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ANGIOSPERM DIVERSITY OF LAWACHARA NATIONAL PARK (BANGLADESH): A PRELIMINARY ASSESSMENT

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Abstract

The present article focuses on an inventory of angiosperm diversity of Lawachara National Park. Using traditional taxonomic techniques data have been collected from the Park during January to October 2008. In this preliminary assessment, a total of 374 angiosperm species including cultivated ones have been catalogued under 84 families. Nineteen threatened plant species have also been recognized in the Park.

Introduction

Lawachara National Park under Kamalganj upazila of Maulvi Bazar district is a part of West Bhanugach reserve forest, which was declared reserve in early nineteenth century as per the Forest Act 1878, the Assam Forest Manual 1898 and the Forest Act 1927. The Park is located nearly 160 km northeast of Dhaka and approximately 60 km south of Sylhet city. It lies between 24˚30′-24˚32′ N latitude and 91˚37′-91˚39′ E longitude. A part of the reserve forest was declared as a National Park in 1996 having a total area of 1250 ha (Green, 1990; Canonizado and Rahman, 1998; Riadh, 2007; Ahsan, 2007). Present forest types of Lawachara are a combination of planted exotic species and mixed forest with a deciduous canopy and an evergreen understory (Ahsan, 2000). The forest originally supported an indigenous vegetation cover of mixed tropical evergreen type (Alam, 1998).

The topography of Lawachara National Park is undulating, with slopes and hillocks that range from 10 to 50 m in elevation (Rizvi, 1970; Riadh, 2007). These hillocks are scattered and interspersed with numerous streams that flow through the forest. The hills are composed of upper tertiary rocks in which sand stone largely predominates (Ahmad, 1970; Stevens, 1986) along with siltstones and mudstones, locally altered to slates and shales. The significant soils in the hills of Maulvi Bazar belong to Ramgarh and Rangamati series on Dupitila formation (Stevens, 1986). Soils of the Park are generally sandy loam and the rest are mostly clayey loam (Ahmad, 1970). The area enjoys a moist tropical climate characterized by a period of high precipitation from April to September and five months of relatively dry period from November to March.

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In Bangladesh, assessment of plant diversity of the forests of different protected areas has already been started. Khan *et al.* (1994), Rahman and Hassan (1995), Uddin *et al.* (1998), Uddin and Rahman (1999), Khan and Huq (2001) and Uddin and Hassan (2004) have so far published floristic works but no such work was carried out for Lawachara National Park. The values of different aspects of this Park is now realized both by local and international communities. One international organization USAID and Nishorgo Support Project in collaboration with Forest Department have been working in the Park to establish co-management strategy for the conservation of biodiversity and sustainable development. For the sake of management of biodiversity, assessment of plant diversity especially angiosperm diversity as major component of the park, is very essential that will provide baseline information on which action plan can be made. The present study has been undertaken to make an inventory of angiosperm diversity of Lawachara National Park.

Materials and Methods

Six field visits, each lasted for five days have been made to the area during January 2008 to October 2008. Each section of this spectacular National Park was carefully combed to assure all species in the list including those that were scattered or infrequent. Special effort was made to locate the species already listed as threatened or endangered in the country. Botanical specimens were collected and field identifications were confirmed back at Dhaka University Herbarium (presently known as Salar Khan Herbarium). Voucher specimens were preserved in the same Herbarium. Woody flora of Sylhet (Alam, 1988) and flora of Rema-Kalenga wildlife sanctuary (Uddin and Hassan, 2004) were also consulted for the identification of specimens.

Results and Discussion

Based on this study, a preliminary list of angiosperm diversity of the Lawachara National Park was made that includes 374 species under 264 genera and 84 families. For each species scientific name, Bengali name (when available) and family are provided (Table 1). Of 374 species recorded here, herbs are represented by148, shrubs by 71, trees by 90 and climbers by 65 species. Nineteen species listed as threatened in the Red Data Book of Vascular Plants of Bangladesh (Khan *et al.,* 2001) have been located in this Park. These are *Ammomum aromaticum, Aquillaria agallocha, Bombax insigne, Calamus guruba, Cymbidium aloifolium, Desmos longiflorus, Globba multiflora, Hedychium coccineum, Hedychium thyrsiforme, Holigarna longifolia, Hydnocarpus kurzii, Mangifera sylvatica, Phrynium imbricatum, Pinanga gracilis, Pterospermum semisagittatum, Rauvolfia serpentina, Steudnera colocasioides, Taxillus thelocarpa* and *Terminalia citrina*. One species of gymnosperm (*Gnetum oblongum)* and one species of tree fern (*Cyathea gigantea)* listed as endangered in Bangladesh were also located in the Park during this survey.

