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PLANT DIVERSITY OF THE HORTICULTURAL FARM OF BANGLADESH AGRICULTURAL UNIVERSITY

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Abstract

A taxonomic survey was carried out to assess the diversity of plant genetic resources in the Horticultural farm of Bangladesh Agricultural University, Mymensingh. The data were collected during April 2004 to March 2005. A total of 25328 (including unidentified plant species) species were recorded in which trees, shrubs, herbs, climbers and woody grasses were 51.56, 27.60, 7.81, 10.41, and 2.61% of the total species, respectively. The total number of plants belongs to 98 families under 141 genera and 192 species (excluding unknown species). Among these, 65 fruit tree species under 38 genera and 25 families (of which 8 species were rare and endangered), 16 timber plant species under 12 genera and 9 families, 32 medicinal plant species under 29 genera and 24 families (of which 7 species were rate and endangered), 44 ornamental plant species under 34 genera and 25 families (of which 2 species were rare and endangered), 4 spices plant species under 4 genera and 4 families, 11 vegetables plant species under 9 genera and 6 families, 5 bamboo species under 2 genera and one family, 3 rattan (Bet) plant (which were rare and endangered) species under one genus and one family, 10 palm plant species under 10 genera and 2 families, and 2 rubber plant species under 2 genera and one family were recorded.

Key Words: Plant diversity, taxonomic survey.

Introduction

Plant diversity is a natural resource and it expresses the number of species of plants occurring in a given habitat. Plant resources are one of the most important elements of biodiversity which support life system on earth. Bangladesh is well known to have wide variety of plant species with enormous genetic diversity that are scattered in natural forests, villages, gardens, and jungles. Unfortunately, these valuable plant genetic resources have not been well studied, and so far, only a few species have ever been evaluated for their medicinal, horticultural, and agricultural potentials.

Bangladesh is one of the most populous countries of the world having 127 million (BBS, 2004) people in its area of 1,47,570 sq. km. The current population growth rate is 1.6%. Under this situation, plant resources are very important for

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serving food, wood, and others. But it is unfortunate that there is a loss of plant resources worldwide including Bangladesh (IUCN, 1998). It has been reported the 24 vascular plant species are threatened in Bangladesh of which 1 species is extinct/endangered, 21 species vulnerable, 1 rare, and 1 indeterminate (Hasan, 1997). Some 45 wild plant species have been threatened with extinction (Khan, 1991; Huq and Banik, 1992), and many other wild resource species are now at risk of being lost in all or part of their distribution ranges because of reduction in their population due to degradation and fragmentation of habitats. These plant species of reduced population are facing increased rate of extinction due to a combination of many factors like demographic, natural, and genetic changes and social dysfunction (WRI, 1989). The loss of plant diversity has been a common concern of mankind and its threat in our agriculture, environment, and forest also poses long term humanity problem.

Universities and research institutes all over the world including Bangladesh Agricultural University (BAU), Mymensingh, maintain various plant resources. Thus the Universities and research institutes have emerged not only as an important element of biodiversity conservation, but also have developed as a unique centre for education and research activities.

Therefore, a study was undertaken with the objectives (a) to prepare a list of trees, shrubs, and woody plant species under different taxa and (b) to evaluate the diversity of plant genetic resource with conservation of rare and endangered species grown in the Horticultural Farm of BAU, Mymensingh.

Materials and Method

The Horticultural Farm of the Bangladesh Agricultural University covers 26 ha and is located in scenic rural surrounding on the western bank of the old Brahmaputra river, 3 km south of the district town of Mymensingh. Geographical position of the farm is between the latitudes of $24^0 26'$ and $24^0 54'$ N and longitudes of $90^0 15'$ and $90^0 30'$ E at an altitude of 18 m. Climate of the study area is sub-tropical where rainfall is heavy during Kharif season and scanty in the Rabi associated with moderately low temperature and plenty of sunshine. The soil belongs to Sonatola series of the Brahmaputra alluvium tract and is medium textured (loam and silty loam), but there are also some fine textured soils. Soil pH varies from 6.0 to 7.6 with most soils having values around neutrality.

