Taxonomic diversity of broad-leaf weeds at Bangladesh Agricultural University campus and their ethno-botanical uses

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ABSTRACT

An intensive survey and literature review was furnished to study taxonomic diversity and ethno-botanical uses of broad-leaf weeds available in BAU campus. Availability of 107 broad-leaf weed species has been identified and those belong to 78 genera and 38 families. Among the families, Fabaceae is best-represented with 13 weed species followed by Euphorbiaceae and Amaranthaceae (seven species in each), Solanaceae (six species), Convolvulaceae and Polygonaceae (five species); 17 families are represented by two to four species while 15 families by single species in each. The genera viz. Desmodium, Ludwigia and Solanum, are represented by four species in each followed by Amaranthus, Ipomoea, Lindernia, Persicaria and Senna three species in each; however, most of the genera are represented by one or two species in each. Three distinct phenology (flowering periods) viz., October-March (52), April-September (40) and all the year-round (15), were observed among identified weed species and the knowledge on phenological development would be helpful to know soil seedbank potential for their effective management. These weed species possess many ethno-botanical uses e.g., medicinal value, consumed as vegetable, feed, fodder, etc. This study provides information on ethno-botanic uses, taxonomic diversities and phenology of the broad-leaf weeds for their effective management.

Introduction

Weeds are unwanted and undesirable plants which interfere with the utilization of land and water resources and thus adversely affect human welfare (Rao, 2000). About 1570 plant species are recognized as weeds (absolute weed) throughout the world (Wiersema and Leon, 1999) and about 350 species of weeds are recorded from the crop fields of Bangladesh. About 20% of the present weed flora have been recognized as naturalized exotic weeds e.g., Argemone maxicana, Alternanthera philoxeroides, Clerodendrum viscosum, Croton bonplandianum, Lathyrus aphaca, Lantana camara, Mimosa pudica, Nicotiana plumbaginifolia, Urena lobata, Vicia angustifolia, etc. (Hossain and Pusha, 2004). Uncontrolled weed growth, especially in the early stages of crop establishment, causes yield loss up to 25-80% depending upon types of crops (Kashem et al., 2009); and the global economic losses more than $40 billion per annum occurs due to weeds through reduction of agricultural and silvicultural productivity, reduced access to land and water, impaired aesthetics and disruption of human activities and well-being (Kashem et al., 2009). Despite these negative effects, weeds act as ground cover, source of organic matter and genetic materials for crop improvement, nutrient cycling, and possess many ethno-botanical uses e.g., medicine, vegetable, feed and fodder for domestic animal, etc. Not only in the Indian subcontinent and its neighbourhoods, weed species are also used for medicinal purposes in other regions of the world, for example Highland Maya of Chiapas (Mexico) and North American regions; weeds used in traditional medicinal floras may be the source of important new drugs (Stepp and Moerman, 2001).

An effective management (control) program is essential to reduce the crop yield losses due to weeds. Weed management is a better option than control due to reduce crop production cost, protect natural balance, conserve environment, avoid elimination of species, avoid injury of main crops, encourage beneficial effects, and increase production. The knowledge on weed morphology and identification, habitat, viability and dormancy of weed seed, competitive ability with crop, etc., is essential to achieve an effective management program (Kashem et al., 2009). In Bangladesh, the detailed taxonomic studies including phenology of weeds have been neglected by both the practicing plant taxonomists and/or the agricultural scientists. We have scanty information on...
the weeds of different crops in agronomic publications (Islam, 2014; Akter et al., 2018; Shabi et al., 2018). The Bangladesh Agricultural University (BAU) campus with three major topographic types viz. plain area, slightly undulated area and basin-shaped low lying area, facilitates a wide range of habitats such as wetlands, marshy lands, open fields, fallow lands, etc. (Sarwar and Prodhan, 2011). The mean annual rainfall is 244.15 mm and the temperature varies from 11.9º to 32.5º C. This diverse climatic condition and wide habitat range provide a suitable condition for the growth of weeds in this campus which harbours a wide range of plant diversities. To make a complete weed flora of BAU campus, an intensive taxonomic study on the weeds available in this campus has recently been started (Cyperaceae, Jannat-E-Tajkia et al., 2018; Poaceae, Sagar et al., 2018; Asteraceae, Mia et al., 2019). As a part of this research, the species diversity of (dicotyledonous) broad-leaf weeds including their habitat, flowering period and ethno-botanical uses, have been reported here which might be useful for the green weed management practices and for getting higher economic benefits.