Table 1. Diversity of angiosperm species of Lawachara National Park (h = herb, s = shrub, t = tree, c = climber)

Sl. No.	Species name	Bengali name	Family	Habit
1	*Acacia auriculiformis* A. Cunn. *ex* Benth.	Akashmoni	Mimosaceae	t
2	*A. concinna* DC.	Kuchui	Mimosaceae	s
3	*A. mangium* Willd.	-	Mimosaceae	t
4	*Acamphae premorsa* (Roxb.) Blatter & Mcann	-	Orchidaceae	h
5	*Achyranthes aspera* L.	Apang	Amaranthaceae	h
6	*Actinodaphnae angustifolia* Nees	-	Lauraceae	t
7	*Adhatoda zeylanica* Medikus	Bhasak	Acanthaceae	h
8	*Aerva sanguinolenta* (L.) Bl.	Lalapang	Amaranthaceae	h
9	*Ageratum conyzoides* L.	Fulkuri	Asteraceae	h
10	*Albizia odoratissima* Benth.	Kalokoroi	Mimosaceae	t
11	*A. procera* (Roxb.) Benth.	Koroi	Mimosaceae	t
12	*Allophyllus cobbe* Bl.	-	Sapindaceae	h
13	*Alocasia cuculata* (Lour.) G. Don	-	Araceae	h
14	*A. indica* Scott.	Mankachu	Araceae	h
15	*Alpinia malaccensis* (Burm. f.) Rosc.	Deotara	Zingiberaceae	h
16	*Alstonia scholaris* L.	Chatim	Apocynaceae	t
17	*Alternanthera sessilis* (L.) R. Br. *ex* DC.	Chanchi	Amaranthaceae	h
18	*Ammomum aromaticum* Roxb.	Morangelachi	Zingiberaceae	h
19	*A. corynostachyum* Wall.	-	Zingiberaceae	h
20	*A. dealbatum* Roxb.	-	Zingiberaceae	h
21	*A. uliginosum* Koen.	-	Zingiberaceae	h
22	*Amoora wallichii* King	Lali	Meliaceae	t
23	*Amorphophalus campanulatus* Bl.	Olkachu	Araceae	h
24	*Ampelygonum chinense* (L.) Lindley	-	Polygonaceae	h
25	*Anacardium occidentalis* L.	Kajubadam	Anacardiaceae	t
26	*Ananas sativus* Schult. f.	Anaros	Bromeliaceae	h
27	*Anisomeles indica* (L.) Kuntze	Gobura	Lamiaceae	h
28	*Anthocephalus chinensis* (Lamk.) A. Rich *ex* Walp.	Kadam	Rubiaceae	t
29	*Antidesma ghaesemblia* Gaertn.	-	Euphorbiaceae	s
30	*A. roxburghii* Wall.	-	Euphorbiaceae	s
31	*Aphanamixis polystachya* (Wall.) Parker	Pitraj	Meliaceae	t
32	*Aphania danura* (Roxb.) Rodlk.	Danura	Sapindaceae	s
33	*Aporosa dioica* (Roxb.) Muell.-Arg.	Patakharolla	Euphorbiaceae	t
34	*A. oblonga* (Wall.) Muell.-Arg.	-	Euphorbiaceae	t
35	*Aquillaria agallocha* Roxb.	Agar	Thymeliaceae	t
36	*Ardisia colorata* Roxb.	-	Myrsinaceae	s
37	*A. paniculata* Roxb.	-	Myrsinaceae	s
38	*A. solanacea* Roxb.	Banjam	Myrsinaceae	s
39	*Areca catechu* L.	Supari	Arecaceae	t
40	*Argyria capitiformis* (Poir.) Oostr.	-	Convolvulaceae	c

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
41	*Arides odorata* Lour.	-	Orchidaceae	h
42	*Aristolochia tagala* Cham.	-	Aristolochiaceae	c
43	*Artocarpus heterophyllus* Lamk.	Kanthal	Moraceae	t
44	*A. chaplasha* Roxb.	Chapalish	Moraceae	t
45	*A. lakucha* Roxb.	Deua	Moraceae	t
46	*Arundinella bengalensis* (Spreng.) Druce	-	Poaceae	h
47	*Axonopus compressus* (Swartz.) P. Beauv.	-	Poaceae	t
48	*Azadirachta indica* A. Juss.	Neem	Meliaceae	t
49	*Baccaurea ramiflora* Lour.	Lotkon	Euphorbiaceae	t
50	*Bambusa balcooa* Roxb.	Barak bans	Poaceae	s
51	*B. bambos* (L.) Voss	Kanta bans	Poaceae	s
52	*B. polymorpha* Munro	Parua	Poaceae	s
53	*B. tulda* Roxb.	Mitinga	Poaceae	s
54	*B. vulgaris* Schrad. *ex* Wendl.	Baijja	Poaceae	t
55	*Begonia barbata* Wall. *ex* A. DC.	-	Begoniaceae	h
56	*B. roxburghii* (Miq.) DC.	-	Begoniaceae	h
57	*Bischofia javanica* Bl.	Kanjalbhady	Euphorbiaceae	s
58	*Bombax ceiba* L.	Shimul	Bombacaceae	t
59	*B. insigne* Wall.	Bonshimul	Bombacaceae	t
60	*Borreria articularis* (L. f.) Williams	-	Rubiaceae	h
61	*Breynia patens* Benth.	Kakro	Euphorbiaceae	s
62	*Bridelia stipularis* (L.) Bl.	-	Euphorbiaceae	c
63	*Brownlowia eleta* Roxb.	-	Sterculiaceae	t
64	*Bulbophyllum lilacinum* Ridley	-	Orchidaceae	h
65	*Bursera serrata* Wall. *ex* Colobr.	Neul	Burseraceae	t
66	*Butea monosperma* (Lamk.) Taub.	Palash	Fabaceae	t
67	*Buttnera pilosa* Roxb.	-	Sterculiaceae	c
68	*Caesalpinia bonduc* Roxb.	Nata	Caesalpiniaceae	c
69	*Calamus guruba* Buch.-Ham. *ex* Mart.	Jalibet	Arecaceae	c
70	*Calotropis gigantea* (L.) R. Br.	Akonda	Asclepiadaceae	s
71	*Calycarpa arborea* Roxb.	Bormala	Verbenaceae	t
72	*C. lanciolaria* Roxb.	-	Verbenaceae	s
73	*Carex jenkensianus* Boott.	-	Cyperaceae	h
74	*Carya arborea* Roxb.	Kumbi	Lecythidaceae	t
75	*Caryota urens* L.	Golsagu	Arecaceae	t
76	*Cassia hirsuta* L.	-	Caesalpiniaceae	h
77	*C. occidentalis* L.	Eski	Caesalpiniaceae	s
78	*C. sophera* L.	Kalkesunde	Caesalpiniaceae	h
79	*C. tora* L.	-	Caesalpiniaceae	h
80	*Castanopsis tribuloides* A. DC.	Khami	Fagaceae	t

