

Contribution to the Flora of Dulari VDC and Adjoining Area of Morang District

Sanju Parajuli* and Sabina Shrestha**
Department of Botany, P. G. Campus, Biratnagar

Abstract

A total of 221 species of flowering plants (Angiosperms) belonging to 177 genera under 67 families were collected from Dulari Village Development Committee of Morang district in the year 2000. Among the total collection, 49.7 %, 23.31 % and 21.52 % were herb, tree and shrub respectively. Fabaceae and Poaceae were represented by more than 20 species.

Keywords: Morang, Flora, Angiosperms, Phenology

Introduction

Morang is one of the eastern districts of Nepal, located 26°22' to 26°53' N latitude and 87°16' to 87°41' E longitude (Parajuli 2001). The district is extended from Terai to Siwalik and Mahabharat range.

Hooker (1854) was the first explorer of the flora of eastern Nepal. Thereafter, Hara (1966), Siwakoti and Jha (1987), Siwakoti (1995), Siwakoti and Siwakoti (1998), Maden and Dhakal (1998), Jha and Jha (2000), Maden (2002) have explored the flora of Morang district and its adjoining areas of eastern Nepal. Present work is a detailed survey of flowering plants from Dulari Village Development Committee of Morang.

Dulari VDC is located in Terai region of Morang District. Mirgauliya, Sisbania Badahada and Sundarpur VDCs surround it in the east, south, north respectively and west by Budhi Khola. The area is extended 11.39 sq. km. The average altitude is 118 m. Soil is pale yellow to dark grayish brown in

colour. The annual temperature is 24⁰ C and receives 2210 mm rainfall annually. It has wet monsoonic climate and there exists no natural forest except cultivated patches of *Dalbergia sissoo* and *Acacia catechu*.

Materials and Methods

An extensive survey of the flora of Dulari VDC and its adjoining area was conducted in the year 2000. The collected specimens were critically examined and identified with the help of available literature (Hooker 1872-1897, Haines 1924, Grierson and Long 1983, Anonymous 1986, Mabberley 1987, Davis and Cullen 1988, Matthew 1991 and Siwakoti 1995) and finally confirmed by cross checking with the authentic specimens housed at the National Herbarium and Plant Laboratories, Nepal (KATH). Herbarium specimens of cited species are deposited in Herbarium section of Department of Botany, Post Graduate Campus, Biratnagar. The recorded families and species are alphabetically arranged with habit and flowering-fruiting season.

Results and Discussion

A total of 221 species of angiospermic plants belonging to 177 genera and 87

Correspondence:

* Central Campus of Technology, Dharan

E-mail: sanjuparajuli1@yahoo.com

** P.K. Campus, Bagbazar, Kathmandu

families were collected from Dulari. Among these, 183 species under 147 genera belong to 59 families of dicots. Similarly 38 species under 30 genera belong to 8-monocot family (Table1). On the basis of species number of the family Fabaceae (36) and Poaceae (21) were most dominant followed by Asteraceae (17), Euphorbiaceae (11), Cyperaceae (10), Verbenaceae (8), Lamiaceae (8), Amaranthaceae (8), Solanaceae (7),

Moraceae (7). There were 42 families represented with single species. Jha and Jha (2000) reported the flora of Morang district in the following sequence: Leguminosae (91 species)>Poaceae (80 species)>Asteraceae (57 species), Euphorbiaceae (31 species), Cyperaceae (28 species), Rubiaceae and Solanaceae (26 species)> Acanthaceae (21 species)> Orchidaceae (20 species).

Table 1. List of collected specimens with family, habit and flowering and fruiting period.