An exploratory taxonomic survey was conducted to ascertain the plant diversity and conservation of plant species in the farm under study. Data were collected during April to May 2005. The work consisted of basic methodological approaches and survey. The flora of the study area was listed and every species was identified and recorded separately. Different taxonomic books were consulted (Randhawa and Mukhopadhyay, 1986; Mukherjee and Gangulee 1964;

Kurz, 1974a; Kurz, 1974b; Rashid, 1990; Khan *et al.*, 1988; Haque, 1993; Gruezo, 1995) for collection of scientific names and relevant information.

Results and Discussion

The botanical information of different plants, such as common name, scientific name, family, genus, species, and habits of all ex situ plant genetic resources of the Horticultural Farm of BAU have been taken into account. The major plant categories were fruit, timber, medicinal, ornamental, spices, vegetables, bamboo, rattan, palm, and rubber.

The observation on these plant groups have been presented with suggestions relating to conservation of endangered plant resources.

Table 1. Plant population of the Horticultural Farm of BAU, Mymensingh, with their categories and habit.

Category	Habits					Total
	Tree	Shrub	Herb	Climber	Woody grass	
Fruit	4042	3252	8241	02	-	15537(61.34)*
Timber	552	-	-	-	-	552(2.18)
Medicinal	134	48	591	331	-	1104(4.36)
Ornamental	71	3043	1891	02	-	5007(19.77)
Spices	01	-	03	06	-	10(0.04)
Vegetables	01	505	-	672	-	1178(4.65)
Bamboo	-	-	-	-	607	607(2.40)
Rattan	-	-	-	05	-	05(0.02)
Palm	1319	-	-	-	-	1319(5.20)
Rubber	09	-	-	-	-	09(0.04)
Total	6129(24.20)*	6848(27.03)	10726(42.34)	1018(4.02)	607(2.40)	25328

*Figures in parentheses indicate the percentages of total population.

Population of different categories of plants and their habits

Plant population under different categories and habits are presented in Table 1. The different categories of plant species viz., fruit, timber, medicinal, ornamental, species, vegetables, bamboo, rattan, palm, and rubber plants comprised, respectively, of 61.34, 2.18, 4.36, 19.77, 0.04, 4.65, 2.40, 0.02, 5.20,

and 0.04% of total plant population. Occurrences of plants under tree, shrub, berb, climber, and woody grass habits were 24.20, 27.03, 42.34, 4.02, and 2.40% of total population, respectively. From the observation, it was revealed that the population of fruit plants was the highest followed by ornamentals and palms, where the lowest population occurred under the category of rattan plants. The highest percentage of the total plant population was observed with the herbs followed by shrubs and the lowest with the woody grasses when plant habits are considered. Similar study was also reported in different locations by Chowdhury (1991) at Rajshahi University Campus; Chowdhury (1996) at BARD Campus; Khandaker (1999) at Botanical Garden of BAU; and Talukder (1999) at BAU Campus.

Number of families, genera, and species under each category of plants

Fruit plants

A total of 65 fruit plant species have been recorded under 38 genera and 25 families grown in the Horticultural Farm of BAU, Mymensingh (Table 2). The fruit plants comprised of 25.51, 26.96, and 33.83% of total families, genera, and species, respectively. Rutaceae was the largest family and represented 13 species. Moraceae was the second largest families having 6 species. Anacardiaceae, Myrtaceae and Guttiferae represented 5 species each. Rosaceae family had 4 species. Annonaceae, Ebenaceae, and Sapotaceae represented 3 species each. Family Caesalpinae, Punicaceae, Dillinaceae, Eleocarpaceae, Luraceae, Musaceae, Passifloraceae, Punicaceae, Rahmnaceae, Rubiaceae, Tiliaceae, and Vitaceae had single species each (Table 3). Some of these species are critically endangered and going to be extinct from the country. The most rare and endangered species are *Tamarindus indica* (Caesalpinae), *Diospyros peregina* (Ebenaceae), *Baccuria ramiflora* (Euphorbiaceae), and *Garcinia xanthochymus* (Guttiferae). (Table 4). Similar work related to the present study was also reported by Das (1987) and Saha (1997).