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
81	*Casuarina littorea* L.	Jhau	Casuarinaceae	t
82	*Cayratia japonica* (Thunb.) Gagnep.	-	Vitaceae	c
83	*Centella asiatica* Urban	Thankuni	Apiaceae	h
84	*Centotheca lappacea* (L.) Desv.	-	Poaceae	h
85	*Ceriscoides campanulata* (Roxb.) Tirveng.	-	Rubiaceae	s
86	*Chassalia curviflora* (Wall.) Thw.	-	Rubiaceae	h
87	*Chlorophora excelsa* (Welw.) Benth.	-	Moraceae	t
88	*Chrysopogon aciculatus* (Retz.) Trin.	Premkanta	Poaceae	h
89	*Chukrasia tabularis* A. Juss.	Chikrasi	Meliaceae	t
90	*Cissus adnata* Roxb.	Aliangalata	Vitaceae	c
91	*Citrus grandis* (L.) Osb.	Jambura	Rutaceae	s
92	*Clausena heptaphylla* (Roxb.) Wight & Arn.	Pomkafur	Rutaceae	h
93	*Clerodendrum serratum* (L.) Moon.	Barangi	Verbenaceae	h
94	*C. viscosum* Vent.	Bhant	Verbenaceae	h
95	*Cnesmone javanica* Bl.	-	Euphorbiaceae	s
96	*Colocasia esculenta* (L.) Schott	Kachu	Araceae	h
97	*Combretum acuminatum* Roxb.	Patuinia	Combretaceae	c
98	*C. apetalum* Wall.	-	Combretaceae	c
99	*C. latifolium* Bl.	Baulata	Combretaceae	c
100	*C. punctatum* Bl.	-	Combretaceae	c
101	*Commelina benghalensis* L.	Kanchira	Commelinaceae	h
102	*C. erecta* L.	-	Commelinaceae	h
103	*Costus speciosa* (Koening) Smith	Kura	Costaceae	h
104	*Crotalaria juncea* L.	Shonpat	Fabaceae	h
105	*Croton caudatus* Geisel.	Sabarjala	Euphorbiaceae	s
106	*Curculigo orchioides* Gaer.	Talmuli	Liliaceae	h
107	*C. recurvata* Dryand.	Bidipata	Liliaceae	h
108	*Curcuma zedoaria* (Christm.) Rosc.	Shathi	Zingiberaceae	h
109	*Cyclea peltata* Hook. f. *et* Thom.	-	Menispermaceae	c
110	*Cymbidium aloifolium* (L.) Sw.	-	Orchidaceae	h
111	*Cynodon dactylon* L.	Durba	Poaceae	h
112	*Cyperus cyperoides* (L.) O. Kuntze	-	Cyperaceae	h
113	*C. difformis* L.	Bethua	Cyperaceae	h
114	*C. exaltatus* Retz	-	Cyperaceae	h
115	*C. pilosus* Vahl	-	Cyperaceae	h
116	*C. rotundus* L.	Mutha	Cyperaceae	h
117	*Daemonorops jenkensianas* (Griff.) Mart.	Golakbet	Arecaceae	c
118	*Dalbergia stipularis* Roxb. & Baker	Dadbari	Fabaceae	c
119	*D. volubilis* Roxb.	Ankilata	Fabaceae	s
120	*Dehaasia kurzii* King *ex* Hook. f.	Modonmosta	Lauraceae	t
121	*Dendrobium aphyllum* (Roxb.) Fisch.	-	Orchidaceae	h
122	*D. lindleyi* Steud.	-	Orchidaceae	h

