthaceae	<i>Achyranthes aspea</i>	63	Malvaceae	<i>Hibiscus spp.</i>
05	Amaranthaceae	<i>Alternanthera sessilis</i>	64	Malvaceae	<i>Sida acuta</i>
06	Amaranthaceae	<i>Alternanthera philoxeroides</i>	65	Malvaceae	<i>Urena lobata</i>
07	Amaranthaceae	<i>Amaranthus spinosa</i>	66	Meliaceae	<i>Azadirachta indica</i>
08	Amaranthaceae	<i>Amaranthus viridis</i>	67	Meliaceae	<i>Swietenia mahagoni</i>
09	Anacardiaceae	<i>Anacardium occidentale</i>	68	Mimosaceae	<i>Albizia lebbek</i>
10	Anacardiaceae	<i>Mangifera indica</i>	69	Mimosaceae	<i>Leucaena leucocephala</i>
11	Annonaceae	<i>Polyalthia longifolia</i>	70	Mimosaceae	<i>Parkia biglandulosa</i>
12	Apocynaceae	<i>Alstonia scholaris</i>	71	Mimosaceae	<i>Pithecellobium dulce</i>
13	Apocynaceae	<i>Catharanthus roseus</i>	72	Moraceae	<i>Artocarpus heterophyllus</i>
14	Araceae	<i>Colocasia esculenta</i>	73	Moraceae	<i>Ficus bengalensis</i>
15	Azollaceae	<i>Azolla pinnata</i>	74	Moraceae	<i>Ficus hispida</i>
16	Bignoniaceae	<i>Jacaranda acutifolia</i>	75	Moraceae	<i>Ficus religiosa</i>
17	Bignoniaceae	<i>Spathodea campanulata</i>	76	Moringaceae	<i>Moringa oleifera</i>
18	Borainaceae	<i>Heliotropiu indicum</i>	77	Musaceae	<i>Musa paradisiacal</i>
19	Caesalpiniateae	<i>Cassia fistula</i>	78	Musaceae	<i>Ravenala madagascariensis</i>
20	Caesalpiniateae	<i>Cassia occidentalis</i>	79	Myrtaceae	<i>Callistemon lanceolatus</i>
21	Caesalpiniateae	<i>Saraca asoca</i>	80	Myrtaceae	<i>Psidium guajava</i>
22	Cannaceae	<i>Canna orientalis</i>	81	Myrtaceae	<i>Syzygium cuminii</i>
23	Capparidaceae	<i>Cleome icosandra</i>	82	Nyctaginaceae	<i>Boerhaavia diffusa</i>

II-D (i) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Capparidaceae	<i>Cleome rutidosperma</i>	83	Nymphaeaceae	<i>Nymphaea pubescens</i>
25	Caricaceae	<i>Carica papaya</i>	84	Oxalidaceae	<i>Oxalis corniculata</i>
26	Casuarinaceae	<i>Casuarina equisetifolia</i>	85	Palmae	<i>Cocos nucifera</i>
27	Commelinaceae	<i>Commelina benghalensis</i>	86	Papilionaceae	<i>Butea monosperma</i>
28	Compositae	<i>Ageratum conyzoides</i>	87	Papilionaceae	<i>Clitoria ternatea</i>
29	Compositae	<i>Eclipta prostrata</i>	88	Papilionaceae	<i>Dalbergia sissoo</i>
30	Compositae	<i>Eupatorium odoratum</i>	89	Papilionaceae	<i>Erythrina variegata</i>
31	Compositae	<i>Launaea procumbens</i>	90	Passifloraceae	<i>Passiflora foetida</i>
32	Compositae	<i>Mikania cordata</i>	91	Polygonaceae	<i>Polygonum hydropiper</i>
33	Compositae	<i>Parthenium hysterophorus</i>	92	Pontederiaceae	<i>Eichhornia crassipes</i>
34	Compositae	<i>Tridax procumbens</i>	93	Portulacaceae	<i>Portulaca oleracea</i>
35	Compositae	<i>Vernonia cinerea</i>	94	Proteaceae	<i>Grevillea robusta</i>
36	Convolvulaceae	<i>Cuscuta reflexa</i>	95	Rhamnaceae	<i>Ziziphus mauritiana</i>
37	Convolvulaceae	<i>Evolvulus nummularius</i>	96	Rosaceae	<i>Rosa spp.</i>
38	Convolvulaceae	<i>Ipomoea aquatica</i>	97	Rubiaceae	<i>Anthocephalus cadamba</i>
39	Convolvulaceae	<i>Ipomoea quamoclit</i>	98	Rubiaceae	<i>Ixora spp.</i>
40	Cucurbitaceae	<i>Coccinia cordifolia</i>	99	Rutaceae	<i>Aegle marmelos</i>
41	Cyperaceae	<i>Cyperus sp</i>	100	Rutaceae	<i>Citrus maxima</i>
42	Dilleniaceae	<i>Dillenia indica</i>	101	Rutaceae	<i>Citrus sp.</i>
43	Euphorbiaceae	<i>Chrozophora rotleri</i>	102	Rutaceae	<i>Glycosmis pentaphylla</i>
44	Euphorbiaceae	<i>Croton bonplandianum</i>	103	Rutaceae	<i>Murraya paniculata</i>
45	Euphorbiaceae	<i>Euphorbia heterophylla</i>	104	Sapotaceae	<i>Achras zapota</i>
46	Euphorbiaceae	<i>Euphorbia hirta</i>	105	Sapotaceae	<i>Mimusops elengi</i>

II-D (i) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Euphorbiaceae	<i>Euphorbia neriifolia</i>	106	Solanaceae	<i>Cestrum diurnum</i>
48	Euphorbiaceae	<i>Kirganelia reticulata</i>	107	Solanaceae	<i>Datura metel</i>
49	Euphorbiaceae	<i>Phyllanthus acidus</i>	108	Solanaceae	<i>Solanum nigrum</i>
50	Euphorbiaceae	<i>Phyllanthus fraternus</i>	109	Solanaceae	<i>Solanum sisymbriifolium</i>
51	Euphorbiaceae	<i>Putranjiva roxburghii</i>	110	Sonneratiaceae	<i>Duabanga sonneratioides</i>
52	Euphorbiaceae	<i>Ricinus communis</i>	111	Sturculiaceae	<i>Pterospermum acerifolium</i>
53	Fabaceae	<i>Brya ebanus</i>	112	Typhaceae	<i>Typha australis</i>
54	Gramineae	<i>Arundo donax</i>	113	Ulmaceae	<i>Trema orientalis</i>
55	Gramineae	<i>Bambusa vulgaris</i>	114	Urticaceae	<i>Pouzolzia zeylanica</i>
56	Gramineae	<i>Cynodon dactylon</i>	115	Verbanaceae	<i>Lantana camara</i> var. <i>aculeate</i>
57	Labiatae	<i>Anisomeles indica</i>	116	Verbanaceae	<i>Phyla nodiflora</i>
58	Labiatae	<i>Leonurus sibiricus</i>	117	Verbenaceae	<i>Tectona grandis</i>
59	Labiatae	<i>Leucas asper</i>	118	Vitaceae	<i>Cayratia carnosia</i>

II-D (ii) : Subhas Sarovar.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Ruellia tuberosa</i>	110	Magnoliaceae	<i>Michelia champaca</i>
02	Acantheceae	<i>Hemigraphis hirta</i>	111	Malvaceae	<i>Abutilon indicum</i>
03	Aizoaceae	<i>Trianthema portulacastrum</i>	112	Malvaceae	<i>Malachra capitata</i>
04	Alismaceae	<i>Sagittaria sinensis</i>	113	Malvaceae	<i>Malvaviscus arboreus</i>
05	Amaranthaceae	<i>Achyranthes aspera</i>	114	Malvaceae	<i>Sida cordifolia</i>
06	Amaranthaceae	<i>Alternanthera paronychioides</i>	115	Malvaceae	<i>Sida rhombifolia</i>
07	Amaranthaceae	<i>Alternanthera philoxeroides</i>	116	Malvaceae	<i>Thespesia populnea</i>
08	Amaranthaceae	<i>Alternanthera sessilis</i>	117	Malvaceae	<i>Urena lobata</i>
09	Amaranthaceae	<i>Amaranthus spinosus</i>	118	Malvaceae	<i>Urena lobata</i> var. <i>sinuate</i>
10	Amaranthaceae	<i>Amaranthus viridis</i>	119	Meliaceae	<i>Swietenia macrophylla</i>
11	Anacardiaceae	<i>Mangifera indica</i>	120	Meliaceae	<i>Swietenia mahagoni</i>
12	Anacardiaceae	<i>Spondias pinnata</i>	121	Mimosaceae	<i>Acacia auriculaeformis</i>
13	Annonaceae	<i>Annona squamosa</i>	122	Mimosaceae	<i>Adenanthera pavonina</i>
14	Annonaceae	<i>Polyalthia longifolia</i>	123	Mimosaceae	<i>Albizia lebbek</i>
15	Annonaceae	<i>Polyalthia suberosa</i>	124	Mimosaceae	<i>Calliandra haematocephala</i>
16	Apocynaceae	<i>Alstonia scholaris</i>	125	Mimosaceae	<i>Leucaena leucephala</i>
17	Apocynaceae	<i>Cerbera manghas</i>	126	Mimosaceae	<i>Parkia biglandulosa</i>
18	Apocynaceae	<i>Kopsia fruticosa</i>	127	Mimosaceae	<i>Pithecellobium dulce</i>
19	Apocynaceae	<i>Nerium oleander</i>	128	Mimosaceae	<i>Samanea saman</i>
20	Apocynaceae	<i>Plumeria alba</i>	129	Moraceae	<i>Artocarpus altilis</i>
21	Apocynaceae	<i>Plumeria rubra</i>	130	Moraceae	<i>Ficus benghalensis</i>
22	Apocynaceae	<i>Thevetia peruviana</i>	131	Moraceae	<i>Ficus benjamina</i>
23	Araceae	<i>Alocasia formicata</i>	132	Moraceae	<i>Ficus elastica</i>

II-D (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Araceae	<i>Pistia stratiotes</i>	133	Moraceae	<i>Ficus glomerata</i>
25	Araliaceae	<i>Brassia actinophylla</i>	134	Moraceae	<i>Ficus glomerata</i>
26	Araucariaceae	<i>Araucaria columnaris</i>	135	Moraceae	<i>Ficus hispida</i>
27	Asteraceae	<i>Ageratum conyzoides</i>	136	Moraceae	<i>Ficus hispida</i>
28	Asteraceae	<i>Eclipta prostrata</i>	137	Moraceae	<i>Ficus lucescens</i>
29	Asteraceae	<i>Eupatorium odoratum</i>	138	Moraceae	<i>Ficus religiosa</i>
30	Asteraceae.	<i>Parthenium hysterophorus</i>	139	Moraceae	<i>Ficus rumphii</i>
31	Asteraceae	<i>Tridax procumbens</i>	140	Musaceae	<i>Ravenala madagascariensis</i>
32	Asteraceae	<i>Vernonia cinerea</i>	141	Myrtaceae	<i>Callistemon lanceolatus</i>
33	Begoniaceae	<i>Millingtonia hortensis</i>	142	Myrtaceae	<i>Eucalyptus citriodora</i>
34	Bignoniaceae	<i>Jacaranda mimosifolia</i>	143	Myrtaceae	<i>Psidium guajava</i>
35	Bignoniaceae	<i>Spathodea campanulata</i>	144	Myrtaceae	<i>Syzygium cuminii</i>
36	Bignoniaceae	<i>Tabebuia pallida</i>	145	Nyctacinaceae	<i>Boerhavia diffusa</i>
37	Bignoniaceae	<i>Tecoma stans</i>	146	Nyctaginaceae	<i>Bougainvillea spp.</i>
38	Bixaceae	<i>Bixa orellana</i>	147	Nyctaginaceae	<i>Mirabilis jalapa</i>
39	Bombacaceae	<i>Bombax ceiba</i>	148	Nymphaeaceae	<i>Nymphaea stellata</i>
40	Bombacaceae	<i>Ceiba pentandra</i>	149	Oleaaceae	<i>Nyctanthes arbor-tristis</i>
41	Boraginaceae	<i>Cordia sebestina</i>	150	Oleaceae	<i>Jasminum sambac</i>
42	Boraginaceae	<i>Heliotropium indicum</i>	151	Onagraceae	<i>Jussiaea suffruticosa</i>
43	Brassicaceae	<i>Brassica nigra</i>	152	Ongraceae	<i>Jussiaea repens</i>
44	Cactaceae	<i>Opuntia dilleni</i>	153	Oxalidaceae	<i>Oxalis corniculata</i>
45	Caecelpinaceae	<i>Bauhinia variegata</i>	154	Palmae	<i>Areca catechu</i>
46	Caesalpinaceae	<i>Brownea coccinea</i>	155	Palmae	<i>Borassus flabelifer</i>

II-D (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Caesalpinaceae	<i>Brownea coccinea</i>	156	Palmae	<i>Borassus flabellifer</i>
48	Caesalpinaceae	<i>Caesalpinia pulcherrima</i>	157	Palmae	<i>Chrysalidocarpus lutescens</i>
49	Caesalpinaceae	<i>Peltophorum pterocarpum</i>	158	Palmae	<i>Cocos nucifera</i>
50	Caesalpinaceae	<i>Tamarindus indica</i>	159	Palmae	<i>Elaeis guinensis</i>
51	Caesalpiniaceae	<i>Bauhinia purpurea</i>	160	Palmae	<i>Livistona chinensis</i>
52	Caesalpiniaceae	<i>Cassia alata</i>	161	Palmae	<i>Roystonea regia</i>
53	Caesalpiniaceae	<i>Cassia fistula</i>	162	Papaveraceae	<i>Argemone mexicana</i>
54	Caesalpiniaceae	<i>Cassia siamea</i>	163	Papilionaceae	<i>Erythrina variegata</i> var. <i>orientalis</i>
55	Caesalpiniaceae	<i>Cassia sophera</i>	164	Papilionaceae	<i>Milletia peguensis</i>
56	Caesalpiniaceae	<i>Cassia tora</i>	165	Papilionaceae	<i>Pterocarpus marsupium</i>
57	Caesalpiniaceae	<i>Colvillea racemosa</i>	166	Passifloraceae	<i>Passiflora suberosa</i>
58	Caesalpiniaceae	<i>Delonix regia</i>	167	Pedaliaceae	<i>Sesamum indicum</i>
59	Caesalpiniaceae	<i>Saraca asoca</i>	168	Piperaceae	<i>Peperomia pellucida</i>
60	Cannaceae	<i>Canna indica</i>	169	Poaceae	<i>Cynodon dactylon</i>
61	Capparidaceae	<i>Cleome viscosa</i>	170	Poaceae	<i>Eleusine indica</i>
62	Capparidaceae	<i>Gynandropsis gynandra</i>	171	Poaceae	<i>Imperata cylindrical</i>
63	Casuarinaceae	<i>Casuarina equisetifolia</i>	172	Poaceae	<i>Saccharum spontaneum</i>
64	Combretaceae	<i>Quisqualis indica</i>	173	Poaceae	<i>Setaria glauca</i>
65	Combretaceae	<i>Terminalia arjuna</i>	174	Polygonaceae	<i>Polygonum hydropiper</i>
66	Combretaceae	<i>Terminalia catappa</i>	175	Polygonaceae	<i>Polygonum orientale</i>
67	Commelinaceae	<i>Commelina benghalensis</i>	176	Polygonaceae	<i>Rumex matitimus</i>
68	Convolvulaceae	<i>Ipomoea aquatica</i>	177	Pontederiaceae	<i>Echhornia crassipes</i>
69	Convolvulaceae	<i>Ipomoea carnea</i>	178	Rhamnaceae	<i>Ziziphus mauritiana</i>

II-D (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
70	Crassulaceae	<i>Bryophyllum calycinum</i>	179	Rosaceae	<i>Rosa</i> spp.
71	Crassulaceae	<i>Kalanchoe spathulata</i>	180	Rubiaceae	<i>Anthocephalus cadamba</i>
72	Cruciferae	<i>Nasturtium indicum</i>	181	Rubiaceae	<i>Gardenia jasminoides</i>
73	Cucurbitaceae	<i>Coccina grandis</i>	182	Rubiaceae	<i>Hamelia patens</i>
74	Cucurbitaceae	<i>Cucumis melo</i> var. <i>agrestis</i>	183	Rutaceae	<i>Aegle marmelos</i>
75	Cucurbitaceae	<i>Trichosanthes cucumerina</i>	184	Rutaceae	<i>Feronia limonia</i>
76	Cucurbitaceae	<i>Trichosanthes tricuspidata</i>	185	Rutaceae	<i>Glycosmis pentaphylla</i>
77	Cyperaceae	<i>Cyprus rotundus</i>	186	Rutaceae	<i>Murraya koenigii</i>
78	Dilleniaceae	<i>Dillenia indica</i>	187	Rutaceae	<i>Murraya paniculata</i>
79	Eriocaulaceae	<i>Eriocoulon crassiscapum</i>	188	Rutaceae	<i>Ravena spectabilis</i>
80	Euphorbiaceae	<i>Acalypha indica</i>	189	Sapindaceae	<i>Cardiospermum halicacabum</i>
81	Euphorbiaceae	<i>Chorozophora rottleri</i>	190	Sapotaceae	<i>Madhuca indica</i>
82	Euphorbiaceae	<i>Cicca acida</i>	191	Sapotaceae	<i>Mimusops elengi</i>
83	Euphorbiaceae	<i>Euphorbia pulcherrima</i>	192	Scrophulariaceae	<i>Bacopa monnieri</i>
84	Euphorbiaceae	<i>Jatropha integerrima</i>	193	Scrophulariaceae	<i>Scoparia dulcis</i>
85	Euphorbiaceae	<i>Jatropha panduraefolia</i>	194	Solanaceae	<i>Datura metel</i>
86	Euphorbiaceae	<i>Jatropha podagrica</i>	195	Solanaceae	<i>Lycopersicon esculentum</i>
87	Euphorbiaceae	<i>Putranjiva roxburbhii</i>	196	Solanaceae	<i>Nicotiana plumbaginifolia</i>
88	Euphorbiaceae	<i>Ricinus communis</i>	197	Solanaceae	<i>Physalis minima</i>
89	Euphorbiaceae	<i>Trewia nodiflora</i>	198	Solanaceae	<i>Solanum nigrum</i>
90	Fabaceae	<i>Butea monosperma</i>	199	Solanaceae	<i>Solanum sisymbriifolium</i>
91	Fabaceae	<i>Dalbergia sissoo</i>	200	Solanaceae	<i>Solanum torvum</i>
92	Fabaceae	<i>Erythrina variegata</i>	201	Sterculiaceae	<i>Dombeya wallichii</i>

II-D (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
93	Fabaceae	<i>Gliricidia sepium</i>	202	Sterculiaceae	<i>Kleinhovia hospita</i>
94	Fabaceae	<i>Pongamia pinnta</i>	203	Sterculiaceae	<i>Pterospermum acerifolium</i>
95	Guttiferae	<i>Mesua ferrea</i>	204	Sterculiaceae	<i>Pterygota alata</i>
96	Hydrocharitaceae	<i>Hydrilla verticillata</i>	205	Sterculiaceae	<i>Sterculia foetida</i>
97	Hydrocharitaceae	<i>Vallisneria spiralis</i>	206	Tiliaceae	<i>Triumfetta rhomboidea</i>
98	Labiatae	<i>Leonurus sibiricus</i>	207	Typhaceae	<i>Typha angustata</i>
99	Labiatae	<i>Leucus aspera</i>	208	Ulmaceae	<i>Trema orientalis</i>
100	Labiatae	<i>Ocimum sanctum</i>	209	Urticaceae	<i>Fleurya interrupta</i>
101	Labiatae	<i>Salvia coccinea</i>	210	Verbenaceae	<i>Clerodendrum inerme</i>
102	Lamiaceae	<i>Hyptis suaveolens</i>	212	Verbenaceae	<i>Clerodendrum viscosum</i>
103	Lecythidaceae	<i>Couroupita guianensis</i>	213	Verbenaceae	<i>Gmelina philippensis</i>
104	Lecythidaceae	<i>Gustavia augusta</i>	214	Verbenaceae	<i>Lantana camara</i>
105	Lemnaceae	<i>Lemna minor</i>	215	Verbenaceae	<i>Tectona grandis</i>
107	Lythraceae	<i>Lagerstroemia speciosa</i>	216	Verbenaceae	<i>Phyla nodiflora</i>
108	Lythraceae	<i>Lagerstroemia thorelii</i>	217	Vitaceae	<i>Vitis trifolia</i>
109	Lythraceae	<i>Lawsonia alba</i>	218	Zingiberaceae	<i>Hedychium coronarium</i>

II-E (i) : Tala Park.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Amaranthaceae	<i>Alternanthera philoxeroides</i>	55	Lecythidaceae	<i>Cinnamomum tamala</i>
02	Amaranthaceae	<i>Amaranthus spinosus</i>	56	Lecythidaceae	<i>Barringtonia acutangula</i>
03	Amaranthaceae	<i>Amaranthus viridis</i>	57	Lythraceae	<i>Couroupita guianensis</i>
04	Anacardiaceae	<i>Mangifera indica</i>	58	Lythraceae	<i>Lagerstroemia indica</i>
05	Anacardiaceae	<i>Spondias pinnata</i>	59	Lythraceae	<i>Lagerstroemia speciosa</i>
06	Annonaceae	<i>Polyalthia longifolia</i>	60	Maliaceae	<i>Swietenia macrophylla</i>
07	Annonaceae	<i>Uvaria</i> sp.	61	Maliaceae	<i>Swietenia mahagoni</i>
08	Apocynaceae	<i>Alstonia scholaris</i>	62	Malvaceae	<i>Abutilon indicum</i>
09	Apocynaceae	<i>Beaumontia grandiflora</i>	63	Malvaceae	<i>Hibiscus mutabilis</i>
10	Apocynaceae	<i>Ervatamia divaricata</i>	64	Malvaceae	<i>Thespesia populnea</i>
11	Apocynaceae	<i>Thevetia peruviana</i>	65	Maliaceae	<i>Cedrela toona</i>
12	Araceae	<i>Colocasia esculenta</i>	66	Menispermaceae	<i>Tinospora cordifolia</i>
13	Araucariaceae	<i>Araucaria columnaris</i>	67	Mimosaceae	<i>Adenantha pavonina</i>
14	Bignoniaceae	<i>Kigelia pinnata</i>	68	Mimosaceae	<i>Leucaena glauca</i>
15	Bignoniaceae	<i>Millingtonia hortensis</i>	69	Mimosaceae	<i>Pithecellobium dulce</i>
16	Bignoniaceae	<i>Spathodea campanulata</i>	70	Mimosaceae	<i>Samanea saman</i>
17	Bombacaceae	<i>Bombax ceiba</i>	71	Moraceae	<i>Artocarpus altilis</i>
18	Bombacaceae	<i>Ceiba pentandra</i>	72	Moraceae	<i>Artocarpus heterophyllus</i>
19	Boraginaceae	<i>Cordia dichotoma</i>	73	Moraceae	<i>Ficus heterophylla</i>
20	Boraginaceae	<i>Heliotropium indicum</i>	74	Moraceae	<i>Ficus hispida</i>
21	Caesalpinaceae	<i>Caesalpinia pulcherrima</i>	75	Moraceae	<i>Ficus lucescens</i>
22	Caesalpinaceae	<i>Cassia alata</i>	76	Moraceae	<i>Ficus religiosa</i>
23	Caesalpinaceae	<i>Cassia siamea</i>	77	Moraceae	<i>Ficus rumphii</i>

II-E (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Caesalpinaceae	<i>Delonix regia</i>	78	Myrtaceae	<i>Syzygium cuminii</i>
25	Caesalpinaceae	<i>Parkinsonia aculeata</i>	79	Nyctaginaceae	<i>Boerhaavia diffusa</i>
26	Caesalpinaceae	<i>Peltophorum pterocarpum</i>	80	Oxalidaceae	<i>Oxalis corniculata</i>
27	Caesalpinaceae	<i>Saraca asoca</i>	81	Palmae	<i>Caryota urens</i>
28	Cannaceae	<i>Canna orientalis</i>	82	Palmae	<i>Chrysalidocarpus lutescens</i>
29	Capparidaceae	<i>Cleome rutidosperma</i>	83	Palmae	<i>Cocos nucifera</i>
30	Combretaceae	<i>Quisqualis indica</i>	84	Palmae	<i>Roystonea regia</i>
31	Combretaceae	<i>Terminalia arjuna</i>	85	Pandanaceae	<i>Pandanus odoratissimus</i>
32	Combretaceae	<i>Terminalia bellirica</i>	86	Papilionaceae	<i>Dalbergia assamica</i>
33	Combretaceae	<i>Terminalia catappa</i>	87	Papilionaceae	<i>Erythrina variegata v. orientalis</i>
34	Commelinaceae	<i>Commelina benghalensis</i>	88	Papilionaceae	<i>Gliricidia sepium</i>
35	Compositae	<i>Ageratum conyzoides</i>	89	Passifloraceae	<i>Passiflora foetida</i>
36	Compositae	<i>Blumea lacera</i>	90	Piperaceae	<i>Peperomia pellucida</i>
37	Compositae	<i>Eclipta alba</i>	91	Portulacaceae	<i>Portulaca oleracea</i>
38	Compositae	<i>Mikania cordata</i>	92	Rubiaceae	<i>Anthocephalus cadamba</i>
39	Compositae	<i>Parthenium hysterophorus</i>	93	Rubiaceae	<i>Gardenia jasminoides</i>
40	Compositae	<i>Synedrella nodiflora</i>	94	Rubiaceae	<i>Ixora arborea</i>
41	Compositae	<i>Vernonia elaeagnifolia</i>	95	Rutaceae	<i>Murraya paniculata</i>
42	Compositae	<i>Xanthium strumarium</i>	96	Sapotaceae	<i>Mimusops elengi</i>
43	Convolvulaceae	<i>Ipomoea cairica</i>	97	Scrophulariaceae	<i>Scoparia dulcis</i>
44	Cucurbitaceae	<i>Coccinia cordifolia</i>	98	Solanaceae	<i>Datura stramonium</i>
45	Cyperaceae	<i>Cyperus pygmaeus</i>	99	Solanaceae	<i>Nicotiana plumbaginifolia</i>
46	Euphorbiaceae	<i>Acalypha indica</i>	100	Solanaceae	<i>Solanum indicum</i>

II-E (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Euphorbiaceae	<i>Euphorbia hirta</i>	101	Solanaceae	<i>Solanum nigrum</i>
48	Euphorbiaceae	<i>Kirganelia reticulata</i>	102	Sterculiaceae	<i>Kleinhovia hospita</i>
49	Euphorbiaceae	<i>Phyllanthus fraternus</i>	103	Sterculiaceae	<i>Pterygota alata</i>
50	Euphorbiaceae	<i>Putranjiva roxburghii</i>	104	Sterculiaceae	<i>Sterculia foetida</i>
51	Euphorbiaceae	<i>Ricinus communis</i>	105	Ulmaceae	<i>Trema orientalis</i>
52	Gramineae	<i>Eragrostis tenella</i>	106	Verbenaceae	<i>Clerodendrum infortunatum</i>
53	Labiatae	<i>Leonurus sibiricus</i>	107	Verbenaceae	<i>Lantana camara</i> var. <i>aculeata</i>
54	Lauraceae	<i>Cinnamomum tamala</i>	108	Verbenaceae	<i>Tectona grandis</i>
			109	Verbenaceae	<i>Vitex trifolia</i>

II-E (ii) : Indian Statistical Institute.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Rungia sp.</i>	37	Malvaceae	<i>Hibiscus rosa-sinensis</i>
02	Amaranthaceae	<i>Alternanthera philoxeroides</i>	38	Malvaceae	<i>Sida acuta</i>
03	Amaranthaceae	<i>Amaranthus spinosus</i>	39	Malvaceae	<i>Sida rhombifolia</i>
04	Amaranthaceae	<i>Amaranthus viridis</i>	40	Meliaceae	<i>Azadirachta indica</i>
05	Anacardiaceae	<i>Mangifera indica</i>	41	Mimosaceae	<i>Leucaena glauca</i>
06	Annonaceae	<i>Polyalthia longifolia</i>	42	Moraceae	<i>Artocarpus heterophylla</i>
07	Apocynaceae	<i>Alstonia scholaris</i>	43	Moraceae	<i>Ficus bengalensis</i>
08	Apocynaceae	<i>Catharanthus roseus</i>	44	Moraceae	<i>Ficus hispida</i>
09	Apocynaceae	<i>Ervatamia divaricata</i>	45	Moraceae	<i>Ficus racemosa</i>
10	Apocynaceae	<i>Thevetia peruviana</i>	46	Moraceae	<i>Ficus ramphii</i>
11	Asclepiadaceae	<i>Calotropis gigantea</i>	47	Moraceae	<i>Streblus asper</i>
12	Asteraceae	<i>Eclipta prostrata</i>	48	Musaceae	<i>Ravenala madagascariensis</i>
13	Asteraceae	<i>Mikania cordata</i>	49	Myrtaceae	<i>Eucalyptus citriodora</i>
14	Bombacaceae	<i>Bombax ceiba</i>	50	Myrtaceae	<i>Psidium guajava</i>
15	Boraginaceae	<i>Heliotropium indicum</i>	51	Myrtaceae	<i>Syzygium cuminii</i>
16	Caesalpiniaceae	<i>Caesalpinia pulcherrima</i>	52	Myrtaceae	<i>Syzygium smarangense</i>
17	Caesalpiniaceae	<i>Delonix regia</i>	53	Nymphaeaceae	<i>Nymphaea pubescens</i>
18	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	54	Oxalidaceae	<i>Oxalis corniculata</i>
19	Caesalpiniaceae	<i>Saraca indica</i>	55	Palmae	<i>Areca catechu</i>
20	Caesalpiniaceae	<i>Tamarindus indica</i>	56	Palmae	<i>Cocos nucifera</i>
21	Cleomaceae	<i>Cleome rutidosperma</i>	57	Palmae	<i>Phoenix sylvestris</i>
22	Combretaceae	<i>Terminalia catappa</i>	58	Portulacaceae	<i>Portulaca oleracea</i>
23	Commelinaceae	<i>Commelina benghalensis</i>	59	Rhamnaceae	<i>Ziziphus mauritiana</i>

II-E (ii) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Compositae	<i>Ageratum conyzoides</i>	60	Rubiaceae	<i>Anthocephalus cadamba</i>
25	Compositae	<i>Launaea procumbens</i>	61	Rubiaceae	<i>Ixroa</i> spp.
26	Convolvulaceae	<i>Cuscuta reflexa</i>	62	Rubiaceae	<i>Mussenda phillipica</i>
27	Cucurbitaceae	<i>Coccinia cordifolia</i>	63	Rutaceae	<i>Murraya paniculata</i>
28	Euphorbiaceae	<i>Euphorbia hirta</i>	64	Sapotaceae	<i>Madhuca indica</i>
29	Euphorbiaceae	<i>Phyllanthus fraternus</i>	65	Scrophulariaceae	<i>Scoparia dulcis</i>
30	Euphorbiaceae	<i>Putranjiva roxburghii</i>	66	Solanaceae	<i>Nicotiana plumbaginifolia</i>
31	Euphorbiaceae	<i>Tragia involucrata</i>	67	Solanaceae	<i>Solanum nigrum</i>
32	Fabaceae	<i>Pongamia pinnata</i>	68	Sterculiaceae	<i>Abroma augusta</i>
33	Lauraceae	<i>Litsea glutinosa</i>	69	Sterculiaceae	<i>Pentapetes phoenicea</i>
34	Lemnaceae	<i>Lemna minor</i>	70	Sterculiaceae	<i>Sterculia foetida</i>
35	Lythraceae	<i>Lagerstroemia speciosa</i>	71	Ulmaceae	<i>Trema orientalis</i>
36	Magnoliaceae	<i>Magnolia grandiflora</i>			