Timber plants

A total of 16 timber yielding plant species have been recorded under 12 genera and 9 families. The timber plants comprised of 9.19, 8.51, and 8.34% of total families, genera, and species, respectively (Table 2). Seven families were represented by single species each. Mimosaceae was the largest family having 7 species. Annonaceae was the second largest family having 2 species (Table 3). From the above observation, it was evident that there was no endangered species of timber plants grown in the Horticultural Farm of BAU. Similar work related to the study was also reported by Alam (1988) in hill forests of Sylhet.

Medicinal plants

A total of 32 medicinal plant species have been recorded under 29 genera and 24 families (Table 2). The medicinal plant species occupied 24.49%, 20.57, and 16.67% of total families, genera, and species, respectively. Both Apocynaceae and Lilliaceae families of medicinal plants 4 species each and Combretaceae and Umlelliferae represented 2 species each. There were 21 families representing single species each (Table 3). It was evident that there were many endangered species of medicinal plants grown in the Horticultural Farm. Some of the are *Alstonia scholaris* (Apocynaceae), *Bixa orellana* (Bixaceae*), Terminalia arjuna* (Combreataceae), *Mesua ferrea* (Gulttiferae), and *Aquilaria agallocha* (Thymelaceae) (Table 4). Similar works related to the study were also reported by Khan (1991); FAO (1984), and Khan (1997).

Table 2. Plant genetic resources with their total number of family, species, genera, and percentage of total family, genera, and species under each category of plant.

Plant category	No. of families	No. of genera	No. of species
Fruit	25(25.51)*	38 (26.95)*	65 (33.85)*
Timber	09 (9.19)	12 (8.51)	16 (8.34)
Medicinal	24 (24.49)	29 (20.57)	32 (16.67)
Ornamental	25 (25.51)	34 (24.11)	44 (22.92)
Spices	04 (4.08)	04 (2.84)	04 (2.08)
Vegetables	06 (6.12)	09 (6.38)	11 (5.73)
Bamboo	01 (1.02)	02 (1.42)	05 (2.60)
Rattan	01 (1.02)	01 (0.71)	03 (1.56)
Palm	02 (2.04)	10 (7.09)	10 (5.21)
Rubber	01 (1.02)	02 (1.42)	02 (1.04)
Total	98	141	192

*Figures in parentheses indicate the percentages of total population.

Ornamental plants

A total of 44 ornamental plant species have been recorded under 25 families and 34 genera, which comprises of 25.561, 24.11, and 22.92% of total families, genera and species, respectively (Table 2). Sixteen families were represented by a single species each. Euphorbiaceae having 7 species as the largest family of ornamental plant species of the farm. Family Rubiaceae was the second largest representing 5 species. Caesalpiniae, Cycadaceae, Musaceae, Rosaceae were represented by 2 species each. Three species were recorded under each of the families, Liliaceae and Malvaceae (Table 3). There were some endangered

species, such as *Madhuca latifolia* (Sapotaceae) and *Mimosops elengi* (Sapotaceae) (Table 4).

Table 3. Plant genetic resources of the horticultural farm of BAU with hteir respective common names, families, genera, species and habit.

Category	Common name	Family	Genus	Species	Habits
Fruit plant	Amm	Anacardiaceae	*Mangifera*	*indica*	Tree
	Bilati amra	Anacardiaceae	*Spondia*	*dulcis*	Tree
	Kajubadam	Anacardiaceae	*Anacardium*	*Occidentala*	Tree
	Maila-am	Anacardiaceae	*Mangifera*	*longipes*	Tree
	Pesta Badam	Anacardiaceae	*Pistacia*	*vera*	Tree
	Annone	Annonaceae	*Annona*	*muricata*	Tree
	Atta	Annonaceae	*Annona*	*reticulata*	Tree
	Sarifa	Annonaceae	*Annona*	*squamosa*	Tree
	Billimbi	Averrhoaceae	*Averrhoa*	*bilimbi*	Tree
	Kamangha	Averrhoaceae	*Averrhoa*	*carambola*	Tree
	Deshi Tentul	Caesalpiniaceae	*Tamarindus*	*indica*	Tree
	Papaya	Caricaceae	*Carica*	*papaya*	Herb
	Chalta	Dilleniaceae	*Dillenia*	*indica*	Tree
	Bilati Gab	Ebenaceae	*Diospyros*	*discolor*	Tree
	Deshi Gab	Enenaceae	*Diospyros*	*peregrine*	Tree
	Parsimon	Ebenaceae	*Diospyros*	*kaki*	Tree
	Jalpai	Elaeocarpaceae	*Elaeocarpus*	*floribundus*	Tree
	Arboroi	Euphorbiaceae	*phyllanthus*	*acidus*	Tree
	Latkan	Euphorbiaceae	*Baccuria*	*ramiflora*	Shrub
	Boichi	Flacourtiaceae	*Flacourtia*	*indica*	Shrub
	Paniala	Flacourtiaceae	*Flacourtia*	*Jangomas*	Shrub
	Cowfal	Guttifera	*Garcinia*	*cowa*	Tree
	Dewfal	Guttifera	*Garcinia*	*xanthochymus*	Tree
	Mangosteen	Guttifera	*Garcinia*	*mangostana*	Tree
	Egg fruit	Guttifera	*Garcinia*	*xanthochymus*	Tree
	Thoikar	Guttifera	*Garcinia*	*pedunculata*	Tree
	Avocado	Lauraceae	*Persea*	*americana*	Tree
	Dewa	Moraceae	*Artocarpus*	*lakoocha*	Tree
	Dumur	Moraceae	*Ficus*	*carica*	Tree
	Kanthal	Moraceae	*Artocarpus*	*heterophyllus*	Tree
	Rutifall	Moraceae		*altilis*	Tree