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
123	*Derris elegans* Benth.	-	Fabaceae	c
124	*D. scandens* Benth.	Kamirialata	Fabaceae	c
125	*Desmodium motorium* (Houtt.) Merril.	Loncharal	Fabaceae	h
126	*D. pulchellum* (L.) Benth.	Jutasalpani	Fabaceae	s
127	*Desmos chinensis* Lour.	-	Annonaceae	c
128	*D. longiflorus* (Roxb.) Safford	-	Annonaceae	t
129	*Digitaria adscendens* (HBK) Henr.	-	Poaceae	h
130	*Dillenia pentagyna* Roxb.	Hargoza	Dilleniaceae	t
131	*D. scabrella* (D. Don) Roxb. *ex* Wall.	Hargoza	Dilleniaceae	t
132	*Dioscorea belophylla* (Prain) J. O. Voigt *ex* Haines	Shoraalu	Dioscoreaceae	c
133	*D. bulbifera* L.	Ratal	Dioscoreaceae	c
134	*D. hispida* Dennst.	-	Dioscoreaceae	c
135	*D. pentaphylla* L.	Jhunihanalata	Dioscoreaceae	c
136	*D. tomentosa* Koenig *ex* Spreng.	-	Dioscoreaceae	c
137	*D. triphylla* Ham.	-	Dioscoreaceae	c
138	*D. trinerva* Roxb.	-	Dioscoreaceae	c
139	*Diospyros montana* Roxb.	Tamal	Ebenaceae	t
140	*Dipterocarpus turbinatus* Gaertn.	Kaligarjan	Dipterocarpaceae	t
141	*Dracaena spicata* Roxb.	Dracaena	Liliaceae	h
142	*Dysophyla auricularia* Bl.	-	Lamiaceae	h
143	*Eclipta prostrata* L.	Kesaraj	Asteraceae	h
144	*Elaeocarpus floribundus* Bl.	Belphoi	Elaeocarpaceae	t
145	*E. robustus* Roxb.	Jalpai	Elaeocarpaceae	t
146	*Eragrostis ciliaris* (L.) R. Br.	-	Poaceae	h
147	*E. tenella* (L.) P. Beauv. *ex* Roem. & Schult.	-	Poaceae	h
148	*E. tenuifolia* Hochst. *ex* Steud.	-	Poaceae	h
149	*E. uniloides* (Retz.) Nees *ex* Steud.	-	Poaceae	h
150	*Eranthemum album* Nees	Muralipata	Acanthaceae	h
151	*Erioglossum rubiginosum* (Roxb.) Bl.	Baraharina	Sapindaceae	s
152	*Ervatamia coronaria* (Jacq.) Stapf.	Togor	Apocynaceae	s
153	*Erythrina ovalifolia* Roxb.	Mandar	Fabaceae	t
154	*Eupatorium odoratum* L.	Assamlata	Asteraceae	s
155	*Ficus benghalensis* L.	Bot	Moraceae	t
156	*F. hirta* Vahl	-	Moraceae	s
157	*F. hispida* L. f.	Dumur	Moraceae	h
158	*F. irisiana* Elm.	-	Moraceae	c
159	*F. racemosa* L.	Jagdumur	Moraceae	t
160	*F. ramentacea* Roxb.	-	Moraceae	c
161	*F. religiosa* L.	Assawatha	Moraceae	t
162	*F. retusa* L.	-	Moraceae	s
163	*Fimbristylis aestivalis* (Retz) Vahl	-	Cyperaceae	h
164	*F. dichotoma* (L.) Vahl	Baranirbishi	Cyperaceae	h

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
165	*F. falcata* (Vahl) Kunth	-	Cyperaceae	h
166	*Flacourtia indica* (Burm. f.) Merr.	Paniala	Flacourtiaceae	s
167	*F. jangomus* (Lour.) Raeusch	Lukluki	Flacourtiaceae	s
168	*Floscopa scandens* Lour.	-	Commelinaceae	h
169	*Fuirena ciliaris* (L.) Roxb.	-	Cyperaceae	h
170	*Garcinia cowa* Roxb.	Kau	Clusiaceae	t
171	*G. pedunculata* Roxb.	-	Clusiaceae	t
172	*G. xanthochymus* Hook. f. *ex* T. Ander.	Dayphal	Clusiaceae	s
173	*Gardenia coronaria* Ham.	Koinar	Rubiaceae	s
174	*Garuga pinnata* Roxb.	Kharapat	Burseraceae	t
175	*Gouania laptostachya* DC.	-	Rhamnaceae	c
176	*Gigantochloa andamanica* (Kurz) Kurz	Kali	Poaceae	s
177	*Globba multiflora* Wall. *ex* Baker	-	Zingiberaceae	h
178	*G. orixensis* Roxb.	-	Zingiberaceae	h
179	*Glochidion multi-loculare* (Roxb. *ex* Willd) Muell.-Arg.	Kakra	Euphorbiaceae	s
180	*Glycosmis arborea* Roxb.	Datmajan	Rutacae	s
181	*Gmelina arborea* Roxb.	Gamari	Verbenaceae	t
182	*Grangea madaraspatana* (L.) Poir.	Nemuti	Asteraceae	h
183	*Grewia microcos* L.	Assar	Tiliaceae	s
184	*Gymnopetalum cochinchinensis* (Lour.) Kurz	-	Cucurbitaceae	c
185	*Gynostemma pentaphylla* (Thunb.) Makino	-	Vitaceae	c
186	*Hedychium coccineum* Buch.-Ham. *ex* Smith	Bhuiada	Zingiberaceae	h
187	*H. thyrsiforme* Buch.-Ham. *ex* Smith	-	Zingiberaceae	h
188	*Hemidesmus indicus* (L.) R. Br.	Anantamul	Asclepiadaceae	c
189	*Heteria rubens* Benth. *ex* Hook. f.	-	Orchidaceae	h
190	*Heterophragma adenophyllum* Seem.	-	Bignoniacae	t
191	*Hevea brasiliensis* Muell.-Arg.	Rubber	Euphorbiaceae	t
192	*Holarrhena antidysenterica* (L.) Wall.	Kurchi	Apocynaceae	s
193	*Holigarna longifolia* Roxb.	Barola	Anacardiaceae	t
194	*Homalomena aromatica* Schott.	Gandhabi	Araceae	h
195	*Hoya parasitica* (Wall.) Wight	Pargacha	Asclepiadaceae	c
196	*Hydnocarpus kurzii* (King) Warb.	Chaulmoogra	Flacourtiaceae	t
197	*Hypericum japonicum* Thunb.	-	Hypericaceae	h
198	*Hyptis suaveolens* (L.) Poit.	Tokma	Lamiaceae	h
199	*Ichnocarpus frutescens* (L.) R. Br.	Shamalata	Apocynaceae	c
200	*Imperata cylindrica* (L.) P. Beauv.	Ulu	Poaceae	h
201	*Ipomoea fistulosa* Mart. *ex* Choisy	Dholkalmi	Convovulaceae	s
202	*Ixora arborea* Roxb. *ex* Smith	Swetrangan	Rubiaceae	s
203	*I. javanica* Roxb. *ex* Smith	-	Rubiaceae	s
204	*I. parviflora* Vahl	Swetrangan	Rubiaceae	s
205	*Jasminum sambac* Ait.	Beli	Oleaceae	s
206	*Justicia ganderusa* L.	Nilnishinda	Acanthaceae	s