II-F (i) : Maidan.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Dipteracanthus prostrates</i>	71	Euphorbiaceae	<i>Ricinus communis</i>
02	Acanthaceae	<i>Hemigraphis hirta</i>	72	Fabaceae	<i>Crotalaria pallida</i>
03	Acanthaceae	<i>Ruellia tuberosa</i>	73	Fabaceae	<i>Tephrosia purpurea</i>
04	Amaranthaceae	<i>Aerva aspera</i>	74	Gramineae	<i>Eragrostis tenella</i>
05	Amaranthaceae	<i>Alternanthera philoxeroides</i>	75	Guttiferae	<i>Calophyllum inophyllum</i>
06	Amaranthaceae	<i>Alternanthera sessilis</i>	76	Labiatae	<i>Anisomeles indica</i>
07	Amaranthaceae	<i>Amaranthus spinosus</i>	77	Labiatae	<i>Hyptis suaveolens</i>
08	Amaranthaceae	<i>Amaranthus viridis</i>	78	Labiatae	<i>Leonurus sibiricus</i>
09	Anacardiaceae	<i>Anacardium occidentale</i>	79	Labiatae	<i>Leucas aspera</i>
10	Apocynaceae	<i>Kopsia fruticosa</i>	80	Lamiaceae	<i>Ocimum sanctum</i>
11	Apocynaceae	<i>Alstonia scholaris</i>	81	Lecythidaceae	<i>Couropita guianensis</i>
12	Apocynaceae	<i>Holarrhena antidysenterica</i>	82	Lythraceae	<i>Lagerstroemia indica</i>
13	Asteraceae	<i>Ageratum conyzoides</i>	83	Lythraceae	<i>Lagerstroemia speciosa</i>
14	Asteraceae	<i>Eclipta alba</i>	84	Lythraceae	<i>Lagerstroemia thorellii</i>
15	Asteraceae	<i>Eclipta prostrata</i>	85	Magnoliaceae	<i>Michelia champaca</i>
16	Asteraceae	<i>Eupatorium odoratum</i>	86	Malvaceae	<i>Abutilon indicum</i>
17	Asteraceae	<i>Mikania cordata</i>	87	Malvaceae	<i>Malachra capitata</i>
18	Asteraceae	<i>Sonchus asper</i>	88	Malvaceae	<i>Sida cordifolia</i>
19	Asteraceae	<i>Tridax procumbens</i>	89	Malvaceae	<i>Sida rhombifolia</i>
20	Asteraceae	<i>Xanthium strumarium</i>	90	Malvaceae	<i>Urena lobata</i>
21	Bignoniaceae	<i>Crescentia cujete</i>	91	Malvaceae	<i>Urena sinuate</i>
22	Bignoniaceae	<i>Dolichandrone spathacea</i>	92	Meliaceae	<i>Azadirachta indica</i>
23	Boraginaceae	<i>Cordia sebestina</i>	93	Meliaceae	<i>Swietenia macrophylla</i>

II-F (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Boraginaceae	<i>Heliotropium indicum</i>	94	Meliaceae	<i>Swietenia mahagoni</i>
25	Brassicaceae	<i>Rorippa indica</i>	95	Mimosaceae	<i>Adenantha pavonina</i>
26	Caesalpiniaceae	<i>Bauhinia variegata</i>	96	Moraceae	<i>Ficus lucescens</i>
27	Caesalpiniaceae	<i>Caesalpinia pulcherrima</i>	97	Moraceae	<i>Ficus religiosa</i>
28	Caesalpiniaceae	<i>Cassia alata</i>	98	Moraceae	<i>Ficus rumphii</i>
29	Caesalpiniaceae	<i>Cassia fistula</i>	99	Moraceae	<i>Ficus heterophylla</i>
30	Caesalpiniaceae	<i>Cassia sophera</i>	100	Myrtaceae	<i>Callistemon lanceolatus</i>
31	Caesalpiniaceae	<i>Cassia tora</i>	101	Myrtaceae	<i>Eucalyptus citriodora</i>
32	Caesalpiniaceae	<i>Delonix regia</i>	102	Myrtaceae	<i>Syzygium cuminii</i>
33	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	103	Nyctaginaceae	<i>Boerhaavia diffusa</i>
34	Caesalpiniaceae	<i>Saraca asoca</i>	104	Nyctaginaceae	<i>Mirabilis jalapa</i>
35	Capparidaceae	<i>Cleome rutidosperma</i>	105	Ochnaceae	<i>Ochna pumila</i>
36	Cleomaceae	<i>Cleome rutidosperma</i>	106	Oleaceae	<i>Nyctanthes arbor-tristis</i>
37	Cleomaceae	<i>Cleome viscosa</i>	107	Oxalidaceae	<i>Oxalis corniculata</i>
38	Combretaceae	<i>Pterygota alata</i>	108	Oxalidaceae	<i>Oxalis corniculata</i>
39	Combretaceae	<i>Terminalia arjuna</i>	109	Palmae	<i>Licuala peltata</i>
40	Combretaceae	<i>Terminalia catappa</i>	110	Palmae	<i>Roystonea regia</i>
41	Combretaceae	<i>Terminalia chebula</i>	111	Papilionaceae	<i>Butea monosperma</i>
43	Commelinaceae	<i>Commelina benghalensis</i>	112	Papilionaceae	<i>Millettia ovalifolia</i>
44	Compositae	<i>Parthenium hysterophorus</i>	113	Portulacaceae	<i>Portulaca oleracea</i>
45	Compositae	<i>Synedrella nodiflora</i>	114	Punicaceae	<i>Punica granatum</i>
46	Compositae	<i>Vernonia cinerea</i>	115	Rubiaceae	<i>Anthocephalus cadamba</i>
47	Compositae	<i>Wedelia chinensis</i>	116	Rubiaceae	<i>Dentella repens</i>

II-F (i) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
48	Convolvulaceae	<i>Evolvulus nummularius</i>	117	Rubiaceae	<i>Mussaenda frondosa</i>
49	Convolvulaceae	<i>Ipomoea cairica</i>	118	Rubiaceae	<i>Oldenlandia corymbosa</i>
50	Convolvulaceae	<i>Ipomoea mauritana</i>	119	Rubiaceae	<i>Oldenlandia paniculata</i>
51	Convolvulaceae	<i>Ipomoea sepiaria</i>	120	Rutaceae	<i>Aegle marmelos</i>
52	Cruciferae	<i>Brassica campestris</i>	121	Sapotaceae	<i>Madhuca indica</i>
53	Cucurbitaceae	<i>Coccinia cordifolia</i>	122	Sapotaceae	<i>Mimusops elengi</i>
54	Cucurbitaceae	<i>Luffa cylindrical</i>	123	Scrophulariaceae	<i>Lidenbergia indica</i>
55	Cucurbitaceae	<i>Momordica charandia</i>	124	Scrophulariaceae	<i>Scoparia dulcis</i>
56	Cucurbitaceae	<i>Trichosanthes cucumerina</i>	125	Solanaceae	<i>Cestrum diurnum</i>
57	Cyperaceae	<i>Cyperus pygmaeus</i>	126	Solanaceae	<i>Datura metel</i>
58	Dioscoreaceae	<i>Dioscorea bulbifera</i>	127	Solanaceae	<i>Nicotiana plumbaginifolia</i>
59	Euphorbiaceae	<i>Acalypha indica</i>	128	Solanaceae	<i>Physalis minima</i>
60	Euphorbiaceae	<i>Bischofia javanica</i>	129	Solanaceae	<i>Solanum nigram</i>
61	Euphorbiaceae	<i>Chrozpphora rottleri</i>	130	Sterculiaceae	<i>Dombeya sp.</i>
62	Euphorbiaceae	<i>Croton bonplandianum</i>	131	Sterculiaceae	<i>Pterospermum acerifolium</i>
63	Euphorbiaceae	<i>Euphorbia heterophylla</i>	132	Sterculiaceae	<i>Sterculia foetida</i>
64	Euphorbiaceae	<i>Euphorbia hirta</i>	133	Tiliaceae	<i>Triumfetta rhomboidea</i>
65	Euphorbiaceae	<i>Jatropha gossypifolia</i>	134	Ulmaceae	<i>Trema orientalis</i>
66	Euphorbiaceae	<i>Kirganelia reticulata</i>	135	Verbenaceae	<i>Clerodendrum inerme</i>
67	Euphorbiaceae	<i>Phyllanthus fraternus</i>	136	Verbenaceae	<i>Clerodendrum viscosum</i>
68	Euphorbiaceae	<i>Phyllanthus reticulata</i>	137	Verbenaceae	<i>Gmelina arborea</i>
69	Euphorbiaceae	<i>Putranjiva roxburghii</i>	138	Verbenaceae	<i>Phyla nodiflora</i>
70	Euphorbiaceae	<i>Ricinus communis</i>	139	Verbenaceae	<i>Tectona grandis</i>
			140	Vernemaceae	<i>Lantana camara</i>

II-F (ii) : Eden Gardens.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Ruellia tuberosa</i>	47	Lythraceae	<i>Lagerstroemia indica</i>
02	Acantheceae	<i>Dipteracanthus prostratus</i>	48	Lythraceae	<i>Lagerstroemia spiciosa</i>
03	Amaranthaceae	<i>Amaranthus spinosus</i>	49	Lythraceae	<i>Lagerstroemia thorellii</i>
04	Amaranthaceae	<i>Alternanthera philoxeroides</i>	50	Malvaceae	<i>Thespesia populnea</i>
05	Anacardiaceae	<i>Mangifera indica</i>	51	Meliaceae	<i>Swietenia mahagoni</i>
06	Annonaceae	<i>Polyalthia longifolia</i>	52	Mimosaceae	<i>Acacia auriculaeformis</i>
07	Apocynaceae	<i>Alstonia scholaris</i>	53	Mimosaceae	<i>Adenantha pavonina</i>
08	Apocynaceae	<i>Ervatamia divaricata</i>	54	Mimosaceae	<i>Leucaena glauca</i>
09	Apocynaceae	<i>Wrightia coccinia</i>	55	Mimosaceae	<i>Samanea saman</i>
10	Araucariaceae	<i>Araucaria columnaris</i>	56	Moraceae	<i>Ficus bengalensis</i>
11	Bignoniaceae	<i>Bignonia megapotamica</i>	57	Moraceae	<i>Ficus krishnae</i>
12	Bignoniaceae	<i>Tabebuia chrysantha</i>	58	Moraceae	<i>Ficus elastica</i>
13	Bignoniaceae	<i>Tecoma sp.</i>	59	Moraceae	<i>Ficus racemosa</i>
14	Boraginaceae	<i>Cordia sebestena</i>	60	Moraceae	<i>Ficus ramphii</i>
15	Caesalpinaceae	<i>Bauhinia purpurea</i>	612	Moraceae	<i>Ficus religiosa</i>
16	Caesalpinaceae	<i>Caesalpinia pulcherrima</i>	62	Moraceae	<i>Ficus retusa</i>
17	Caesalpinaceae	<i>Cassia auriculata</i>	63	Musaceae	<i>Ravenala madagascariensis</i>
18	Caesalpinaceae	<i>Cassia fistula</i>	64	Myrtaceae	<i>Callistemon lanceolatus</i>
19	Caesalpinaceae	<i>Cassia grandis</i>	65	Myrtaceae	<i>Syzygium cuminii</i>
20	Caesalpinaceae	<i>Peltophorum pterocarpum</i>	66	Ochnaceae	<i>Ochna kirkii</i>
21	Caesalpinaceae	<i>Saraca asoca</i>	67	Oleaceae	<i>Nyctanthes arbor-tristis</i>
22	Cannaceae	<i>Canna orientalis</i>	68	Palmae	<i>Borassus flabellifer</i>
23	Casuarinaceae	<i>Casuarina equisetifolia</i>	69	Palmae	<i>Livistona chinensis</i>

II-F (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Cleomaceae	<i>Cleome gynandra</i>	70	Palmae	<i>Phoenix sylvestris</i>
25	Cleomaceae	<i>Cleome rutidosperma</i>	71	Palmae	<i>Roystonea regia</i>
26	Combretaceae	<i>Terminalia arjuna</i>	72	Papilionaceae	<i>Butea monosperma</i>
27	Combretaceae	<i>Terminalia catappa</i>	73	Papilionaceae	<i>Pongamia pinnata</i>
28	Commelinaceae	<i>Commelina benghalensis</i>	74	Passifloraceae	<i>Passiflora sp.</i>
29	Compositae	<i>Ageratum conyzoides</i>	75	Rubiaceae	<i>Anthocephalus cadamba</i>
30	Compositae	<i>Eclipta alba</i>	76	Rubiaceae	<i>Ixora spp.</i>
31	Compositae	<i>Launaea procumbens</i>	77	Rubiaceae	<i>Morinda citrifolia</i>
32	Compositae	<i>Mikania cordata</i>	78	Rubiaceae	<i>Mussaenda philippica</i>
33	Compositae	<i>Vernonia elaeagnifolia</i>	79	Rubiaceae	<i>Nauclea orientalis</i>
34	Convolvulaceae	<i>Ipomoea sepiaria</i>	80	Rutaceae	<i>Murraya paniculata</i>
35	Cucurbitaceae	<i>Coccinia cordifolia</i>	81	Salicaceae	<i>Salix babylonica</i>
36	Ebenaceae	<i>Diospyros peregrina</i>	82	Sapotaceae	<i>Madhuca indica</i>
37	Euphorbiaceae	<i>Emblica officinalis</i>	83	Sapotaceae	<i>Mimusops elengi</i>
38	Euphorbiaceae	<i>Euphorbia hirta</i>	84	Solanaceae	<i>Nicotiana plumbaginifolia</i>
39	Euphorbiaceae	<i>Jatropha podagrica</i>	85	Solanaceae	<i>Solanum nigrum</i>
40	Euphorbiaceae	<i>Kirganelia reticulata</i>	86	Sterculiaceae	<i>Pterospermum acerifolium</i>
41	Euphorbiaceae	<i>Phyllanthus fraternus</i>	87	Sterculiaceae	<i>Sterculia foetida</i>
42	Euphorbiaceae	<i>Putranjiva roxburghii</i>	88	Tiliaceae	<i>Grewia subinaequalis</i>
43	Graminae	<i>Bambusa vulgaris</i>	89	Ulmaceae	<i>Trema orientalis</i>
44	Gramineae	<i>Cynodon dactylon</i>	90	Verbenaceae	<i>Citharexylum quadrangulare</i>
45	Lauraceae	<i>Litsea glutinosa</i>	91	Verbenaceae	<i>Clerodendrum thomsonae</i>
46	Lecythidaceae	<i>Couroupita guianensis</i>			

II-G : Brace Bridge Wetlands.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Dipteracanthus prostratus</i>	29	Malvaceae	<i>Azaza lampas</i>
02	Amaranthaceae	<i>Achyranthes aspera</i>	30	Malvaceae	<i>Malvastrum coromandelianum</i>
03	Amaranthaceae	<i>Alternanthera sessilis</i>	31	Malvaceae	<i>Sida rhombifolia</i>
04	Amaranthaceae	<i>Amaranthus spinosus</i>	32	Malvaceae	<i>Urena lobata</i>
05	Araceae	<i>Pistia stratiotes</i>	33	Mimosaceae	<i>Acacia auriculaeformis</i>
06	Bombacaceae	<i>Ceiba pentandra</i>	34	Mimosaceae	<i>Leucaena glauca</i>
07	Boraginaceae	<i>Heliotropium indicum</i>	35	Mimosaceae	<i>Pithecellobium dulce</i>
08	Caesalpiniaceae	<i>Cassia occidentalis</i>	36	Moraceae	<i>Ficus benghalensis</i>
09	Caesalpiniaceae	<i>Cassia sophora</i>	37	Moraceae	<i>Streblus asper</i>
10	Caesalpiniaceae	<i>Delonix regia</i>	38	Palmae	<i>Phoenix sylvestris</i>
11	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	39	Papaveraceae	<i>Argemone mexicana</i>
12	Cleomaceae	<i>Cleome rutidosperma</i>	40	Papilionaceae	<i>Pongamia pinnata</i>
13	Combretaceae	<i>Terminalia catappa</i>	41	Plumbaginaceae	<i>Plumbago zeylanica</i>
14	Commelinaceae	<i>Commelina benghalensis</i>	42	Polygonaceae	<i>Polygonum glabrum</i>
15	Compositae	<i>Ageratum conyzoides</i>	43	Polygonaceae	<i>Polygonum hydropiper</i>
16	Compositae	<i>Grangea maderaspatana</i>	44	Polygonaceae	<i>Rumex dentatus</i>
17	Compositae	<i>Mikania cordata</i>	45	Rubiaceae	<i>Ixora arborea</i>
18	Compositae	<i>Parthenium hysterophorus</i>	46	Rutaceae	<i>Murraya koenigii</i>
19	Compositae	<i>Tridax procumbens</i>	47	Scrophulariaceae	<i>Scoparia dulcis</i>
20	Compositae	<i>Vernonia cinerea</i>	48	Solanaceae	<i>Nicotiana plumbaginifolia</i>
21	Compositae	<i>Xanthium strumarium</i>	49	Solanaceae	<i>Solanum indicum</i>
22	Convolvulaceae	<i>Ipomoea maxima</i>	50	Solanaceae	<i>Solanum nigrum</i>
23	Cucurbitaceae	<i>Coccinia grandis</i>	51	Solanaceae	<i>Solanum sisymbriifolium</i>
24	Euphorbiaceae	<i>Croton bonplandianum</i>	52	Solanaceae	<i>Solanum torvum</i>
25	Euphorbiaceae	<i>Kirganelia reticulata</i>	53	Verbenaceae	<i>Gmelina arborea</i>
26	Gramineae	<i>Echinochloa frumentaceae</i>	54	Verbenaceae	<i>Phyla nodiflora</i>
27	Lemnaceae	<i>Lemna minor</i>	55	Vitaceae	<i>Cayratia carnosa</i>
28	Malvaceae	<i>Abutilon indicum</i>			

II-H : Tollygunge Club.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Adhatoda vasica</i>	78	Fabaceae	<i>Pterocarpus indicus</i>
02	Amaranthaceae	<i>Achyranthes aspera</i>	79	Lauraceae	<i>Litsea glutinosa</i>
03	Amaranthaceae	<i>Alternanthera philoxeroides</i>	80	Lecythidaceae	<i>Couroupita guianensis</i>
04	Amaranthaceae	<i>Alternanthera sessilis</i>	81	Lythraceae	<i>Lagerstroemia speciosa</i>
05	Amaranthaceae	<i>Amaranthus spinosus</i>	82	Lythraceae	<i>Lagerstroemia thorelii</i>
06	Amaranthaceae	<i>Amaranthus viridis</i>	83	Magnoliaceae	<i>Michelia champaca</i>
07	Amaryllidaceae	<i>Zephyranthes</i> spp.	84	Malvaceae	<i>Sida acuta</i>
08	Anacardiaceae	<i>Mangifera indica</i>	85	Malvaceae	<i>Sida rhombifolia</i>
09	Annonaceae	<i>Polyalthia longifolia</i>	86	Malvaceae	<i>Thespesia populnea</i>
10	Apocynaceae	<i>Alstonia macrophylla</i>	87	Malvaceae	<i>Urena lobata</i>
11	Apocynaceae	<i>Alstonia scholaris</i>	88	Miliaceae	<i>Azadirachta indica</i>
12	Apocynaceae	<i>Holarrhena antidysenterica</i>	89	Miliaceae	<i>Swietenia macrophylla</i>
13	Apocynaceae	<i>Plumeria alba</i>	90	Miliaceae	<i>Swietenia mahagoni</i>
14	Apocynaceae	<i>Plumeria rubra</i>	91	Menispermaceae	<i>Tiliacora acuminata</i>
15	Apocynaceae	<i>Wrightia</i> sp.	92	Mimosaceae	<i>Acacia auriculaeformis</i>
16	Araceae	<i>Colocasia esculenta</i>	93	Mimosaceae	<i>Adenantha pavonina</i>
17	Averrhoaceae	<i>Averrhoa carambola</i>	94	Mimosaceae	<i>Albizia lebbek</i>
18	Barringtoniaceae	<i>Barringtonia acutangula</i>	95	Mimosaceae	<i>Albizia odoratissima</i>
19	Bignoniaceae	<i>Bignonia megapotamica</i>	96	Mimosaceae	<i>Albizia richardiana</i>
20	Bignoniaceae	<i>Jacaranda acutifolia</i>	97	Mimosaceae	<i>Leucaena leucocephala</i>
21	Bignoniaceae	<i>Kigelia pinnata</i>	98	Mimosaceae	<i>Parkia biglandulosa</i>
22	Bignoniaceae	<i>Millingtonia hortensis</i>	99	Mimosaceae	<i>Pithecellobium dulce</i>

II-H : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
23	Bignoniaceae	<i>Spathodea campanulata</i>	100	Mimosaceae	<i>Samanea saman</i>
24	Bignoniaceae	<i>Tabebuia chrysantha</i>	101	Moraceae	<i>Artocarpus heterophyllus</i>
25	Bignoniaceae	<i>Tabebuia pallida</i>	102	Moraceae	<i>Artocarpus lakoocha</i>
26	Bignoniaceae	<i>Tabebuia rosea</i>	103	Moraceae	<i>Ficus benghalensis</i>
27	Bombacaceae	<i>Bombax ceiba</i>	104	Moraceae	<i>Ficus benamina</i>
28	Bombacaceae	<i>Bombax ellipticum</i>	105	Moraceae	<i>Ficus cotoneaefolia</i>
29	Bombacaceae	<i>Ceiba pentandra</i>	106	Moraceae	<i>Ficus ellastica</i>
30	Caesalpiniaceae	<i>Amherstia nobilis</i>	107	Moraceae	<i>Ficus glomerata</i>
31	Caesalpiniaceae	<i>Bauhinia purpurea</i>	108	Moraceae	<i>Ficus heterophylla</i>
32	Caesalpiniaceae	<i>Bauhinia variegata</i>	109	Moraceae	<i>Ficus hispida</i>
33	Caesalpiniaceae	<i>Brownea coccinea</i>	110	Moraceae	<i>Ficus lucescens</i>
34	Caesalpiniaceae	<i>Caesalpinia coriaria</i>	111	Moraceae	<i>Ficus religiosa</i>
35	Caesalpiniaceae	<i>Cassia fistula</i>	112	Moraceae	<i>Ficus retusa</i>
36	Caesalpiniaceae	<i>Cassia nodosa</i>	113	Moraceae	<i>Ficus rumphii</i>
37	Caesalpiniaceae	<i>Cassia siamea</i>	114	Myrtaceae	<i>Callistemon lanceolatus</i>
38	Caesalpiniaceae	<i>Colvillea racemosa</i>	115	Myrtaceae	<i>Eucalyptus citriodora</i>
39	Caesalpiniaceae	<i>Delonix regia</i>	116	Myrtaceae	<i>Eucalyptus globulus</i>
40	Caesalpiniaceae	<i>Peltophorum brasiliense</i>	117	Myrtaceae	<i>Eucalyptus deglupta</i>
41	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	118	Myrtaceae	<i>Melaleuca leucadendron</i>
42	Caesalpiniaceae	<i>Saraca asoca</i>	119	Myrtaceae	<i>Psidium guajava</i>
43	Caesalpiniaceae	<i>Tamarindus indica</i>	120	Myrtaceae	<i>Syzygium cuminii</i>
44	Casuarinaceae	<i>Casuarina equisetifolia</i>	121	Myrtaceae	<i>Syzygium jambos</i>

II-H : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
45	Capparidaceae	<i>Crataeva nurvala</i>	122	Nyctaginaceae	<i>Boerhavia diffusa</i>
46	Cleomaceae	<i>Cleome ruidosperma</i>	123	Ochnaceae	<i>Ochna jabotapita</i>
47	Cleomaceae	<i>Cleome viscosa</i>	124	Orchidaceae	<i>Vanda roxburgii</i>
48	Clusiaceae	<i>Calophyllum inophyllum</i>	125	Oxalidaceae	<i>Oxalis corniculata</i>
49	Cochlospermaceae	<i>Cochlospermum religiosum</i>	126	Papilionaceae	<i>Desmodium gangeticum</i>
50	Combretaceae	<i>Terminalia arjuna</i>	127	Pontederiaceae	<i>Eichhornia crassipes</i>
51	Combretaceae	<i>Terminalia bellirica</i>	128	Portulacaceae	<i>Portulaca oleracea</i>
52	Combretaceae	<i>Terminalia catappa</i>	129	Proteaceae	<i>Grevillea robusta</i>
53	Combretaceae	<i>Terminalia chebula</i>	130	Ranunculaceae	<i>Nymphaea nouchali</i>
54	Compositae	<i>Launaea procumbans</i>	131	Rhamnaceae	<i>Ziziphus mauritiana</i>
55	Compositae	<i>Mikania cordata</i>	132	Rubiaceae	<i>Anthocephalus cadamba</i>
56	Compositae	<i>Synedrella nodiflora</i>	133	Rutaceae	<i>Aegle marmelos</i>
57	Compositae	<i>Vernonia cinerea</i>	134	Rutaceae	<i>Citrus maxima</i>
58	Compositae	<i>Wedelia chinensis</i>	135	Rutaceae	<i>Feronia limonia</i>
59	Convolvulaceae	<i>Evolvulus nummularius</i>	136	Salicaceae	<i>Salix babylonica</i>
60	Cucurbitaceae	<i>Coccinia grandis</i>	137	Sapindaceae	<i>Blighia sapida</i>
61	Dilleniaceae	<i>Dillenia indica</i>	138	Sapindaceae	<i>Cupania sp.</i>
62	Dilleniaceae	<i>Dillenia pentagyna</i>	139	Sapindaceae	<i>Euphoria longan</i>
63	Dipterocarpaceae	<i>Shorea robusta</i>	140	Sapindaceae	<i>Filicium decipiens</i>
64	Ebenaceae	<i>Diospyros peregrina</i>	141	Sapindaceae	<i>Schleichera oleosa</i>
65	Euphorbiaceae	<i>Emblica officinalis</i>	142	Sapotaceae	<i>Achras sapota</i>
66	Euphorbiaceae	<i>Euphorbia hirta</i>	143	Sapotaceae	<i>Madhuca indica</i>

II-H: Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
67	Euphorbiaceae	<i>Kirganelia reticulata</i>	144	Sapotaceae	<i>Mimusops elengi</i>
68	Euphorbiaceae	<i>Putranjiva roxburghii</i>	145	Sterculiaceae	<i>Kleinhovia hospita</i>
69	Euphorbiaceae	<i>Ricinus communis</i>	146	Sterculiaceae	<i>Pterospermum acerifolium</i>
70	Euphorbiaceae	<i>Trewia nudiflora</i>	147	Sterculiaceae	<i>Pterygota alata</i>
71	Fabaceae	<i>Butea monosperma</i>	148	Sterculiaceae	<i>Sterculia foetida</i>
72	Fabaceae	<i>Castanosperum australe</i>	149	Solanaceae	<i>Solanum nigrum</i>
73	Fabaceae	<i>Dalbergia assamica</i>	150	Solanaceae	<i>Solanum torvum</i>
74	Fabaceae	<i>Erythrina variegata</i>	151	Tiliaceae	<i>Muntingia calabura</i>
75	Fabaceae	<i>Gliricidia sepium</i>	152	Ulmaceae	<i>Trema orientalis</i>
76	Fabaceae	<i>Millettia peguensis</i>	153	Verbenaceae	<i>Clerodendrum viscum</i>
77	Fabaceae	<i>Pongamia pinnata</i>	154	Verbenaceae	<i>Gmelina arborea</i>
			155	Verbenaceae	<i>Tectona grandis</i>

II-I (i) : Agri-Horticultural Society of India.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Aphelandra cristata</i>	91	Malvaceae	<i>Malvastrum coromandelianum</i>
02	Acanthaceae	<i>Barleria prionitis</i>	92	Malvaceae	<i>Thespesia populnea</i>
03	Acanthaceae	<i>Beloperone amherstae</i>	93	Malpighiaceae	<i>Hiptage benghalensis</i>
04	Acanthaceae	<i>Beloperone guttata</i>	94	Malpighiaceae	<i>Galphimia gracilis</i>
05	Acanthaceae	<i>Crossandra infundibuliformis</i>	95	Magnoliaceae	<i>Michelia champaca</i>
06	Acanthaceae	<i>Pachystachys lutea</i>	96	Meliaceae	<i>Azadirachta indica</i>
07	Acanthaceae	<i>Ruellia tuberosa</i>	97	Meliaceae	<i>Melia azedarach</i>
08	Amaranthaceae	<i>Alternanthera philoxeroides</i>	98	Mimosaceae	<i>Acacia auriculaeformis</i>
09	Anacardiaceae	<i>Mangifera indica</i>	99	Mimosaceae	<i>Adenanthera pavonina</i>
10	Annonaceae	<i>Annona reticulata</i>	100	Mimosaceae	<i>Calliandra haematocephala</i>
11	Annonaceae	<i>Annona squamosa</i>	101	Mimosaceae	<i>Pithecellobium dulce</i>
12	Annonaceae	<i>Artabotrys hexapetalus</i>	102	Moraceae	<i>Artocarpus altilis</i>
13	Annonaceae	<i>Monodora grandiflora</i>	103	Moraceae	<i>Artocarpus heterophyllus</i>
14	Apocynaceae	<i>Adenium obesum</i>	104	Moraceae	<i>Artocarpus lakoocha</i>
15	Apocynaceae	<i>Allemanda neriifolia</i>	105	Moraceae	<i>Ficus auriculata</i>
16	Apocynaceae	<i>Allemanda violacea</i>	106	Moraceae	<i>Ficus benghalensis</i>
17	Apocynaceae	<i>Alstonia scholaris</i>	107	Moraceae	<i>Ficus benjamina</i>
18	Apocynaceae	<i>Beaumontia grandiflora</i>	108	Moraceae	<i>Ficus elastica</i>
19	Apocynaceae	<i>Echites caryophyllata</i>	109	Moraceae	<i>Ficus infectoria</i>
20	Apocynaceae	<i>Ervatamia divaricata</i>	110	Moraceae	<i>Ficus krishnae</i>
21	Apocynaceae	<i>Holarrhena antidysenterica</i>	111	Moraceae	<i>Ficus lyrata</i>
22	Apocynaceae	<i>Kopsia fruticosa</i>	112	Moraceae	<i>Ficus religiosa</i>
23	Apocynaceae	<i>Nerium indicum</i>	113	Moraceae	<i>Ficus rumphii</i>

II-I (i) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Apocynaceae	<i>Thunbergia erecta</i>	114	Myrsinaceae	<i>Ardisia umbellata</i>
25	Araceae	<i>Rhaphidophora decursiva</i>	115	Myrtaceae	<i>Callistemon lanceolatus</i>
26	Araceae	<i>Typhonium trilobatum</i>	116	Myrtaceae	<i>Eucalyptus citriodora</i>
27	Araliaceae	<i>Brassaia actinophylla</i>	117	Myrtaceae	<i>Psidium guajava</i>
28	Averrhoaceae	<i>Averrhoa carambola</i>	118	Myrtaceae	<i>Syzygium cuminii</i>
29	Bignoniaceae	<i>Jacaranda acutifolia</i>	119	Myrtaceae	<i>Syzygium jambos</i>
30	Bignoniaceae	<i>Kigelia pinnata</i>	120	Myrtaceae	<i>Syzygium malaccense</i>
31	Bignoniaceae	<i>Millingtonia hortensis</i>	121	Myrtaceae	<i>Syzygium samarangense</i>
32	Bignoniaceae	<i>Tabebuia pallida</i>	122	Nyctaginaceae	<i>Boerheavia diffusa</i>
33	Bignoniaceae	<i>Tecoma gaudi-chaudi</i>	123	Nyctaginaceae	<i>Bougainvillea spp.</i>
34	Bignoniaceae	<i>Tecoma grandiflora</i>	124	Ochnaceae	<i>Ochna squarrosa</i>
35	Bixaceae	<i>Oncoba spinosa</i>	125	Oleaceae	<i>Nyctanthes arbor-tristis</i>
36	Bombacaceae	<i>Adensonia digitata</i>	126	Oxalidaceae	<i>Oxalis corniculata</i>
37	Bombacaceae	<i>Bombax ceiba</i>	127	Oxalidaceae	<i>Oxalis latifolia</i>
38	Bombacaceae	<i>Bombax ellipticum</i> var. <i>rubra</i>	128	Papilionaceae	<i>Castanospermum australe</i>
39	Boraginaceae	<i>Cordia sebestena</i>	129	Papilionaceae	<i>Erythrina variegata</i>
40	Caesalpinaceae	<i>Cassia alata</i>	130	Papilionaceae	<i>Gliricidia sepium</i>
41	Caesalpinaceae	<i>Cassia glauca</i>	131	Papilionaceae	<i>Millettia ovalifolia</i>
42	Caesalpinaceae	<i>Amherstia nobilis</i>	132	Papilionaceae	<i>Pongamia pinnata</i>
43	Caesalpinaceae	<i>Bauhinia acuminata</i>	133	Papilionaceae	<i>Pterocarpus indicus</i>
44	Caesalpinaceae	<i>Bauhinia galpini</i>	134	Polygonaceae	<i>Antigonon leptopus</i>
45	Caesalpinaceae	<i>Bauhinia purpurea</i>	135	Polygonaceae	<i>Coccoloba uvifera</i>
46	Caesalpinaceae	<i>Bauhinia tomentosa</i>	136	Punicaceae	<i>Punica granatum</i>