S. N.	Family	Botanical name	Ha	Flr & Fr. period
1	Acanthaceae	<i>Barleria strigosa</i> Willd.	S	Sep.-Apr.
2	"	<i>Hemigraphis hirta</i> (Vahl) T.Anders.	H	Sep.-Feb.
3	"	<i>Hygrophila auriculata</i> (Schumach.) Heine	H	Oct.-Feb.
4	"	<i>Hygrophila polysperma</i> (Roxb.) T. Anders.	H	Oct.-May
5	"	<i>Rungia parviflora</i> (Retz.) Nees	H	Sep.-May
6	Amaranthaceae	<i>Achyranthes aspera</i> L.	H	Jan.-May
7	"	<i>Alternanthera paronychioides</i> St.Hill	H	Jan.-Dec.
8	"	<i>A. philoxeroides</i> (Mart.) Griseb.	H	Mar.-June
9	"	<i>A. sessilis</i> (L.) DC	H	Apr.-Dec.
10	"	<i>Amaranthus spinosus</i> L.	H	Jan.-Dec.
11.	"	<i>A. viridis</i> L.	H	Jan.-Dec.
12	"	<i>Celosia argentea</i> L.	H	Oct.-Feb.
13	"	<i>Deeringia amaranthoides</i> (Lam.) Merr.	S	Aug.-Jan
14	Anacardiaceae	<i>Lannea coromandelica</i> (Houtt.) Merr.	T	Apr.-Feb.
15	"	<i>Mangifera indica</i> L.	T	Mar.-July
16	Apiaceae	<i>Centella asiatica</i> (L.) Urb.	H	Jan.-May
17	Apocynaceae	<i>Rauvolfia serpentina</i> (L.) Benth.ex Kurz	S	May-Sep.
18	Asclepiadaceae	<i>Calotropis gigantea</i> (L.) Dryand	S	Jan.-Dec.
19	"	<i>Pergularia daemia</i> (Forssk.) Choiv.	C	Sep.-Jan.
20	Asteraceae	<i>Ageratum conyzoides</i> L.	H	Aug.-Mar.
21	"	<i>Artemisia dubia</i> Wall.ex Besser	S	Oct.-Mar.
22	"	<i>Blumea lacera</i> (Burm.f.) DC.	H	Jan.-Mar.
23	"	<i>Breea arvensis</i> (L.) Less.	H	Feb.-June
24	"	<i>Caesulia axillaries</i> Roxb.	H	Sept.-Apr.
25	"	<i>Cotula hemisphaerica</i> (Roxb.)Wall.ex .B.Clarke	H	Jan.-Apr.
26	"	<i>Eclipta prostrata</i> (L.)L.	H	Feb.-Sep.
27	"	<i>Eupatorium odoratum</i> L.	S	Nov.-Mar.
28	"	<i>Gnaphalium affine</i> D.Don	H	Jan.-Apr.
29	"	<i>G. polycaulon</i> Pers	H	Dec.-Apr.