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
207	*Lagerstroemia indica* L.	-	Lythraceae	t
208	*L. parviflora* Roxb.	Sidha	Lythraceae	t
209	*L. speciosa* (L.) Pers.	Jarul	Lythraceae	t
210	*Lannea coromandelica* (Houtt.) Merr.	Jiga	Anacardiaceae	t
211	*Lantana camara* L.	Lantana	Verbenaceae	h
212	*Laportia cranulata* Gaud.	Agnichutra	Urticaceae	c
213	*Leea acuminata* (Burm. f.) Merr.	-	Leeaceae	h
214	*L. aequata* L.	Kakjangha	Leeaceae	h
215	*L. crispa* Willd.	-	Leeaceae	s
216	*Lepidagathis incurva* D. Don	-	Acanthaceae	h
217	*L. liniaris* T. Ander.	-	Acanthaceae	h
218	*Lesia spinosa* Schott.	-	Araceae	h
219	*Leucas lavandulifolia* Sm.	Gaochia	Lamiaceae	h
220	*Lindernia ciliata* (Colms.) Pennel	-	Scrophulariaceae	h
221	*Lithocarpus elegans* Hook. f.	Khami	Fagaceae	t
222	*Litsea glutinosa* (Lour.) C. B. Robinson	Kukurchita	Lauraceae	t
223	*L. monopetala* (Roxb.) Pers.	Akorma	Lauraceae	t
224	*Lophopetalum fimbriatum* Wight.	Raktan	Celastraceae	t
225	*Macaranga denticulata* (Bl.) Muell.-Arg.	Bura	Euphorbiaceae	s
226	*M. indica* Wight	-	Euphorbiaceae	s
227	*Maesa indica* Wt.	Ramjoni	Myrsinaceae	s
228	*M. ramentacea* Wall.	Maricha	Myrsinaceae	s
229	*Mallotus philippinensis* (Lamk.). Muell.-Arg.	Punag	Euphorbiaceae	s
230	*M. roxburghii* Muell.-Arg.	Nimputeli	Euphorbiaceae	s
231	*Mangifera indica* L.	Aam	Anacardiaceae	t
232	*M. sylvatica* Roxb.	Jangliam	Anacardiaceae	t
233	*Melastoma malabathricum* Roxb.	Datrangan	Melastomaceae	h
234	*Melocalamus compactiflorus* (Kurz) Benth.	Lotabans	Poaceae	c
235	*Melocana baccifera* (Roxb.) Kurz	Mulibans	Poaceae	s
236	*Merremia umbellata* (L.) Hallier f.	Sadakalmi	Convolvulaceae	c
237	*Michelia champaca* L.	Champa	Magnoliaceae	t
238	*Micromelum minutum* (Forst. f.) Wight & Arn.	Bankunch	Rutaceae	s
239	*Mikania cordata* (Burm. f.) B. L. Robinson	Assamlata	Asteraceae	c
240	*Mimosa intisia* L.	-	Mimosaceae	s
241	*M. pudica* L.	Lajjabati	Mimosaceae	h
242	*Modecca trilobata* Roxb.	-	Passifloraceae	c
243	*Monochoria hastata* (L.) Solms.	Baranukha	Pontederiaceae	h
244	*Morinda angustifolia* Roxb.	Ranggach	Rubiaceae	s
245	*Moringa oleifera* Lamk.	Sajna	Moringaceae	t
246	*Mucuna monosperma* DC.	Nataalkushi	Fabaceae	c
247	*M. pruiens* (L.) DC.	Alkushi	Fabaceae	c
248	*Musa ornata* Roxb.	Ramkola	Musaceae	s