II-I (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Caesalpiniaceae	<i>Brownia ariza</i>	137	Rubiaceae	<i>Anthocephalus cadamba</i>
48	Caesalpiniaceae	<i>Cassia fistula</i>	138	Rubiaceae	<i>Catesbaea spinosa</i>
49	Caesalpiniaceae	<i>Cassia grandis</i>	139	Rubiaceae	<i>Gardenia</i> sp.
50	Caesalpiniaceae	<i>Cassia javanica</i>	140	Rubiaceae	<i>Hamelia patens</i>
51	Caesalpiniaceae	<i>Cassia multijuga</i>	141	Rubiaceae	<i>Hameltonia suaveolens</i>
52	Caesalpiniaceae	<i>Cassia nodosa</i>	142	Rubiaceae	<i>Morinda tinctoria</i>
53	Caesalpiniaceae	<i>Cassia renigera</i>	143	Rubiaceae	<i>Mussaenda philipica</i>
54	Caesalpiniaceae	<i>Cassia roxburghii</i>	144	Rubiaceae	<i>Nauclea orientalis</i>
55	Caesalpiniaceae	<i>Cassia siamea</i>	145	Rubiaceae	<i>Pentas</i> spp.
56	Caesalpiniaceae	<i>Caesalpinia coriaria</i>	146	Rubiaceae	<i>Rondeletia odorata</i>
57	Caesalpiniaceae	<i>Caesalpinia pulcherrima</i>	147	Rutaceae	<i>Aegle marmelos</i>
58	Caesalpiniaceae	<i>Colvillia racemosa</i>	148	Rutaceae	<i>Lemonia spectabilis</i>
59	Caesalpiniaceae	<i>Delonix regia</i>	149	Rutaceae	<i>Murraya paniculata</i>
60	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	150	Rutaceae	<i>Fortunella japonica</i>
61	Caesalpiniaceae	<i>Saraca thapingensis</i>	151	Sapindaceae	<i>Euphoria longan</i>
62	Caesalpiniaceae	<i>Tamarindus indica</i>	152	Sapindaceae	<i>Filicium decipiens</i>
63	Cleomaceae	<i>Cleome rutidosperma</i>	153	Sapindaceae	<i>Litchi chinensis</i>
64	Cochlospermaceae	<i>Cochlospermum religiosum</i>	154	Sapindaceae	<i>Schleichera oleosa</i>
65	Combretaceae	<i>Quisqualis indica</i>	155	Sapotaceae	<i>Achras zapota</i>
66	Combretaceae	<i>Terminalia catappa</i>	156	Sapotaceae	<i>Mimusops elengi</i>
67	Compositae	<i>Ageratum conyzoides</i>	157	Scrophulariaceae	<i>Angelonia grandiflora</i>
68	Compositae	<i>Eclipta prostrata</i>	158	Simaroubaceae	<i>Quassia amara</i>
69	Cucurbitaceae	<i>Coccinia grandis</i>	159	Solanaceae	<i>Brunfelsia undulata</i>

II-I (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
70	Dilleniace	<i>Dillenia indica</i>	160	Solanaceae	<i>Cestrum nocturnum</i>
71	Dilleniace	<i>Wormia burbridgei</i>	161	Solanaceae	<i>Datura suaveolens</i>
72	Euphorbiaceae	<i>Acallypha</i> spp.	162	Solanaceae	<i>Nicotiana plumbaginifolia</i>
73	Euphorbiaceae	<i>Putranjiva roxburghii</i>	163	Solanaceae	<i>Rivinia humilis</i>
74	Euphorbiaceae	<i>Euphorbia hirta</i>	164	Solanaceae	<i>Solanum grandiflorum</i>
75	Euphorbiaceae	<i>Jatropha multifida</i>	165	Solanaceae	<i>Solanum nigrum</i>
76	Euphorbiaceae	<i>Jatropha panduraefolia</i>	166	Sterculiaceae	<i>Dombeya aliporensis</i>
77	Euphorbiaceae	<i>Jatropha podagrica</i>	167	Sterculiaceae	<i>Erythropsis colorata</i>
78	Euphorbiaceae	<i>Poinsettia pulcherrima</i>	168	Sterculiaceae	<i>Kleinhovia hospita</i>
79	Euphorbiaceae	<i>Ricinus communis</i>	169	Sterculiaceae	<i>Pterospermum acerifolium</i>
80	Fabaceae	<i>Brya ebenus</i>	170	Sterculiaceae	<i>Pterygota alata</i>
81	Guttiferae	<i>Calophyllum inophyllum</i>	171	Sterculiaceae	<i>Sterculia foetida</i>
82	Lecythidaceae	<i>Barringtonia asiatica</i>	172	Theophrastaceae	<i>Jacquinea ruscifolia</i>
83	Lecythidaceae	<i>Couropita guianensis</i>	173	Tiliaceae	<i>Grewia subinaequalis</i>
84	Lecythidaceae	<i>Gustavia augusta</i>	174	Tiliaceae	<i>Pentace burmanica</i>
85	Lythraceae	<i>Lagerstroemia indica</i>	175	Ulmaceae	<i>Trema orientalis</i>
86	Lythraceae	<i>Lagerstroemia speciosa</i>	176	Verbenaceae	<i>Clerodendrum splendens</i>
87	Lythraceae	<i>Lagerstroemia thorelli</i>	177	Verbenaceae	<i>Doranta repens</i>
88	Lythraceae	<i>Lawsonia inermis</i>	178	Verbenaceae	<i>Gmelina philippensis</i>
89	Malvaceae	<i>Abutilon indicum</i>	179	Verbenaceae	<i>Holmskioldia sanguinea</i>
90	Malvaceae	<i>Fuegosia hakaefolia</i>	180	Verbenaceae	<i>Petrea volubilis</i>
			181	Verbenaceae	<i>Tectona grandis</i>

II-I (ii) : Alipore Zoological Garden.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Justicia gendarussa</i>	47	Euphorbiaceae	<i>Phyllanthus fraternus</i>
02	Acanthaceae	<i>Justicia procumbens</i>	48	Euphorbiaceae	<i>Putranjiva roxburghii</i>
03	Acanthaceae	<i>Ruellia tuberosa</i>	49	Fabaceae	<i>Gliricidia sepium</i>
04	Amaranthaceae	<i>Achyranthes aspera</i>	50	Fabaceae	<i>Pongamia pinnata</i>
05	Amaranthaceae	<i>Alternanthera philoxeroides</i>	51	Gramineae	<i>Bambusa</i> sp.
06	Amaranthaceae	<i>Alternanthera sessilis</i>	52	Labiatae	<i>Anisomeles indica</i>
07	Amaranthaceae	<i>Amaranthus spinosus</i>	53	Lauraceae	<i>Litsea glutinosa</i>
08	Amaranthaceae	<i>Amaranthus viridi</i>	54	Lythraceae	<i>Lagerstroemia thorelii</i>
09	Anacardiaceae	<i>Mangifera indica</i>	55	Meliaceae	<i>Azadirachta indica</i>
10	Annonaceae	<i>Polyalthia logifolia</i>	56	Meliaceae	<i>Swietenia macrophylla</i>
11	Apocynaceae	<i>Alstonia scholaris</i>	57	Meliaceae	<i>Swietenia mahagoni</i>
12	Apocynaceae	<i>Catharanthus roseus</i>	58	Menispermaceae	<i>Tinospora cordifolia</i>
13	Araceae	<i>Colocasia esculenta</i>	59	Mimosaceae	<i>Adenantha pavonina</i>
14	Araceae	<i>Typhonium trilobatum</i>	60	Moraceae	<i>Artocarpus heterophyllus</i>
15	Asclepiadaceae	<i>Calotropis gigantea</i>	61	Moraceae	<i>Artocarpus lakoocha</i>
16	Asteraceae	<i>Eclipta prostrata</i>	62	Moraceae	<i>Ficus benghalensis</i>
17	Barringtoniaceae	<i>Barringtonia acutangula</i>	63	Moraceae	<i>Ficus hispida</i>
18	Bignoniaceae	<i>Crescentia cujete</i>	64	Moraceae	<i>Ficus religiosa</i>
19	Bignoniaceae	<i>Spathodea campanulata</i>	65	Moraceae	<i>Streblus asper</i>
20	Bombacaceae	<i>Adansonia digitata</i>	66	Myrsinaceae	<i>Ardisia solanacea</i>
21	Boraginaceae	<i>Cordia sebestena</i>	67	Myrtaceae	<i>Callistemon lanceolatus</i>
22	Caesalpiniaceae	<i>Cassia fistula</i>	68	Myrtaceae	<i>Eucalyptus citriodora</i>
23	Caesalpiniaceae	<i>Delonix regia</i>	69	Nyctaginaceae	<i>Boerhavia diffusa</i>

II-I (ii) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Caesalpiniaceae	<i>Peltophorum brasiliense</i>	70	Oxalidaceae	<i>Oxalis corniculata</i>
25	Caesalpiniaceae	<i>Saraca asoca</i>	71	Palmae	<i>Borassus flabellifer</i>
26	Caesalpiniaceae	<i>Tamarindus indica</i>	72	Palmae	<i>Caryota urens</i>
27	Cleomaceae	<i>Cleome rutidosperma</i>	73	Phytolaccaceae	<i>Rivina humilis</i>
28	Clusiaceae	<i>Calophyllum inophyllum</i>	74	Piperaceae	<i>Peperomia pellucida</i>
29	Clusiaceae	<i>Mesua ferrea</i>	75	Portulacaceae	<i>Portulaca oleracea</i>
30	Combretaceae	<i>Anogeissus acuminata</i>	76	Proteaceae	<i>Grevillea robusta</i>
31	Combretaceae	<i>Terminalia arjuna</i>	77	Rubiaceae	<i>Hamelia patens</i>
32	Combretaceae	<i>Terminalia catappa</i>	78	Rubiaceae	<i>Ixora barbata</i>
33	Combretaceae	<i>Terminalia chebula</i>	79	Rutaceae	<i>Murraya koenigii</i>
34	Compositae	<i>Mikania cordata</i>	80	Rutaceae	<i>Murraya paniculata</i>
35	Compositae	<i>Parthenium hysterophorus</i>	81	Sapotaceae	<i>Madhuca indica</i>
36	Compositae	<i>Spilanthus acmella</i>	82	Sapotaceae	<i>Mimusops elengi</i>
37	Compositae	<i>Synedrella nodiflora</i>	83	Scrophulariaceae	<i>Scoparia dulcis</i>
38	Compositae	<i>Tridax procumbens</i>	84	Solanaceae	<i>Solanum nigrum</i>
39	Compositae	<i>Vernonia cinerea</i>	85	Sterculiaceae	<i>Pterospemum acerifolium</i>
40	Convolvulaceae	<i>Evolvulus nummularius</i>	86	Sterculiaceae	<i>Pterygota alata</i>
41	Convolvulaceae	<i>Ipomoea nil</i>	87	Tiliaceae	<i>Muntingia calabura</i>
42	Cucurbitaceae	<i>Coccinia grandis</i>	88	Ulmaceae	<i>Trema orientalis</i>
43	Cyperaceae	<i>Cyperus pygmaeus</i>	89	Verbenaceae	<i>Citharexylum quadrangulare</i>
44	Euphorbiaceae	<i>Acalypha indica</i>	90	Verbenaceae	<i>Clerodendrum inerme</i>
45	Euphorbiaceae	<i>Euphorbia hirta</i>	91	Verbenaceae	<i>Gmelina arborea</i>
46	Euphorbiaceae	<i>Kirganelia reticulata</i>	92	Verbenaceae	<i>Tectona grandis</i>

II-J (i) : Esplanade.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
1.	Annonaceae	<i>Polyalthia longifolia</i>	53.	Mimosaceae	<i>Acacia auriculaeformis</i>
2.	Apocynaceae	<i>Alstonia scholaris</i>	54.	Mimosaceae	<i>Acacia nilotica</i>
3.	Apocynaceae	<i>Holarrhena antidysenterica</i>	55.	Mimosaceae	<i>Albezia lebbek</i>
4.	Apocynaceae	<i>Kopsia fruticosa</i>	56.	Mimosaceae	<i>Calliandra haematocephala</i>
5.	Apocynaceae	<i>Nerium oleander</i>	57.	Mimosaceae	<i>Leucaena leucocephala</i>
6.	Apocynaceae	<i>Plumeria alba</i>	58.	Mimosaceae	<i>Pithecellobium dulce</i>
7.	Apocynaceae	<i>Plumeria rubra</i>	59.	Mimosaceae	<i>Samanea saman</i>
8.	Apocynaceae	<i>Tabernaemontana divaricata</i>	60.	Moraceae	<i>Artocarpus heterophyllus</i>
9.	Apocynaceae	<i>Thevetia peruviana</i>	61.	Moraceae	<i>Artocarpus lakoocha</i>
10.	Asclepiadaceae	<i>Calotropis gigantea</i>	62.	Moraceae	<i>Ficus benghalensis</i>
11.	Bignoniaceae	<i>Millingtonia hortensis</i>	63.	Moraceae	<i>Ficus benjamina</i>
12.	Bignoniaceae	<i>Spathodea campanulata</i>	64.	Moraceae	<i>Ficus elastica</i>
13.	Bignoniaceae	<i>Tabebuia pallida</i>	65.	Moraceae	<i>Ficus glomerata</i>
14.	Bombacaceae	<i>Bombax ceiba</i>	66.	Moraceae	<i>Ficus hispida</i>
15.	Bombacaceae	<i>Ceiba pentandra</i>	67.	Moraceae	<i>Ficus lucescens</i>
16.	Caesalpiniaceae	<i>Bauhinia variegata</i>	68.	Moraceae	<i>Ficus religiosa</i>
17.	Caesalpiniaceae	<i>Brownea coccinea</i>	69.	Moraceae	<i>Ficus rumphii</i>
18.	Caesalpiniaceae	<i>Caesalpinia pulcherrima</i>	70.	Musaceae	<i>Ravenala madagascariensis</i>
19.	Caesalpiniaceae	<i>C. pulcherrima</i> var. <i>flava</i>	71.	Myrtaceae	<i>Callistemon citrinus</i>
20.	Caesalpiniaceae	<i>Cassia alata</i>	72.	Myrtaceae	<i>Eucalyptus citriodora</i>
21.	Caesalpiniaceae	<i>Cassia fistula</i>	73.	Myrtaceae	<i>Syzygium cuminii</i>
22.	Caesalpiniaceae	<i>Delonix regia</i>	74.	Myrtaceae	<i>Syzygium fruticosum</i>
23.	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	75.	Nyctaginaceae	<i>Bougainvillea</i> Magenta Queen
24.	Caesalpiniaceae	<i>Saraca asoca</i>	76.	Nyctaginaceae	<i>Bougainvillea</i> Mahara
25.	Caesalpiniaceae	<i>Tamarindus indica</i>	77.	Nyctanthaceae	<i>Nyctanthes arbor-tristis</i>
26.	Cannaceae	<i>Canna indica</i>	78.	Palmae	<i>Chrysalidocarpus lutescens</i>

II-J (i) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
27.	Casurinaceae	<i>Casurina equisetifolia</i>	79.	Palmae	<i>Elaeis guinensis</i>
28.	Combretaceae	<i>Terminalia arjuna</i>	80.	Palmae	<i>Roystonea regia</i>
29.	Combretaceae	<i>Terminalia catappa</i>	81.	Punicaceae	<i>Punica granatum</i>
30.	Euphorbiaceae	<i>Acalypha hispida</i>	82.	Rhamnaceae	<i>Ziziphus mauritiana</i>
31.	Euphorbiaceae	<i>Cicca acida</i>	83.	Rubiaceae	<i>Anthocephalus cadamba</i>
32.	Euphorbiaceae	<i>Euphorbia leucocephala</i>	84.	Rubiaceae	<i>Gardenia jasminoides</i>
33.	Euphorbiaceae	<i>Euphorbia pulcherrima</i>	85.	Rubiaceae	<i>Hamelia patens</i>
34.	Euphorbiaceae	<i>Jatropha integerrima</i>	86.	Rubiaceae	<i>Ixora singaporensis</i>
35.	Euphorbiaceae	<i>Jatropha podagrica</i>	87.	Rubiaceae	<i>Mussaenda frondosa</i>
36.	Euphorbiaceae	<i>Putranjiva roxburghii</i>	88.	Rubiaceae	<i>Mussaenda philippica</i>
37.	Euphorbiaceae	<i>Trewia nudiflora</i>	89.	Rutaceae	<i>Aegle marmelos</i>
38.	Fabaceae	<i>Adenantha pavonina</i>	90.	Rutaceae	<i>Ravenia spectabilis</i>
39.	Fabaceae	<i>Butea monosperma</i>	91.	Sapotaceae	<i>Madhuca indica</i>
40.	Fabaceae	<i>Dalbergia sissoo</i>	92.	Sapotaceae	<i>Mimusops elengi</i>
41.	Fabaceae	<i>Milletia peguensis</i>	93.	Simarubaceae	<i>Ailanthus excelsa</i>
42.	Fabaceae	<i>Pongamia pinnata</i>	94.	Solanaceae	<i>Cestrum diurnum</i>
43.	Lecythidaceae	<i>Couroupita guianensis</i>	95.	Solanaceae	<i>Cestrum nocturnum</i>
44.	Lythraceae	<i>Lagerstroemia indica</i>	96.	Sterculiaceae	<i>Kleinhovia hospita</i>
45.	Lythraceae	<i>Lagerstroemia speciosa</i>	97.	Sterculiaceae	<i>Pterospermum acerifolium</i>
46.	Lythraceae	<i>Lagerstroemia thorelii</i>	98.	Sterculiaceae	<i>Sterculia foetida</i>
47.	Magnoliaceae	<i>Michelia champaca</i>	99.	Tilliaceae	<i>Grewia asiatica</i>
48.	Malvaceae	<i>Malvaviscus aboreus</i>	100.	Verbenaceae	<i>Duranta repens</i>
49.	Malvaceae	<i>Thespesia populnea</i>	101.	Verbenaceae	<i>Gmelina philippensis</i>
50.	Meliaceae	<i>Azadirachta indica</i>	102.	Verbenaceae	<i>Lantana camara</i>
51.	Meliaceae	<i>Swietenia macrophylla</i>	103.	Verbenaceae	<i>Vitex negundo</i>
52.	Meliaceae	<i>Swietenia mahogoni</i>			

II-J (ii) : Raj Bhavan.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
001	Acanthaceae	<i>Barleria prionitis</i>	138.	Magnoliaceae	<i>Michelia champaca alba</i>
002	Acanthaceae	<i>Beloporne amheratae</i>	139.	Malpighiaceae	<i>Hiptage benghalensis</i>
003	Acanthaceae	<i>Eranthemum bicolor</i>	140.	Malpighiaceae	<i>Malpighia coccigera</i>
004	Acanthaceae	<i>Eranthemum rosea</i>	141.	Malpighiaceae	<i>Malpighia glabra</i>
005	Acanthaceae	<i>Ruellia tuberosa</i>	142.	Malvaceae	<i>Hibiscus rosa-sinensis</i>
006	Acanthaceae	<i>Thunbergia erecta</i>	143.	Malvaceae	<i>Thespesia populnea</i>
007	Acanthaceae	<i>Thunbergia grandiflora</i>	144.	Meliaceae	<i>Aphanamixis polystachya</i>
008	Acanthaceae	<i>Petrea arborea</i>	145.	Meliaceae	<i>Azadirachta indica</i>
009	Amaranthaceae	<i>Am̄aranthus spinosus</i>	146.	Meliaceae	<i>Sweitenia mahagoni</i>
010	Amaryllidaceae	<i>Furcrea striata</i>	147.	Meliaceae	<i>Swietenia macrophylla</i>
011	Anacardiaceae	<i>Mangifera indica</i>	148.	Mimosaceae	<i>Acacia auriculaeformis</i>
012	Annonaceae	<i>Annona squarrosa</i>	149.	Mimosaceae	<i>Acacia mangium</i>
013	Annonaceae	<i>Artabotrys hexapetalus</i>	150.	Mimosaceae	<i>Adenantha pavonina</i>
014	Annonaceae	<i>Polyalthia longifolia</i>	151.	Mimosaceae	<i>Calliandra brevipes</i>
015	Annonaceae	<i>Polyalthia longifolia v. pendulum</i>	152.	Mimosaceae	<i>Calliandra haematocephala</i>
016	Apocynaceae	<i>Adenium obesum</i>	153.	Mimosaceae	<i>Calliandra houstonii</i>
017	Apocynaceae	<i>Allemanda neriifolia</i>	154.	Mimosaceae	<i>Leucaena leucocephala</i>
018	Apocynaceae	<i>Alstonia scholaris</i>	155.	Mimosaceae	<i>Pithecellobium dulce</i>
019	Apocynaceae	<i>Carissa carandas</i>	156.	Mimosaceae	<i>Samanea saman</i>
020	Apocynaceae	<i>Catharanthus roseus</i>	157.	Moraceae	<i>Artocarpus altitis</i>
021	Apocynaceae	<i>Chonemorpha fragrans</i>	158.	Moraceae	<i>Artocarpus heterophyllus</i>
022	Apocynaceae	<i>Ervatamia dichotoma</i>	159.	Moraceae	<i>Artocarpus lakoocha</i>
023	Apocynaceae	<i>Ervatamia divaricata</i>	160.	Moraceae	<i>Ficus beng(h)alensis</i>

II-J (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
024	Apocynaceae	<i>Holarrhena antidysenterica</i>	161.	Moraceae	<i>Ficus benjamina</i>
025	Apocynaceae	<i>Kopsia fruticosa</i>	162.	Moraceae	<i>Ficus elastica</i>
026	Apocynaceae	<i>Nerium oleander</i>	163.	Moraceae	<i>Ficus elastica belgica</i>
027	Apocynaceae	<i>Plumeria alba</i>	164.	Moraceae	<i>Ficus elastica rubra</i>
028	Apocynaceae	<i>Thevetia peruviana</i>	165.	Moraceae	<i>Ficus hispida</i>
029	Apocynaceae	<i>Wrightia coccinea</i>	166.	Moraceae	<i>Ficus lucescens</i>
030	Araceae	<i>Monostera deliciosa</i>	167.	Moraceae	<i>Ficus religiosa</i>
031	Araceae	<i>Scindapsus aurea</i>	168.	Moraceae	<i>Ficus retusa</i>
032	Araceae	<i>Typhonium trilobatum</i>	169.	Moraceae	<i>Ficus rumphii</i>
033	Araucariaceae	<i>Araucaria columnaris</i>	170.	Moraceae	<i>Morus alba</i>
034	Averrhoaceae	<i>Averrhoa carambola</i>	171.	Moringaceae	<i>Moringa oleifera</i>
035	Bignoniaceae	<i>Bignonia megapotamia</i>	172.	Musaceae	<i>Heliconia humilis</i>
036	Bignoniaceae	<i>Jacaranda acutifolia</i>	173.	Musaceae	<i>Heliconia psittacorum</i>
037	Bignoniaceae	<i>Jacaranda mimusifolia</i>	174.	Musaceae	<i>Heliconia rostrata</i>
038	Bignoniaceae	<i>Millingtonia hortensis</i>	175.	Myrsinaceae	<i>Ardisia solanacea</i>
039	Bignoniaceae	<i>Spathodea campanulata</i>	176.	Myrtaceae	<i>Callistemon lanceolatus</i>
040	Bignoniaceae	<i>Tabebuia pentaphyllum</i>	177.	Myrtaceae	<i>Psidium guajava</i>
041	Bignoniaceae	<i>Tecoma gaudicaudi</i>	178.	Myrtaceae	<i>Syzygium cumminii</i>
042	Bombacaceae	<i>Adansonia digitata</i> *	179.	Myrtaceae	<i>Syzygium jambos</i>
043	Bombacaceae	<i>Bombax ceiba</i>	180.	Myrtaceae	<i>Syzygium javanica</i> var. <i>rosea</i>
044	Bombacaceae	<i>Ceiba pentandra</i>	181.	Myrtaceae	<i>Syzygium javanica</i> var. <i>alba</i>
045	Bombacaceae	<i>Durio zibethinus</i> *	182.	Myrtaceae	<i>Syzygium samarangense</i>
046	Boraginaceae	<i>Cordia sebestena</i>	183.	Nyctaginaceae	<i>Bougainvillea</i> spp.

II-J (ii) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
047	Caesalpiniaceae	<i>Bauhinia acuminata</i>	184.	Nymphaeaceae	<i>Nymphaea nouchali</i>
048	Caesalpiniaceae	<i>Bauhinia purpurea</i>	185.	Ochnaceae	<i>Ochna pumila</i>
049	Caesalpiniaceae	<i>Bauhinia variegata</i>	186.	Oleaceae	<i>Jasminum pubescens</i>
050	Caesalpiniaceae	<i>Brownea coccinea</i>	187.	Oleaceae	<i>Jasminum sambac</i>
051	Caesalpiniaceae	<i>Caesalpinia cacalaco</i>	188.	Oleaceae	<i>Nyctanthes arbor-tristis</i>
052	Caesalpiniaceae	<i>Caesalpinia pulcherrima</i>	189.	Oxalidaceae	<i>Oxalis corniculata</i>
053	Caesalpiniaceae	<i>Caesalpinia pulcherama</i> var. <i>flava</i>	190.	Palmae	<i>Borassus flabellifer</i>
054	Caesalpiniaceae	<i>Cassia bicapsularis</i>	191.	Palmae	<i>Caryota urens</i>
055	Caesalpiniaceae	<i>Cassia fistula</i>	192.	Palmae	<i>Chrysalidocarpus lutescens</i>
056	Caesalpiniaceae	<i>Cassia nodosa</i>	193.	Palmae	<i>Cocos nucifera</i>
057	Caesalpiniaceae	<i>Cassia renigera</i>	194.	Palmae	<i>Elaeis guineensis</i>
058	Caesalpiniaceae	<i>Cassia siamea</i>	195.	Palmae	<i>Kentia macarthurii</i>
059	Caesalpiniaceae	<i>Cassia surattensis</i>	196.	Palmae	<i>Licuala spinosa</i>
060	Caesalpiniaceae	<i>Delonix elata</i>	197.	Palmae	<i>Livistona chinensis</i>
061	Caesalpiniaceae	<i>Delonix lutea</i>	198.	Palmae	<i>Livistonia rotundifolia</i>
062	Caesalpiniaceae	<i>Delonix regia</i>	199.	Palmae	<i>Martinezia caryolaefolia</i>
063	Caesalpiniaceae	<i>Peltophorum pterocarpum</i>	200.	Palmae	<i>Mascarnea (hyphorbe) lageniculis</i>
064	Caesalpiniaceae	<i>Saraca asoca</i>	201.	Palmae	<i>Nipa fruticans</i>
065	Caesalpiniaceae	<i>Saraca thapingensis</i>	202.	Palmae	<i>Phoenix roebelenii</i>
066	Caesalpiniaceae	<i>Tamarindus indica</i>	203.	Palmae	<i>Pitchardia dactylifera</i>
067	Caesalpiniaceae	<i>Colvillea recemosa</i>	204.	Palmae	<i>Pitchardia grandis</i>
068	Caprifoliaceae	<i>Sambucus nigra</i>	205.	Palmae	<i>Raphis humilis</i>
069	Casuarinaceae	<i>Casuarina equisetifolia</i>	206.	Palmae	<i>Roystonea regia</i>

II-J (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
070	Cleomaceae	<i>Cleome rutidosperma</i>	207.	Pandanaceae	<i>Pandanus odoratissimus</i>
071	Cochlospermaceae	<i>Cochlospermum religiosum</i>	208.	Papilionaceae	<i>Brya ebenus</i>
072	Combretaceae	<i>Terminalia arjuna</i>	209.	Papilionaceae	<i>Butea monosperma</i>
073	Combretaceae	<i>Terminalia catappa</i>	210.	Papilionaceae	<i>Dalbergia latifolia</i>
074	Combretaceae	<i>Quisqualis indica</i>	211.	Papilionaceae	<i>Dalbergia sissoo</i>
075	Commelinaceae	<i>Commelina benghalensis</i>	212.	Papilionaceae	<i>Gliricida sepium</i>
076	Compositae	<i>Ageratum conyzoides</i>	213.	Papilionaceae	<i>Pongamia pinnata</i>
077	Compositae	<i>Eclipta alba</i>	214.	Pinaceae	<i>Juniparus chinensis</i>
078	Compositae	<i>Parthenium hysterophorus</i>	215.	Pinaceae	<i>Pinus roxburghii</i>
079	Compositae	<i>Veronia elaeagnifolia</i>	216.	Piperaceae	<i>Piper nigrum</i>
080	Compositae	<i>Wedelia chinensis</i>	217.	Podocarpaceae	<i>Podocarpus elongatus</i>
081	Convolvulaceae	<i>Evolvulus nummularius</i>	218.	Podocarpaceae	<i>Podocarpus gracillior</i>
082	Cucurbitaceae	<i>Coccinia grandis</i>	219.	Polygonaceae	<i>Antigonon leptopus</i>
083	Cupressaceae	<i>Thuja orientalis</i>	220.	Portulacaceae	<i>Portulaca oleracea</i>
084	Cycadaceae	<i>Cycas circinalis</i>	221.	Proteaceae	<i>Grevillea robusta</i>
085	Cycadaceae	<i>Cycas revolute</i>	222.	Punicaceae	<i>Punica granatum</i>
086	Cyperaceae	<i>Cyperus alternifolius</i>	223.	Rosaceae	<i>Malus pumila</i>
087	Dilleniaceae	<i>Dillenia indica</i>	224.	Rubiaceae	<i>Anthocephalus cadamba</i>
088	Ebenaceae	<i>Diospyros discolor</i>	225.	Rubiaceae	<i>Gardenia florida</i>
089	Ebenaceae	<i>Diospyros peregrina</i>	226.	Rubiaceae	<i>Gardenia kirkii</i>
090	Euphorbiaceae	<i>Acalypha hispida</i>	227.	Rubiaceae	<i>Hamelia patens</i>
091	Euphorbiaceae	<i>Acalypha macrophylla</i>	228.	Rubiaceae	<i>Ixora parviflora</i>
092	Euphorbiaceae	<i>Croton spp.</i>	229.	Rubiaceae	<i>Ixora spp.</i>

II-J (ii) : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
093	Euphorbiaceae	<i>Emblica officinalis</i>	230.	Rubiaceae	<i>Morinda citrifolia</i>
094	Euphorbiaceae	<i>Euphorbia cotinifolia</i>	231.	Rubiaceae	<i>Morinda tinctoria</i>
095	Euphorbiaceae	<i>Euphorbia heterophylla</i>	232.	Rubiaceae	<i>Mussaenda erythophylla</i>
096	Euphorbiaceae	<i>Euphorbia hirta</i>	233.	Rubiaceae	<i>Mussaenda phillipica</i>
097	Euphorbiaceae	<i>Euphorbia splendens</i>	234.	Rubiaceae	<i>Pentas alba</i>
098	Euphorbiaceae	<i>Euphorbia longan</i>	235.	Rubiaceae	<i>Pentas rosea</i>
099	Euphorbiaceae	<i>Excoecaria bicolor</i>	236.	Rutaceae	<i>Aegle marmelos</i>
100	Euphorbiaceae	<i>Jatropha panduarefolia</i>	237.	Rutaceae	<i>Citrus aurantifolia</i>
101	Euphorbiaceae	<i>Jatropha podagria</i>	238.	Rutaceae	<i>Citrus jambhiri</i>
102	Euphorbiaceae	<i>Pedilanthus spp.</i>	239.	Rutaceae	<i>Citrus japonica</i>
103	Euphorbiaceae	<i>Phyllanthus fraternus</i>	240.	Rutaceae	<i>Citrus maxima</i>
104	Euphorbiaceae	<i>Phyllanthus nivosus</i>	241.	Rutaceae	<i>Citrus sinensis</i>
105	Euphorbiaceae	<i>Poinsettia pulcherrima</i>	242.	Rutaceae	<i>Evodia splendens</i>
106	Euphorbiaceae	<i>Putranjiva roxburghii</i>	243.	Rutaceae	<i>Lemonia spectabilis</i>
107	Euphorbiaceae	<i>Tragia involucrata</i>	244.	Rutaceae	<i>Murraya koenigii</i>
108	Fabaceae	<i>Brya ebenus</i>	245.	Rutaceae	<i>Murraya paniculata</i>
109	Fabaceae	<i>Erythrina blakei</i>	246.	Sapindaceae	<i>Euphorbia longan</i>
110	Fabaceae	<i>Erythrina variegata</i>	247.	Sapindaceae	<i>Filicium decipiens</i>
111	Fabaceae	<i>Milletia ovalifolia</i>	248.	Sapindaceae	<i>Litchi chinensis</i>
112	Fabaceae	<i>Pterocarpus santalinus</i>	249.	Sapotaceae	<i>Achras zapota</i>
113	Gramineae	<i>Bambusa ventricosa</i>	250.	Sapotaceae	<i>Madhuca indica</i>
114	Gramineae	<i>Bambusa vulgaris</i>	251.	Sapotaceae	<i>Mimusops elengi</i>
115	Gramineae	<i>Dendrocalamus giganteus</i>	252.	Simaroubaceae	<i>Quassia amara</i>