Table 3. Cont'd

Category	Common name	Family	Genus	Species	Habits
	Kala	Moraceae	*Musa*	*sapientum*	Herb
	Golapjam	Moraceae	*Syzygium*	*jambos*	Tree
	Panijam	Moraceae	*Syzygium*	*cymosa*	Tree
	Jamrul	Moraceae	*Syzygium*	*samarangense*	Tree
	Jam	Moraceae	*Syzygium*	*cumini*	Tree
	Payera	Moraceae	*Psidium*	*guajava*	Tree
	Passion Fruit	Passifloraceae	*Passiflora*	*edulis*	Shrub
	Dalim	Punicaceae	*Punica*	*granatum*	Shrub
	Boroi	Rhamnaceae	*Zizyphus*	*mauritiana*	Tree
	Alubokhara	Rosaceae	*Prunus*	*domestica*	Shrub
	Loquat	Rosaceae	*Eriobotrya*	*japonica*	Tree
	Peach	Rosaceae	*Prunus*	*persica*	Shrub
	Naspati	Rosaceae	*Pyrus*	*communis*	Shrub
	Kadam	Rubiaceae	*Anthocephalus*	*chinensis*	Tree
	Bael	Rutaceae	*Aegle*	*marmelos*	Tree
	Jambura	Rutaceae	*Citrus*	*grandis*	Tree
	Kamla	Rutaceae	*Citrus*	*reticulate*	Shrub
	Kothbel	Rutaceae	*Feronia*	*limonia*	Tree
	Alachi lebu	Rutaceae	*Feronia*	*limon*	Shrub
	Jamir lebu	Rutaceae	*Feronia*	*jambheri*	Shrub
	Satkora	Rutaceae	*Feronia*	*macroptera*	Shrub
	Rangpur labu	Rutaceae	*Feronia*	*limon*	Shrub
	Tripatrak labu	Rutaceae	*Poncirus*	*trifoliate*	Shrub
	Kazilabu	Rutaceae	*Citrus*	*aurantifolia*	Shrub
	Tak kamala	Rutaceae	*Citrus*	*aurantium*	Shrub
	Citron	Rutaceae	*Citrus*	*medica*	Shrub
	Malta	Rutaceae	*Citrus*	*sinensis*	Shrub
	Longan	Sapindaceae	*Nephelium*	*longana*	Tree
	Lichu	Sapindaceae	*Lichi*	*chinensis*	Tree
	Aster apple	Sapotaceae	*Chrysophyllum*	*cainito*	Tree
	Khirni	Sapotaceae	*Manilkara*	*hexandra*	Tree
	Sofeda	Sapotaceae	*Achras*	*sapota*	Tree
	Falsa	Tiliaceae	*Grewia*	*asiatica*	Tree
	Angur	Vitaceae	*Vitis*	*vinifera*	Climber