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
249	*M. paradisica* L.	Kachakola	Musaceae	h
250	*Mussaenda corymbosa* Roxb.	Nagabali	Rubiaceae	s
251	*M. frondosa* L.	-	Rubiaceae	s
252	*Myxopyrum smilacifolium* Bl.	-	Oleaceae	h
253	*Nelsonia canescens* (Lamk.) Spreng.	-	Acanthaceae	h
254	*Olax nana* Wall.	-	Olacaceae	h
255	*Ophiorrhiza harisiana* Heyne	-	Rubiaceae	h
256	*O. villosa* Roxb.	Ganjankuli	Rubiaceae	h
257	*Oplismenus burmanii* (Retz.) P. Beauv.	-	Poaceae	h
258	*Ormosia robusta* (Roxb.) Baker	-	Fabaceae	t
259	*Oroxyllum indicum* (L.) Kurz	Thona	Bignoniacae	t
260	*Osbeckia rostrata* D. Don	-	Melastomaceae	h
261	*Oxalis corniculata* L.	Amrul	Oxalidaceae	h
262	*Paedaria foetida* L.	Gandhabadhuli	Rubiaceae	c
263	*Pandanus foetidus* Roxb.	Keyakanta	Pandanaceae	s
264	*Pavetta indica* L.	Bisophal	Rubiaceae	s
265	*Peliosanthes teta* Andr.	-	Haemodoraceae	h
266	*Persicaria hydropiper* (L.) Spach.	Bishkatali	Polygonaceae	h
267	*P. minor* (Huds) Opiz	-	Polygonaceae	h
268	*P. prosambu* (Ham. *ex* D. Don) H. Gross	-	Polygonaceae	h
269	*P. strigosa* (R. Br.) Nakai	-	Polygonaceae	h
270	*Phaulopsis imbricata* (Forssk.) Sweet	-	Acanthaceae	h
271	*Phlogacanthus asperulus* Nees	-	Acanthaceae	h
272	*P. curviflorous* Nees	-	Acanthaceae	h
273	*P. tubiflorus* Nees	-	Acanthaceae	h
274	*Phrynium imbricatum* (Dietr.) Roxb.	Pitulpata	Marantaceae	h
275	*Phyllanthus amarus* Schumacher & Thonn.	-	Euphorbiaceae	h
276	*P. emblica* L.	Amlaki	Euphorbiaceae	t
277	*P. reticulatus* Poir.	Chitki	Euphorbiaceae	s
278	*P. sikkimensis* Muell.-Arg.	-	Euphorbiaceae	t
279	*Pinanga gracilis* Bl.	Ramsupari	Arecaceae	h
280	*Piper betel* L.	Pan	Piperaceae	c
281	*P. longum* L.	Pepul	Piperaceae	h
282	*P. sylvaticum* Roxb.	Paharipepul	Piperaceae	c
283	*Poganotherum panicum* (Lamk.) Hack.	-	Poaceae	h
284	*Polygonum plebejum* R. Br.	Anjaban	Polygonaceae	h
285	*Pothos scandens* L.	Batilata	Araceae	c
286	*Premna esculenta* Roxb.	Lallong	Verbenaceae	s
287	*Psidium guajava* L.	Piara	Myrtaceae	t
288	*Psychotria fulva* Ham.	-	Rubiaceae	s
289	*Pterospermum acerifolium* Willd.	Kanakchampa	Sterculiaceae	t
290	*P. semisagittatum* Ham. *ex* Roxb.	Banassar	Sterculiaceae	s

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
291	*Quercus gomeziana* A. Camus	-	Fagaceae	t
292	*Q. spicata* Smith	Batna	Fagaceae	t
293	*Randia dumetorum* Lamk.	Mankanta	Rubiaceae	s
294	*Rauvolfia serpentina* (L.) Benth. *ex* Kurz	Sharpagandha	Apocynaceae	h
295	*Rhychoticum ellipticum* A. DC.	-	Myrsinaceae	s
296	*Rubus hexagyna* Roxb.	-	Rosaceae	c
297	*Rungia pectinata* (L.) Nees	-	Acanthaceae	h
298	*Ryhnchostylis retusa* (L.) Bl.	-	Orchidaceae	h
299	*Saccharum arundanaceum* Retz.	-	Poaceae	h
300	*S. spontaneum* L.	Kash	Poaceae	h
301	*Sagittaria sagittifolia* L.	Chottokut	Alismataceae	h
302	*Schima wallichii* Choisy	Kanak	Theaceae	t
303	*Schizostachyum dulloa* (Gamble) R. Majumdar	Dolu	Poaceae	s
304	*Scleria terrestris* (L.) Fassett	-	Cyperaceae	h
305	*Scoparia dulcis* L.	Bandhuni	Scrophulariaceae	h
306	*Setaria glauca* (L.) P. Beauv.	Bajra	Poaceae	h
307	*Shorea robusta* Gaertn. F.	Sal	Dipterocarpaceae	t
308	*Sida acuta* Burm f.	Kureta	Malvaceae	h
309	*Smilax prolifera* Roxb.	-	Smilacaceae	c
310	*S. zeylanica* L.	Kumarilata	Smilacaceae	c
311	*Solanum indicum* L.	Titbegun	Solanaceae	s
312	*S. torvum* Sw.	-	Solanaceae	h
313	*Spilanthes acmella* L.	Marhatitiga	Asteraceae	h
314	*Sporobolus diander* (Retz) P. Beauv.	-	Poaceae	h
315	*S. indicus* R. Br.	-	Poaceae	h
316	*Staurogyne argentea* Wall.	-	Acanthaceae	h
317	*Stemona tuberosa* Lour.	-	Stemonaceae	c
318	*Stephania harnandifolia* Walp.	Muichanlata	Menispermaceae	c
319	*S. japonica* (Thunb.) Miers.	Nimukha	Menispermaceae	c
320	*Sterculia colorata* Roxb.	Udal	Sterculiaceae	t
321	*S. villosa* Roxb.	Janlibadam	Sterculiaceae	t
322	*Steriospermum personatum* (Hassk.) Chatt.	-	Bignoniacae	t
323	*Steudnera colocasioides* Hook. f.	-	Araceae	h
324	*Stixis sauveolens* Roxb.	-	Capparaceae	c
325	*Streblus asper* Lour.	Shaora	Moraceae	s
326	*Strobilanthus scaber* Nees	-	Acanthaceae	h
327	*Suregada multiflora* (A. Juss.) Baill.	-	Euphorbiaceae	s
328	*Swietenia mahagoni* (L.) Jacq.	Mehogoni	Meliaceae	t
329	*Synedrella nudiflora* (L.) Gaertn.	-	Asteraceae	h
330	*Syzygium cumini* (L.) Skeels	Kalojam	Myrtaceae	t
331	*S. firmum* Thw.	Dhakijam	Myrtaceae	t
332	*S. formosanum* (Hayata) Mor.	Panijam	Myrtaceae	t

Table 1 Contd.