Materials and Methods

A rigorous field survey was carried out at BAU campus during 2018 to 2019. During the survey, fresh flowering samples of broad-leaf weeds, excluding the family Asteraceae, were collected through the year round by frequent field visits (once a week). Weeds from the family Asteraceae has already been reported in our previous paper (Mia et al., 2019). Other related information e.g., habitat, location, collection date, flowering time, crop/plant association, etc. were recorded during the field collection. Fresh samples were dried well for making voucher specimens. The collected weed specimens, fresh or dried, were identified by matching with herbarium specimens or published literature (Ahmed et al., 2008a, b, 2009) or consulting with experienced taxonomist at the Bangladesh National Herbarium, Dhaka. The botanical names were updated consulting with the Plant List (http://www.theplantlist.org/). All the specimens are preserved in Prof. Dr. Arshad Ali Herbarium at the Botanical Garden, Department of Crop Botany, Bangladesh Agricultural University.

The information related to ethno-botanical uses were collected from the published literature (Ahmed et al., 2008a, b, 2009; Dansi et al., 2008; Gutiérrez et al., 2014; Hastings, 1990; Khan et al., 2013; Kumar and Sane, 2003; Kumar et al., 2019; Lokho and Narasimhan, 2013; Manandlar, 1995; Marandi and Britto, 2015; Minarchenko et al., 2017; Nayar et al., 1988; Keat et al., 2010; Oyedeji et al., 2011; Panda and Misra, 2011; Pandey and Singh, 2017; Pant and Samant, 2010; Pascual et al., 2001; Pragada and Rao, 2012; Sahu, 1984; Sarker et al., 2017; Srivastava, 2017; Uddin, 2006; Upreti et al., 2009).

Results and Discussion

An enumeration of the species recorded was presented with botanical name, common name(s), English name, family, flowering time and habitat. In this present paper, the occurrence of 107 weed species belong to 78 genera and 38 families has been reported (Tables 1 and 2). One weed species could only be identified down to genus level (Phyllanthus sp.). Among the families, Fabaceae is the best-represented family with 13 species followed by Euphorbiaceae and Amananthaceae (Seven species in each), Solanaceae (six species). Convolvulaceae and Polygonaceae are represented by five species each; 17 families are represented by two to four species in each while 15 families by a single species in each (Table 2). Among the genera, the largest genera are Desmodium, Ludwigia and Solanum represented by 4 species each followed by Amaranthus, Ipomoea, Lindernia, Persicaria and Senna by 3 species each; however, most of the genera are represented by single or two species each (Table 1). The distribution pattern of weeds (number of genera and/or species) was varied from place to place. For example, the number of weed species belongs to the family Fabaceae varies from 6 to 14 (Mamun, 1989; Moody, 1989; Karim and Kabir, 1995; Khan and Parveen, 2018). Looking through the weed flora of the BAU campus, Poaceae was the largest family (81 species) followed by Cyperaceae (48 species) and Asteraceae (26 species); moreover, Fimbriostylis (13 species) and Cyperus (12 species) of the family Cyperaceae were most species-rich genera followed by Digitaria (9 species) of the Poaceae (Jannat-E-Tajkia et al., 2018; Sagar et al., 2018; Mia et al., 2019). Apart from the Poaceae, many of the top 12 weed families are also the same families that are important for medicinal viz. Asteraceae, Fabaceae, Convolvulaceae, Euphorbiaceae, Solanaceae, Malvaceae, and Chenopodiaceae (Stepp and Moerman, 2001; Table 2).