30	"	<i>Ixeris polycephala</i> Cass	H	June- Jan.
31	"	<i>Mikania micrantha</i> Kunth	C	Nov.-Feb
32	"	<i>Sphaeranthus indicus</i> L	H	Dec.-Feb
33	"	<i>Spilanthes calva</i> DC.	H	Jan.-Dec.
34	"	<i>Tridax procumbens</i> L.	H	Jan.-Sep.
35	"	<i>Vernonia cinerea</i> (L.) Less.	H	June-Dec.
36	"	<i>Xanthium strumarium</i> L.	H	Jan.-Apr.
37	Basellaceae	<i>Basella alba</i> L.	C	Jan.-Dec.
38	Bignoniaceae	<i>Oroxylum indicum</i> (L.) Vent.	T	July-June
39	Bombacaceae	<i>Bombax ceiba</i> L.	T	Jan.-May
40	Brassicaceae	<i>Rorippa benghalensis</i> (DC.) Hara	H	Jan.-Apr.
41	Cannabaceae	<i>Cannabis sativa</i> L.	H	Jan.-May
42	Capparaceae	<i>Cleome spinosa</i> Jacq.	H	Mar.-Dec.
43	Caricaceae	<i>Carica papaya</i> L.	T	Jan.-Dec.
44	Caryophyllaceae	<i>Drymaria cordata</i> (L.) Willd.ex Roem.& Schult.	H	Jyly-Jan.
45	Chenopodiaceae	<i>Chenopodium album</i> L.	H	Jan.-Apr.
46	"	<i>Chenopodium ambrosioides</i> L.	H	June-Jan
47	Combretaceae	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	T	Apr.-Dec.
48	"	<i>T. catappa</i> L.	T	Apr.-Oct.
49	"	<i>T. chebula</i> Retz.	T	Apr.-Dec.
50	Convulvulaceae	<i>Ipomoea aquatica</i> Forssk.	H	Feb.-Dec.
51	"	<i>I. carnea</i> subsp.fistulosa (Mart.ex Choisy) D.Austin.	S	Apr.-Jan
52	Cucurbitaceae	<i>Momordica charantia</i> L.	C	June-Nov.
53	Cuscutaceae	<i>Cuscuta reflexa</i> Roxb.	C	Oct.-Feb
54	Dilleniaceae	<i>Dillenia pentagyna</i> Roxb.	T	Mar.-June
55	Dipterocarpaceae	<i>Shorea robusta</i> Gaertn.	T	Apr.-July
56	Elaeocarpaceae	<i>Elaeocarpus sphaericus</i> (Gaertn.) K. Schum.	T	Aug.-Feb.
57	Euphorbiaceae	<i>Croton bonplandianum</i> Baill	H	Dec.-June
58	"	<i>C. roxburghii</i> Balakrishanan	T	Jan.-Apr.
59	"	<i>Euphorbia hirta</i> L.	H	Jan.-Dec.
60	"	<i>E. prostrata</i> Ait.	H	"
61	"	<i>Jatropha curcas</i> L.	S	Aug.-June
62	"	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.	T	Oct.-Mar.
63	"	<i>Phyllanthus acidus</i> (L.) Skeels	T	Jan.-July
64	"	<i>P. emblica</i> L.	T	Apr.-Feb.
65	"	<i>P. reticulatus</i> Poer.	S	Apr.-Oct.
66	"	<i>Ricinus communis</i> L.	S	June.-Jan.
67	"	<i>Trewia nudiflora</i> L.	T	May-Jun.
68	Fabaceae	<i>Acacia auriculiformis</i> A.Cunn.ex. Benth	T	Dec.-Feb.
69	"	<i>A. catechu</i> (L. f.) Willd.	T	May-Dec.
70	"	<i>A. nilotica</i> (L.) Willd. ex. Del.	T	Aug.-Jan.
71	"	<i>Albizia lebbeck</i> (L.) Benth.	T	Apr.-Feb.
72	"	<i>A. lucidior</i> (Steud.) Nielson	T	"
73	"	<i>Bauhinia purpurea</i> L.	T	Sept.-Feb.
74	"	<i>B. vahlii</i> Wight & Arn.	V	Apr.-Dec.