Sl. No.	Species name	Bengali name	Family	Habit
333	*S. fruticosum* (Roxb.) DC.	Khudijam	Myrtaceae	s
334	*Tacca integrifolia* Ker – Gawl.	Barahikand	Taccaceae	h
335	*Taxillus thelocarpa* (Hook. f.) M. K. Alam	-	Loranthaceae	s
336	*Tectona grandis* L.	Segun	Verbenaceae	t
337	*Terminalia arjuna* (Roxb. *ex* DC.) Wt. & Arn.	Arjun	Combretaceae	t
338	*T. bellirica* (Gaertn.) Roxb.	Bahera	Combretaceae	t
339	*T. citrina* (Gaertn.) Roxb. *ex* Flaming	Hora	Combretaceae	t
340	*Tetasera sarmentosa* (L.) Vahl.	-	Dilleniaceae	c
341	*Tetrameles nudiflora* R. Br.	Tundul	Datiscaceae	t
342	*Tetrastigma thomsonianum* Planch.	-	Vitaceae	c
343	*Thea sinensis* L.	Cha	Theaceae	s
344	*Thladiantha cordifolia* (Bl.) Cogn.	-	Cucurbitaceae	c
345	*Thunbergia fragrans* Roxb.	Nillata	Acanthaceae	c
346	*Thysanolena maxima* (Roxb.) O. Kuntze	Phuljharu	Poaceae	h
347	*Tinospora cordifolia* (Willd.) Hook. f.	Gulancha	Menispermaceae	c
348	*Toona ciliata* M. Roem.	Toon	Meliaceae	t
349	*Torenia vagans* Roxb.	-	Scrophulariacee	h
350	*Travesia palmata* (Roxb.) Vis.	-	Araliaceae	s
351	*Trewia nudiflora* L.	Pitali	Euphorbiaceae	t
352	*Trichosanthes bracteata* (Lamk.) Voit.	-	Cucurbitaceae	c
353	*Triumfetta rhomboidea* Jacq.	Banokra	Tiliaceae	h
354	*Uncaria sessilifructus* Roxb.	-	Rubiaceae	c
355	*Uraria lagapoides* DC.	-	Fabaceae	h
356	*Urena lobata* L.	Banokra	Malvaceae	h
357	*Uvaria hamiltonii* Hook. f. & Thoms.	-	Annonaceae	c
358	*Vanda teres* (Roxb.) Lindl.	-	Orchidaceae	h
359	*Vernonia cineria* (L.) Lees.	Kuksim	Asteraceae	h
360	*V. extensa* DC.	-	Asteraceae	h
361	*Vitex altissima* L.	-	Verbenaceae	t
362	*V. glabrata* R. Br.	Horina	Verbenaceae	s
363	*V. peduncularis* Wall. *ex* Schauer	Awal	Verbenaceae	t
364	*Vitis latifolia* Roxb.	Goalialata	Vitaceae	c
365	*V. trifolia* L.	Anallata	Vitaceae	c
366	*Wedelia trilobata* (L.) A. S. Hitchc.	-	Asteraceae	h
367	*Willughbeia edulis* Roxb.	Lata aam	Apocynaceae	c
368	*Xylia dolabiformis* Benth.	Lohakat	Mimosaceae	t
369	*Zanthoxyllum rhetsa* DC.	Bazna	Rutaceae	t
370	*Zingiber zerumbet* (L.) Smith	Boj	Zingiberaceae	h
371	*Zizyphus mauritiana* Lamk.	Boroi	Rhamnaceae	s
372	*Z. oenoplea* (L.) Miller.	Banboroi	Rhamnaceae	s
373	*Z. oxyphylla* Edgell	-	Rhamnaceae	s
374	*Z. xylophyrus* (Retz.) Willd.	-	Rhamnaceae	s

The Park has few patches of natural forests, and plantations raised earlier by converting high forests of great biodiversity value. The top tree canopy includes *Artocarpus chaplasha*, *Dipterocarpus turbinatus*, *Elaeocarpus floribundus*, *Dillenia pentagyna*, *Castanopsis tribuloides, Lophopetalum fimbriatum, Quercus spicata, Chukrassia tabularis, Ficus racemosa, Toona ciliata, Aphanamixis polystachia, Steriospermum personatum, Xylia dolabiformis, Lagerstroemia parviflora* and *Vitex peduncularis.* The common shrub species are *Micromelum minutum, Grewia microcos, Aphania danura, Erioglossum edulis, Macaranga peltata, Maesa indica, Travesia palmata, Carya arborea, Flacourtia indica, Randia dumetorum, Morinda angustifolia, Pavetta indica* and *Antidesma ghaesembila.* The most common undergrowth species are mostly the members of Acanthaceae, Rubiaceae, Asteraceae, Poaceae, Cyperaceae, Zingiberaceae and Araceae. Most common climber species are the members of Acanthaceae, Apocynaceae, Asclepiadaceae, Asteraceae, Combretaceae, Convolvulaceae, Menispermaceae and Vitaceae. A luxuriant growth of epiphytes and parasites are observed on the forest trees. The most common epiphytes include *Acampe premorsa, Aerides odorata, Dendrobium lindleyi* and *Vanda teres.* The common bamboo species are *Bambusa polymorpha, Bambusa tulda, Melocana baccifera* and *Schizostachyum dullooa.* Valleys of the forest are often dominated by various members of Poaceae, Cyperaceae, Araceae, Polygonaceae, Zingiberaceae and Asteraceae.