II-J (ii) : *Cont'd.*

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
116	Guttiferae	<i>Calophyllum inophyllum</i>	253.	Solanaceae	<i>Brunfelsia americana</i>
117	Guttiferae	<i>Garcinia mangostana</i> *	254.	Solanaceae	<i>Brunfelsia hopeana</i>
118	Labiatae	<i>Leonurus sibiricus</i>	255.	Solanaceae	<i>Nicotiana plumbaginifolia</i>
119	Labiatae	<i>Leucas lavandulaefolia</i>	256.	Solanaceae	<i>Solanum nigrum</i>
120	Lauraceae	<i>Cinnamomum camphora</i>	257.	Solanaceae	<i>Cestrum nocturnum</i>
121	Lauraceae	<i>Cinnamomum tamala</i>	258.	Sterculiaceae	<i>Dombeya caryenxii</i>
122	Lauraceae	<i>Cinnamomum zeylanicum</i>	259.	Sterculiaceae	<i>Kleinhovia hospita</i>
123	Lauraceae	<i>Litsea glutinosa</i>	260.	Sterculiaceae	<i>Pterospermum acerifolium</i>
124	Lauraceae	<i>Persea americana</i>	261.	Sterculiaceae	<i>Pterygota alata</i>
125	Lecythidaceae	<i>Couroupita guianensis</i>	262.	Ulmaceae	<i>Trema orientalis</i>
126	Lemnaceae	<i>Lemna minor</i>	263.	Verbenaceae	<i>Citharexylum quadrangulare</i>
127	Liliaceae	<i>Asparagus racemosus</i>	264.	Verbenaceae	<i>Clerodendrum nutans</i>
128	Liliaceae	<i>Pleomela reflexa variegata</i>	265.	Verbenaceae	<i>Clerodendrum splendens</i>
129	Liliaceae	<i>Beaucarnea recurvata</i>	266.	Verbenaceae	<i>Congea tomentosa</i>
130	Lythraceae	<i>Lagerstoemia indica</i>	267.	Verbenaceae	<i>Duranta repens</i>
131	Lythraceae	<i>Lagerstroemia speciosa</i>	268.	Verbenaceae	<i>Gmelina arborea</i>
132	Lythraceae	<i>Lagesrtroemia rosea</i>	269.	Verbenaceae	<i>Gmelina asiatica</i>
133	Lythraceae	<i>Lagesrtroemia thorellii</i>	270.	Verbenaceae	<i>Lantana depressa</i>
134	Lythraceae	<i>Lawsonia inermis</i>	271.	Verbenaceae	<i>Lantana montevidensis</i>
135	Magnoliaceae	<i>Magnolia grandiflora</i>	272.	Verbenaceae	<i>Lantana sanguinea</i>
136	Magnoliaceae	<i>Magnolia pterocarpa</i>	273.	Zingiberaceae	<i>Hedychinum coronarium</i>
137	Magnoliaceae	<i>Michelia champaca</i>	274.	Zygophyllaceae	<i>Guaiacum officinale</i>

* In the nursery

II-K : Rabindra Sarovar.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
01	Acanthaceae	<i>Dipteracanthus prostratus</i>	58	Fabaceae	<i>Colvillea racemosa</i>
02	Acanthaceae	<i>Ruellia tuberosa</i>	59	Fabaceae	<i>Dalbergia assamica</i>
03	Amaranthaceae	<i>Achyranthes aspera</i>	60	Fabaceae	<i>Dalbergia sissoo</i>
04	Amaranthaceae	<i>Alternanthera philoxeroides</i>	61	Fabaceae	<i>Gliricidia sepium</i>
05	Amaranthaceae	<i>Alternanthera sessilis</i>	62	Fabaceae	<i>Milletia peguensis</i>
06	Amaranthaceae	<i>Amaranthus spinosus</i>	63	Fabaceae	<i>Pongamia pinnata</i>
07	Amaranthaceae	<i>Amaranthus viridi</i>	64	Fabaceae	<i>Pterocarpus marsupium</i>
08	Anacardaceae	<i>Mangifera indica</i>	65	Lamiaceae	<i>Anisomeles indica</i>
09	Anonnaceae	<i>Polyalthia longifolia</i>	66	Lamiaceae	<i>Leonurus sibiricus</i>
10	Apocynaceae	<i>Alstonia scholaris</i>	67	Lecythidaceae	<i>Couropita guianensis</i>
11	Apocynaceae	<i>Rauvolfia tetraphylla</i>	68	Lythraceae	<i>Lagerstroemia speciosa</i>
12	Araceae	<i>Colocasia esculanta</i>	69	Malvaceae	<i>Abutilon indicum</i>
13	Araceae	<i>Pistia stratiotes</i>	70	Malvaceae	<i>Sida rhombifolia</i>
14	Asteraceae	<i>Eclipta prostrata</i>	71	Malvaceae	<i>Thespesia populnea</i>
15	Asteraceae	<i>Mikania cordata</i>	72	Meliaceae	<i>Melia azadarach</i>
16	Asteraceae	<i>Parthenium hysterophorus</i>	73	Meliaceae	<i>Swietenia mahagoni</i>
17	Asteraceae	<i>Vernon cinerea</i>	74	Mimosaceae	<i>Acacia auriculaeformis</i>
18	Asteraceae	<i>Wedelia chinensis</i>	75	Mimosaceae	<i>Acacia catechu</i>
19	Asteraceae	<i>Xanthium strumarium</i>	76	Mimosaceae	<i>Albizia lebbek</i>
20	Barringtoniaceae	<i>Barringtonia acutangula</i>	77	Mimosaceae	<i>Leucaena leucocephala</i>
21	Bignoniaceae	<i>Kigelia pinnata</i>	78	Mimosaceae	<i>Pithecellobium dulce</i>
22	Bignoniaceae	<i>Crescentia alata</i>	79	Mimosaceae	<i>Samanea saman</i>
23	Bignoniaceae	<i>Tabebuia rosea</i>	80	Moraceae	<i>Artocarpus heterophyllus</i>

II-K : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
24	Bombacaceae	<i>Adansonia digitata</i>	81	Moraceae	<i>Ficus benghalensis</i>
25	Bombacaceae	<i>Bombax ceiba</i>	82	Moraceae	<i>Ficus benjamina</i>
26	Bombacaceae	<i>Ceiba pentandra</i>	83	Moraceae	<i>Ficus glomerata</i>
27	Boraginaceae	<i>Heliotropium indicum</i>	84	Moraceae	<i>Ficus infectoria</i>
28	Caesalpinaceae	<i>Tamarindus indica</i>	85	Myrtaceae	<i>Syzygium cuminii</i>
29	Caesalpinaceae	<i>Bauhinia variegata</i>	86	Nyctaginaceae	<i>Boerhavia diffusa</i>
30	Caesalpinaceae	<i>Cassia fistula</i>	87	Onagraceae	<i>Jussiaea repens</i>
31	Caesalpinaceae	<i>Cassia sophera</i>	88	Palmae	<i>Borassus flabellifer</i>
32	Caesalpinaceae	<i>Cassia tora</i>	89	Palmae	<i>Cocos nucifera</i>
33	Caesalpinaceae	<i>Delonix regia</i>	90	Palmae	<i>Phoenix sylvestris</i>
34	Caesalpinaceae	<i>Peltophorum pterocarpum</i>	91	Palmae	<i>Roystonea regia</i>
35	Capparaceae	<i>Cleome rutidosperma</i>	92	Papaveraceae	<i>Argemone mexicana</i>
36	Casuarinaceae	<i>Casuarina equisetifolia</i>	93	Pedaliaceae	<i>Sesamum indicum</i>
37	Chenopodiaceae	<i>Chenopodium album</i>	94	Poaceae	<i>Eragrostis tenella</i>
38	Clusiaceae	<i>Calophyllum inophyllum</i>	95	Pontederiaceae	<i>Eichhornia crassipes</i>
39	Combretaceae	<i>Terminalia arjuna</i>	96	Portulacaceae	<i>Portulaca oleracea</i>
40	Combretaceae	<i>Terminalia catappa</i>	97	Rubiaceae	<i>Anthocephalus cadamba</i>
41	Compositae	<i>Synedrella nodiflora</i>	98	Sapotaceae	<i>Madhuca indica</i>
42	Convolvulaceae	<i>Cuscuta reflexa</i>	99	Sapotaceae	<i>Mimusops elengi</i>
43	Convolvulaceae	<i>Ipomoea obscura</i>	100	Scrophulariaceae	<i>Scoparia dulcis</i>
44	Convolvulaceae	<i>Ipomoea sepiaria</i>	101	Solanaceae	<i>Nicotiana plumbaginifolia</i>
45	Cucurbitaceae	<i>Coccinia grandis</i>	102	Solanaceae	<i>Physalis minima</i>
46	Ebenaceae	<i>Diospyros sp.</i>	103	Solanaceae	<i>Solanum nigrum</i>

II-K : Cont'd.

Sl. No.	Family Name	Scientific Name	Sl. No.	Family Name	Scientific Name
47	Euphorbiaceae	<i>Acalypha indica</i>	104	Solanaceae	<i>Solanum sisymbriifolium</i>
48	Euphorbiaceae	<i>Chrozophora rottleri</i>	105	Sterculiaceae	<i>Pterospermum acerifolium</i>
49	Euphorbiaceae	<i>Croton bonplandianum</i>	106	Sterculiaceae	<i>Pterygota alata</i>
50	Euphorbiaceae	<i>Euphorbia hirta</i>	107	Sterculiaceae	<i>Sterculia foetida</i>
51	Euphorbiaceae	<i>Kirganelia reticulata</i>	108	Ulmaceae	<i>Trema orientalis</i>
52	Euphorbiaceae	<i>Phyllanthus fraternus</i>	109	Verbenaceae	<i>Clerodendrum viscosum</i>
53	Euphorbiaceae	<i>Putranjiva roxburghii</i>	110	Verbenaceae	<i>Lantana camara</i> var. <i>aculeata</i>
54	Euphorbiaceae	<i>Trewia nodiflora</i>	111	Verbenaceae	<i>Lippia nodiflora</i>
55	Fabaceae	<i>Adenanthera pavonina</i>	112	Verbenaceae	<i>Tectona grandis</i>
56	Fabaceae	<i>Butea monosperma</i>	113	Vitaceae	<i>Cayratia trifolia</i>
57	Fabaceae	<i>Castanospermum australe</i>			

Appendix-III : General list of Butterflies recorded from Calcutta (2002 - 2005).

Family	Sl. No	Common Name*	Scientific Name*
Papilionidae	01.	Tailed Jay	<i>Graphium agamemnon</i>
	02.	Spot Swordtail	<i>Graphium nomius</i>
	03.	Common Mime	<i>Papilio clytia</i>
	04.	Lime Butterfly	<i>Papilio demoleus</i>
	05.	Common Mormon	<i>Papilio polytes</i>
	06.	Blue Mormon	<i>Papilio polymnestor</i>
	07.	Common Rose	<i>Pachliopta aristolochiae</i>
	08.	Crimson Rose	<i>Pachliopta hector</i>
	09.	Common Bluebottle	<i>Graphium sarpedon</i>
	10.	Common Jay	<i>Graphium doson</i>
	11.	Common Banded Peacock	<i>Princeps polyctor</i>
Pieridae	01.	Mottled Emigrant	<i>Catopsilia pyranthe</i>
	02.	Common Emigrant	<i>Catopsilia pomona</i>
	03.	Common Jezebel	<i>Delias eucharis</i>
	04.	Psyche	<i>Leptosia nina</i>
	05.	Indian Cabbage White	<i>Pieris canidia</i>
	06.	Common Gull	<i>Cepora nerissa</i>
	07.	Common Albatross	<i>Appias albina</i>
	08.	Common Wanderer	<i>Pareronia valeria</i>
	09.	Common Grass Yellow	<i>Eurema hecabe</i>
	10.	Spotless Grass Yellow	<i>Eurema laeta</i>
	11.	Small Grass Yellow	<i>Eurema brigitta</i>
	12.	Yellow Orange Tip	<i>Ixias pyrene</i>
	13.	Great Orange Tip	<i>Hebomoea glaucippe</i>
	14.	Striped Albatross	<i>Appias libythea</i>
	15.	Pioneer	<i>Anaphaeis aurota</i>

Appendix-III : *Cont'd*

Family	Sl. No	Common Name*	Scientific Name*
Lycaenidae	01.	Zebra Blue	<i>Leptotes plinius</i>
	02.	Common Hedge Blue	<i>Actolepis puspa</i>
	03.	Rounded Pierrot	<i>Tarucus nara</i>
	04.	Yamfly	<i>Loxura atymnus</i>
	05.	Common Acacia Blue	<i>Surendra quercetorum</i>
	06.	Common Cerulean	<i>Jamides celeno</i>
	07.	Common Silverline	<i>Spindasis vulcanus</i>
	08.	Pale Grass Blue	<i>Pseudozizeeria maha</i>
	09.	Dark Grass Blue	<i>Zizeeria karsandra</i>
	10.	Lime Blue	<i>Chilades laius</i>
	11.	Gram Blue	<i>Euchrysops cnejus</i>
	12.	Monkey Puzzle	<i>Rathinda amor</i>
	13.	Dark Cerulean	<i>Jamides bochus</i>
	14.	Tiny Grass Blue	<i>Zizula hylax</i>
	15.	Quaker	<i>Neopithecops zalmora</i>
	16.	Red Pierrot	<i>Talicerca nyseus</i>
	17.	Plains Cupid	<i>Chilades pandava</i>
	18.	Forget-me-not	<i>Catochrysops strabo</i>
	19.	Slaty Flash	<i>Rapala manae</i>
	20.	Leaf Blue	<i>Amblypodia anita</i>
	21	Pale 4-line Blue	<i>Nacaduba hermus</i>
	22.	Angled Pierrot	<i>Caleta caleta</i>

Appendix-III : Cont'd.

Family	Sl. No	Common Name*	Scientific Name*
Nymphalidae	01.	Common Bushbrown	<i>Mycanitis perseus</i>
	02.	Common Five-ring	<i>Ypthima baldus</i>
	03.	Common Four-ring	<i>Ypthima huebneri</i>
	04.	Common Three-ring	<i>Ypthima asterope</i>
	05.	Tawny Coster	<i>Acraea violae</i>
	06.	Common Palmfly	<i>Elymnias hypermenstra</i>
	07.	Common Leopard	<i>Phalanta phalantha</i>
	08.	Common Sailer	<i>Neptis hylas</i>
	09.	Commander	<i>Moduza procris</i>
	10.	Grey Pansy	<i>Junonia atlites</i>
	11.	Common Baron	<i>Euthalia aconthea</i>
	12.	Angled Castor	<i>Ariadne ariadne</i>
	13.	Common castor	<i>Ariadne merione</i>
	14.	Lemon Pansy	<i>Junonia lemonias</i>
	15.	Peacock Pansy	<i>Junonia almana</i>
	16.	Chocolate Pansy	<i>Precis iphita</i>
	17.	Danaid Eggfly	<i>Hypolimnas misippus</i>
	18.	Blue Tiger	<i>Tirumala limniace</i>
	19.	Striped Tiger	<i>Danaus genutia</i>
	20.	Plain Tiger	<i>Danaus chrysippus</i>
	21.	Common Indian Crow	<i>Euploea core</i>
	22.	Common Evening Brown	<i>Mycanitis leda</i>
	23.	Great Eggfly	<i>Hypolimnas bolina</i>
	24.	Painted Lady	<i>Cynthia cardui</i>
	25.	Blue Pansy	<i>Junonia orithya</i>
	26.	Small Leopard	<i>Phalanta alcippe</i>

Appendix-III : Cont'd.

Family	Sl. No	Common Name*	Scientific Name*
Hesperiidae	01.	Common Small Flat	<i>Sarangesa dasahara</i>
	02.	Indian Palm Bob	<i>Suastus gremius</i>
	03.	Common Banded Awl	<i>Hasora chromus</i>
	04.	Grass Demon	<i>Udaspes folus</i>
	05.	Indian Skipper	<i>Spialia galba</i>
	06.	Brown Awl	<i>Badamia exclamationis</i>
	07.	Dark Palm Dart	<i>Telicota ancilla</i>
	08.	Common Red Eye	<i>Matapa aria</i>
	09.	Chestnut Bob	<i>Iambrix salsala</i>
	10.	Rice Swift	<i>Borbo cinnara</i>
	11.	Tree Flitter	<i>Hyarostis adarastus</i>

*The classification is per Ackery (1986). The common and scientific names are adopted from Haribal (1992) and Kunte (2000).

Appendix-IV : Seasonal occurrence of Butterflies during three years of study.

Family	Sl. No.	Common Name*	2002-2003				2003-2004				2004-2005			
			1	2	3	4	1	2	3	4	1	2	3	4
Papilionidae	01.	Tailed Jay	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	02.	Spot Swordtail	✓											
	03.	Common Mime					✓	✓	✓	✓	✓	✓		
	04.	Lime Butterfly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	05.	Common Mormon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	06.	Blue Mormon			✓	✓		✓	✓	✓	✓		✓	✓
	07.	Common Rose							✓			✓	✓	
	08.	Crimson Rose			✓		✓	✓	✓	✓	✓			
	09.	Common Bluebottle					✓	✓	✓	✓	✓			
	10.	Common Jay	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓
	11.	Common Banded Peacock								✓				
Pieridae	01.	Mottled Emigrant	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
	02.	Common Emigrant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
	03.	Common Jezebel	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
	04.	Psyche	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	05.	Indian Cabbage White			✓		✓	✓	✓	✓	✓			
	06.	Common Gull	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	07.	Common Albatross						✓	✓	✓		✓		
	08.	Common Wanderer	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	09.	Common Grass Yellow	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	10.	Spotless Grass Yellow			✓									
	11.	Small Grass Yellow										✓		
	12.	Yellow Orange Tip	✓				✓				✓	✓		
	13.	Great Orange Tip	✓											
	14.	Striped Albatross			✓									
	15.	Pioneer									✓			

Appendix-IV : *Cont'd*

Family	Sl. No.	Common Name*	2002-2003				2003-2004				2004-2005			
			1	2	3	4	1	2	3	4	1	2	3	4
Lycaenidae	01.	Zebra Blue		✓				✓						
	02.	Common Hedge Blue	✓		✓		✓	✓	✓	✓	✓			
	03.	Rounded Pierrot			✓		✓	✓	✓	✓	✓		✓	
	04.	Yamfly	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
	05.	Common Acacia Blue								✓	✓			
	06.	Common Cerulean	✓						✓	✓			✓	
	07.	Common Silverline						✓	✓	✓		✓		
	08.	Pale Grass Blue						✓				✓	✓	
	09.	Dark Grass Blue										✓	✓	
	10.	Lime Blue										✓	✓	
	11.	Gram Blue	✓		✓			✓						
	12.	Monkey Puzzle						✓	✓			✓	✓	✓
	13.	Dark Cerulean					✓		✓					
	14.	Tiny Grass Blue								✓	✓	✓	✓	✓
	15.	Quaker										✓	✓	✓
	16.	Red Pierrot												✓
	17.	Plains Cupid										✓		
	18.	Forget-me not										✓		✓
	19.	Slaty Flash							✓	✓	✓			✓
	20.	Leaf Blue						✓						
	21.	Pale 4-line Blue												✓
	22.	Angled Pierrot									✓			

Appendix-IV : *Cont'd*

Family	Sl. No.	Common Name*	2002-2003				2003-2004				2004-2005			
			1	2	3	4	1	2	3	4	1	2	3	4
Nymphalidae	01.	Common Bushbrown	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	02.	Common Five-ring			✓			✓	✓	✓		✓		✓
	03.	Common Four-ring	✓		✓	✓		✓	✓	✓		✓		
	04.	Common Three ring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	05.	Tawny Coster	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	06.	Common Palmfly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	07.	Common Leopard			✓			✓			✓	✓	✓	
	08.	Common Sailer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	09.	Commander	✓					✓	✓				✓	
	10.	Grey Pansy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	11.	Common Baron	✓	✓		✓	✓	✓	✓	✓	✓		✓	
	12.	Angled Castor			✓			✓	✓	✓	✓	✓		
	13.	Common castor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	14.	Lemon Pansy					✓	✓	✓	✓	✓		✓	
	15.	Peacock Pansy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	16.	Chocolate Pansy						✓						
	17.	Danaid Eggfly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	18.	Blue Tiger	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	19.	Striped Tiger	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	20.	Plain Tiger	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	21.	Common Indian Crow	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	22.	Common Evening Brown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	23.	Great Eggfly			✓	✓		✓	✓	✓	✓	✓	✓	✓
	24.	Painted Lady					✓							
	25.	Blue Pansy					✓							
	26.	Small Leopard			✓									

Appendix-IV : Cont'd.

Family	Sl. No.	Common Name*	2002-2003				2003-2004				2004-2005			
			1	2	3	4	1	2	3	4	1	2	3	4
Hesperiidae	01.	Common Small Flat			✓								✓	✓
	02.	Indian Palm Bob						✓			✓	✓		
	03.	Common Banded Awl						✓		✓				
	04.	Grass Demon						✓	✓		✓		✓	
	05.	Indian Skipper	✓		✓				✓			✓		
	06.	Brown Awl							✓			✓		
	07.	Dark Palm Dart						✓				✓	✓	
	08.	Common Red Eye										✓		
	09.	Chestnut Bob									✓	✓		
	10.	Rice Swift									✓	✓	✓	✓
	11.	Tree Flitter			✓			✓				✓	✓	

1. Summer (March–June 15); 2. Monsoon (Middle of June–September); 3. Postmonsoon (October & November); 4. Winter (December–February).

* The common and scientific names are adopted from Haribal (1992), Kunte(2000) and Kehimker (2008).

Appendix-V : Birds of Urban Calcutta seen during last three years.

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
1	Little Grebe	<i>Tachybaptus ruficollis</i>	(Pallas, 1764)
2	Great Crested Grebe	<i>Podiceps cristatus</i>	(Linnaeus, 1758)
3	Little Cormorant	<i>Phalacrocorax niger</i>	(Vieillot, 1817)
4	Indian Shag	<i>Phalacrocorax fuscicollis</i>	Stephens, 1826
5	Great Cormorant	<i>Phalacrocorax carbo</i>	(Linnaeus, 1758)
6	Darter	<i>Anhinga melanogaster</i>	Pennant, 1769
7	Little Egret	<i>Egretta garzetta</i>	(Linnaeus, 1766)
8	Grey Heron	<i>Ardea cinerea</i>	Linnaeus, 1758
9	Purple Heron	<i>Ardea purpurea</i>	Linnaeus, 1766
10	Large Egret	<i>Casmerodius albus</i>	(Linnaeus, 1758)
11	Median Egret	<i>Mesophoyx intermedia</i>	(Wagler, 1829)
12	Cattle Egret	<i>Bubulcus ibis</i>	(Linnaeus, 1758)
13	Indian Pond Heron	<i>Ardeola grayii</i>	(Sykes, 1832)
14	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	(Linnaeus, 1758)
15	Yellow Bittern	<i>Ixobrychus sinensis</i>	(Gmelin, 1789)
16	Chestnut Bittern	<i>Ixobrychus cinnamomeus</i>	(Gmelin, 1789)
17	Black Bittern	<i>Dupetor flavicollis</i>	(Latham, 1790)
18	Painted Stork	<i>Mycteria leucocephala</i>	(Pennant, 1769)
19	Asian Openbill-Stork	<i>Anastomus oscitans</i>	(Boddaert, 1783)
20	Large Whistling Teal	<i>Dendrocygna bicolor</i>	(Vieillot, 1816)
21	Lesser Whistling Teal	<i>Dendrocygna javanica</i>	(Horsfield, 1821)
22	Common Shelduck	<i>Tadorna tadorna</i>	(Linnaeus, 1758)
23	Cotton Teal	<i>Nettapus coromandelianus</i>	(Gmelin, 1789)

Appendix-Y : Cont'd.,

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
24	Gadwall	<i>Anas strepera</i>	Linnaeus, 1758
25	Eurasian Wigeon	<i>Anas penelope</i>	Linnaeus, 1758
26	Northern Shoveller	<i>Anas clypeata</i>	Linnaeus, 1758
27	Northern Pintail	<i>Anas acuta</i>	Linnaeus, 1758
28	Garganey	<i>Anas querquedula</i>	Linnaeus, 1758
29	Common Teal	<i>Anas crecca</i>	Linnaeus, 1758
30	Common Pochard	<i>Aythya ferina</i>	(Linnaeus, 1758)
31	Ferruginous Pochard	<i>Aythya nyroca</i>	(Guldenstadt, 1770)
32	Tufted Pochard	<i>Aythya fuligula</i>	(Linnaeus, 1758)
33	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	(Temminck, 1821)
34	Black-shouldered Kite	<i>Elanus caeruleus</i>	(Desfontaines, 1789)
35	Black Kite	<i>Milvus migrans govinda</i>	Sykes, 1832
36	Black Kite	<i>Milvus migrans lineatus</i>	(Gray, 1831)
37	Brahminy Kite	<i>Haliastur indus</i>	(Boddaert, 1783)
38	Pallas's Fish-Eagle	<i>Haliaeetus leucoryphus</i>	(Pallas, 1771)
39	Indian White-backed Vulture	<i>Gyps bengalensis</i>	(Gmelin, 1788)
40	Long-billed Vulture	<i>Gyps indicus</i>	(Scopoli, 1786)
41	Crested Serpent Eagle	<i>Spilornis cheela</i>	(Latham, 1790)
42	Western Marsh-Harrier	<i>Circus aeruginosus</i>	(Linnaeus, 1758)
43	Pied Harrier	<i>Circus melanoleucos</i>	(Pennant, 1769)
44	Shikra	<i>Accipiter badius</i>	(Gmelin, 1788)
45	White-eyed Buzzard	<i>Butastur teesa</i>	(Franklin, 1832)
46	Booted Eagle	<i>Hieraaetus pennatus</i>	(Gmelin, 1788)

Appendix-V : Cont'd.

2002 - 2003 - 2004 - 2005			
Sl. No.	Common English Names*	Scientific Names	
47	Changeable Hawk-Eagle	<i>Spizaetus cirrhatus</i>	(Gmelin, 1788)
48	Osprey	<i>Pandion haliaetus</i>	(Linnaeus, 1758)
49	Common Kestrel	<i>Falco tinnunculus</i>	Linnaeus, 1758
50	Red-headed Falcon	<i>Falco chicquera</i>	Daudin, 1800
51	Common Buttonquail	<i>Turnix suscitator</i>	(Gmelin, 1789)
52	Slaty-legged Crake	<i>Rallina eurizonoides</i>	(Lafresnaye, 1845)
53	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	(Pennant, 1769)
54	Baillon's Crake	<i>Porzana pusilla</i>	(Pallas, 1776)
55	Ruddy-breasted Crake	<i>Porzana fusca</i>	(Linnaeus, 1766)
56	Watercock	<i>Gallicrex cinerea</i>	(Gmelin, 1789)
57	Purple Moorhen	<i>Porphyrio porphyrio</i>	(Linnaeus, 1758)
58	Common Moorhen	<i>Gallinula chloropus</i>	(Linnaeus, 1758)
59	Common Coot	<i>Fulica atra</i>	Linnaeus, 1758
60	Bronze-winged Jacana	<i>Metopidius indicus</i>	(Latham, 1790)
61	Greater Painted Snipe	<i>Rostratula benghalensis</i>	(Linnaeus, 1758)
62	Pacific Golden Plover	<i>Pluvialis fulva</i>	(Gmelin, 1789)
63	Common Ringed Plover	<i>Charadrius hiaticula</i>	Linnaeus, 1758
64	Little Ringed Plover	<i>Charadrius dubius</i>	Scopoli, 1786
65	Kentish Plover	<i>Charadrius alexandrinus</i>	Linnaeus, 1758
66	Grey-headed Lapwing	<i>Vanellus cinereus</i>	(Linnaeus, 1758)
67	Red-wattled Lapwing	<i>Vanellus indicus</i>	(Boddaert, 1783)
68	Pintail Snipe	<i>Gallinago stenura</i>	(Bonaparte, 1830)
69	Swinhoe's Snipe	<i>Gallinago megala</i>	Swinhoe, 1861

Appendix-V : Cont'd.

2002 - 2003 - 2004 - 2005			
Sl. No.	Common English Names*	Scientific Names	
70	Common Snipe	<i>Gallinago gallinago</i>	(Linnaeus, 1758)
71	Whimbrel	<i>Numenius phaeopus</i>	(Linnaeus, 1758)
72	Spotted Redshank	<i>Tringa erythropus</i>	(Pallas, 1764)
73	Common Redshank	<i>Tringa totanus</i>	(Linnaeus, 1758)
74	Marsh Sandpiper	<i>Tringa stagnatilis</i>	(Bechstein, 1803)
75	Common Greenshank	<i>Tringa nebularia</i>	(Gunner, 1767)
76	Green Sandpiper	<i>Tringa ochropus</i>	Linnaeus, 1758
77	Wood Sandpiper	<i>Tringa glareola</i>	Linnaeus, 1758
78	Terek Sandpiper	<i>Xenus cinereus</i>	(Guldenstadt, 1774)
79	Common Sandpiper	<i>Actitis hypoleucos</i>	Linnaeus, 1758
80	Little Stint	<i>Calidris minuta</i>	(Leisler, 1812)
81	Temminck's Stint	<i>Calidris temminckii</i>	(Leisler, 1812)
82	Curlew Sandpiper	<i>Calidris ferruginea</i>	(Pontoppidan, 1813)
83	Black-winged Stilt	<i>Himantopus himantopus</i>	(Linnaeus, 1758)
84	Pied Avocet	<i>Recurvirostra avosetta</i>	Linnaeus, 1758
85	Oriental Pratincole	<i>Glareola maldivarum</i>	J.R.Forster, 1795
86	Pallas's Gull	<i>Larus ichthyaetus</i>	Pallas, 1773
87	Brown-headed Gull	<i>Larus brunnicephalus</i>	Jerdon, 1840
88	Black-headed Gull	<i>Larus ridibundus</i>	Linnaeus, 1766
89	Whiskered Tern	<i>Chlidonias hybridus</i>	(Pallas, 1811)
90	Blue Rock Pigeon	<i>Columba livia</i>	Gmelin, 1789
91	Spotted Dove	<i>Streptopelia chinensis</i>	(Scopoli, 1786)
92	Red Collared-Dove	<i>Streptopelia tranquebarica</i>	(Hermann, 1804)

Appendix-V : Cont'd.

2002 - 2003 - 2004 - 2005			
Sl. No.	Common English Names*	Scientific Names	
93	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	(Frisvaldszky, 1838)
94	Emerald Dove	<i>Chalcophaps indica</i>	(Linnaeus, 1758)
95	Orange-breasted Green-Pigeon	<i>Treron bicincta</i>	(Jerdon, 1840)
96	Thick-billed Green-Pigeon	<i>Treron curvirostra</i>	(Gmelin, 1789)
97	Yellow-legged Green-Pigeon	<i>Treron phoenicoptera</i>	(Latham, 1790)
98	Alexandrine Parakeet	<i>Psittacula eupatria</i>	(Linnaeus, 1766)
99	Rose-ringed Parakeet	<i>Psittacula krameri</i>	(Scopoli, 1769)
100	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	(Linnaeus, 1766)
101	Red-breasted Parakeet	<i>Psittacula alexandri</i>	(Linnaeus, 1758)
102	Pied Crested Cuckoo	<i>Clamator jacobinus</i>	(Boddaert, 1786)
103	Brainfever Bird	<i>Hierococcyx varius</i>	(Vahl, 1797)
104	Indian Cuckoo	<i>Cuculus micropterus</i>	Gould, 1838
105	Common Cuckoo	<i>Cuculus canorus</i>	Linnaeus, 1758
106	Indian Plaintive Cuckoo	<i>Cacomantis passerinus</i>	(Vahl, 1797)
107	Rufous-bellied Plaintive Cuckoo	<i>Cacomantis merulinus</i>	(Scopoli, 1786)
108	Asian Koel	<i>Eudynamys scolopacea</i>	(Linnaeus, 1758)
109	Greater Coucal	<i>Centropus sinensis</i>	(Stephens, 1815)
110	Barn Owl	<i>Tyto alba</i>	(Scopoli, 1769)
111	Oriental Scops-Owl	<i>Otus sunia</i>	(Hodgson, 1836)
112	Collared Scops-Owl	<i>Otus bakkamoena</i>	Pennant, 1769
113	Brown Fish-Owl	<i>Ketupa zeylonensis</i>	(Gmelin, 1788)
114	Spotted Owlet	<i>Athene brama</i>	(Temminck, 1821)
115	Large-tailed Nightjar	<i>Caprimulgus macrurus</i>	Horsfield, 1821

Appendix-V : Cont'd.