Some of these recorded weed species are common and major weeds in the rice, wheat, jute and other crop fields (Islam, 2014; Akter et al., 2018; Shabi et al., 2018). Species from the genera Lantana, Amaranthus, Cassia, Cephalandra, Anisomeles, Cleome, Croton, Desmodium, Dryopteris, Justicia, Mimos, Melochia, Oxalis, Scoparia, etc., were very common and distributed all over the habitat (campus). The habitat diversity varied from crop fields and its levees to roadsides, fallow lands, play grounds, waste lands, edges of drains, dry lands, shallow water bodies, etc. Based on the phenology (flowering times), identified weed species belong to three distinct groups i.e., flowering occurs during the month of October–March (52 species), April–September (40 species) and all the year-round (15 species) (Table 1). The knowledge of habitats and flowering period can be utilized as an effective tool for the management of
Weeds. Appropriate management practices before/after flowering will help us to maintain the weed population below the economic threshold level and break-up the weed seedbank in the soil for future regeneration. It is, therefore, essential to understand the phenology and habitat of the weeds to select the appropriate management practices. Hence, the population of weeds can be maintained below the economic threshold level if these weeds can be managed before flowering. Weeds, at the field margins and the surrounding natural vegetation, sometimes provide a habitat where beneficial arthropods may find refuge, alternative hosts, water, overwintering sites, favourable microclimate and escape from pesticides applied to the crop.

Weeds, regarded undesired in crop field and neglected as the constant source of annoyance and trouble to the farmers, are simply eradicated by mechanical and/or chemical means; though they are important from the standpoint of medicinal, allelopathic and food values (Bhattacharjya and Borah, 2008). Ethnic/tribal peoples have been consuming these weeds for generations not only as medicine but as food also. The study reveals that the weeds from the crop fields and wastelands possess multiple medicinal uses. The ethno-botanical uses of the reported weeds are much diversified (Table 3) and also recorded in different ethno-botanical references (Uddin, 2006). Out of 107 weed species, a total of 69 species have the medicinal properties/uses while 26 species used both as vegetable and medicinal purposes, three species as vegetable, one as fodder crop, one as fodder and medicine, one species is used as fish poison. Hitherto, six species did not have any known ethno-botanical uses (Table 3). Recent time, there are a lot of difficulties to collect medicinal plants from forest due to Government’s forest policies. Therefore, the crop fields and other disturbed ecosystems are preferred habitats for medicinal plant collection and/or procurement by many traditional peoples (Immanuel and Elizabeth, 2009).

Weeds in disturbed areas are likely to have more chemicals in them for defense which are biologically active and potentially useful for medical science. Out of the various parts used as native medicines, leaf and shoot or the whole plant is commonly used; roots, buds, flowers, fruits, seeds and exudates like latex and juices are less commonly used (Panda and Misra, 2011). These medicinal plants are commonly used by the local people to cure following the diseases viz. fever, asthma, urinary problems, cough, cold, small pox, dysentery, diarrhoea, diabetes, eczema, fracture of bone, headache, heart disease, itches, jaundice, menstrual disease, paralysis, piles, skin diseases, snake-bite, toothache, vomiting, worm, wound and others (Table 3).

Based on medicinal uses, species from the genera namely Anisomeles, Chenopodium, Coccinia, Colocasia, Croton, Cuscuta, Desmodium, Eichhornia, Euphorbia, Heliotropium, Indigofera, Ipomoea, Justicia, Lanna, Lippia, Mimosa, Oldenlandia, Phyla, Portulaca, Senna, Sida and Solanum have diversified ethno-medicinal uses. A single weed species is sometimes used for the treatment of many diseases. For example, Colocasia esculenta is used to treat jaundice, cut & wounds, antibacterial & hypotensive, menstruation, stomach problems, cysts, poultice to boils, conjunctivitis, constipation, colic, digestive; Mimosa pudica to treat dysentery, haemorrhoids, mouth ulcer, sore nipples, scurvy, disease of kidney, liver, spleen bladder, pyorrhoea, insulin secretion, blood purifier, fever, sun stroke; Oldenlandia corymbosa to clear heat and toxins, activate blood circulation, promote diuresis and relieve stranguria (urinary obstruction), tumours of the digestive tract lymphosarcoma and carcinoma of the liver & larynx, appendicitis, hepatitis, pneumonia, cholecystectomy, cellulites, snake bite, skin sores, ulcers, sore throat, bronchitis, gynaecologic infections & pelvic inflammatory diseases (Table 3). Therefore, losses of a single species may sometimes be more detrimental in terms of ethno-medicinal values. On the other hand, more than one weed species with different formulation were sometimes used for the treatment of a single disease. For example, dysentery is treated with 23 species followed by fever with 21 species, skin diseases with 20 species, asthma with 17 species, ulcer with 16 species, jaundice with 12 species, stomach-ache with 10 species, rheumatism with 9 species, urinary problems with 8 species, and malaria with 6 species. Diarrhoea and Diabetes, two of the most deadly diseases of the present era (www.healthline.com/health/top-10-deadliest-diseases#copd), are also treated with eleven and seven weed species, respectively (Table 3).