Based on the field observations and present results it may be concluded that the angiosperm diversity of Lawachara National Park is very rich and the Park is the home for many threatened plant species of Bangladesh. The present result is a preliminary list of angiosperm diversity of the Park.

Currently plant diversity of this Park is in great risk because of many threats as observed during field works. Noteworthy threats are frequent forest fire during dry season, illegal logging, fire wood collections, betel leaf cultivation, oil exploration, development works, uncontrolled visitors and population pressure. Though the plant diversity of the park is under *in situ* conservation plan, the management plan should be made based on local knowledge of plant diversity. As the Park is the home of many threatened plant species and as well as for wildlife, for the sake of better management option distribution map of threatened plant species should be made on priority basis. Such map will facilitate accurate location and home range of threatened species in the Park so that monitoring activities can be carried out easily. In severe cases, *ex situ* conservation for particular species may be followed to replicate their population number. Present management system should be strengthened by deploying relevant manpower including plant taxonomists for proper documentation and conservation and sustainable development of Lawachara National Park.

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References

Ahmad, N. 1970. Working plan for the forests of the Sylhet division for the period 1963-64 to 1982-83, Working plan division 2, CTG.E.P. Dacca, East Pakistan Govt. Press. pp. 1-22.

Ahsan, M.F. 2000. Socio-Ecology of the Hoolock Gibbon *(Hylobates hoolock)* in two Forests of Bangladesh. Field Research. pp. 284-299.

Ahsan, M.M. 2007. Perceptions of tourism by indigenous communities living in and adjoining Lawachara National Park. *In*: Fox, J., Bushley, B.R, Dutt, S and Quazi, S.A. (eds.). Making conservation work: linking rural livelihoods and protected areas management in Bangladesh. East-West Centre and Nishorgo Program of the Bangladesh Forest Department. pp. 131-148.

Alam, M.K. 1988. Annotated checklist of the woody flora of Sylhet forests. Bull. 5. Plant Taxonomy Series. Bangladesh Forest Research Institute, Chittagong. 153 pp.

Alam, M.K. 1998. Documentation of Ethnobiological Information. *In*: Banik, R.L., Alam, M.K., Peil, S. and Rastogi, A. (eds.). Applied Ethnobotany. Bangladesh Forest Research Institute, Chittagong. pp. 28-29.

Canonizado, J.A. and Rahman, S.M. 1998. GOB/WB Forest resources management project technical asistance component: integrated forest management plan for the Sylhet forest division. Mandala Agricultural Development Corporation and Forest Department, Ministry of Environment and Forest, Dhaka, Bangladesh. pp. 1-4.

Green, 1990. IUCN Directory of South Asian protected areas. IUCN The Wrold Conservation Union, Gland, Switzerland and Cambridge, UK. pp. 24-30.

Khan, M.S., Rahman, M.M. and Ali, M.A. (eds.). 2001. Red Data Book of vascular plants of Bangladesh. Bangladesh National Herbarium. 179 pp.

Khan, M.S. and Huq, A.M. 2001. The vascular flora of Chunati Wildlife Sanctuary in south Chittagong, Bangladesh. Bangladesh J. Plant. Taxon. **8**(1): 47-64.

Khan, M.S., Rahman, M.M., Huq, A.M., Mia, M.M.K. and Hassan M.A. 1994. Assesment of biodiversity of Teknaf game reserve in Bangladesh focusing on economically and ecologically important plants species. Bangladesh J. Plant. Taxon. **1**(1): 21-33.

Rahman, M.O. and Hassan, M.A. 1995. Angiospermic flora of Bhawal National Park, Gazipur, Bangladesh. Bangladesh J. Plant Taxon. **2**(1&2): 47-79.

Riadh, S.M. 2007. Assessing the role of non-timber forest products in the livelihoods of communities living inside and outside of Lawachara National Park. *In*: Fox, J., Bushley, B.R, Dutt, S. and Quazi, S.A. (eds.). Making conservation work: linking rural livelihoods and protected areas management in Bangladesh. East-West Centre and Nishorgo Program of the Bangladesh Forest department. pp. 36-49.

Rizvi, S.N.H. 1970. East Pakistan District Gazetteers for Sylhet. Government of East Pakistan Survices and General Administration Department, Dhaka. pp. 5-6.

Stevens, P.R. 1986. Land classification and soil suitability for plantation in Sylhet division. Working Paper No. 26 (UNDP/FAO) Project BGD/79/017. 21 pp.

Uddin, M.Z. and Hassan, M.A. 2004. Flora of Rema-Kalenga Wildlife Sanctuary. lUCN Bangladesh Country Office, Dhaka, Bangladesh. 120 pp.

Uddin, S.B. and Rahman, M.A. 1999. Angiospermic flora of Himchari National Park, Cox's Bazar. Bangladesh J. Plant Taxon. **6**(1): 31-68.

Uddin, S.N., Khan, M.S., Hassan, M.A. and Alam, M.K. 1998. An annotated checklist of angiospermic flora of Sitapahar at Kaptai in Bangladesh. Bangladesh J. Plant Taxon. **5**(1): 13-46.

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