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
116	Asian Palm-Swift	<i>Cypsiurus balasiensis</i>	(J.E.Gray, 1829)
117	House Swift	<i>Apus affinis</i>	(J.E.Gray, 1830)
118	Small Blue Kingfisher	<i>Alcedo atthis</i>	(Linnaeus, 1758)
119	Stork-billed Kingfisher	<i>Halcyon capensis</i>	(Linnaeus, 1766)
120	White-breasted Kingfisher	<i>Halcyon smyrnensis</i>	(Linnaeus, 1758)
121	Black-capped Kingfisher	<i>Halcyon pileata</i>	(Boddaert, 1783)
122	Lesser Pied Kingfisher	<i>Ceryle rudis</i>	(Linnaeus, 1758)
123	Small Bee-eater	<i>Merops orientalis</i>	Latham, 1801
124	Indian Roller	<i>Coracias benghalensis</i>	(Linnaeus, 1758)
125	Common Hoopoe	<i>Upupa epops</i>	Linnaeus, 1758
126	Lineated Barbet	<i>Megalaima lineata</i>	(Vieillot, 1816)
127	Blue-throated Barbet	<i>Megalaima asiatica</i>	(Latham, 1790)
128	Coppersmith Barbet	<i>Megalaima haemacephala</i>	(P.L.S. Müller, 1776)
129	Eurasian Wryneck	<i>Jynx torquilla</i>	Linnaeus, 1758
130	Fulvous-breasted Pied Woodpecker	<i>Dendrocopos macei</i>	(Vieillot, 1818)
131	Rufous Woodpecker	<i>Celeus brachyurus</i>	(Vieillot, 1818)
132	Little Scaly-bellied Green Woodpecker	<i>Picus xanthopygaeus</i>	(J.E.Gray & G.R.Gray, 1846)
133	Lesser Golden-backed Woodpecker	<i>Dinopium benghalense</i>	(Linnaeus, 1758)
134	Greater Golden-backed Woodpecker	<i>Chrysocolaptes lucidus</i>	(Scopoli, 1786)
135	Indian Pitta	<i>Pitta brachyura</i>	(Linnaeus, 1766)
136	Bengal Bush-Lark	<i>Mirafra assamica</i>	Horsfield, 1840
137	Ashy-crown Sparrow Lark	<i>Eremopterix grisea</i>	(Scopoli, 1786)
138	Eastern Skylark	<i>Alauda gulgula</i>	Franklin, 1831
139	Common Swallow	<i>Hirundo rustica</i>	Linnaeus, 1758

Appendix-V : Cont'd.

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
140	Common Swallow	<i>Hirundo rustica tyleri</i>	Jerdon, 1864
141	Red-rumped Swallow	<i>Hirundo daurica</i>	Linnaeus, 1771
142	Forest Wagtail	<i>Dendronanthus indicus</i>	(Gmelin, 1789)
143	White Wagtail	<i>Motacilla alba leucopsis</i>	Gould, 1838
144	White Wagtail	<i>Motacilla alba dukhunensis</i>	Sykes, 1832
145	Large Pied Wagtail	<i>Motacilla maderaspatensis</i>	Gmelin, 1789
146	Citrine Wagtail	<i>Motacilla citreola</i>	Pallas, 1776
147	Yellow Wagtail	<i>Motacilla flava beema</i>	(Sykes, 1832)
148	Yellow Wagtail	<i>Motacilla flava zaissanensis</i>	
149	Yellow Wagtail	<i>Motacilla flava thunbergi</i>	Billberg, 1828
150	Grey Wagtail	<i>Motacilla cinerea</i>	Tunstall, 1771
151	Richard's Pipit	<i>Anthus richardi</i>	Vieillot, 1818
152	Paddyfield Pipit	<i>Anthus rufulus</i>	Vieillot, 1818
153	Oriental Tree Pipit	<i>Anthus hodgsoni</i>	Richmond, 1907
154	Black-winged Cuckoo-Shrike	<i>Coracina melaschistos</i>	(Hodgson, 1836)
155	Black-headed Cuckoo-Shrike	<i>Coracina melanoptera</i>	(Rüppell, 1839)
156	Small Minivet	<i>Pericrocotus cinnamomeus</i>	(Linnaeus, 1766)
157	Common Woodshrike	<i>Tephrodornis pondicerianus</i>	(Gmelin, 1789)
158	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	(Linnaeus, 1758)
159	Red-vented Bulbul	<i>Pycnonotus cafer</i>	(Linnaeus, 1766)
160	Common Iora	<i>Aegithina tiphia</i>	(Linnaeus, 1758)
161	Brown Shrike	<i>Lanius cristatus</i>	Linnaeus, 1758
162	Rufous-backed Shrike	<i>Lanius schach tricolor</i>	(Hodgson, 1837)
163	Rufous-backed Shrike	<i>Lanius schach erythronotus</i>	(Vigors, 1831)

Appendix-V : Cont'd.

2002 - 2003 - 2004 - 2005			
Sl. No.	Common English Names*	Scientific Names	
164	Grey-backed Shrike	<i>Lanius tephronotus</i>	(Vigors, 1831)
165	Blue Rock-Thrush	<i>Monticola solitarius</i>	(Linnaeus, 1758)
166	Orange-headed Thrush	<i>Zoothera citrina</i>	(Latham, 1790)
167	Scaly Thrush	<i>Zoothera dauma</i>	(Latham, 1790)
168	Tickell's Thrush	<i>Turdus unicolor</i>	Tickell, 1833
169	Siberian Rubythroat	<i>Luscinia calliope</i>	(Pallas, 1776)
170	Bluethroat	<i>Luscinia svecica</i>	(Linnaeus, 1758)
171	Orange-flanked Bush-Robin	<i>Tarsiger cyanurus</i>	(Pallas, 1773)
172	Oriental Magpie Robin	<i>Copsychus saularis</i>	(Linnaeus, 1758)
173	Black Redstart	<i>Phoenicurus ochruros</i>	(Gmelin, 1774)
174	Common Stonechat	<i>Saxicola torquata</i>	(Linnaeus, 1766)
175	Jungle Babbler	<i>Turdoides striatus</i>	(Dumont, 1823)
176	Streaked Faintail-Warbler	<i>Cisticola juncidis</i>	(Rafinesque, 1810)
177	Yellow-bellied Prinia	<i>Prinia flaviventris</i>	(Delessert, 1840)
178	Plain Prinia	<i>Prinia inornata</i>	Sykes, 1832
179	Rusty-rumped Grasshop.-Warbler	<i>Locustella certhiola</i>	(Pallas, 1811)
180	Paddyfield Warbler	<i>Acrocephalus agricola</i>	(Jerdon, 1845)
181	Blunt-winged Warbler	<i>Acrocephalus concinens</i>	(Swinhoe, 1870)
182	Blyth's Reed-Warbler	<i>Acrocephalus dumetorum</i>	Blyth, 1849
183	Indian Great Reed-Warbler	<i>Acrocephalus stentoreus</i>	(Hemprich & Ehrenberg, 1833)
184	Common Tailorbird	<i>Orthotomus sutorius</i>	(Pennant, 1769)
185	Common Chiffchaff	<i>Phylloscopus collybita</i>	(Vieillot, 1817)
186	Dusky Warbler	<i>Phylloscopus fuscatus</i>	(Blyth, 1842)
187	Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	(Blyth, 1842)

Appendix-V : Cont'd.

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
188	Hume's Warbler	<i>Phylloscopus humei</i>	(Brooks, 1878)
189	Greenish Leaf-Warbler	<i>Phylloscopus trochiloides</i>	(Sundevall, 1837)
190	Western Crowned Warbler	<i>Phylloscopus occipitalis</i>	(Blyth, 1845)
191	Eastern Crowned Warbler	<i>Phylloscopus coronatus</i>	(Temminck & Schlegel, 1847)
192	Gold-spectacled Flycatcher-Warbler	<i>Seicercus burkii</i>	(Burton, 1836)
193	Striated Marsh-Warbler	<i>Megalurus palustris</i>	Horsfield, 1821
194	Sooty Flycatcher	<i>Muscicapa sibirica</i>	Gmelin, 1789
195	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	Pallas, 1811
196	Red-throated Flycatcher	<i>Ficedula parva</i>	(Bechstein, 1792)
197	Verditer Flycatcher	<i>Eumyias thalassina</i>	(Swainson, 1838)
198	Blue-throated Flycatcher	<i>Cyornis rubeculoides</i>	(Vigors, 1831)
199	Tickell's Blue-Flycatcher	<i>Cyornis tickelliae</i>	Blyth, 1843
200	Grey-headed Flycatcher	<i>Culicicapa ceylonensis</i>	(Swainson, 1820)
201	Asian Paradise-Flycatcher	<i>Terpsiphone paradisi</i>	(Linnaeus, 1758)
202	Black-naped Monarch-Flycatcher	<i>Hypothymis azurea</i>	(Boddaert, 1783)
203	White-throated Fantail-Flycatcher	<i>Rhipidura albicollis</i>	(Vieillot, 1818)
204	Great Tit	<i>Parus major</i>	Linnaeus, 1758
205	Thick-billed Flowerpecker	<i>Dicaeum agile</i>	(Tickell, 1833)
206	Tickell's Flowerpecker	<i>Dicaeum erythrorhynchos</i>	(Latham, 1790)
207	Purple-rumped Sunbird	<i>Nectarinia zeylonica</i>	(Linnaeus, 1766)
208	Purple Sunbird	<i>Nectarinia asiatica</i>	(Latham, 1790)
209	Little Spiderhunter	<i>Arachnothera longirostra</i>	(Latham, 1790)
210	Oriental White-eye	<i>Zosterops palpebrosus</i>	(Temminck, 1824)
211	Red Munia	<i>Amandava amandava</i>	(Linnaeus, 1758)

Appendix-V : Cont'd.

2002 – 2003 – 2004 – 2005			
Sl. No.	Common English Names*	Scientific Names	
212	White-throated Munia	<i>Lonchura malabarica</i>	(Linnaeus, 1758)
213	White-rumped Munia	<i>Lonchura striata</i>	(Linnaeus, 1766)
214	Spotted Munia	<i>Lonchura punctulata</i>	(Linnaeus, 1758)
215	Black-headed Munia	<i>Lonchura malacca</i>	(Linnaeus, 1766)
216	House Sparrow	<i>Passer domesticus</i>	(Linnaeus, 1758)
217	Baya Weaver	<i>Ploceus philippinus</i>	(Linnaeus, 1766)
218	Grey-headed Starling	<i>Sturnus malabaricus</i>	(Gmelin, 1789)
219	Brahminy Starling	<i>Sturnus pagodarum</i>	(Gmelin, 1789)
220	Asian Pied Starling	<i>Sturnus contra</i>	Linnaeus, 1758
221	Common Myna	<i>Acridotheres tristis</i>	(Linnaeus, 1766)
222	Jungle Myna	<i>Acridotheres fuscus</i>	(Wagler, 1827)
223	Eurasian Golden Oriole	<i>Oriolus oriolus</i>	(Linnaeus, 1758)
224	Black-naped Oriole	<i>Oriolus chinensis</i>	Linnaeus, 1766
225	Black-headed Oriole	<i>Oriolus xanthornus</i>	(Linnaeus, 1758)
226	Black Drongo	<i>Dicrurus macrocercus</i>	Vieillot, 1817
227	Ashy Drongo	<i>Dicrurus leucophaeus</i>	Vieillot, 1817
228	Bronzed Drongo	<i>Dicrurus aeneus</i>	Vieillot, 1817
229	Lesser Racket-tailed Drongo	<i>Dicrurus remifer</i>	(Temminck, 1823)
230	Spangled Drongo	<i>Dicrurus hottentottus</i>	(Linnaeus, 1766)
231	Greater Racket-tailed drongo	<i>Dicrurus paradiseus</i>	(Linnaeus, 1766)
232	Ashy Woodswallow	<i>Artamus fuscus</i>	Vieillot, 1817
233	Indian Tree-pie	<i>Dendrocitta vagabunda</i>	(Latham, 1790)
234	House Crow	<i>Corvus splendens</i>	Vieillot, 1817
235	Jungle Crow	<i>Corvus macrorhynchos</i>	Wagler, 1827

* The common and scientific names are after Manakadan and Pittie, 2001.

Appendix-VI : Birds observed during Urban Biodiversity study in and around Calcutta for three years :

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
01. Little Grebe	***			***	**												
02. Great Crested Grebe																	
03. Little Cormorant ■ / *	***	***	***	***	***	***	**	***	**	***	***		***	***	-	***	***
04. Indian Shag	*		***	***	*	***					***		**	***			***
05. Great Cormorant			*	***	**	**											
06. Darter ■ / *			■	**													
07. Little Egret ■ / *	**	***	***	***				■			***						
08. Grey Heron ■ / *			*	***	■												
09. Purple Heron			***	***							*						*
10. Large Egret ■ / *	***		***	***	***	■					*	*			*		
11. Median Egret				***	*												
12. Cattle Egret	***	***	***	***	**	*	*		**	***	**	**		*			
13. Indian Pond Heron	***	***	***	***	***	***	***	***	***	***	***	***	*	***	*	***	***
14. Black-crowned N.Heron			***	***	***	***	*	*			***			***		*	***
15. Yellow Bittern			**	**	**						*						
16. Chestnut Bittern				**	**												
17. Black Bittern			**														
18. Painted Stork				**							**			**			
19. Asian Openbill-Stork	*		***	***	**	**		*			**			*			
20. Large Whistling Teal x														x			
21. Lesser Whistling Teal			*	*										***			
22. Common Shelduck				*													

Appendix-VI : Cont'd

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
23. Cotton Teal																	
24. Gadwall				***													
25. Eastern Wigeon				*													
26. Northern Shoveller				***													
27. Northern Pintail				*										**			
28. Garganey				***													
29. Common Teal				*													
30. Common Pochard																	
31. Ferruginous Pochard																	
32. Tufted Pochard				***													
33. Oriental Honey Buzzard	**	*															
34. Black-shouldered Kite																	
35. Black Kite : <i>M.m.govinda</i>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
36. Black Kite : <i>M.m.lineatus</i>				*													
37. Brahminy Kite ▼																	
38. Pallas's Fish-Eagle				*													
39. Indian W-backed Vulture	***	*	**	*			*		***	***	***		***	***		*	
40. Long-billed Vulture ▼																	
41. Crested Serpent Eagle	***	***															
42. Western Marsh-Harrier			**	**													
43. Pied Harrier																	

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
44. Shikra	***	***	***	*	**	*		*		**	**	***	*				
45. White-eyed Buzzard		*															
46. Booted Eagle																	
47. Changeable Hawk-Eagle	*	*															
48. Osprey	*																
49. Common Kestrel																	
50. Red-headed Falcon																	
51. Common Buttonquail																	
52. Slaty-legged Crake	***																
53. White-breasted Waterhen	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
54. Baillon's Crake				**													
55. Ruddy-breasted Crake				**													
56. Watercock				**													
57. Purple Moorhen			***	*													
58. Common Moorhen	***		***	***	***	*				*	*						
59. Common Coot				*													
60. Bronze-winged Jacana			***	***													
61. Greater Painted Snipe ●			●														
62. Pacific Golden Plover				*													
63. Common Ringed Plover				**													
64. Little Ringed Plover	**			**													

Appendix-VI : Cont'd

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
65. Kentish Plover																	
66. Grey-headed Lapwing ■	*			*													
67. Red-wattled Lapwing																	
68. Pintail Snipe			*	***													
69. Swinhoe's Snipe				*													
70. Common Snipe				*													
71. Whimbrel ▼																	
72. Spotted Redshank				*													
73. Common Redshank																	
74. Marsh Sandpiper				*													
75. Common Greenshank				***													
76. Green Sandpiper		*	*	***							**						
77. Wood Sandpiper	*		**	***													
78. Terek Sandpiper				*													
79. Common Sandpiper			***	***							***						
80. Little Stint				**													
81. Temminck's Stint				*													
82. Curlew Sandpiper				*													
83. Black-winged Stilt				**													
84. Pied Avocet				**													
85. Oriental Pratincole				*													

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
86. Pallas's Gull																	
87. Brown-headed Gull																	
88. Black-headed Gull				**													
89. Whiskered Tern				*													
90. Blue Rock Pigeon	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
91. Spotted Dove	***	***	***	***	***	***	***	***	***	***	***	***	***		***	***	***
92. Red Collared-Dove	*			*													
93. Eurasian Collared-Dove	**		***	***	***	**		***			*		*	*			
94. Emerald Dove	***	***			*												
95. Orange-breasted Green-Pigeon																	
96. Thick-billed Green-Pigeon																	
97. Yellow-legged Green-Pigeon	***	**	***		**			*	**	**	**	*				*	*
98. Alexandrine Parakeet			*	*	***		***	***	*		*	**	*			**	
99. Rose-ringed Parakeet	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
100. Plum-headed Parakeet																	
101. Red-breasted Parakeet			*						***			*	**				
102. Pied Crested Cuckoo			*									*					
103. Brainfever Bird	***	***	***		**						*	***	**				
104. Indian Cuckoo		*															
105. Common Cuckoo																	
106. Indian Plaintive Cuckoo					*												

Appendix-VI : Cont'd

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
107. Rufous-bellied P. Cuckoo	***	***	***		**			*		*		***					
108. Asian Koel	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
109. Greater Coucal	***	***	***	***	***		*	***		***	***	***	***	***		***	***
110. Barn Owl																	
111. Oriental Scops-Owl																	*
112. Collared Scops-Owl	**	*															
113. Brown Fish-Owl		***															
114. Spotted Owlet			***	**	**		*	**	***	**		***					
115. Large-tailed Nightjar	***	**		**													
116. Asian Palm-Swift	***	***	***	***	***	***	*	**	***	***	***	**	**	**	**	**	***
117. House Swift	***	**	***	***	***	**	***	***	***	***	**	**	**	*	**	***	***
118. Small Blue Kingfisher	***	***	***	***	*	**	*	***	***	***	**	***	**	*		*	**
119. Stork-billed Kingfisher	***	***	***	**	**	***	*	***	***	***	***	***	**	**		***	***
120. White-breasted Kingfisher	***	***	***	***	***	***	***	***	***	***	**	***	***	***		***	***
121. Black-capped Kingfisher																	
122. Lesser Pied Kingfisher				**													
123. Small Bee-eater	***	***	**		*												
124. Indian Roller																	
125. Common Hoopoe	***		*	**	*	*						*				*	
126. Lineated Barbet	***	***															
127. Blue-throated Barbet	***	***	***	**	***	***	***	***	***	***	***	***	***	***	**	***	***

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
128. Coppersmith Barbet	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
129. Wryneck : <i>J.t.chinensis</i>																	
130. Fulvousbreasted Pied WP	***	***			***	***	**		*			***	*				***
131. Rufous Woodpecker	*										*	**					
132. Little Scaly-bellied Green WP	***	**															
133. Lesser Golden-backed WP	***	***	***	*	***	***	***	**	***	***	**	***	***	***	*	***	***
134. Greater Golden-backed WP		**															
135. Indian Pitta	**																
136. Bengal Bush-Lark	*		*								*						
137. Ashy-crown Sparrow Lark																	
138. Eastern Skylark			*														
139. Com. Swallow : <i>H.r.rustica</i>	***		**	**	*							*					
140. Com. Swallow : <i>H.r.tyleri</i>				**	*												
141. Red-rumped Swallow			*	*													
142. Forest Wagtail					*				*								
143. White Wagtail : <i>M.a. leucopsis</i>	***		*	**					*		*	*					
144. White Wagtail : <i>M.a.dukhunensis</i>			**	*													
145. Large Pied Wagtail											**						
146. Citrine Wagtail	***			***							**	*					
147. Yellow Wagtail : <i>M.f.beema</i>	*																

Appendix-VI : Cont'd

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
148. Yellow Wagtail : <i>M.f.zaissanensis</i>				***													
149. Yellow Wagtail : <i>M.f.thunbergi</i>				**							*						
150. Grey Wagtail	*							*									
151. Richard's Pipit	*			*													
152. Paddyfield Pipit	***	*	*	*													
153. Oriental Tree Pipit					***						*					*	
154. Black-winged Cuckoo-Shrike	**																
155. Black-headed Cuckoo-Shrike	***		***		***												
156. Small Minivet	***	***										*					
157. Common Woodshrike					*												
158. Red-whiskered Bulbul	***	***							*	***	*	***	***	***	*	***	**
159. Red-vented Bulbul	***	***	***	***	***	***	**	***	***	***	***	**	***	***	***	***	***
160. Common Iora	***	***	***														
161. Brown Shrike	***	***	***	***	***	***	**	***	*	***	**	**	*	***	**	***	*
162. R.backed Shrike : <i>L.s.tricolor</i>	***	**	***	***	***											*	
163. R.b.Shrike : <i>L.s.erythronotus</i>		*															
164. Grey-backed Shrike		*			*												
165. Blue Rock-Thrush								*									
166. Orange-headed Thrush	***	***														*	
167. Scaly Thrush	*																
168. Tickell's Thrush	*																

Appendix-VI : Cont'd

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
169. Siberian Rubythroat																	
170. Bluethroat				*													
171. Orange-flanked Bush-Robin ●																	
172. Oriental Magpie Robin	***	***	***	***	***	***	**	***	***	***	***	***	***	***	***	***	***
173. Black Redstart																	
174. Common Stonechat																	
175. Jungle Babbler	***	***	***	*	***			***	***	***		***	***	***		***	
176. Streaked Faintail-Warbler	***		***	*	*						*						
177. Yellow-bellied Prinia				***													
178. Plain Prinia	***		***	***	***						***						
179. Rusty-rumped Grasshop. Warb.			**														
180. Paddyfield Warbler																	
181. Blunt-winged Warbler				***													
182. Blyth's Reed-Warbler	***	***	***	***	***	**		***	***	***	***	**	**	***		**	***
183. Indian Great Reed-Warbler			*	***	***												
184. Common Tailorbird	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
185. Common Chiffchaff	***				*		*	***			**		*	*			
186. Dusky Warbler					*												
187. Yellow-browed Warbler		***	***		***				*								
188. Hume's Warbler		**	**									*				*	
189. Greenish Leaf-Warbler																	

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
190. Western Crowned Warbler																	
191. Eastern Crowned Warb.																	
192. Gold-spectacled Flycat. Warb.																	
193. Striated Marsh-Warbler				***													
194. Sooty Flycatcher																	
195. Asian Brown Flycatcher																	
196. Red-throated Flycatcher	***	***	***	***	***	***	*	***	**	***	*	***	**	*		**	
197. Verditer Flycatcher																	
198. Blue-throated Flycatcher	***																
199. Tickell's Blue-Flycatcher												*					
200. Grey-headed Flycatcher																	
201. Asian Paradise-Flycatcher	***	**															
202. Black-naped Monarch-Flycat.	***	**															
203. White-throated Fantail Flycat.	***	**															
204. Great Tit	***	***	***					*	*			*					
205. Thick-billed Flowerpecker																	
206. Tickell's Flowerpecker	***	***	***		*								**	*		*	
207. Purple-rumped Sunbird	***	***	***					*	*		**	*	***	**		**	
208. Purple Sunbird	***	***	***	***	***	***	**	***	***	***	***	***	***	***	**	***	***
209. Little Spiderhunter	***																
210. Oriental White-eye	***	***															

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
211. Red Munia	*			**													
212. White-throated Munia	***																
213. White-rumped Munia	***																
214. Spotted Munia	***	***	***								*						
215. Blackheaded Munia			***														
216. House Sparrow	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
217. Baya Weaver	***			***													
218. Grey-headed Starling	***	*	***	***	***	***	***	***	***	***	**	***	***	*	*	**	**
219. Brahminy Starling																	
220. Asian Pied Starling	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
221. Common Myna	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
222. Jungle Myna	***	***	*	**	***	**	**	***	***	***		***	**	**	*	***	***
223. Eurasian Golden Oriole					*											*	
224. Black-naped Oriole	*	***	***			**		**	**			**	**				
225. Black-headed Oriole	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
226. Black Drongo	***	***	***	***	***	**	***	***	***	***	***	***	*	**		***	**
227. Ashy Drongo					*	*							*				
228. Bronzed Drongo	***	***			*						*						
229. Lesser Racket-tailed Drongo ●																	
230. Spangled Drongo	***	***															
231. Greater Racket-tailed Drongo																	

Appendix-VI : Cont'd.

VIA : Birds of Calcutta in SUMMER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
232. Ashy Woodswallow		*	***	*	*												
233. Indian Tree-pie	***	***	***		***	***	**	***	***	***	***	***	***	*		***	***
234. House Crow	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
235. Jungle Crow	***	***	***	**	***	**		***	***	***	***	***	***	**	**	***	**
STUDY SITES :																	
Ia = Shyamkhola							● Recorded Just prior To April 2002										
Ib = Narendrapur Wildlife Sanctuary							■ Flew Overhead ■ / * Present / × seen to swim										
II = Indian Institute Of Management, JOKA							▼ Recorded once in Flight										
III = East Calcutta Wetlands - Part																	
IVa = Banobitan							*** Seen during all the three years										
IVb = Subhas Sarobar							** Seen during 1st & 2nd year										
Va = Tala Park							** Seen during 2nd & 3rd year only										
Vb = Indian Statistical Institute, Baranagore							* * Seen during 1st year 3rd year only										
VIa = Maidan							* Seen during 1st year only										
VIb = Eden Gardens							* Seen during 2nd year only										
VII = Brace Bridge Wetlands							* Seen during 3rd year only										
VIII = Tollygunge Club																	
IXa = Agri-Horticultural Society & Adjoining Area																	
IXb = Alipore Zoological Garden																	
Xa = Esplanade																	
Xb = Rajbhavan Garden																	
XI = Rabindra Sarobar																	

Appendix-VI : Birds observed during Urban Biodiversity study in and around Calcutta :

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
01. Little Grebe				*													
02. Great Crested Grebe																	
03. Little Cormorant ■ / *	***	*	***	***	***	**	***	**	***	**	***	***	***	***	*	**	***
04. Indian Shag	*		***	**	**		***	*			**	***		***	*		**
05. Great Cormorant ■ / *				*	■	*			*								
06. Darter ■ / *			■														
07. Little Egret ■ / *		*	***	*							***						
08. Grey Heron ■ / *			■	***	■■												
09. Purple Heron ■ / *		*	***	*							***						**
10. Large Egret ■ / *				***	■		■										
11. Median Egret				**	*												
12. Cattle Egret	**	*	***	***	**		*				***	***		**		*	**
13. Indian Pond Heron	***	***	***	***	***	***	***	***	***	***	***	***	**	*	*	***	***
14. Black-crowned N.Heron			***	***	***	***	*	*	*	*	***		**	***	**	**	*
15. Yellow Bittern				***	**						**						
16. Chestnut Bittern				**	**	*											
17. Black Bittern			*	*													
18. Painted Stork				*							**			*			
19. Asian Openbill-Stork ■ / *			**	**	■■	■	■	■■			*						
20. Large Whistling Teal ×																	
21. Lesser Whistling Teal				**										*			

Appendix-VI : Cont'd.

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
22. Common Shelduck																	
23. Cotton Teal				*													
24. Gadwall																	
25. Eastern Wigeon																	
26. Northern Shoveller																	
27. Northern Pintail																	
28. Garganey				*													
29. Common Teal																	
30. Common Pochard																	
31. Ferruginous Pochard																	
32. Tufted Pochard																	
33. Oriental Honey Buzzard	*	*	*														
34. Black-shouldered Kite																	
35. Black Kite: <i>M.m.govinda</i>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	**	***
36. Black Kite: <i>M.m.lineatus</i>																	
37. Brahminy Kite ▼					▼												
38. Pallas's Fish-Eagle				*													
39. Indian W-backed Vulture		*							***	*	***	**	***	***			*
40. Long-billed Vulture ▼					▼												
41. Crested Serpent Eagle	*																
42. Western Marsh-Harrier																	

Appendix-VI : *Cont'd.*

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
43. Pied Harrier																	
44. Shikra	**	*	***	*	**			*	*			***	*			*	
45. White-eyed Buzzard																	
46. Booted Eagle																	
47. Changeable Hawk-Eagle																	
48. Osprey																	
49. Common Kestrel																	
50. Red-headed Falcon				*	*												
51. Common Buttonquail	*																
52. Slaty-legged Crake	*																
53. White-breasted Waterhen	***	***	***	**	***		*			*	**	***	***			***	***
54. Baillon's Crake																	
55. Ruddy-breasted Crake																	
56. Watercock																	
57. Purple Moorhen			***														
58. Common Moorhen				***													
59. Common Coot																	
60. Bronze-winged Jacana	*			**								*					*
61. Greater Painted Snipe ●																	
62. Pacific Golden Plover																	
63. Common Ringed Plover																	

Appendix-VI : Cont'd

VIB : Birds of Calcutta in MONSOON : 2002–2003–2004–2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
64. Little Ringed Plover				**													
65. Kentish Plover				*													
66. Grey-headed Lapwing ■																	
67. Red-wattled Lapwing			*														
68. Pintail Snipe																	
69. Swinhoe's Snipe				*													
70. Common Snipe																	
71. Whimbrel ▼																	
72. Spotted Redshank				*													
73. Common Redshank																	
74. Marsh Sandpiper																	
75. Common Greenshank																	
76. Green Sandpiper				*													
77. Wood Sandpiper			**	*													
78. Terek Sandpiper																	
79. Common Sandpiper			***	***							*						
80. Little Stint				**													
81. Temminck's Stint				**													
82. Curlew Sandpiper																	
83. Black-winged Stilt																	
84. Pied Avocet																	

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
85. Oriental Pratincole																	
86. Pallas's Gull																	
87. Brown-headed Gull																	
88. Black-headed Gull																	
89. Whiskered Tern				***													
90. Blue Rock Pigeon	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
91. Spotted Dove	***	***	***	***	***	***	***	***	***	**	***	***	***	***	***	***	***
92. Red Collared-Dove				**													
93. Eurasian Collared-Dove			*	**	***	***	**			*	*						*
94. Emerald Dove																	
95. Orange-breasted Gr-Pigeon																	
96. Thick-billed Gr-Pigeon																	
97. Yellow-legged Gr-Pigeon																	
98. Alexandrine Parakeet			**		***				**	**		***	*			*	
99. Rose-ringed Parakeet	**	**	***	**	***	**	**	***	***	***	***	***	***	*	*	**	***
100. Plum-headed Parakeet ■	■	■															
101. Red-breasted Parakeet	*								***				***				
102. Pied Crested Cuckoo		*															
103. Brainfever Bird	***	***	***	**	*						***	*					*
104. Indian Cuckoo																	
105. Common Cuckoo			*														

Appendix-VI : Cont'd.

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
106. Indian Plaintive Cuckoo																	
107. Rufous-bellied Plaintive Cuckoo	**	*	**														
108. Asian Koel	***	***	***	***	***			***	***	***	***	***	***	***	**	***	***
109. Greater Coucal	***	***	***	**	***		***	***		***	***	***	***	*		**	***
110. Barn Owl				*				***									
111. Oriental Scops-Owl																	
112. Collared Scops-Owl																	
113. Brown Fish-Owl		*															
114. Spotted Owlet			***	*						**	*	***				**	
115. Large-tailed Nightjar																	
116. Asian Palm-Swift	***	**	***	***	***	***		**	***	**	***	***		*	*	*	***
117. House Swift	*	*	***	**	**	*	**	***	***	***	*	***	*	*	***	***	*
118. Small Blue Kingfisher	*	**	***	***	**		*	***	***	**	***	***		**		***	***
119. Stork-billed Kingfisher	***	***	***	**	*	***	*	***	***	**	**	***	***	**		**	***
120. White-breasted Kingfisher	***	**	***	***	***	***	**	***	***	***	***	***	***	**	**	**	***
121. Black-capped Kingfisher			*								*						
122. Lesser Pied Kingfisher																	
123. Small Bee-eater				***													
124. Indian Roller				*	**				*			*					
125. Common Hoopoe																	
126. Lineated Barbet	***	***									*						

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
127. Blue-throated Barbet	***	***	***		***	***	**	***	***	***	***	***	***	***	*	***	***
128. Coppersmith Barbet	***	*	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
129. Wryneck: <i>J.t.chinensis</i>																	
130. Fulvousbreasted Pied WP	**	*	*				**		**		***	***					***
131. Rufous Woodpecker	*	*															
132. Little Scaly-bellied Green WP	*	*															
133. Lesser Golden-backed WP	***	**	***	**	***	***	***	***	***	***	***	***	***	***	**	***	***
134. Greater Golden-backed WP																	
135. Indian Pitta																	
136. Bengal Bush-Lark																	
137. Ashy-crown Sparrow Lark																	
138. Eastern Skylark																	
139. C. Swallow : <i>H.r.rustica</i>	*		***	***													
140. C. Swallow : <i>H.r.tyleri</i>				*													
141. Red-rumped Swallow				**								*					
142. Forest Wagtail			*	*	*						***	***		*			
143. White Wagtail: <i>M.a. leucopsis</i>			***	***	*						**	*				**	***
144. White Wagtail: <i>M.a.dukhunensis</i>				*													
145. Large Pied Wagtail																	
146. Citrine Wagtail				*													
147. Yellow Wagtail: <i>M.f.beema</i>																	

Appendix-VI : Cont'd.