S. Parajuli, S. Shrestha / Our Nature (2003) 1: 19-25

75	"	<i>B. variegata</i> L.	T	Sep.-Jan.
76	"	<i>Butea monosperma</i> (Lam.) Kuntz.	T	Feb.-May
77	"	<i>Caesalpinia cuculata</i> Roxb.	S	Sep.-Feb.
78	"	<i>C. pulcherrima</i> (L.) Sw.	S	Dec.-Feb.
79	"	<i>Cajanus cajan</i> (L.) Huth	S	Nov.-Dec.
	"	<i>Cassia alata</i> L.	S	Oct.-Jan.
80	"	<i>Cassia fistula</i> L.	T	Apr.-Mar.
81	"	<i>Cassia occidentalis</i> L.	S	Jan.-Dec.
82	"	<i>C. alata</i> L.	S	Oct.-Nov.
83	"	<i>C. siamea</i> Lam.	T	Aug.-Dec.
84	"	<i>C. sophera</i> L.	S	Jan.-Dec.
85	"	<i>C. tora</i> L.	S	Jan.-Mar.
86	"	<i>Clitoria ternatea</i> L.	C	
87	"	<i>Crotalaria pallida</i> Ait.	S	May-Nov.
88	"	<i>Dalbergia sissoo</i> Roxb.	T	Mar-Sep.
89	"	<i>Delonix regia</i> (Bojer ex.Hook.) Rafin	T	Mar.-Jun
90	"	<i>Desmodium laxiflorum</i> DC.	H	Aug.-Dec.
91	"	<i>Erythrina suberosa</i> Roxb.	T	Feb.-Jun
92	"	<i>Lathyrus aphaca</i> L.	H	Jan.-Mar.
93	"	<i>Leucaena leucocephala</i> (Lam.) De.Wit	T	Jan.-Dec.
94	"	<i>Medicago lupulina</i> L.	H	Jan.-Mar.
95	"	<i>Melilotus alba</i> Medie.ex.Desr.	H	Dec.-May
96	"	<i>Mimosa pudica</i> L.	H	Dec.-May
97	"	<i>Mucuna pruriens</i> (L.)DC.	C	Oct.-Feb.
98	"	<i>Pithecellobium dulce</i> (Roxb.) Benth.	T	Feb.-June
99	"	<i>Sesbania grandiflora</i> (L.) Poir	T	Nov.-Feb.
100	"	<i>S. sesban</i> (L.) Merr.	S	Aug.-Dec.
101	"	<i>Tamarindus indica</i> L.	T	May-Dec.
102	"	<i>Vicia angustifolia</i> L.	H	Jan.-Feb.
103	"	<i>V. hirsute</i> (L.)S.F. Gray	H	Jan.-Feb.
104	Fumaricaceae	<i>Fumaria indica</i> (Haussk.) Pugsley	H	Nov.-Mar.
105	Lamiaceae	<i>Anisomeles indica</i> (L.) Kuntz.	S	Sep.-Jan.
106	"	<i>Colebrookia oppositifolia</i> Smith	S	Nov.-May
107	"	<i>Hyptis suaveolens</i> (L.) Poit.	S	Dec.-Apr.
108	"	<i>Leucus indica</i> (L.)R.Br ex. Vatke	H	Jan.-May
109	"	<i>Mentha longifolia</i> (L.) Hudson	H	June.-Oct.
110	"	<i>Ocimum basilicum</i> L.	H	Jan.-Dec.
111	"	<i>Pogostemon benghalensis</i> (Burm.f.) Kuntz	S	Jan.-May
112	Loganiaceae	<i>Buddleja asiatica</i> Lour.	C	Jan.-June
113	Lythraceae	<i>Lagerstroemia parviflora</i> Roxb.	T	Mar.-Dec.
114	"	<i>Lawsonia inermis</i> L.	S	Jan.-Dec.
115	"	<i>Rotala rotundifolia</i> (Buch.-Ham.ex.Roxb.) Koehne	H	Feb.-Aug.
116	Malvaceae	<i>Abutilon indicum</i> (L.) Sweet	H	May-Jan.
117	"	<i>Gossypium hirsutum</i> L.	S	Jan.-Aug.
118	"	<i>Sida acuta</i> Burm.f.	S	Aug.-Dec.
119	"	<i>S. glutinosa</i> Comm. ex.Va.	S	Jan.-Dec.