Table 3. Cont'd

Category	Common name	Family	Genus	Species	Habits
Timber Plant	Sal	Annonaceae	*Shorea*	*robusta*	Tree
	Debdaru	Annonaceae	*Polyanlthia*	*longifera*	Tree
	Shimul	Boraginaceae	*Bombax*	*ceiba*	Tree
	Sissoo	Fabaceae	*Swietenia*	*sissoo*	Tree
	Mahogany	Maliaceae	*Swietenia*	*mahagony*	Tree
	Sesra koroi	Mimosaceae	*Albizia*	*chinensis*	Tree
	Sil koroi	Mimosaceae	*Albizia*	*procera*	Tree
	Kalo koroi	Mimosaceae	*Albizia*	*lebbeck*	Tree
	Akashmoni	Mimosaceae	*Acacia*	*auriculiformis*	Tree
	Babla	Mimosaceae	*Acacia*	*nilotaca*	Tree
	Raintree	Mimosaceae	*Samania*	*saman*	Tree
	Raj koroi	Mimosaceae	*Albizia*	*richardiana*	Tree
	Chapalish	Moraceae	*Artocarapus*	*chadlasha*	Tree
	Eucalyptus	Myrataceae	*Eucalyptus*	*teritocornis*	Tree
	Segum	Verbenaceae	*Tectona*	*grandis*	Tree
	Kat jiga	Vitaceae	*Leea*	*crispa*	Tree
Medicinal Plant	Alananda	Apocynaceae	*Allamanda*	*cathartica*	Climber
	Karamcha	Apocynaceae	*Carissa*	*carandas*	Shrub
	Single togor	Apocynaceae	*Tabernaemontana*	*coronaria*	Shrub
	Chatim (Bigleaf)	Apocynaceae	*Alstonia*	*macrophylla*	Tree
	Bonholud	Bixaceae	*Bixa*	*orellana*	Tree
	Sonalu	Caesalpinae	*Cassia*	*fistula*	Tree
	Bohera	Combretaceae	*Terminalia*	*belerica*	Tree
	Arjun	Combretaceae	*Terminalia*	*arjuna*	Tree
	Pathorkuchi	Crassulaceae	*Kalanchae*	*pinnata*	Herb
	Bhuikumra	Cueurbitaceae	*Trichosanthes*	*Cordata*	Climber
	Mutha	Cyperaceae	*Cyprus*	*rotundus*	Herb
	Ban-alu, pagla-alu	Dioscoreaceae	*Dioscorea*	*bulbifera*	Climber
	Amloki	Euphorbiaceae	*Phyllanthus*	*embelica*	Tree
	Nageswer champa	Guttiferae	*Mesua*	*ferrea*	Tree
	Tulsi	Labiatae	*Ocimum*	*basilicum*	Shrub
	Karpur	Lauraceae	*Cinnamomum*	*camphora*	Tree

Table 3. Cont'd

Category	Common name	Family	Genus	Species	Habits
	Asparagus	Liliaceae	*Asparagus*	*densiflorus*	Climber
	Satomuli	Liliaceae	*Asparagus*	*officinalis*	Climber
	Gitokumari	Liliaceae	*Aloe*	*barbadensis*	Herb
	Srnachapa	Magnoliaceae	*Michelia*	*champaca*	Tree
	Deshi neem	Meliaceae	*Azadirachta*	*indica*	Tree
	Rasna	Orchidaceae	*Vandal*	*sp.*	Climber
	Kababchini	Piperaceae	*Piper*	*cubeba*	Tree
	Shetchandan	Santalaceae	*Santalum*	*album*	Tree
	Bakul	Sapotaceae	*Mimosops*	*elengi*	Tree
	Sada datura	Solanaceae	*Datura*	*metel*	Shrub
	Buddha narikal	Sterculiaceae	*Pterygota*	*alata*	Tree
	Agar	Thymelaceae	*Aquilaria*	*agallocha*	Tree
	Thankuni	Umbelliferae	*Centella*	*asiatica*	Herb
	Gima shak	Umbelliferae	*Hyrocotyle*	*rotundifolia*	Herb
	Harjora	Vitaceae	*Cassus*	*equdrangularis*	Climber
Ornamental plant	Morok jhuti	Amaranthaceae	*Celosia*	*cristala*	Herb
	Rojoni ganda	Amaranthaceae	*Polianthes*	*tuberosa*	Herb
	Bichitro Togor	Apocynaceae	*Tabernaemontana*	*coronaria "variegate"*	Shrub
	Sit patabahar	Araliaceae	*Polyscias*	*paniculata*	Shrub
	Nim patabahar	Araliaceae	*polyscias*	*filicifolia*	Shrub
	Christmas tree	Araucariaceae	*Araucaria*	*excelsa*	Tree
	Burma shimul	Bombacaceae	*Ceiba*	*pentandra*	Tree
	Shimul	Boraginaceae	*Bombax*	*ceiba*	Tree
	Kanchan	Caesalpiniae	*Bauhinia*	*racemosa*	Tree
	Krisnachura	Caesalpinae	*Delonix*	*regia*	Tree
	Jhau	Caesalpinae	*Casuarina*	*equisetifolia*	Tree
	Rangon cripper	Combretaceae	*Quisqualis*	*indica*	Climber
	Cycus	Cycadaceae	*Cycus*	*revolute*	Tree
	Kata cycus	Cycadaceae	*cycus*	*circunalis*	Tree
	Patabahar	Euphorbiaceae	*Codiaeum*	*craigii*	Shrub
	Achalyfa	Euphorbiaceae	*Codiaeum*	*variegatum*	Shrub