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
169. Siberian Rubythroat																	
170. Bluethroat																	
171. Orange-flanked Bush-Robin ●																	
172. Oriental Magpie Robin	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
173. Black Redstart																	
174. Common Stonechat																	
175. Jungle Babbler	***	***	***	*	*			***	***	***	*	***	***	**	*	***	
176. Streaked Faintail-Warbler	**		***	**													
177. Yellow-bellied Prinia				**													
178. Plain Prinia	**		***	**	*						**						
179. Rusty-rumped Grasshopper Warbler																	
180. Paddyfield Warbler																	
181. Blunt-winged Warbler																	
182. Blyth's Reed-Warbler										***							
183. Indian Great Reed-Warbler				***													
184. Common Tailorbird	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
185. Common Chiffchaff																	
186. Dusky Warbler																	
187. Yellow-browed Warbler																	
188. Hume's Warbler																	
189. Greenish Leaf-Warbler																	

Appendix-VI : Cont'd

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
190. Western Crowned Warbler																	
191. Eastern Crowned Warbler																	
192. Gold-spectacled Flycatcher Warbler																	
193. Striated Marsh-Warbler				***													
194. Sooty Flycatcher																	
195. Asian Brown Flycatcher					**												
196. Red-throated Flycatcher				**									*				***
197. Verditer Flycatcher																	
198. Blue-throated Flycatcher																	
199. Tickell's Blue-Flycatcher																	
200. Grey-headed Flycatcher																	
201. Asian Paradise-Flycatcher		*															
202. Black-naped Monarch-Flycatcher																	
203. White-throated Fantail Flycatch.	***	**															
204. Great Tit	*		**						*		**	*					**
205. Thick-billed Flowerpecker																	
206. Tickell's Flowerpecker	**	***	***		*							***	***			*	
207. Purple-rumped Sunbird	***	**	***		**					***		*	***	**		***	*
208. Purple Sunbird	***	**	***	***	***	***	***	***	***	***	*	**	***		*	***	***
209. Little Spiderhunter	*																
210. Oriental White-eye	**	*										*					

VIB : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
211. Red Munia																	
212. White-throated Munia	*		*														
213. White-rumped Munia	*			*													
214. Spotted Munia	*			**							*						*
215. Blackheaded Munia	***		**	*													
216. House Sparrow	**		**	***	***	***	***	***	***	***	*	***	*	**	***	***	***
217. Baya Weaver	***			***													
218. Grey-headed Starling	**		**	**	**	**	***	***	*	***	*	***	*	*	*	***	***
219. Brahminy Starling			*						*								
220. Asian Pied Starling	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
221. Common Myna	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
222. Jungle Myna	**	*	*	**	*		**	**	***	***	***	*	**	***	**	***	*
223. Eurasian Golden Oriole																	
224. Black-naped Oriole																	
225. Black-headed Oriole	***	***	***	***	***	***	**	***	***	***	***	***	***	***	**	***	***
226. Black Drongo	***		***	***	***		*	**	***	*	**	***	**	*	**	*	
227. Ashy Drongo																	
228. Bronzed Drongo	*	*			*												
229. Lesser Racket-tailed Drongo																	
230. Spangled Drongo																	
231. Greater Racket-tailed Drongo																	

Appendix-VI : *Cont'd*

VIB' : Birds of Calcutta in MONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
232. Ashy Woodswallow																	
233. Indian Tree-pie	***	***	***	**	***	***	*	***	***	**	***	***	***	**	*	***	***
234. House Crow	***	**	***	***	**	***	**	***	***	**	***	***	***	**	***	**	***
235. Jungle Crow	**	*	**	**	***			***	***	***	**	***	***	***	*	***	*
STUDY SITES :																	
Ia = Shyamkhola																	
Ib = Narendrapur Wildlife Sanctuary ■ Flew Overhead / * Present																	
II = Indian Institute Of Management, JOKA ▼ Recorded once in Flight																	
III = East Calcutta Wetlands - Part																	
IVa = Banobitan																	
IVb = Subhas Sarobar																	
Va = Tala Park ** Seen during 1st & 2nd year																	
Vb = Indian Statistical Institute, Baranagore ** 2nd & 3rd year																	
VIa = Maidan * * 1st & 3rd year																	
VIb = Eden Gardens * Seen during 1st year only																	
VII = Brace Bridge Wetlands * Seen during 2nd year only																	
VIII = Tollygunge Club * Seen during 3rd year only																	
IX a = Agri- Horticultural Society of India & Adjoining Area																	
IXb = Alipore Zoological Garden																	
Xa = Esplanade																	
Xb = Rajbhavan Garden																	
XI = Rabindra Sarobar																	

Appendix-VI : Birds observed during Urban Biodiversity study in and around Calcutta :

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
01. Little Grebe	**			*	**												
02. Great Crested Grebe																	
03. Little Cormorant	***	**	**	**	**	***	*	***	***		***		*	*		***	***
04. Indian Shag		*	***	**		***		**	*		***		*	***			***
05. Great Cormorant ■ / *				**	*				■								**
06. Darter			*	**							***			**			
07. Little Egret			**	**							**	*					
08. Grey Heron ■ / *				***	■						*						
09. Purple Heron			***														
10. Large Egret ■ / *	*		**	***	■			■			***						
11. Median Egret				**													
12. Cattle Egret	***	***	*	***	***	***		*	**	***	**	**		**	**		**
13. Indian Pond Heron	***	***	**	***	***	***	*	**	***	***	***	***	**	**	*	***	***
14. Black-crowned Night Heron			***		***	***		*			*		*	***		***	
15. Yellow Bittern					*												
16. Chestnut Bittern		**															
17. Black Bittern			*														
18. Painted Stork				**							**						
19. Asian Openbill-Stork			*	***							**						
20. Large Whistling Teal																	
21. Lesser Whistling Teal	***													***			

Appendix-VI : *Cont'd*

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
43. Pied Harrier																	
44. Shikra	***	***	***	**	*	*	*	*	*	*	**		**				
45. White-eyed Buzzard																	
46. Booted Eagle																	
47. Changeable Hawk-Eagle																	
48. Osprey																	
49. Common Kestrel																	
50. Red-headed Falcon																	
51. Common Buttonquail																	
52. Slaty-legged Crake																	
53. White-breasted Waterhen	***	***	***	**	**						*	***	**	*		***	***
54. Baillon's Crake																	
55. Ruddy-breasted Crake				*													
56. Watercock																	
57. Purple Moorhen			***	*													
58. Common Moorhen	***		**	**								*					
59. Common Coot																	
60. Bronze-winged Jacana	*		*	*													
61. Greater Painted Snipe																	
62. Pacific Golden Plover																	
63. Common Ringed Plover																	

Appendix-VI : Cont'd.

VIC : Birds of Calcutta in POSTMONSOON : 2002–2003–2004–2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
64. Little Ringed Plover																	
65. Kentish Plover																	
66. Grey-headed Lapwing			*														■
67. Red-wattled Lapwing				*													
68. Pintail Snipe			*														
69. Swinhoe's Snipe				*													
70. Common Snipe				*													
71. Whimbrel ▼																	
72. Spotted Redshank				*													
73. Common Redshank																	
74. Marsh Sandpiper																	
75. Common Greenshank																	
76. Green Sandpiper				***													
77. Wood Sandpiper				**													
78. Terek Sandpiper																	
79. Common Sandpiper				***	*					**	***		**			*	
80. Little Stint																	
81. Temminck's Stint																	
82. Curlew Sandpiper																	
83. Black-winged Stilt				***													
84. Pied Avocet																	

Appendix-VI : Cont'd.

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
85. Oriental Pratincole																	
86. Pallas's Gull																	
87. Brown-headed Gull				*													
88. Black-headed Gull																	
89. Whiskered Tern				*													
90. Blue Rock Pigeon	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
91. Spotted Dove	***	***	***	***	***	***	***	***	***	***	***	***	***	***	*	***	***
92. Red Collared-Dove																	
93. Eurasian Collared-Dove			***	***	**								*				*
94. Emerald Dove	***				*												
95. Orange-breasted Green-Pigeon	**									*							
96. Thick-billed Green-Pigeon																	
97. Yellow-legged Gr-Pigeon			***						***	***	**						
98. Alexandrine Parakeet		**		*	***						**	**	**			*	**
99. Rose-ringed Parakeet	***	***	***	*	***	***	***	***	***	***	***	***	***	***	***	***	***
100. Plum-headed Parakeet		**											**				
101. Red-breasted Parakeet									***				*				
102. Pied Crested Cuckoo																	
103. Brainfever Bird	***	***	***	*	*			*			*	*	*	*		*	
104. Indian Cuckoo			*		*												
105. Common Cuckoo																	

Appendix-VI : Cont'd.

VIC : Birds of Calcutta in POSTMONSOON : 2002–2003–2004–2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
106. Indian Plaintive Cuckoo																	
107. Rufous-bellied P. Cuckoo	*		*								*						
108. Asian Koel	***	***	***	**	***	***	***	***	***	***	***	***	***	***	***	***	***
109. Greater Coucal	***	***	***	*	***			***	*	*	*	**	*			***	*
110. Barn Owl								*									
111. Oriental Scops-Owl																	
112. Collared Scops-Owl	*																
113. Brown Fish-Owl		***															
114. Spotted Owlet	***	*	**	*	**			**	*			**		*			
115. Large-tailed Nightjar	***																
116. Asian Palm-Swift	***	**	***	***	***	***	***	***	***	***	***	***	**	*	*	*	***
117. House Swift	***	*	*	*	***	**		***	***	**	***	***	***		***	**	**
118. Small Blue Kingfisher	***	***	***	***	***			***		***	***	*	*	**			***
119. Stork-billed Kingfisher	***		***		*	*		*			*	*	*	*		**	**
120. White-breasted Kingfisher	***	***	**	***	***	***	***	***	***	***	***	**	***	**	*	**	***
121. Black-capped Kingfisher																	
122. Lesser Pied Kingfisher																	
123. Small Bee-eater	***	***	***	*	***			***		***	***	***					*
124. Indian Roller					***				**			***					
125. Common Hoopoe		*		*	*			*	*			**					*
126. Lineated Barbet	***	***	*														

Appendix-VI : Cont'd

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
127. Blue-throated Barbet	***	***	**	**	***	***	***	***	***	***	***	***	***	***	***	***	**
128. Coppersmith Barbet	*	**	***	***	***	***	***	***	***	***	***	***	**	**	**	**	**
129. Wryneck : <i>J.t.chinensis</i>																	
130. Fulvousbreasted Pied WP	***	**	*		***						*	***					***
131. Rufous Woodpecker																	
132. Little Scaly-bellied Green WP		*	*														
133. Lesser Golden-backed WP	***	***	***	***	***	***	***	***	**	***	***	**	***		*	**	***
134. Greater Golden-backed WP																	
135. Indian Pitta																	
136. Bengal Bush-Lark	*																
137. Ashy-crown Sparrow Lark																	
138. Eastern Skylark																	
139. Common Swallow : <i>H.r.rustica</i>		*		*	*												
140. C. Swallow : <i>H.r.tytleri</i>																	
141. Red-rumped Swallow	*																
142. Forest Wagtail	***				*				*	*		*		*			
143. White Wagtail : <i>M.a. leucopsis</i>	***	***	***	***	**	**	***	***	***	***	***	***	*	***		***	***
144. White Wagtail : <i>M.a.dukhunensis</i>								**								*	
145. Large Pied Wagtail																	
146. Citrine Wagtail		*	*	***							*	*					
147. Yellow Wagtail : <i>M.f.beema</i>				*													

Appendix-VI : Cont'd

VIC : Birds of Calcutta in POSTMONSOON : 2002–2003–2004–2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
148. Yellow Wagtail : <i>M.f.zaissanensis</i>				*							*	*					
149. Yellow Wagtail : <i>M.f.thunbergi</i>																	
150. Grey Wagtail		*		**				***			*					***	***
151. Richard's Pipit																	
152. Paddyfield Pipit			*	*					*								
153. Oriental Tree Pipit					*	*					*	*					
154. Black-winged Cuckoo-Shrike																	
155. Black-headed Cuckoo-Shrike	*				*						*						
156. Small Minivet	***	*															
157. Common Woodshrike																	
158. Red-whiskered Bulbul	***	***						*		***		*	***	***	***	***	*
159. Red-vented Bulbul	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
160. Common Iora	***	**															
161. Brown Shrike	***	***	***	**	***	***	***	***	***	*	***	***	**	*	**	**	***
162. R.backed Shrike : <i>L.s.tricolor</i>	**	**	***	***	*												
163. R.b.Shrike : <i>L.s.erythronotus</i>																	
164. Grey-backed Shrike																	
165. Blue Rock-Thrush																	
166. Orange-headed Thrush	***				*		*	*									
167. Scaly Thrush																	
168. Tickell's Thrush																	

Appendix-VI : Cont'd

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV _a	IV _b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
169. Siberian Rubythroat																	
170. Bluethroat																	
171. Orange-flanked Bush-Robin ●																	
172. Oriental Magpie Robin	***	***	***	*	***	***	***	***	***	***	***	***	***	***	**	***	***
173. Black Redstart																	
174. Common Stonechat																	
175. Jungle Babbler	***	***	***		***	***		***	***	***		***	***			***	**
176. Streaked Faintail-Warbler			**														
177. Yellow-bellied Prinia																	
178. Plain Prinia	***	***	***								*						
179. Rusty-rumped Grasshopper Warbler																	
180. Paddyfield Warbler																	
181. Blunt-winged Warbler																	
182. Blyth's Reed-Warbler	***	***	***	***	***	***				***	***	*	***				
183. Indian Great Reed-Warbler	*		**	***	*						*						
184. Common Tailorbird	***	***	***	***	***	***	*	***	***	***	***	***	***	***	**	***	***
185. Common Chiffchaff	***	***	***	**	*	*			***		***	***	***	***		**	*
186. Dusky Warbler											*						
187. Yellow-browed Warbler	**	***			*	*		*	*	***		*					**
188. Hume's Warbler											*	**				*	
189. Greenish Leaf-Warbler			*		*						*	*		*			

Appendix-VI : Cont'd

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
190. Western Crowned Warbler																	
191. Eastern Crowned Warbler																	
192. Gold-spectacled Flycat. Warb	*																
193. Striated Marsh-Warbler				**													
194. Sooty Flycatcher																	
195. Asian Brown Flycatcher																	
196. Red-throated Flycatcher	***	***	***	***	***	***	*	***	***	***	***	***	**	**		***	**
197. Verditer Flycatcher	**	*			*												
198. Blue-throated Flycatcher	**																
199. Tickell's Blue-Flycatcher																	
200. Grey-headed Flycatcher																	
201. Asian Paradise-Flycatcher	**																
202. Black-naped Monarch-Flycatcher	***	***															
203. White-throated Fantail Flycatcher	***	*															
204. Great Tit	***	***										*	*				
205. Thick-billed Flowerpecker																	
206. Tickell's Flowerpecker	***	***	**					**				*	***			*	
207. Purple-rumped Sunbird	***	***	***	*	*			*		***		*	***	*			*
208. Purple Sunbird	***	***	***	*	***	***	***	***	***	***	***	***	**	**	*	***	***
209. Little Spiderhunter	***																
210. Oriental White-eye	***	***															

Appendix-VI : Cont'd.

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
211. Red Munia			*														
212. White-throated Munia	***	*	**														
213. White-rumped Munia	***																
214. Spotted Munia	***	*		**				**									
215. Blackheaded Munia			*														
216. House Sparrow	***	***	**	**	**	***	***	**	***	***	***	***	**	**	**	*	***
217. Baya Weaver																	
218. Grey-headed Starling	***		*	***	**	*	*	***	***	**	***	**		*	*	*	***
219. Brahminy Starling																	
220. Asian Pied Starling	***	***	***	***	**	***	***	***	***	***	***	***	***	***	***	***	***
221. Common Myna	***	***	***	***	***	***	***	***	***	***	***	***	***	**	***	***	***
222. Jungle Myna	**			***	*			***	***	***	*		**	**	**	**	
223. Eurasian Golden Oriole		**	**		*						*	*					**
224. Black-naped Oriole			***		***				*			***	*			**	**
225. Black-headed Oriole	***	***	***	**	***	***	***	***	***	**	***	**	***	**	*	***	***
226. Black Drongo	***	***	***	***	***				***	*	***	***	**	*	*	*	*
227. Ashy Drongo		**			*								*				
228. Bronzed Drongo	***	***		*													
229. Lesser Racket-tailed Drongo ●		●															
230. Spangled Drongo		*															
231. Greater Racket-tailed Drongo																	

Appendix-VI : Cont'd.

VIC : Birds of Calcutta in POSTMONSOON : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
232. Ashy Woodswallow	**	*	**								*						
233. Indian Tree-pie	***	***	***	***	***	*	***	***	*	**	***	***	***	***		***	***
234. House Crow	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
235. Jungle Crow	***	***	***	***	***	*		***	***		*	**	***	*		***	**
STUDY SITES :																	
Ia = Shyamkhola									● Recorded Just prior To April 2002								
Ib = Narendrapur Wildlife Sanctuary									■ Flew Overhead ■ / * Present								
II = Indian Institute Of Management, JOKA									▼ Recorded once in Flight								
III = East Calcutta Wetlands - Part																	
IVa = Banobitan																	
IVb = Subhas Sarobar									*** Seen during 1st, 2nd & 3rd year								
Va = Tala Park									** Seen during 1st & 2nd year								
Vb = Indian Statistical Institute, Baranagore									** Seen during 2nd and 3rd year								
VIa = Maidan									* * Seen during 1st & 3rd year								
VIb = Eden Gardens									* Seen during 1st year only								
VII = Brace Bridge Wetlands									* Seen during 2nd year only								
VIII = Tollygunge Club									* Seen during 3rd year only								
IXa = Agri-Horticultural Society of India & Adjoining Area																	
IXb = Alipore Zoological Garden																	
Xa = Esplanade																	
Xb = Raj Bhavan Garden																	
XI = Rabindra Sarobar																	

Appendix-VI : Birds observed during Urban Biodiversity study in and around Calcutta :

VID : Birds of Calcutta in WINTER : 2002–2003–2004–2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
01. Little Grebe	***			*	***	*											
02. Great Crested Grebe				*													
03. Little Cormorant ■ / *	***	***	***	***	***	***	**	***	***	*	***		**	***	■	***	***
04. Indian Shag	**	*	***	***	**	***	*	*	**	*	***		**	***			***
05. Great Cormorant ■ / *			*	***	■	**			■		*						**
06. Darter ■ / *	■			**	■	*					**			*			
07. Little Egret ■ / *	*	*	***	***							***						
08. Grey Heron ■ / *			■	***													
09. Purple Heron ■ / *	■	■	***	***							**						*
10. Large Egret ■ / *	**	*	***	***	**	**		■			***						
11. Median Egret			*	***													
12. Cattle Egret	***	**	***	***	***	**	**		***	***	**	***		***		*	*
13. Indian Pond Heron	***	***	***	***	***	***	**	***	***	***	***	***	**	***	*	***	***
14. Black-crowned N.Heron			***	***	*	***					***		*	***	*	**	***
15. Yellow Bittern			***	***	*	*					*						
16. Chestnut Bittern	*		*	***													
17. Black Bittern			***														
18. Painted Stork				***							*			*			
19. Asian Openbill-Stork ■ / *			***	***	■	■		■			***						
20. Large Whistling Teal ×														×			
21. Lesser Whistling Teal	*		*											***			

Appendix-VI : Cont'd

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
22. Common Shelduck				*													
23. Cotton Teal	**																
24. Gadwall				***													
25. Eastern Wigeon																	
26. Northern Shoveller				***													
27. Northern Pintail				*										**			
28. Garganey				***													
29. Common Teal				*													
30. Common Pochard				*													
31. Ferruginous Pochard				*													
32. Tufted Pochard				***													
33. Oriental Honey Buzzard	*	*		*	***												
34. Black-shouldered Kite			*														
35. Black Kite : <i>M.m.govinda</i>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
36. Black Kite : <i>M.m.lineatus</i>				*													
37. Brahminy Kite ▼																	
38. Pallas's Fish-Eagle				**													
39. Indian W-backed Vulture	*	**	**	**	*				***	*	***	***	***	***		***	**
40. Long-billed Vulture ▼					▼												
41. Crested Serpent Eagle	***	***															
42. Western Marsh-Harrier	*		**	**	*												

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
43. Pied Harrier			*	*													
44. Shikra	**	***	***	***	***	*			**	*	*	* * *	***			*	
45. White-eyed Buzzard	*																
46. Booted Eagle			*		*												
47. Changeable Hawk-Eagle	* *	**															
48. Osprey	*																
49. Common Kestrel				*													
50. Red-headed Falcon				*	*												
51. Common Buttonquail	**		**														
52. Slaty-legged Crake	***																
53. White-breasted Waterhen	***	**	***	***	***			*		*	***	***	* * *	*		***	**
54. Baillon's Crake			**	***													
55. Ruddy-breasted Crake				***													
56. Watercock																	
57. Purple Moorhen			***	***													
58. Common Moorhen	***	***	***	***	***	***					***	*					
59. Common Coot	* *			**													
60. Bronze-winged Jacana	*		***	* *								*					
61. Greater Painted Snipe ●			●														
62. Pacific Golden Plover				*													
63. Common Ringed Plover				**													

Appendix-VI : Cont'd

VID : Birds of Calcutta in WINTER : 2002–2003–2004–2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
64. Little Ringed Plover	*			***							*						
65. Kentish Plover				*													
66. Grey-headed Lapwing ■	**		*	**													
67. Red-wattled Lapwing	*		*	*													
68. Pintail Snipe			*	**													
69. Swinhoe's Snipe				*													
70. Common Snipe				***													
71. Whimbrel ▼												▼					
72. Spotted Redshank				*													
73. Common Redshank				***													
74. Marsh Sandpiper				*													
75. Common Greenshank				**													
76. Green Sandpiper		*	*	*													
77. Wood Sandpiper	*		*	***													
78. Terek Sandpiper				*													
79. Common Sandpiper			*	***	*					**	***			*		*	
80. Little Stint				***													
81. Temminck's Stint				*													
82. Curlew Sandpiper				*													
83. Black-winged Stilt				***							*						
84. Pied Avocet				**													

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
85. Oriental Pratincole				*													
86. Pallas's Gull				***													
87. Brown-headed Gull				*													
88. Black-headed Gull			*	***													
89. Whiskered Tern				***													
90. Blue Rock Pigeon	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
91. Spotted Dove	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
92. Red Collared-Dove	**			* *													
93. Eurasian Collared-Dove	*		***	***	***	**	*	**			**	**	*	*			*
94. Emerald Dove	***	***			*												
95. Orange-breasted Gr-Pigeon	**									**		**					
96. Thick-billed Gr-Pigeon												*					
97. Yellow-legged Gr-Pigeon	***		***		**			*	***	*	**	***			*		
98. Alexandrine Parakeet	*	*	**		***	*	*	*	**	*	***	**	***			*	
99. Rose-ringed Parakeet	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
100. Plum-headed Parakeet ■	■ ■																
101. Red-breasted Parakeet									***	*			*			*	
102. Pied Crested Cuckoo			*														
103. Brainfever Bird	***	***	***	*	*	*				*	*	***	*			*	
104. Indian Cuckoo			*		*												
105. Common Cuckoo			*														

Appendix-VI : Cont'd

VID : Birds of Calcutta in WINTER : 2002–2003–2004–2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
106. Indian Plaintive Cuckoo					*												
107. Rufous-bellied P. Cuckoo	***	***	***	***	**						*	*					
108. Asian Koel	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
109. Greater Coucal	***	***	***	*	***	*	*	**	*	**	***	***	***	***		***	***
110. Barn Owl	**	**		*	*		*										
111. Oriental Scops-Owl																	
112. Collared Scops-Owl	***	*		*													
113. Brown Fish-Owl	*	***															
114. Spotted Owlet	***	***	***	***	**	***		**	***		**	***	*				
115. Large-tailed Nightjar	***	*										*					
116. Asian Palm-Swift	***	***	***	***	**	***	*	**	***	***	***	***	***	***	***	***	***
117. House Swift	*		***	***	**	*	*	**	***	**	**	**	***	**	***	**	***
118. Small Blue Kingfisher	***	***	***	***	***	*		**	***	***	***	***	*	**		*	**
119. Stork-billed Kingfisher	***	***	***	***	**	*		**		*	***	***	**	***		***	***
120. White-breasted Kingfisher	***	***	***	***	***	***	***	***	***	***	***	***	***	***	*	***	***
121. Black-capped Kingfisher																	
122. Lesser Pied Kingfisher				**	**												
123. Small Bee-eater	***	***	***	**	***	*	*	***		***	**	*			*	***	
124. Indian Roller				*	**				*			**			*		
125. Common Hoopoe	***	**	***	***	**			*	**	*		***		*	*	*	*
126. Lineated Barbet	***	***	**		*						*						

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.

Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
127. Blue-throated Barbet	***	***	***	*	***	**	**	**	***	***	***	***	***	***	***	***	***
128. Coppersmith Barbet	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
129. Wryneck : <i>J.t.chinensis</i>			*	**													
130. Fulvousbreasted Pied WP	***	***	**		**	*	**		**		*	***	*			*	***
131. Rufous Woodpecker	*	*							*		*	*					
132. Little Scaly-bellied Green WP	**	**	**														
133. Lesser Golden-backed WP	***	***	***	**	***	***	***	***	***	***	***	***	***	***	***	***	***
134. Greater Golden-backed WP		**															
135. Indian Pitta	**																
136. Bengal Bush-Lark	**		*														
137. Ashy-crown Sparrow Lark			*														
138. Eastern Skylark			*														
139. Com. Swallow : <i>H.r.rustica</i>	***	***	***	***	**	*					*	*				*	
140. Com. Swallow : <i>H.r.tyleri</i>				**													
141. Red-rumped Swallow	*			**								*					
142. Forest Wagtail	*		*		*				*	*	*						
143. W.Wagtail : <i>M.a. leucopsis</i>	***	**	***	***	**	**	**	**	***	***	***	***	*	*	*	**	***
144. W.Wagtail : <i>M.a.dukhunensis</i>				*												*	
145. Large Pied Wagtail											**						
146. Citrine Wagtail	**		*	***							***	***					
147. Yellow Wagtail : <i>M.f.beema</i>				*													

Appendix-VI : Cont'd

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
148. Y.Wagtail : <i>M.f.zaissanensis</i>				***													
149. Y. Wagtail : <i>M.f.thunbergi</i>	*		*	***								*					
150. Grey Wagtail	*		*	***				***	*	***	*				*	***	
151. Richard's Pipit	*		*	***					*								
152. Paddyfield Pipit	***		**	*													
153. Oriental Tree Pipit		*	***	*	***						***						
154. Black-winged Cuckoo-shrike	*	*			**												
155. Black-headed Cuckoo-Shrike	**		***		***						*						
156. Small Minivet	***	***															
157. Common Woodshrike	*																
158. Red-whiskered Bulbul	***	***			*			*	*	***	**	*	***	* *	***	***	**
159. Red-vented Bulbul	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
160. Common Iora	***	***	***		*							*					
161. Brown Shrike	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
162. R.backed Shrike : <i>L.s.tricolor</i>	***	**	***	***	***												
163. R.b.Shrike : <i>L.s.erythronotus</i>		*															
164. Grey-backed Shrike		**				*											
165. Blue Rock-Thrush								*									
166. Orange-headed Thrush	***	***			*		*	*					*				
167. Scaly Thrush	**																
168. Tickell's Thrush	*																

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
169. Siberian Rubythroat	*	*	*														
170. Bluethroat			**	***													
171. Orange-flanked Bush-Robin ●												●					
172. Oriental Magpie Robin	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
173. Black Redstart			*														
174. Common Stonechat			*	*													
175. Jungle Babbler	***	***	***	**	***	**		**	***	***	*	***	***	***	**	***	
176. Streaked Faintail-Warbler	**		***	**	*												
177. Yellow-bellied Prinia				**													
178. Plain Prinia	***		***	***	**						***						
179. Rusty-rumped Grasshop. Warb.			***														
180. Paddyfield Warbler	**		*														
181. Blunt-winged Warbler				***													
182. Blyth's Reed-Warbler	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
183. Indian Great Reed-Warbler	**		***	***	***						*		*				
184. Common Tailorbird	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
185. Common Chiffchaff	***	***	***	*	***			***	***	***	***	***	**		*	***	***
186. Dusky Warbler	*				*						*						
187. Yellow-browed Warbler	***	***	***		***				***	***	*						
188. Hume's Warbler	**	***	***		**					**	**	**	*		*	*	**
189. Greenish Leaf-Warbler	*	*	*		*						*						

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
190. Western Crowned Warbler		*															
191. Eastern Crowned Warbler		*															
192. Goldenspectacled Flycat. Warbler	**																
193. Striated Marsh-Warbler			*	**													
194. Sooty Flycatcher											*						
195. Asian Brown Flycatcher					*												
196. Red-throated Flycatcher	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
197. Verditer Flycatcher	***	**			*						*	*					
198. Blue-throated Flycatcher	**	**															
199. Tickell's Blue-Flycatcher	*																
200. Grey-headed Flycatcher		*															
201. Asian Paradise-Flycatcher	***	***			*												
202. Black-naped Monarch-Flycatcher	***	***			*												
203. White-throated Fantail Flycatcher	***	***															
204. Great Tit	***	***	**								*	*	*				
205. Thick-billed Flowerpecker	*																
206. Tickell's Flowerpecker	***	***	***		*			*			*	***	***			**	
207. Purple-rumped Sunbird	***	***	***	*	*					***		*	***	***			
208. Purple Sunbird	***	***	***	***	***	***	***	***	***	***	***	***	***		***	***	***
209. Little Spiderhunter	***																
210. Oriental White-eye	***	***										*					

VID : Birds of Calcutta in WINTER : 2002-2003-2004-2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
211. Red Munia	**		*	**													
212. White-throated Munia	**		*														
213. White-rumped Munia	***	**															
214. Spotted Munia	***	**	**	*				*			*						*
215. Blackheaded Munia	**		***	*													
216. House Sparrow	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
217. Baya Weaver	***			***				**									
218. Grey-headed Starling	***	*	***	**	**	*	*	**	**	*	**	***	*		**	***	***
219. Brahminy Starling			*														
220. Asian Pied Starling	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
221. Common Myna	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
222. Jungle Myna	***	*	*	***	**	*	**	*	***	***		**	*	**	***	***	*
223. Eurasian Golden Oriole	*	***	**		**	*	**	*		*	***	*	*				
224. Black-naped Oriole			*	*	***	**			***	**		***	*		**	***	*
225. Black-headed Oriole	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
226. Black Drongo	***	***	***	***	***	***	**	***	***	***	***	***	***	***	*	***	**
227. Ashy Drongo	*	***			**					**			***			*	
228. Bronzed Drongo	***	***	*						*								
229. Lesser Racket-tailed Drongo ●																	
230. Spangled Drongo	***	***															
231 Greater Racket-tailed Drongo													*				

Appendix-VI : Cont'd.