S. Parajuli, S. Shrestha / Our Nature (2003) 1: 19-25

120	"	<i>S. rhombifolia</i> L.	H	Aug.-Dec.
121	"	<i>Urena lobata</i> L.	S	Sep.-Oct.
122	Meliaceae	<i>Azadirachta indica</i> A.Juss.	T	Apr.-Aug.
123	"	<i>Melia azedarach</i> L.	T	Apr.-May
124	Menispermaceae	<i>Stephania elegans</i> Hook.f.& Thoms	C	Apr.-Feb.
125	Moraceae	<i>Artocarpus heterophyllus</i> Lam.	T	Jan.-Apr.
126	"	<i>A. lakoocha</i> Wall.ex.Roxb.	T	Jan.-Apr.
127	"	<i>Ficus benghalensis</i> L.	T	Mar.-Dec.
128	"	<i>F. hispida</i> L.f.	T	Jan.-Dec.
129	"	<i>F. racemosa</i> L.	T	Jan.-Dec.
130	"	<i>F. religiosa</i> L.	T	Mar.-Sep.
131	"	<i>Morus australis</i> Poir.	S	Feb.-May
132	Moringaceae	<i>Moringa oleifera</i> Lam.	T	Dec.-Apr.
133	Myrsinaceae	<i>Maesa macrophylla</i> (Wall.) A.DC.	S	Feb.-Oct.
134	Myrtaceae	<i>Callistemon citrinus</i> (Curtis) Skeels	S	Oct.-May
135	"	<i>Psidium guajava</i> L.	T	Oct.-Mar.
136	"	<i>Syzygium cumini</i> (L.) Skells	T	Mar.-Jun
137	Nyctaginaceae	<i>Boerhaavia diffusa</i> L.	H	Jan.-Dec.
138	"	<i>Mirabilis jalapa</i> L.	H	"
139	Oleaceae	<i>Nyctanthes arbor-tristis</i> L.	S	Jan.-Oct.
140	Onagraceae	<i>Ludwigia perennis</i> L.	H	Aug.-Oct.
141	Oxalidaceae	<i>Oxalis corniculata</i> L.	H	Jan.-Dec.
142	Papaveraceae	<i>Argemone mexicana</i> L.	H	Dec.-Jun.
143	Piperaceae	<i>Piper nigrum</i> L.	C	June-Nov.
144	Plumbaginaceae	<i>Plumbago zeylanica</i> L.	H	Oct.-Feb.
145	Polygonaceae	<i>Persicaria hydropiper</i> (L.) Spach	H	July-Oct.
146	"	<i>P. lapathifolia</i> (L.)S.F.Gray	H	Aug.-Jun.
147	"	<i>Polygonum plebeium</i> R.Br.	H	Jan.-July
148	"	<i>Rumex dentatus</i> L.	H	Jan.-Apr.
148	Primulaceae	<i>Androsace rotundifolia</i> Hardw.	H	"
150	Ranunculaceae	<i>Ranunculus sceleratus</i> L.	H	Mar.-Oct.
151	Rhamnaceae	<i>Ziziphus mauritiana</i> Lam.	T	Aug.-Feb
152	Rosaceae	<i>Prunes persica</i> (L.) Batsch	S	Jan.-Apr.
153	Rubiaceae	<i>Adina cordifolia</i> (Willd.ex.Roxb.)& Hook.f. ex. Brandis	T	Jun-Oct.
154	Rutaceae	<i>Aegle marmelos</i> (L.) Corr.	T	May-July
155	Sambucaceae	<i>Sambucas hookeri</i> Rehder.	S	June.-Dec.
156	Sapindaceae	<i>Cardiospermum halicacabum</i> L.	C	Mar.-Dec.
157	"	<i>Schleichera oleosa</i> (Lour.) Oken	T	Feb.-Sep.
158	Scrophulariaceae	<i>Lindernia crustacea</i> (L.) F. Muell.	H	Aug.-Jan
159	"	<i>Mazus pumilus</i> (Burm.f.) Van Steenis	H	Jan.-Dec.
160	"	<i>Mecardonia prucumbens</i> (Mill.) Small	H	Jan.-Dec.
161	"	<i>Scoparia dulces</i> L.	H	"
162	"	<i>Veronica anagallis-aquatica</i> L.	H	Jan.-Apr.
163	Solanaceae	<i>Cestrum diurnum</i> L.	S	Sep.-July
164	"	<i>Datura metel</i> L.	S	Mar.-Dec.
165	"	<i>Nicotiana tabacum</i> L.	H	June-Jan.
166	"	<i>Solanum aculeatissimum</i> Jacq.	S	Mar.-Nov.