Table 3. Cont'd

Category	Common name	Family	Genus	Species	Habits
	Cat's tail	Euphorbiaceae	*Acalypha*	*hispida*	Shrub
	Puntranjib	Euphorbiaceae	*Puntranjiva*	*roxburghii*	Tree
	Lal shalu	Euphorbiaceae	*Euphorbia*	*cotinifolia*	Shrub
	Joyoti	Euphorbiaceae	*Jatropha*	*pandurifolia*	Shrub
	Mandar	Fabaceae	*Erythrina*	*indica*	Tree
	Dracina	Liliaceae	*Dracaena*	*marginata*	Herb
	Dracina	liliaceae	*Dracaena*	*fragrans*	Herb
	Dracina	Liliaceae	*Dracaena*	*deremensis*	Shrub
	Madhubilata	Malpighiaceae	*Hiptage*	*madblota*	Climber
	Joba	Malvaceae	*Hibiscus*	*rosa chinensis*	Shrub
	Joba (golapi)	Malvaceae	*Hibiscus*	*rosa chinensis (Australian rose)*	Shrub
	Joba (sada)	Malvaceae	*Hibiscus*	*rosa chinensis (Hawaii white)*	Shrub
	Kolaboti	Musaceae	*Strelizia*	*reginae*	Herb
	Panthpadap	Musaceae	*Ravenala*	*Madagascarie-nsis*	Tree
	Bottle brush	Myrtaceae	*Callistemon*	*lanceolatus*	Shrub
	Baganbilash	Nyctaginaceae	*Bougainvillea*	*grabra*	Climber
	Belly	Oleaceae	*Jasminum*	*sambac*	Shrub
	Thuja	Pinaceae	*Thuja*	*orientalis*	Shrub
	Cherry (Japanese)	Rosaceae	*Prunus*	*campanulata*	Tree
	Golap	Rosaceae	*Rosa*	*spp.*	Shrub
	Musanda (sada)	Rubiaceae	*Mussaenda*	*erythrophylla "alba"*	Shrub
	Musanda (golap)	Rubiaceae	*Mussaenda*	*erythrophylla "alba"*	Shrub
	Musanda (Lal)	Rubiaceae	*Mussaenda*	*erythrophylla "alba"*	Shrub
	Indian dilbahar	Rubiaceae	*Hemelia*	*petens*	Shrub
	Gandharaj	Rubiaceae	*Gardenia*	*coronaria*	Shrub
	Mohuwa	Sapotaceae	*Madhuca*	*latifolia*	Tree
	Duranta	Verbenaceae	*Duranta*	*repens*	Shrub