VID : Birds of Calcutta in WINTER : 2002–2003–2004–2005.																	
Name of the Sites →	I a	I b	II	III	IV a	IV b	Va	Vb	VI a	VI b	VII	VIII	IX a	IX b	Xa	Xb	XI
Name of Birds Seen ↓																	
232. Ashy Woodswallow	**	***	***	*							*						
233. Indian Tree-pie	***	***	***	***	***	***	***	***	***	***	***	***	***	***		***	***
234. House Crow	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
235. Jungle Crow	***	**	**	***	***	**		***	***	***	***	***	***	*		***	***
STUDY SITES :																	
Ia = Shyamkhola									● Seen once								
Ib = Narendrapur Wildlife Sanctuary									■ Flew Overhead / * Present								
II = Indian Institute Of Management, JOKA									▼ Recorded once in Flight								
III = East Calcutta Wetlands - Part									× Seen to swim								
IVa = Banobitan																	
IVb = Subhas Sarobar																	
Va = Tala Park									** Seen during 1st & 2nd year								
Vb = Indian Statistical Institute, Baranagore									** 2nd & 3rd year								
VIa = Maidan									* * 1st & 3rd year								
VIb = Eden Gardens									* Seen during 1st year only								
VII = Brace Bridge Wetlands									* Seen during 2nd year only								
VIII = Tollygunge Club									* Seen during 3rd year only								
IX a = Agri- Horticultural Society of India & Adjoining Area																	
IXb = Alipore Zoological Garden																	
Xa = Esplanade																	
Xb = Rajbhavan Garden																	
XI = Rabindra Sarobar																	

Appendix-VII : List of Birds Recorded from Calcutta and its environs between 1964 and 1999 as Documented from Past Literature*

Sl. No.	Family Name	Common English Name	Scientific Name
001	PODICIPITIDAE	Little Grebe+	<i>Tachybaptus ruficollis</i>
002	PELECANIDAE	Grey Pelican	<i>Pelecanus philippensis</i>
003	PHALACROCORACIDAE	Cormorant+	<i>Phalacrocorax carbo</i>
004		Indian Shag+	<i>Phalacrocorax fuscicollis</i>
005		Little Cormorant+	<i>Phalacrocorax niger</i>
006		Darter+	<i>Anhinga rufa</i>
007	ARDEIDAE	Grey Heron+	<i>Ardea cinerea</i>
008		Purple Heron+	<i>Ardea purpurea</i>
009		Pond Heron+	<i>Ardeola grayii</i>
010		Cattle egret+	<i>Bubulcus ibis coromandra</i>
011		Large Egret+	<i>Ardea alba</i>
012		Intermediate or Smaller Egret+	<i>Egretta intermedia</i>
013		Little egret+	<i>Egretta garzetta</i>
014		Night heron+	<i>Nycticorax nycticorax</i>
015		Chestnut Bittern+	<i>Ixobrychus cinnamomeus</i>
016		Yellow Bittern+	<i>Ixobrychus sinensis</i>
017		Black Bittern+	<i>Ixobrychus flavicollis</i>
018	CICONIIDAE	Painted Stork+	<i>Mycteria leucocephala</i>
019		Openbill Stork+	<i>Anastomus oscitans</i>
020	THESKIORNITHIDAE	White Ibis	<i>Theskiornis aethiopica</i>
021		Spoonbill	<i>Platalea leucorodia</i>
022	ANATIDAE	Greylag Goose	<i>Anser anser</i>
023		Barheaded Goose	<i>Anser indicus</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
024		Lesser Whistling Teal+	<i>Dendrocygna javanica</i>
025		Large Whistling Teal+	<i>Dendrocygna bicolor</i>
026		Pintail+	<i>Anas acuta</i>
027		Ruddy Shelduck	<i>Tadorna ferruginea</i>
028		Common Shelduck+	<i>Tadorna tadorna</i>
029		Baikal Teal	<i>Anas formosa</i>
030		Common teal+	<i>Anas crecca</i>
031		Mallard	<i>Anas platyrhynchos</i>
032		Gadwall+	<i>Anas strepera</i>
033		Wigeon+	<i>Anas penelope</i>
034		Garganey+	<i>Anas querquedula</i>
035		Shoveller+	<i>Anas clypeata</i>
236		Redbreasted Pochard	<i>Netta rufina</i>
037		Common or White-Eyed Pochard+	<i>Aythya ferina</i>
038		Baers Pochard	<i>Aythya baeri</i>
039		Tufted pochard+	<i>Aythya fuligula</i>
040		Cotton Teal+	<i>Nettapus coromandelianus</i>
041		Comb Duck	<i>Sarkidiornis melanotos</i>
042		Redbreasted Merganser	<i>Mergus serrator</i>
043	ACCIPITRIDAE	Black-winged / Black-Shouldered Kite+	<i>Elanus caeruleus</i>
044		Black Crested Baza	<i>Aviceda leuphotes</i>
045		Honey Buzzard+	<i>Pernis ptilorhyncus</i>
046		Large Indian Kite+	<i>Milvus migrans lineatus</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
047		Pariah Kite+	<i>Milvus migrans govinda</i>
048		Brahminy Kite+	<i>Haliastur indus</i>
049		Shikra+	<i>Accipiter badius</i>
050		Greater Spotted Eagle	<i>Aquila clanga</i>
051		Lesser Spotted Eagle	<i>Aquila pomarina</i>
052		Black Eagle	<i>Ictinaetus malayensis</i>
053		Pallas's Fishing Eagle	<i>Haliaeetus leucoryphus</i>
054		Grey Headed Fish Eagle	<i>Ichthyophaga ichthyaetus</i>
055		King Vulture	<i>Sarcogyps calvus</i>
056		Indian Longbilled Vulture+	<i>Gyps indicus</i>
057		Indian Whitebacked Vulture+	<i>Gyps bengalensis</i>
058		Hen Harrier	<i>Circus cyaneus</i>
059		Pied Harrier+	<i>Circus melanoleucos</i>
060		Marsh Harrier+	<i>Circus aeruginosus</i>
061		Creasted Serpent Eagle+	<i>Spilornis cheela</i>
062		Osprey+	<i>Pandion haliaetus</i>
063	FALCONIDAE	Lagger Falcon	<i>Falco biarmicus</i>
064		Peregrine Falcon	<i>Falco peregrinus</i>
065		Oriental Hobby	<i>Falco severus</i>
066		Red Headed Merlin+	<i>Falco chicquera</i>
067		Kestrel+	<i>Falco tinnunculus</i>
068	PHASIANIDAE	Swamp Partridge	<i>Francolinus gularis</i>
069		Grey Quail	<i>Coturnix coturnix</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
070		Rain Quail	<i>Coturnix coromandelica</i>
071		Blue Breasted Quail	<i>Coturnix chinensis</i>
072	TURNICIDAE	Yellow Legged Button Quail	<i>Turnix tanki</i>
073		Common Bustard Quail+	<i>Turnix suscitator</i>
074	RALLIDAE	Water Rail	<i>Rallus aquaticus</i>
075		Bluebreasted Banded Rail	<i>Rallus striatus</i>
076		Banded Crake	<i>Rallus eurizonoides</i>
077		Baillon's Crake+	<i>Porzana pusilla</i>
078		Spotted crake	<i>Porzana porzana</i>
079		Ruddy Crake+	<i>Porzana fusca</i>
080		Brown Crake	<i>Amaurornis akool</i>
081		Whitebreasted Water-hen+	<i>Amaurornis phoenicurus</i>
082		Water Cock+	<i>Gallicrex cinerea</i>
083		Moorhen+	<i>Gallinula chloropus</i>
084		Purple Moorhen+	<i>Porphyrio porphyrio</i>
085		Coot+	<i>Fulica atra</i>
086	JACANIDAE	Pheasant Tailed Jacana	<i>Hydrophasianus chirurgus</i>
087		Bronze-winged Jacana+	<i>Metopidius indicus</i>
088	ROSTRATULIDAE	Painted Snipe+	<i>Rostratula benghalensis</i>
089	RECURVIROSTRIDAE	Black Winged Stilt+	<i>Himantopus himantopus</i>
090		Avocet+	<i>Recurvirostra avosetta</i>
091	GLAREOLIDAE	Collared Pratincole	<i>Glareola pratincola</i>
092	CHARADRIIDAE	Greyheaded Lapwing+	<i>Vanellus cinereus</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
093		Red-wattled Lapwing+	<i>Vanellus indicus</i>
094		Spurwinged Lapwing	<i>Vanellus spinosus</i>
095		Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
096		Grey Plover or Greybellied Plover	<i>Pluvialis squatarola</i>
097		Eastern Golden Plover+	<i>Pluvialis dominica fulva</i>
098		Ringed Plover+	<i>Charadrius hiaticula</i>
099		Little Ringed plover+	<i>Charadrius dubius</i>
100		Kentish Plover+	<i>Charadrius alexandrinus</i>
101		Curlew	<i>Numenius arquata</i>
102		Black-tailed Godwit	<i>Limosa limosa</i>
103		Spotted Redshank+	<i>Tringa erythropus</i>
104		Marsh Sandpiper+	<i>Tringa stagnatilis</i>
105		Greenshank+	<i>Tringa nebularia</i>
106		Green Sandpiper+	<i>Tringa ochropus</i>
107		Wood Sandpiper+	<i>Tringa glareola</i>
108		Common Sandpiper+	<i>Tringa hypoleucos</i>
109		Asian Dowitcher / Snipebilled Godwit	<i>Limnodromus semipalmatus</i>
110		Wood Snipe	<i>Gallinago nemoricola</i>
111		Pintail Snipe+	<i>Gallinago stenura</i>
112		Swinhoe's Snipe+	<i>Gallinago megala</i>
113		Fantail snipe+	<i>Gallinago gallinago</i>
114		Jack Snipe	<i>Gallinago minima</i>
115		Woodcock	<i>Scolopax rusticola</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
116		Eastern Little Stint	<i>Calidris ruficollis</i>
117		Temminck Stint+	<i>Calidris temminckii</i>
118		Longtoed Stint	<i>Calidris subminuta</i>
119		Little Stint+	<i>Calidris minuta</i>
120		Broadbilled Sandpiper	<i>Limicola falcinellus</i>
121		Ruff and Reeve	<i>Philomachus pugnax</i>
122	LARIDAE	Great Blackheaded or Pallas's Gull+	<i>Larus ichthyaetus</i>
123		Brownhead Gull+	<i>Larus brunnicephalus</i>
124		Blackheaded Gull+	<i>Larus ridibundus</i>
125		Whiskered Tern+	<i>Chlidonias hybrida</i>
126		WhiteWinged Black Tern	<i>Chlidonias leucopterus</i>
127		Gullbilled Tern	<i>Gelochelidon nilotica affinis</i>
128		Indian River Tern	<i>Sterna aurantia</i>
129		Common Tern	<i>Sterna hirundo</i>
130	COLUMBIDAE	Blue Rock Pigeon+	<i>Columba livia</i>
131		Rufous Turtle Dove	<i>Streptopelia orientalis</i>
132		Indian Ringed Dove+	<i>Streptopelia decaocto</i>
133		Red Turtle Dove+	<i>Streptopelia tranquebarica</i>
134		Spotted Dove+	<i>Streptopelia chinensis</i>
135		Little Brown Dove	<i>Streptopelia senegalensis</i>
136	PSITTACIDAE	Alexandrine Parakeet+	<i>Psittacula eupatria</i>
137		Roseringed Parakeet+	<i>Psittacula krameri</i>
138		Blossom Headed Parakeet+	<i>Psittacula cyanocephala</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
139	CUCULIDAE	Pied Crested Cuckoo+	<i>Clamator jacobinus</i>
140		Redwinged Crested Cuckoo	<i>Clamator coromandus</i>
141		Common hawk cuckoo+	<i>Cuculus varius</i>
142		Indian Cuckoo+	<i>Cuculus micropterus</i>
143		Cuckoo+	<i>Cuculus canorus</i>
144		Indian Banded Bay Cuckoo	<i>Cacomanti sonneratii</i>
145		Rufousbellied Plaintive Cuckoo+	<i>Cacomantis merulinus</i>
146		Koel+	<i>Eudynamys scolopacea</i>
147		Coucal+	<i>Centropus sinensis</i>
148		Lesser Coucal	<i>Centropus toulou</i>
149	STREGIDAE	Barn Owl+	<i>Tyto alba</i>
150		Great Horned or Eagle Owl	<i>Bubo bubo</i>
151		Brown Fish Owl+	<i>Bubo zeylonensis</i>
152		Spotted Owlet+	<i>Athene brama</i>
153		Short Eared Owl	<i>Asio flammeus</i>
154	CAPRIMULGIDAE	Common Indian Nightjar	<i>Caprimulgus asiaticus</i>
155		Franklin's or Allied Nightjar	<i>Caprimulgus affinis</i>
156		Longtailed Nightjar+	<i>Caprimulgus macrurus</i>
157	APODIDAE	Large Whiterumped Swift	<i>Apus pacificus</i>
158		House Swift+	<i>Apus affinis</i>
159		Palm Swift+	<i>Cypsiurus parvus</i>
160	ALCEDINIDAE	Lesser pied King-fisher+	<i>Ceryle rudis</i>
161		Common Kingfisher+	<i>Alcedo atthis</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
162		Brown-winged Kingfisher	<i>Halcyon amauroptera</i>
163		Storkbilled Kingfisher+	<i>Halcyon capensis</i>
164		Black-capped Kingfisher+	<i>Halcyon pileata</i>
165		White-breasted Kingfisher+	<i>Halcyon smyrnensis</i>
166	MEROPIDAE	Bluetailed Bee-eater	<i>Merops philippinus</i>
167		Green Bee-eater+	<i>Merops orientalis</i>
168	CORACIIDAE	Indian Roller+	<i>Coracias benghalensis</i>
169	UPPUPIDAE	Hoopoe+	<i>Upupa epops</i>
170	CAPITONIDAE	Lineated Barbet+	<i>Megalaima lineate</i>
171		Large Green Barbet	<i>Megalaima zeylanica</i>
172		Bluethroated Barbet+	<i>Megalaima asiatic</i>
173		Crimson-breasted Barbet+	<i>Megalaima haemacephala</i>
174	PICIDAE	Eurasian Wryneck+	<i>Jynx torquilla</i>
175		Rufous Woodpecker+	<i>Celeus brachyurus</i>
176		Lesser Golden-backed Woodpecker+	<i>Dinopium benghalense</i>
177		Fulvous-breasted pied Woodpecker+	<i>Dendrocopos macei</i>
178		Yellow Fronted Pied Woodpecker	<i>Dendrocopos mahrattensis</i>
179		Brown-capped Pigmy Woodpecker	<i>Dendrocopos nanus</i>
180		Larger Goldenbacked Woodpecker+	<i>Chrysocolaptes lucidus</i>
181	ALAUDIDEA	Singing Bush-lark	<i>Mirafra cantillans</i>
182		Bengal Bush-lark+	<i>Mirafra assamica</i>
183		Red-winged Bush-lark	<i>Mirafra erythroptera</i>
184		Ashy-crowned Sparrow-lark+	<i>Eremopterix grisea</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
185		Eastern Skylark+	<i>Alauda gulgula</i>
186		Common Crested Lark	<i>Galerida cristata</i>
187	HIRUNDINIDAE	Sand Martin	<i>Riparia riparia</i>
188		Plain Martin	<i>Riparia paludicola</i>
189		Swallow+	<i>Hirundo rustica rustica</i>
190		Red-rumped Swallow+	<i>Hirundo daurica</i>
191	LANIIDAE	Bay Backed Shrike	<i>Lanius vittatus</i>
192		Black headed Shrike+	<i>Lanius schach tircolor</i>
193		Brown Shrike+	<i>Lanius cristatus</i>
194	ORIOOLIDAE	Eurasian Golden Oriole+	<i>Oriolus oriolus</i>
195		Black-headed Oriole+	<i>Oriolus xanthornus</i>
196	DICRURIDAE	Black Drongo+	<i>Dicrurus macrocercus</i>
197		Ashy Drongo+	<i>Dicrurus leucophaeus</i>
198		Bronze Drongo+	<i>Dicrurus aeneus</i>
199	ARTAMIDAE	Ashy Woodswallow +	<i>Artamus fuscus</i>
200	STURNIDAE	Spotted Winged Stare	<i>Saroglossa spiloptera</i>
201		Greyheaded Starling+	<i>Sturnus malabaricus</i>
202		Bramhiny Starling+	<i>Sturnus pagodarum</i>
203		Rosy Sturling	<i>Sturnus roseus</i>
204		Common Starling	<i>Sturnus vulgaris</i>
205		Pied Starling+	<i>Sturnus contra</i>
206		Bank Myna	<i>Acridotheres ginginianus</i>
207		Jungle Myna+	<i>Acridotheres fuscus</i>

Appendix-VII : Cont'd

Sl. No.	Family Name	Common English Name	Scientific Name
208		Common Myna+	<i>Acridotheres tristis</i>
209	CORVIDAE	Indian Treepie+	<i>Dendrocitta vagabunda</i>
210		House Crow+	<i>Corvus splendens</i>
211		Jungle Crow+	<i>Corvus macrorynchos</i>
212	CAMPEPHAGIDAE	Pied Flycatcher Shrike	<i>Hemipus picatus</i>
213		Blackheaded Cuckoo-shrike+	<i>Coracina melanoptera</i>
214		Smaller Grey Cuckoo-shrike+	<i>Coracina melaschistos</i>
215		Rosy Minivet	<i>Pericrocotus roseus</i>
216		Small Minivet+	<i>Pericrocotus cinnamomeus</i>
217	IRENIDAE	Common Iora+	<i>Aegithina tiphia</i>
218		Goldenfronted Chloropsis	<i>Chloropsis aurifrons</i>
219	PYCNONOTIDAE	Redwhiskered Bulbul+	<i>Pycnonotus jocosus</i>
220		Redvented bulbul+	<i>Pycnonotus cafer</i>
221	MUCICAPIDAE	Yellow-eyed Babbler	<i>Chrysomma sinense</i>
222		Common Babbler	<i>Turdoides caudatus</i>
223		Striated Babbler	<i>Turdoides earlei</i>
224		Jungle Babbler+	<i>Turdoides striatus</i>
225		Red-Throated Flycatcher+	<i>Ficedula parva</i>
226		Verditer Flycatcher+	<i>Eumyias thalassina</i>
227		White Throated Fantail Flycatcher+	<i>Rhipidura albicollis</i>
228		Paradise Flycatcher+	<i>Terpsiphone paradisi</i>
229		Black-naped Monarch-Flycatcher+	<i>Hypothymis azurea</i>
230		Mangrove Whistler	<i>Pachycephala grisola</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
231		Spotted Bush Warbler	<i>Bradypterus thoracicus</i>
232		Golden-headed Fantailed Warbler	<i>Cisticola exilis</i>
233		Streaked Fantail Warbler+	<i>Cisticola juncidis</i>
234		Franklin's Prinia	<i>Prinia hodgsonii</i>
235		Plain Prinia+	<i>Prinia inornata</i>
236		Yellow-bellied Prinia+	<i>Prinia flaviventris</i>
237		Tailor bird+	<i>Orthotomus sutorius</i>
238		Pallas's Grasshopper Warbler+	<i>Locustella certhiola</i>
239		Bristled Grass Warbler	<i>Chaetornis striatus</i>
240		Striated Marsh Warbler+	<i>Megalerys palustris</i>
241		Indian Great Reed Warbler+	<i>Acrocephalus stentoreus</i>
242		Thick-billed Warbler	<i>Acrocephalus aedon</i>
243		Oriental Great Reed Warbler	<i>Acrocephalus orientalis</i>
244		Eurasian Great Reed Warbler	<i>Acrocephalus arundinaceus</i>
245		Black-browed Reed Warbler	<i>Acrocephalus bistrigiceps</i>
246		Blyth's Reed Warbler+	<i>Acrocephalus dumetorum</i>
147		Paddy Field Warbler+	<i>Acrocephalus agricola</i>
248		Chiffchaff+	<i>Phylloscopus collybita</i>
249		Olivaceous Leaf Warbler	<i>Phylloscopus griseolus</i>
250		Smoky Willow Warbler	<i>Phylloscopus fulgiventis</i>
251		Dusky Leaf Warbler+	<i>Phylloscopus fuscatus</i>
252		Yellow-browed Leaf Warbler+	<i>Phylloscopus inornatus humei</i>
253		Largebilled Leaf Warbler	<i>Phylloscopus magnirostris</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
254		Eastern Green Leaf Warbler+	<i>Phylloscopus trochiloides</i>
255		Blyth's Leaf Warbler	<i>Phylloscopus reguloides</i>
256		Golden Spectacled Warbler+	<i>Seicercus burkii</i>
257		Siberian Rubythroat+	<i>Luscinia calliope</i>
258		Bluethroat+	<i>Luscinia svecica</i>
259		White Spotted Bluethroat	<i>Erithraceus svecicus abbotti</i>
260		Oriental Magpie Robin+	<i>Copsychus saularis</i>
261		Stone Chat+	<i>Saxicola torquata</i>
262		White Tailed Stone Chat	<i>Saxicola leucura</i>
263		Indian Robin	<i>Saxicoloides fubicata</i>
264		Orange Headed Thrush+	<i>Zoothera citrina</i>
265		Scaly Thrush+	<i>Zoothera dauma</i>
266	PARIDAE	Grey Tit+	<i>Parus major</i>
267	SITTIDAE	Chestnut Bellied Nuthatch	<i>Sitta castanea</i>
268	MOTACILLIDAE	Indian Tree Pipit+	<i>Anthus hodgsoni</i>
269		Paddy Field Pipit+	<i>Anthus rufulus</i>
270		Richard's Pipit+	<i>Anthus richardi</i>
271		Forest Wagtail+	<i>Dendronanthus indicus</i>
272		Yellow Wagtail+	<i>Motacilla flava beema</i>
273		Yellow Headed Wagtail+	<i>Motacilla citreola</i>
274		Grey Wagtail+	<i>Motacilla cinerea</i>
275		Pied Wagtail+	<i>Motacilla alba</i>

Appendix-VII : Cont'd.

Sl. No.	Family Name	Common English Name	Scientific Name
276	DICAEIDAE	Thick-billed Flowerpecker	<i>Dicaeum agile</i>
277		Tickell's Flowerpecker+	<i>Dicaeum erythrorynchos</i>
278	NECTARINIIDAE	Purple-rumped Sunbird+	<i>Nectarinia zeylonica</i>
279		Purple Sunbird+	<i>Nectarinia asiatica</i>
280	ZOSTEROPIDAE	White Eye+	<i>Zosterops palpebrosa</i>
281	PLOCEIDAE	House Sparrow+	<i>Passer domesticus</i>
282		Baya Weaver+	<i>Ploceus philippinus</i>
283		Finn's Baya	<i>Ploceus megarynchus</i>
284		Black-breasted Weaver Bird	<i>Ploceus benghalensis</i>

* Compiled by Partha Sarathi Ghose.

+ Seen during the present study.

Appendix-VIII : Mammals recorded during urban biodiversity study in and around Calcutta (2002-2005) through field observations and poster surveys.

Species	Common Name	Occurrence	Wildlife Schedule Status
ORDER-INSECTIVORA			
1. <i>Suncus murinus</i>	House Shrew	Common	IV
ORDER-CHIROPTERA			
2. <i>Pteropus giganteus</i>	Flying Fox	Common	IV
3. <i>Cynopterus sphinx</i>	Short-nosed Fruit-bat	Common	IV
4. <i>Pipistrellus coromondra</i>	Indian Pipistrel	Common	IV
5. <i>Scotophilus kuhli</i>	Lesser Yellow Bat	Common	IV
6. <i>Scotophilus heathii</i>	Greater Yellow Bat	Common	IV
ORDER-PRIMATES			
7. <i>Semnopithecus entallus</i>	Common Langur	Common	II
ORDER-CARNIVORA			
8. <i>Canis aurens</i>	Jackal	Common	II
10. <i>Viverricula india</i>	Small Indian Civet	Rare	II
11. <i>Paradoxurus hermaphroditus</i>	Palm Civet	Common	II
12. <i>Herpestes edwardsii</i>	Grey Mongoose	Common	IV
13. <i>Herpestes palustris</i>	Marsh mongoose	Rare	
14. <i>Felis chaus</i>	Jungle Cat	Common	II
ORDER-RODENTIA			
15. <i>Funumbulus pennanti</i>	Five Striped Squirrel	Common	IV
16. <i>Rattus rattus</i>	House Rat	Common	IV
17. <i>Rattus rattus</i>	Tree Rat	Common	IV
18. <i>Rattus norvegicus</i>	Norway Rat	Common	IV
19. <i>Mus musculus</i>	House Mouse	Common	IV
20. <i>Bandicota bengalensis</i>	Lesser Bandicoot Rat	Common	V
ORDER-CETACEA			
21. <i>Platanista gangetica</i>	Gangetic Dolphin	Occasional	I

SUMMARY

The present study on Calcutta's urban biodiversity enlightened the fact that this urban area is still alive with approximately 630 species of flowering plants, 85 species of butterflies, 235 species and sub-species of birds and 20 mammalian species even in the condition of very low density of trees. This study could definitely not record all the species exist or migrate to urban Calcutta throughout the year since the survey was not done every day and throughout the day. Steps should be taken to restore all possible habitats to let the wildlife sustain along with human beings successfully. Plantation of more trees, ceasation of tree felling and ceasation of human interferences in the wildlife rich urban areas of Calcutta would definitely make the city more interesting and biodiversity rich in future.

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1. Bamboo grove at Shyamakhola (Site-Ia)



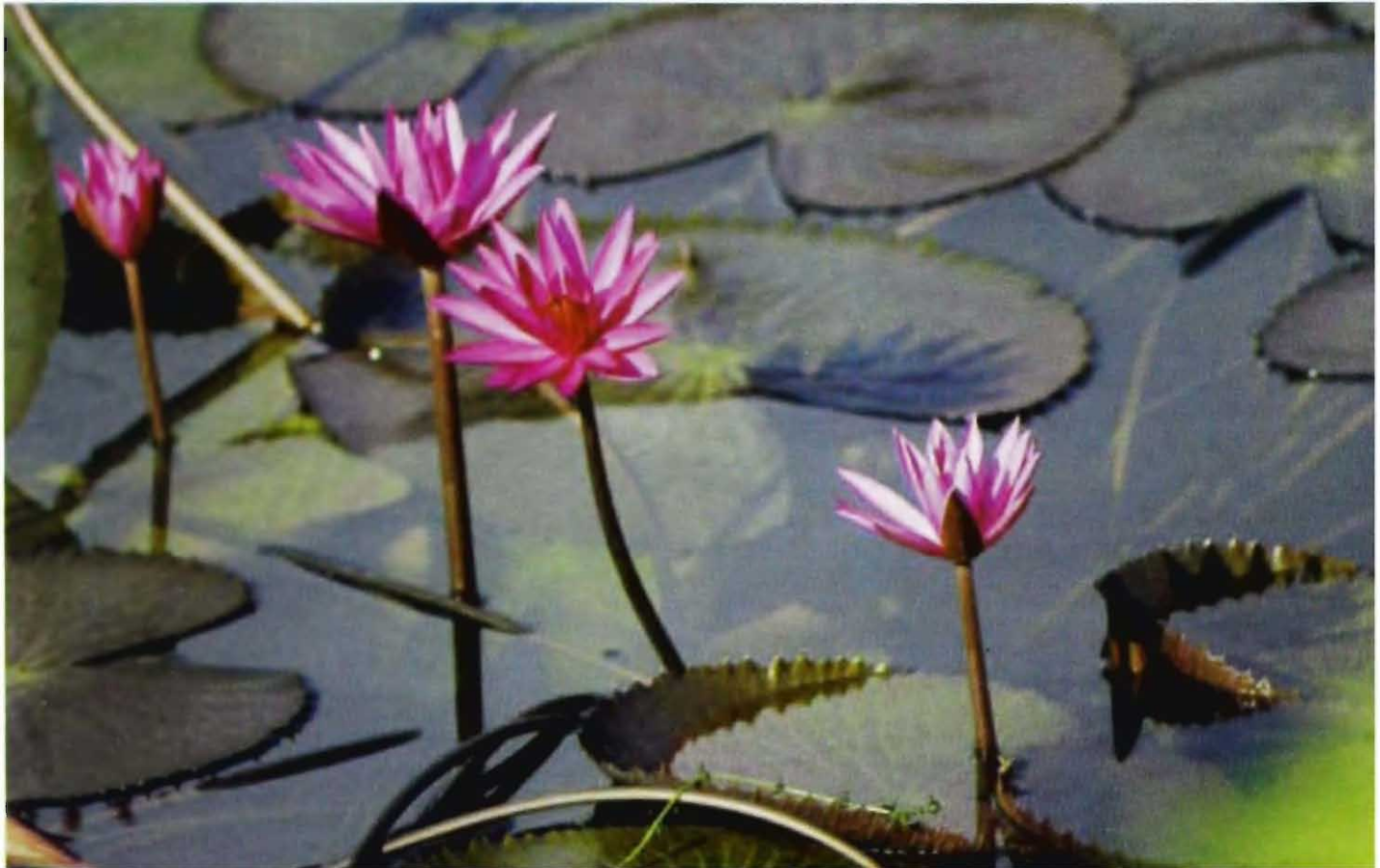
2. Typha Bed within Indian Institute of Management, Calcutta, Joka (Site-II)



3. Tollygunj Club (Site-VIII) - Grassland with forested boundary and Jackal



4. *Ruelia tuberosa*



5. *Nymphaea nouchali* Indian Red Water Lily (Saluk)



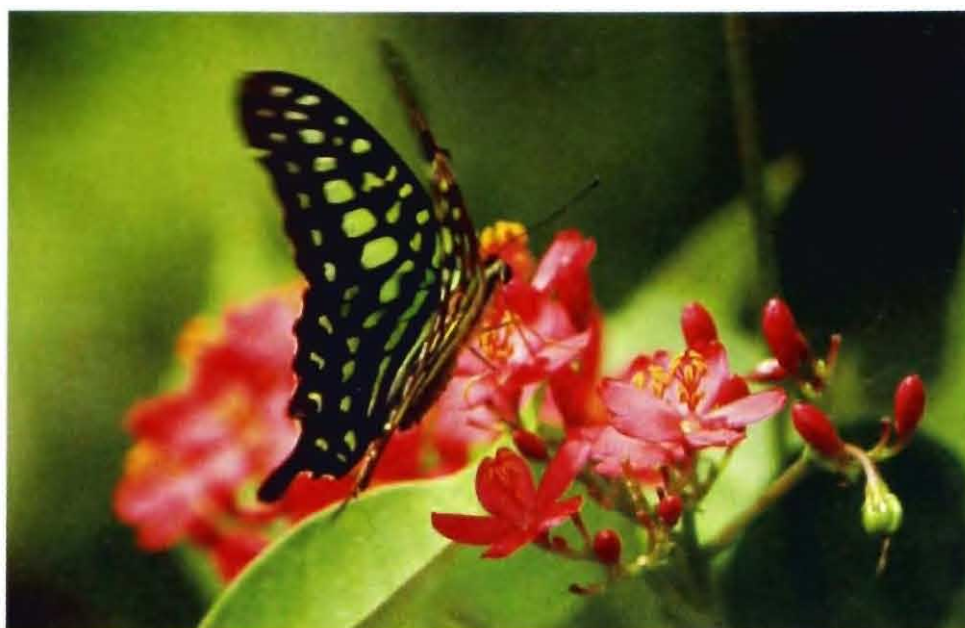
6. *Bombax ellipticum* White Shaving Brush



7. *Millettia peguensis* Moulmeir Rosewood



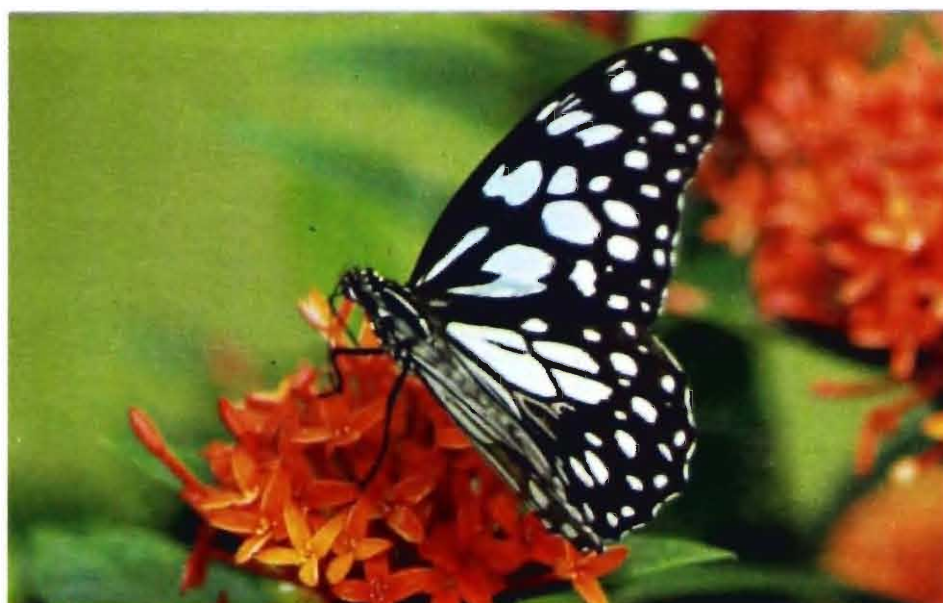
8. *Lagerstroemia speciosa* Queen's Flower/ Rani Jarul