S. Parajuli, S. Shrestha / Our Nature (2003) 1: 19-25

167	"	<i>S. anguivi</i> Lam.	S	"
168	"	<i>S. nigrum</i> L.	H	May-Jan
169	"	<i>S. virginianum</i> L.	H	Feb.-Aug.
170	Sonneratiaceae	<i>Duabanga grandiflora</i> (Roxb.ex.DC.) Walp.	T	Jan-May
171	Tiliaceae	<i>Triumfetta rhomboidea</i> Jacq.	S	Aug.-Dec.
172	Ulmaceae	<i>Trema orientalis</i> (L.) Blume	T	Oct.-May
173	Urticaceae	<i>Boehmeria platyphylla</i> D.Don	S	Sep.-Dec.
174	"	<i>Pouzolzia zeylanica</i> (L.)Bebbett & Brwon	H	Aug.Jan
175	"	<i>Urtica dioica</i> L.	H	July-Dec.
176	Verbenaceae	<i>Callicarpa macrophylla</i> Vahl	S	Sep.-Dec
177	"	<i>Clerodendrum japonicum</i> (Thunb.) Sweet	S	Aug.-Dec.
178	"	<i>C. viscosum</i> Vent	S	Jan.-Apr
179	"	<i>Duranta erecta</i> L.	S	Jan-Dec.
180	"	<i>Lantana camera</i> L.	S	Jan.-Dec.
181	"	<i>Phyla nudiflora</i> (L.) Greene	H	Apr.-Dec.
182	"	<i>Tectona grandis</i> L.f.	T	Jan.-Sep.
183	"	<i>Vitex negundo</i> L.	S	Mar.-Dec.
184	Alismataceae	<i>Sagittaria trifolia</i> L.	H	Oct.-Feb
185	Araceae	<i>Acorus calamus</i> L.	H	Apr.-Nov
186	Commelinaceae	<i>Commelina paludosa</i> Blume	H	Aug.-Dec.
187	"	<i>Murdania nudiflora</i> (L.) Brenan	H	Sep.-Dec.
188	Cyperaceae	<i>Cyperus corymbosus</i> Rottb.	G	June-Dec.
189	"	<i>C. exaltatus</i> Retz.	G	July-Nov.
190	"	<i>C. iria</i> L.	G	Sep.-Nov
191	"	<i>C. rotundus</i> L.	G	Aug.-May
192	"	<i>Fimbristylis aestivalis</i> (Retz.) Vahl.	G	May-Sep.
193	"	<i>F. miliacea</i> (L.) Vahl	G	Aug.-Jan
194	"	<i>F. schoenoides</i> (Retz.) Vahl	G	Sep.-Jan.
195	"	<i>Mariscus compactus</i> (Retz.) Druce	G	Aug.-Dec.
196	"	<i>Pycneus flavidus</i> (Retz.) Koyama	G	Sep.-Apr.
197	"	<i>Schoenoplectus mucronatus</i> (L.) Palla	G	Apr.-Dec.
198	Dioscoreaceae	<i>Dioscorea deltoidea</i> Wall.	C	May-Nov.
199	Liliaceae	<i>Aloe vera</i> (L.) Burm.f.	H	June-Dec.
200	Poaceae	<i>Chrysopogon aciculatus</i> (Retz.) Trin.	G	Aug.-Dec.
201	"	<i>Coix lachryma-jobi</i> L.	G	Aug.-Feb.
202	"	<i>Cynodon dactylon</i> (L.) Pers.	G	Jan.-Dec.
203	"	<i>Dactyloctenium aegyptica</i> (L.) Beauvois	G	Aug.-Nov.
204	"	<i>Dichanthium annulatum</i> (Forssk.) Stapf	G	Apr.-Mar
205	"	<i>Echinochloa colona</i> (L.) Link	G	Aug.-Dec.
206	"	<i>E. crus-galli</i> (L.) Beauvois	G	Sep.-Jan.
207	"	<i>Eleusine indica</i> (L.) Gaertn.	G	May-June
208	"	<i>Eragrostis gangetica</i> (Roxb.) Steud.	G	Aug.-Dec.
209	"	<i>E. tenella</i> (L.)Beauvois ex Roemer Schultes	G	Jan.-Dec.
210	"	<i>E. unioloides</i> (Retz.) Nees ex steud.	G	Aug.-Dec.
211	"	<i>Hymenachne pseudointerrupta</i> C.Mueller	G	Sep.-Jan.
212	"	<i>Imperata cylindrica</i> (L.) Beauvois	G	Mar.-Sep.