Table 3. Cont'd

Category	Common name	Family	Genus	Species	Habits
Spices	Boch	Aracae	*Acorus*	*calamus*	Herb
	Tejpata	Lauraceae	*Cinnamomum*	*tamala*	Tree
	Golmorich	Piperaceae	*Piper*	*nigram*	Climber
	Panbahar, panbilash	Rutaceae	*Clausena*	*hepaphylla*	Shrub
Vegetables	Shosha	Cucurbitaceae	*Cucumis*	*sativus*	Climber
	Potol	Cucurbitaceae	*Trichosauthes*	*dioica*	Climber
	Misti kumra	Cucurbitaceae	*Cucurbita*	*Moschata*	Climber
	Korola	Cucurbitaceae	*Momordica*	*charautia*	Climber
	Meta Alu	Dioscoreaceae	*Dioscorea*	*alata*	Climber
	Sita lau	Passifloraceae	*Passiflora*	*Quadrangularis*	Climber
	Banno begun	Solanaceae	*Solanum*	*spp.*	Shrub
	Begun	Solanaceae	*Solanum*	*melongena*	Shrub
	Sajan	Moringaceae	*Moringa*	*olefera*	Tree
	Deros (wild)	Malvaceae	*Abelmoschus*	*sp.*	Shrub
	Deros	Malvaceae	*Abelmoschus*	*esculentus*	Shrub
Bamboo	Mitinga Bash	Gramineae	*Bambusa*	*tulda*	Woody grass
	Muli Bash	Gramineae	*Miloccana*	*bacifera*	Woody grass
	Barak Bash	Gramineae	*Bambusa*	*balcooa*	Woody grass
	Bash	Gramineae	*Bambusa*	*sp.*	Woody grass
	Bash (Grass)	Gramineae	*Bambusa*	*nana*	Woody grass
Rattan	Sundi bet	Palmae	*Calmus*	*tenuis*	Climber
	Lathi bet	Palmae	*Calmus*	*rotung*	Climber
	Zali bet	Palme	*Calmus*	*guruba*	Climber
Palm plant	Chaur	Arecaceae	*Caryota*	*urens*	Tree
	Bottle palm	Arecaceae	*Mascarena*	*lagenicaulis*	Tree
	Talpalm	Arecaceae	*Barassus*	*flabellifer*	Tree
	Oilpalm	Arecaceae	*Elaeis*	*guineensis*	Tree
	Narikel	Palmae	*Cocos*	*mucifera*	Tree
	Arica palm	Palmae	*Chrysalidocarpus*	*lutescense*	Tree

Category	Common name	Family	Genus	Species	Habits
	Khejur	Palmae	*Phoenix*	*sylvestris*	Tree
	Supari	Palmae	*Areca*	*catechu*	Tree
	Lady palm	Areaceaceae	*Rhapis*	*excelsa*	Tree
	Chinese palm	Arecaceae	*Liuistona*	*chinensis*	Tree
Rubber plant	Rubber	Moraceae	*Hevea*	*brasiliensis*	Tree
	Rubber (Indian)	Moraceae	*Ficus*	*elastica*	Tree

Spices

A total of 4 spices plant species have registered 4 genera under 4 families and it comprised 4.08, 2.84, and 2.08% of total families, genera, and species, respectively (Table 2). The families were Araceae, Lauraceae Piperaceae, and Rutaceae each comprising a single species (Table 3).

Vegetables

A total of 11 vegetables plants species have been listed under 6 families and 9 genera and it comprised 6.12, 1.42, and 5.73% of total families, genera, and species, respectively (Table 2). Cucurbitaceae was the largest family and represented by 4 species. Malvacease and Solanaceae had 2 species each. Dioscoreaceae, Moringaceae, and Passifloraceae comprised a single species each (Talbe 3).

Bamboo plants

A total of 5 bamboo plant species have been recorded under a single family Gramineae and 2 genera, and it occupied 1.02, 1.42, and 2.60% of total families, genera and species, respectively (Table 2 and 3).

Rattan plants

A total of 3 Rattan plant species have been recorded under the single family palmae and the genus *Calamus*, and this group comprised 4.56% of total plant species (Table 2 and 3). There were some endangered species viz., *Calamus tenuis*, *Calamus rotung*, and *Calamus guruba* (Talbe 4). Similar work related to the study in another location was also reproted by Alam (1990).

Palm plants

A total of 10 palm plant species have been recorded under 2 families and 10 genera and it comprised 2.04, 7.09, and 5.21% of total families, genera, and

species, respectively (Table 2). The families Arecaceae and Palmae had 6 and 4 species, respectively (Table 3). Similar work related to the study was also reported by Khan (1997) in another location.