9. *Graphium agamemnon* (Linnaeus) - Tailed Jay



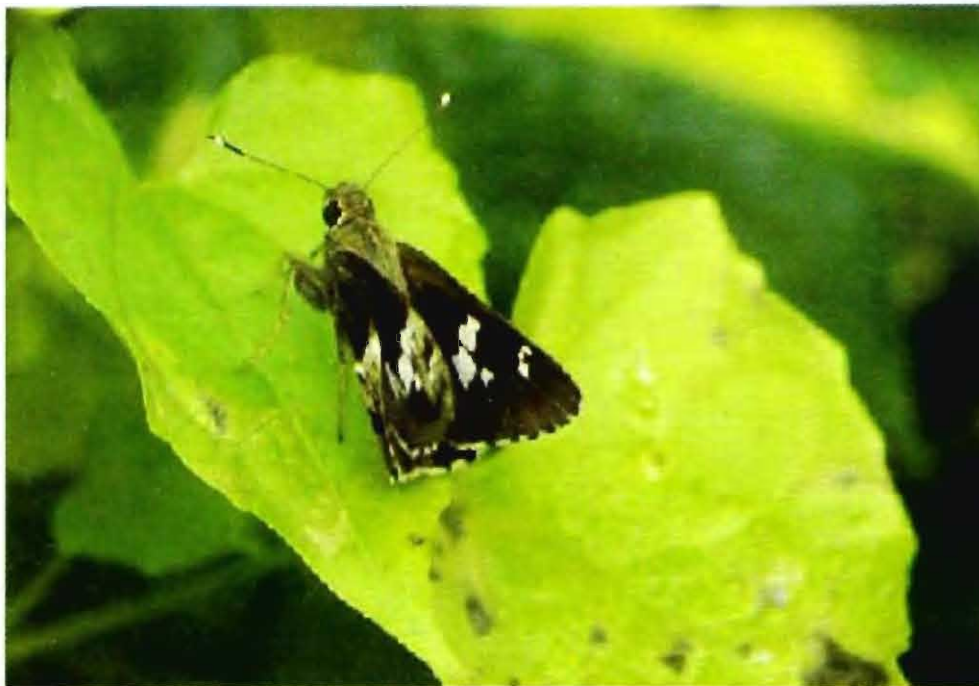
10. *Graphium doson* - Common Jay



11. *Tirumala limniace* (Cramer) - Blue Tiger



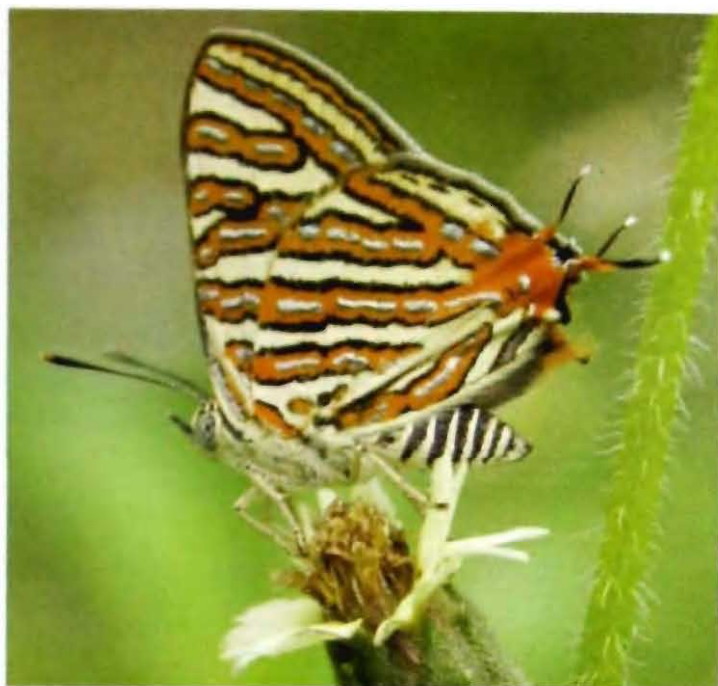
12. *Papilio polytes* Linnaeus - Common Marmon



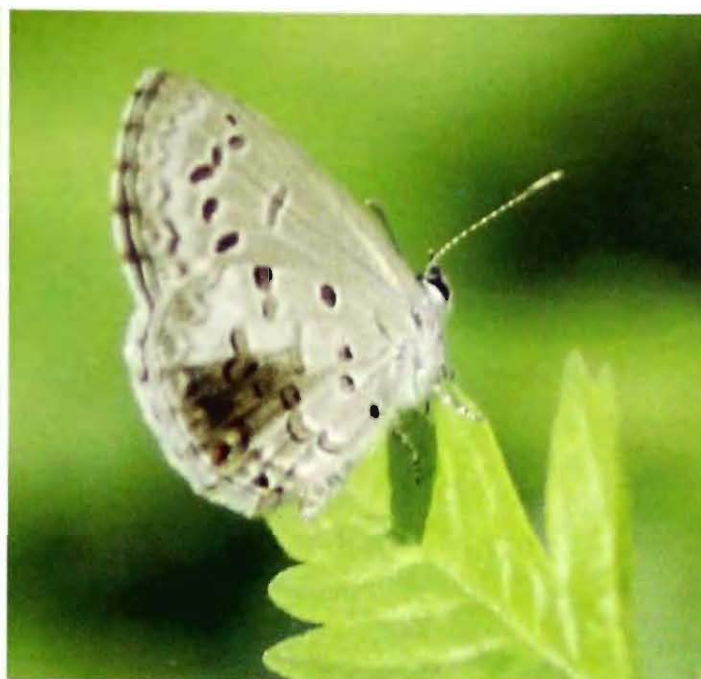
13. *Hyarotis adrastus*
Tree Flitter



14. *Delias eucharis* (Drury) - Common Jezebel



15. *Spindasis vuleanus* (Fabricius)
Common Silverline



16. *Chilades lajus* (Stoll)
Lime Blue (Dry form)



17. *Acraea violae*
Tawny Coster



18. *Castalius rosimon*
Common Pierrot



19. *Priniceps polyetor*
Common Banded Peacock



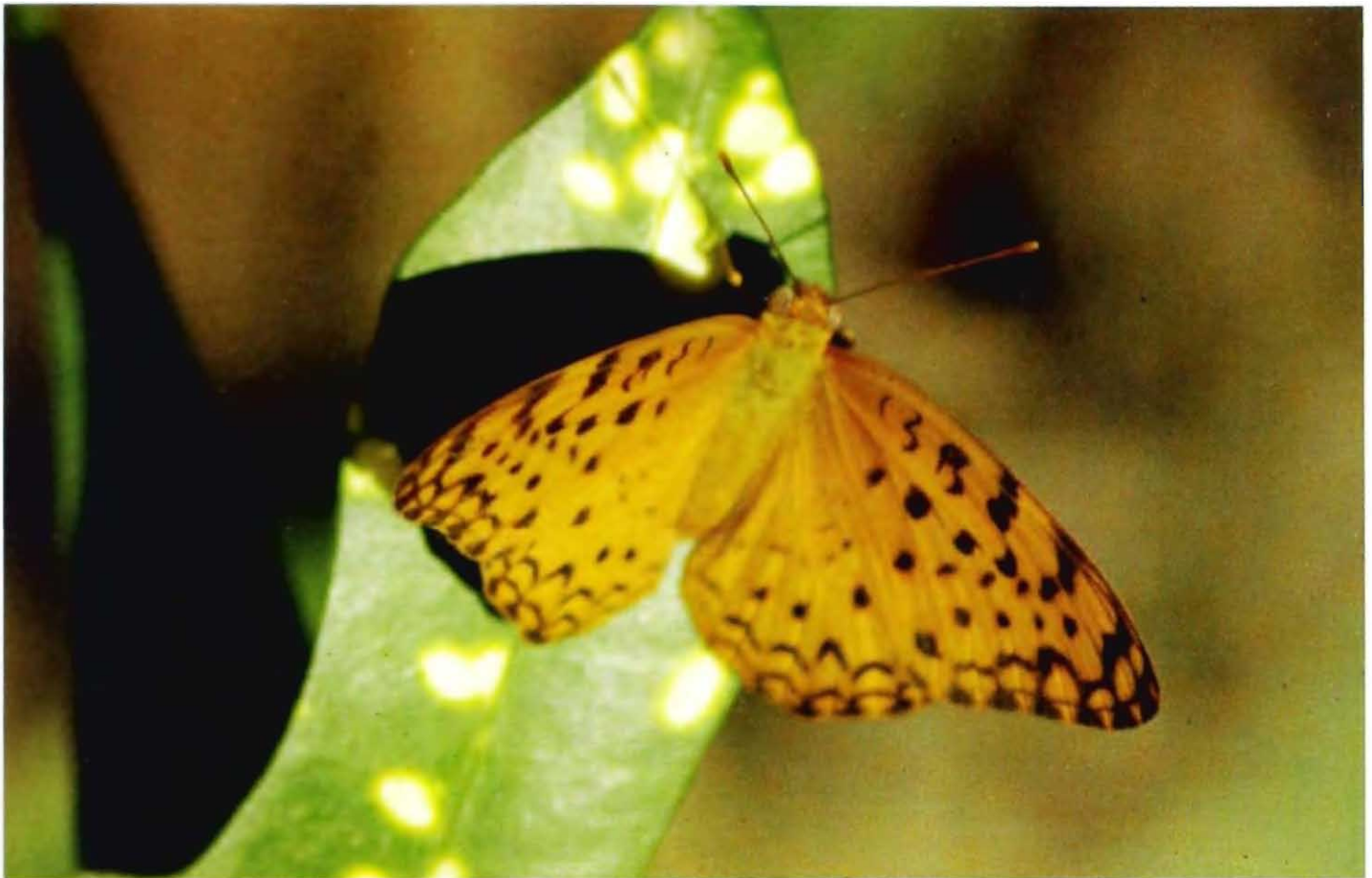
20. *Danaus chrysippus*
Plain Tiger



21. *Pseudozizeeria maha* (Kollar) - Pale Glass Blue



22. *Cyphima hueleneri* Kirby - Common Fourring



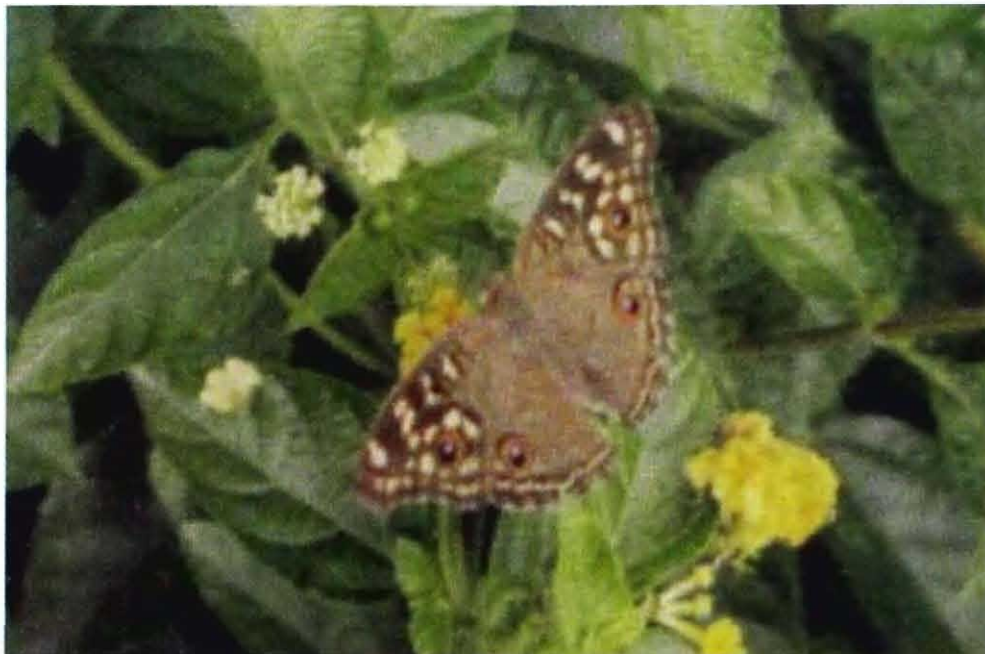
23. *Phalanta phalanta* (Drury) - Common Leopard



24. *Ariadne marione* (Linnaeus) - Common Caster



25. *Junonia almana* (Linnaeus) - Peacock Pansy



26. *Junonia lemonias*
Lemon Pansy



27. *Hypolimnas misippus* (Linnaeus) - Danaid Eggfly



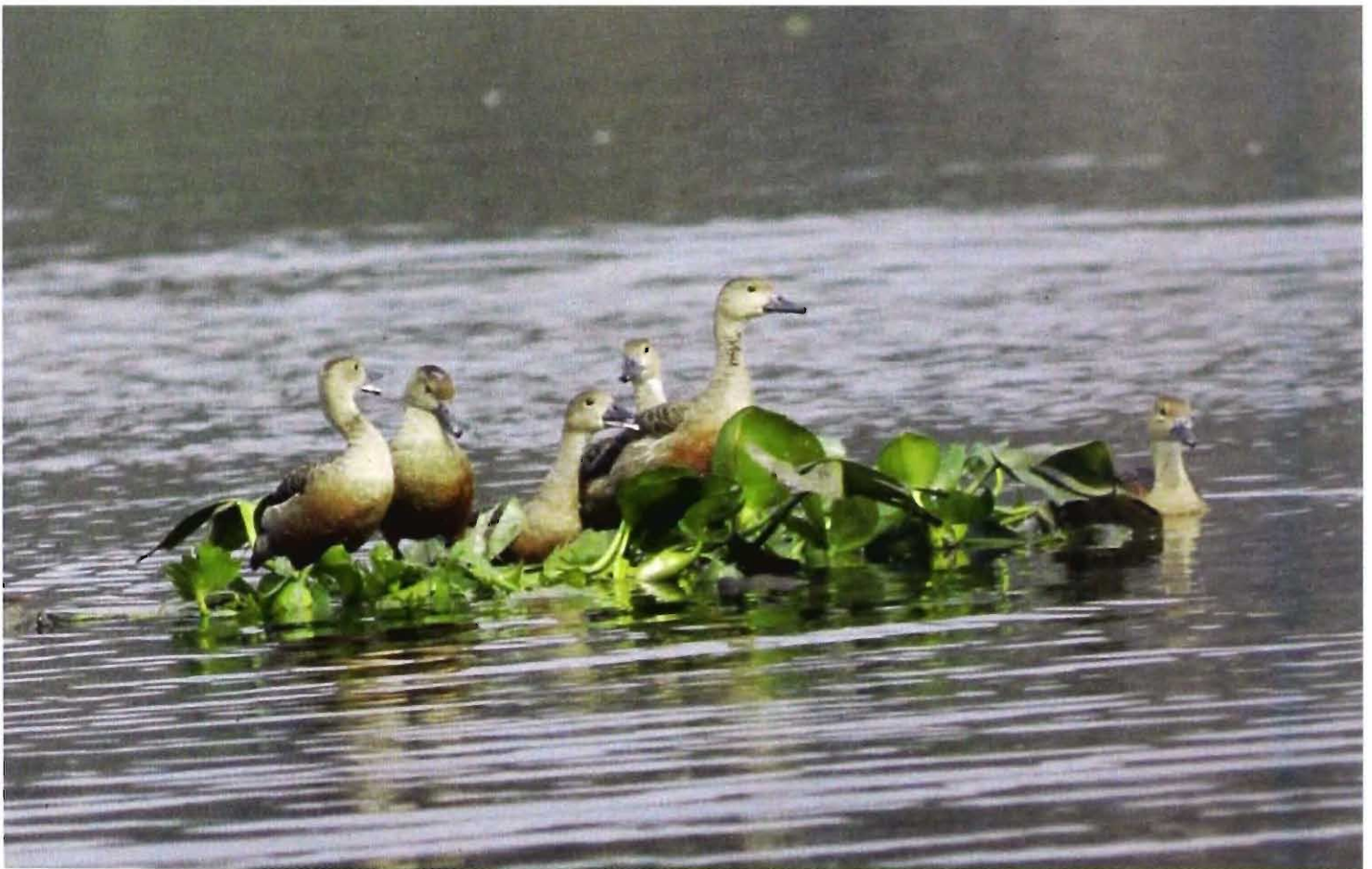
28. *Bubulcus ibis* (Linnaeus) - Cattle Egret



29. *Ardeola grayii* (Skyles) - Indian Pond Heron



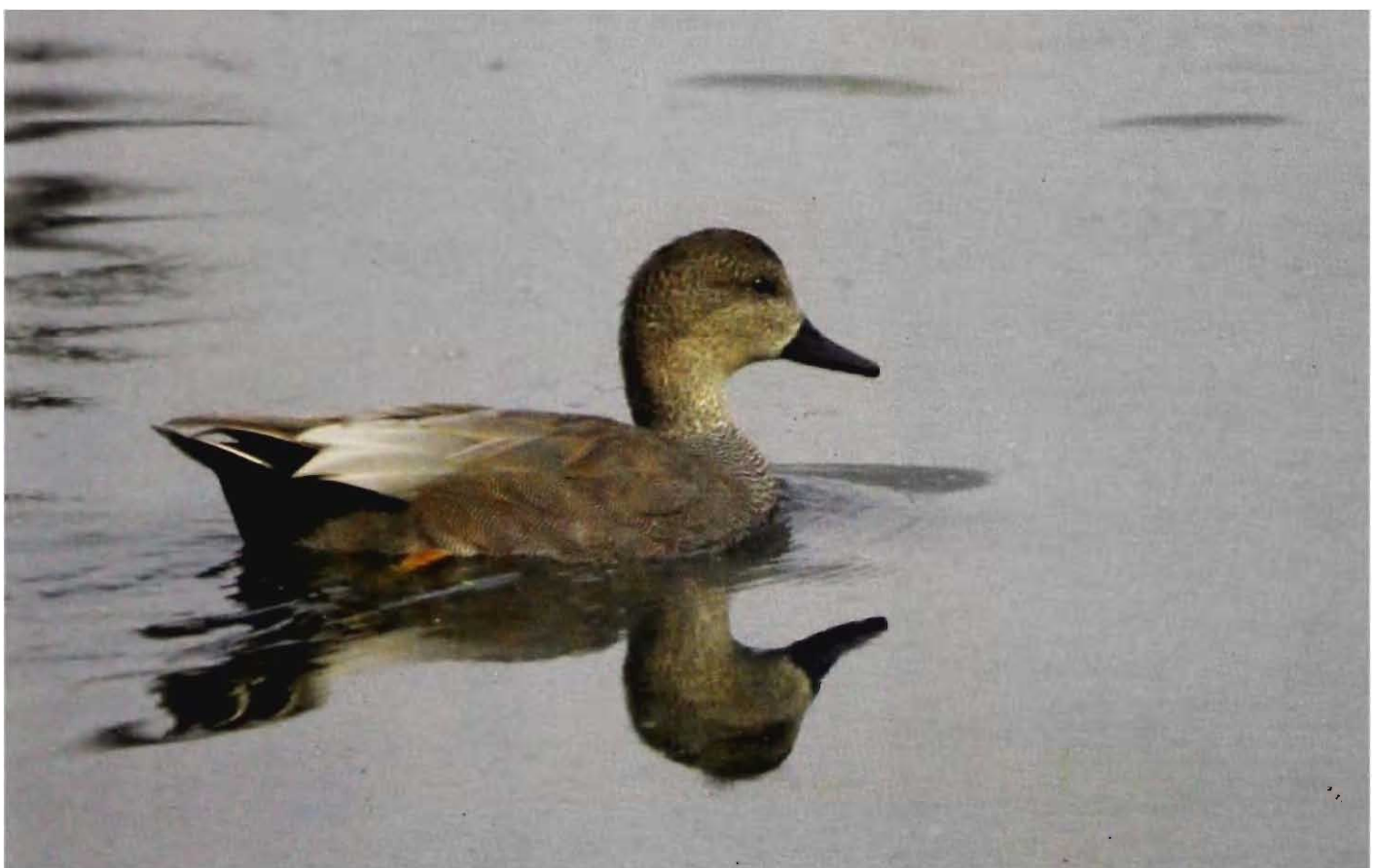
30. *Nycticorax nycticorax* (Linnaeus) Black-crowned Night Heron



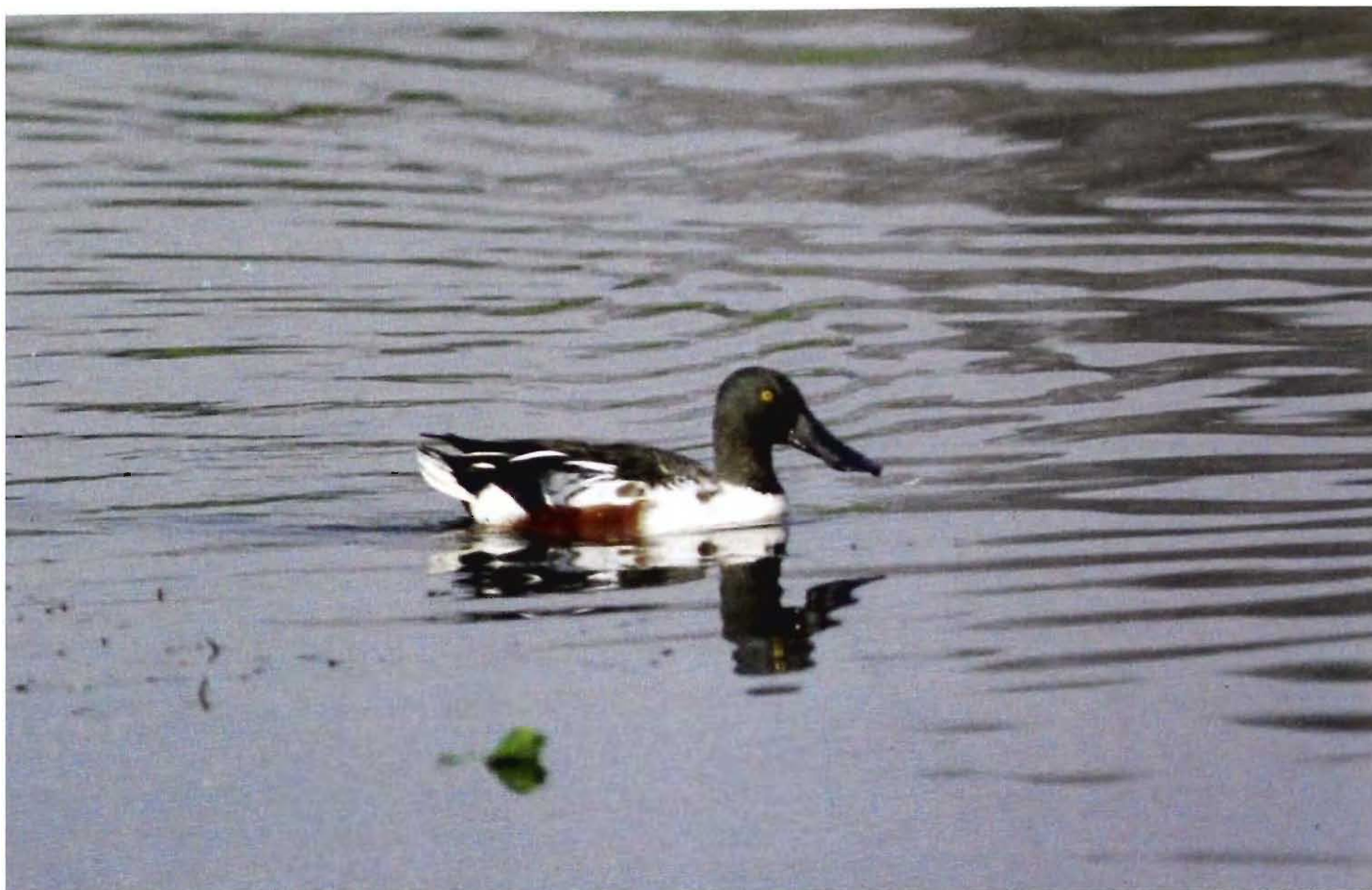
31. *Dendrocygna javanicus* (Horsfield) Lesser Whistling Teal



32. *Nettapus coromandelianus* (Gmelin) Cotton Teal



33. *Anas strepera* (Linnaeus) Godwall



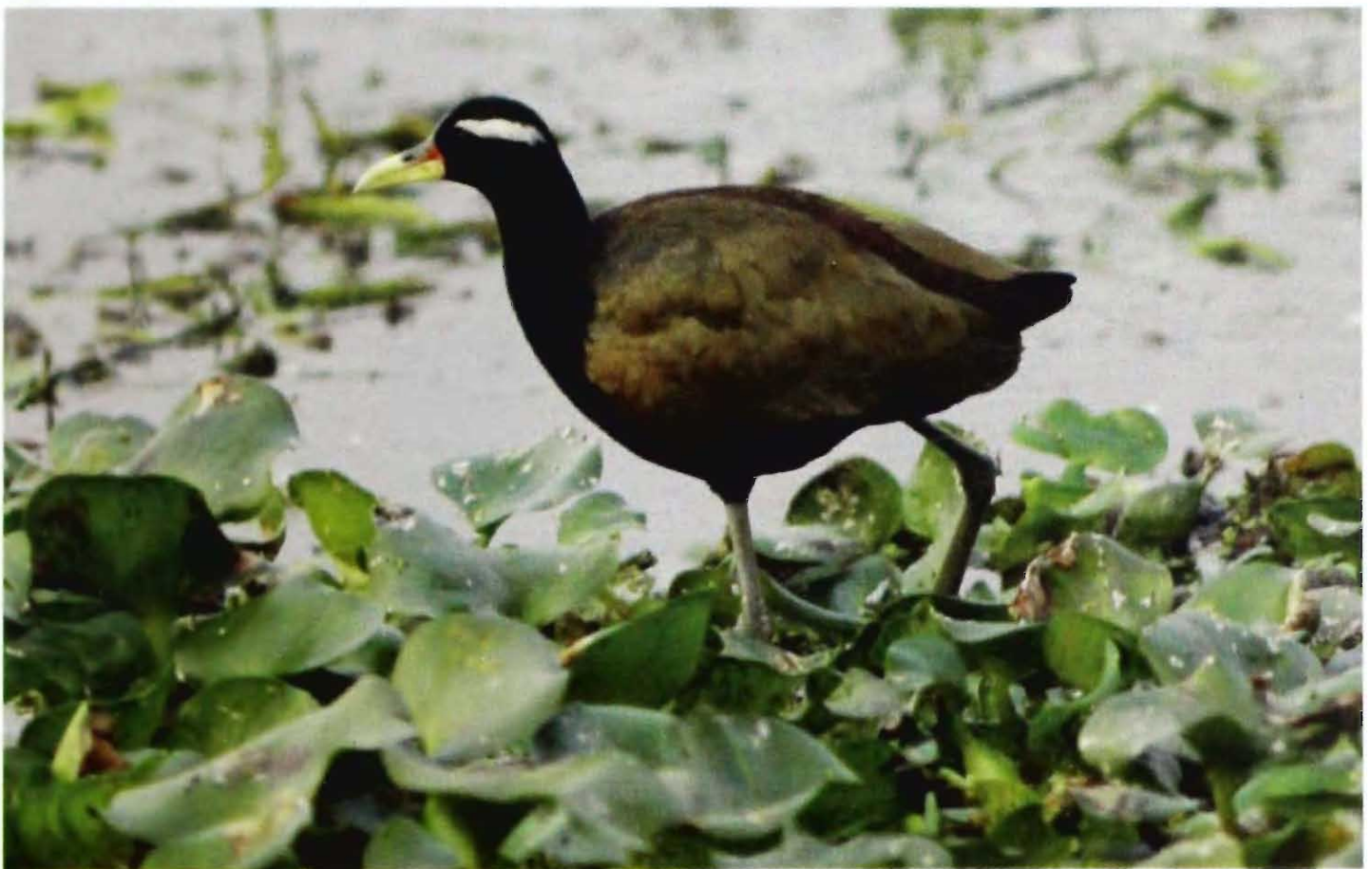
34. *Anas clypeata* Linnaeus - Northern Shoveller



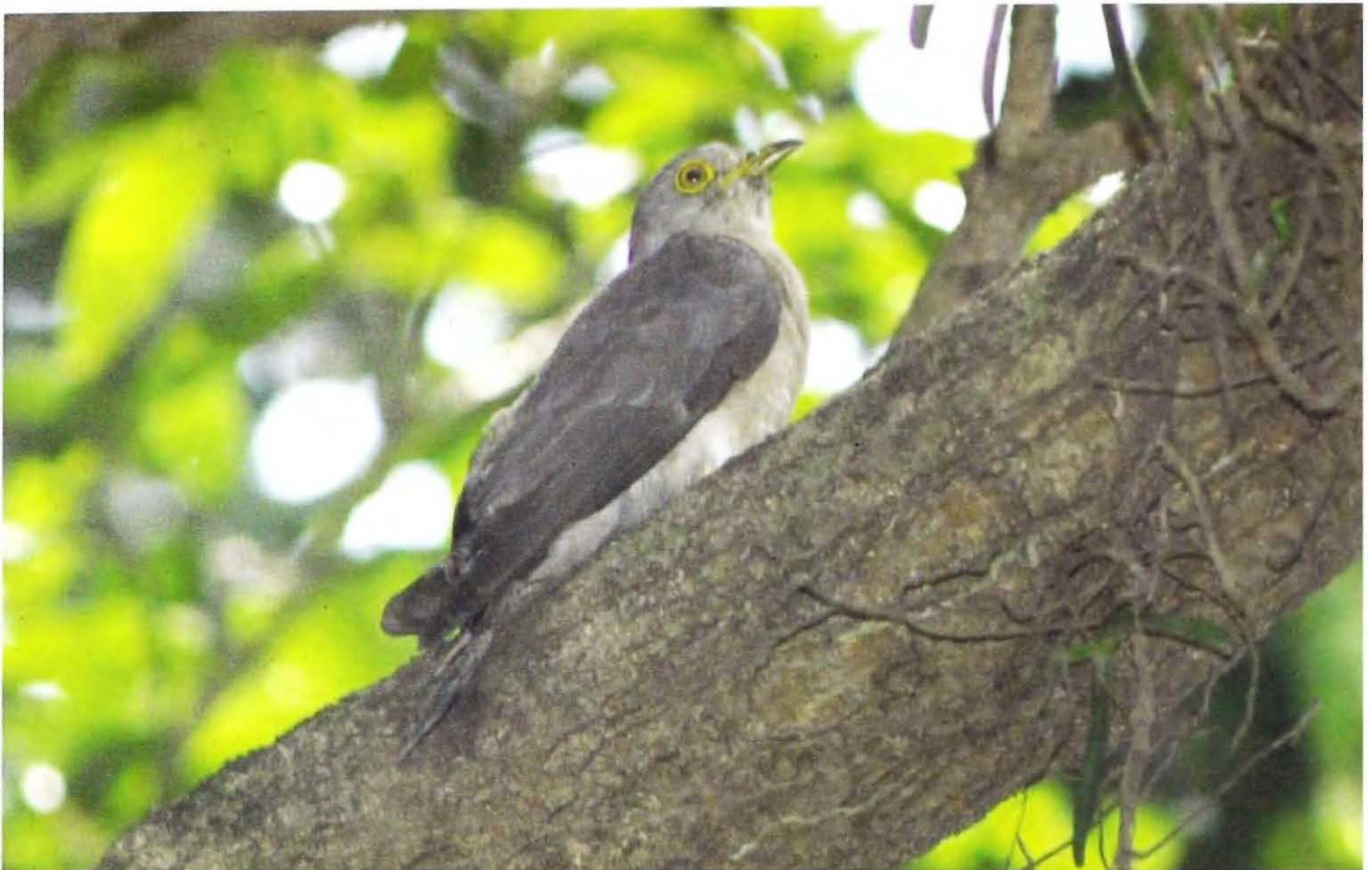
35. *Anas acuta* Linnaeus Northern Pintail



36. *Gyps bengalensis* (Gmelin) - Indian White-backed Vulture (Schedule I)



37. *Metopidius indicus* (Latham) - Bronze-winged Jacana



38. *Hierococcyx varius* (Vahl) Brainfever Bird



39. *Tyto alba* (Scopoli) Barn Owl



40. *Ketupa zeylonensis* (Gmelin) - Brown Fish-Owl



41. *Athene brama* (Temminck) Spotted Owlet



42. *Halcyon smyrnensis* (Linnaeus) - White-breasted Kingfisher



43. *Megalima asiatica* (Latham) Blue-throated Barbet



44. *Pycnonotus jacosus* (Linnaeus) Red-whiskered Bulbul



45. *Lanius cristatus* (Linnaeus) - Brown Shrike



46. *Zosterops lateralis* (Latham) Orange-headed Thrush



47. *Nectarinia asiatica* (Latham) Purple Sunbird



48. *Acridotheres tristis* (Linnaeus) - Common Myna



49. *Acridotheres fuscus* (Wagler) Jungle Myna



50. *Oriolus xanthornus* (Linnaeus) Black-headed Oriole



51. *Canis aureus* - Jackal



52. *Funumbulus pennanti* - Five Striped Squirrel



53. *Bandicota bengalensis* - Lesser Bandicoot Rat