213	"	<i>Oplimenes burmanii</i> (Retz.) Beauvois	G	Sep.-Jan.
114	"	<i>Paspalum scrobiculatum</i> L.	G	July-Feb
215	"	<i>Phragmites karka</i> (Retz.) Trin.ex. Steud.	G	July-Dec
216	"	<i>Polypogon monspeliensis</i> (L.) Deaf.	G	Jan.-Mar.
217	"	<i>Saccharum spontaneum</i> L.	G	Aug.-Nov.
218	"	<i>Setaria glauca</i> (L.) Beauvois	G	Aug.-Jan
219	"	<i>Sporobolus diander</i> (Retz.) Beauvois	G	July-Jan.
220	"	<i>Thysanolaena maxima</i> (Roxb.) Kuntz.	G	Jan.- May
221	Pontedriaceae	<i>Eichhornia crassipes</i> (Mart.) Solms	H	Aug.Jan.

Ha = habit, Flr = fruiting, Fr = flowering, T = tree, S = shrub, H = herb and G = grasss

Acknowledgements

Authors are thankful to Dr. K. K. Shrestha (Central Dep. of Bot., Kirtipur), Dr. Mohan Siwakoti (IUCN), Mr. S. N. Jha (P. G. Campus, Biratnagar) and Mr. Kamal Maden (P. G. Campus, Biratnagar) for their kind cooperation in the identification; and also grateful to the staff of the National Herbarium and Plant Lab. (KATH), for providing facility to cross checking the authentic specimens for identification confirmation.

References

- Anonymous 1986. Flora of Kathmandu Valley. *Bull. Dept. Med. Pl. Nep. No. 11*, Kathmandu
- Anonymous 2001. *State of the Environment in Nepal*. His Majesty's Government, Ministry of Population and Environment, Kathmandu.
- Davis, P. H. and J. Cullen 1988. *The Identification of Flowering Plant Families*. Edinburgh.
- Grierson, A. J. C. and D. G. Long 1983. *Flora of Bhutan*, Edinburgh.
- Haines, H. H. 1924. *The Botany of Bihar and Orisa*, Allahabad.
- Hara, H. 1966. *The Flora of Eastern Himalaya*. University of Tokyo, Japan.
- Hooker, J. D. 1854. *Himalayan Journals*. Vols 1-2. J. Murray, London.
- Hooker, J. D. 1872-1897. *Flora of British India*, 1-7, L. Reeve, London.
- Jha, S. N and P. K. Jha 2000. Contribution to the flora of Morang district and adjoining area of Nepal. *Lidia*. **5** (1): 25-64.
- Parajuli, S. 2001. *Contribution to the Flora of Dulari VDC and its Adjoining Area of Morang District, Eastern Nepal*. M.Sc. Thesis, P.G. Campus, TU.

- Mabberley, D. J. 1997. *The Plant-Book*. A Portable Dictionary of the Vascular Plants. Cambridge University Press, Cambridge.
- Maden, K. 2002. Tree Flora of Chaarkose Jhadi. *Visleshan*. NUTA, P. G. Campus, T.U., **5**: 46-49.
- Maden, K. and M. R. Dhakal 1998. General survey of edible wild fruits from Koshi zone, eastern Nepal. *T.U. Journal*. **21** (1): 76-84.
- Matthew, K. M. 1991. *An Excursion flora of Central Tamilnadu, India*. Oxford & IBH Publishing Co., New Delhi.
- Siwakoti, M. 1995. *Flora of Plain Region of Eastern Nepal*. Ph. D. Thesis T. M. Bhagalpur University, Bhagalpur, India.
- Siwakoti, M. and S. Siwakoti 1998. *Ethnobotanical Studies of Limbu of Morang District*, Nepal. A report submitted to research division, T.U. Kathmandu.
- Siwakoti, M. and S. N. Jha 1987. Angiospermic flora of Biratnagar. *J. Nat. Hist. Mus. Nepal*. **11** (1-4): 99-118.