Table 4. Rare and endangered plant species grown in the horticultural farm of BAU campus.

Local name	Family	Botanical name	Habit	Use
Deshi tetul	Caesalpinae	*Tamarindus indica*	Tree	Fruit
Deshi gab	Ebenaceae	*Diospyros peregrine*	Tree	Fruit
Latkan	Euphorbiaceae	*Baccuria ramifolia*	Shrub	Fruit
Paniala	Flacourtiaceae	*Flacourtia jangomas*	Shrub	Fruit
Dewfal	Guttiferae	*Garcinia xanthocymus*	Tree	Fruit
Kotbel	Rutaceae	*Feronia limonia*	Tree	Fruit
Khirni	Sapotaceae	*Manilkara hexandra*	Tree	Fruit
Falsa	Tiliaceae	*Grewia asiatica*	Tree	Fruit
Chatim	Apocynaceae	*Alstonia scholaris*	Tree	Medicine
Bonholud	Bixaceae	*Bixa orellana*	Tree	Medicine
Arjun	Combretaceae	*Terminalia arjuna*	Tree	Medicine
Bohera	Combretaceae	*Terminalia belerica*	Tree	Medicine
Horitoki	Combretaceae	*Terminalia chebula*	Tree	Medicine
Nageswer champa	Guttiferae	*Mesua ferrea*	Tree	Medicine
Mahua	Sapotaceae	*Madhuca latifolia*	Tree	Ornamental
Bakul	Sapotaceae	*Mimosops elengi*	Tree	Ornamental
Agar	Thymelaceae	*Aquilaria agallocha*	Tree	Medicine
Sundi	Palmae	*Calamus temuis*	Climber	Rattan
Lathi bet	Palmae	*Calamus rotung*	Climber	Rattan
Zali bet	Palmae	*Calamus Guruba*	Climber	Rattan

Rubber plants

A total of 2 rubber plant species have been recorded and it comprised 1.04% of total plant species of the horticultural farm of BAU (Table 2). The species were *Hevea brasiliensis and Ficus elastica* under the single family Moraceae family and its habit is tree (Table 3).

Number of plant species recorded under different habits

Of the fruit plants, 43, 19, 2, and 1 species were trees, shrubs, herbs, and climbers, respectively. In case of timber yielding plants, all the species were of tree habits. Under the medicinal plants, 14 species were trees, and shrubs, herbs, and climbers were represented by 6 species each. Among the ornamental plants, 23 species were shrubs, while the trees, herbs, and climbers represented 12, 6, and 3 species, respectively. In spices trees, herbs, shrubs, and climbers were represented by a single species each. Among the vegetables plants, 6 species were climbers, 4 shrubs, and a single tree. The species of bamboo and rattan plants were of woody grass and climber habit, respectively. In case of palm and rubber plants, the species were of tree habit only (Table 3).

It was evident from the observation that a large number of rare and endangered species of different categories of plants with various habits occur in the horticultural farm of BAU creating a good diversity of plant genetic resources.

Conclusion

The present study reveled a total of 25328 plants with 192 species, where the highest percentage (51.56%) of plant species was found in tree habits, while the shrubs, herbs, climbers, and woody grasses comprised 27.60, 7.81, 10.41, and 2.62%, respectively. The fruit plants consisted of 65 species under 38 genera and 25 families of which 4 species are rare and endangered. Timber plants had 16 species under 12 genera and 9 families. Among 32 medicinal plant species recorded under 29 genera and 24 families, 5 species are rare and endangered. Ornamental plant consisted of 120 species under 34 genera and 25 families of which 2 species are rare and endangered. A total of 4 species of spices plants have been recorded under 4 genera and 4 families. Vegetables were of 11 species under 9 genera and 6 families. In bamboo, 5 species were identified, which comprised 2 genera under a single family. In case of Rattan, total of 3 species with single genus were recorded under palmae family. Palm plant consisted of 10 species under 10 genera and 2 families. Two rubber plant sepcies were listed under 2 genera and a single family. No dangered species of timber, spices, vegetables, bamboo, rattan, palm, and rubber plants were recorded.

It can be concluded that different plant categories have various habits with diverse species, genea, and families including a good number of rare and endangerd species have been maintained in the horticultural farm of BAU.

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