Several recent studies have proved the weedy plants contain many medically useful active ingredients viz. alkaloids, glycosides, polyphenolics, steroids, tannins, resins, flavonoids, fatty acids, that are able to cure many nutritional disorders and diseases in the human health care system (Immanuel and Elizabeth, 2009). Therefore, there is a strong need to take necessary steps for the conservation and sustainable use of these weeds (as medicinal plants) in future through green weed management practices without hampering the crop yield and agricultural productivity.
Table 1. Broad-leaved weed diversity recorded from the Bangladesh Agricultural University campus

| Sl. No. | Botanical Name                    | Local Name          | English Name                      | Family                    | Flowering Period | Habitats                                                                 |
|--------|----------------------------------|---------------------|-----------------------------------|---------------------------|------------------|--------------------------------------------------------------------------|
| 1      | *Achyranthes aspera* Br.         | Biral ahr, Upat lengra | Prickly chaffflower, Snake tail   | Amaranthaceae             | Aug-Nov          | Sunny open places, roadsides, waste places, bank of ponds                |
| 2      | *Alternanthera philoxeroides* (Mart.) Griseb. | Malancha             | Alligator weed                    | Amaranthaceae             | Jun-Sep          | Stagnant or slow moving shallow water, wet soil                           |
| 3      | *Alternanthera sessilis* (L.) R.Br. ex DC. | Chanchi              | Sessile Joy weed                  | Amaranthaceae             | Year-round       | Wet paddy fields, ditches to dry roadside banks, gardens or other disturbed grounds |
| 4      | *Amaranthus graecizans* L.       | Not known           | Prostrate pigweed                | Amaranthaceae             | Jul-Nov          | Roadsides, waste places                                                  |
| 5      | *Amaranthus spinosus* L.         | Katanotey           | Spiny pigweed                    | Amaranthaceae             | Year-round       | Waste lands, roadsides, fields, gardens                                  |
| 6      | *Amaranthus viridis* L.          | Shaknotey           | Pigweed                          | Amaranthaceae             | Year-round       | Waste & disturbed grounds, roadsides                                     |
| 7      | *Ammannia multiflora* Roxb.      | Not known           | Joy weed                         | Lythraceae                | Jul-Sep          | Wet places, river banks, paddy fields                                     |
| 8      | *Anisomeles indica* (L.) Kuntze  | Gobura/Bantukma     | Not known                        | Lamiaceae                 | Oct-Jul          | Roadsides, bank of ponds, fallow lands                                   |
| 9      | *Argyreia nervosa* (Burm.f.) Boj. | Pankalmi, Bara Dudhi, Hris Gandhi | Elephant Creeper                | Convolvulaceae            | Jul-Oct          | Bank of ponds                                                            |
| 10     | *Cardamine flexuosa* With.       | Not known           | Woodland Bittercress             | Brassicaceae              | Feb-Jul          | Roadsides, fields, grasslands, disturbed sides                           |
| 11     | *Centella asiatica* (L.) Urb.    | Thankuni            | Asian pennywort                  | Apiaceae                  | Feb-May          | Roadsides, bank of ponds, fallow lands                                  |
| 12     | *Chenopodium album* L.           | Bathua              | Lambsquarter                     | Chenopodiaceae            | Dec-Mar          | Rabi crops fields, levees, irrigation channel                            |
| 13     | *Cleome diffusa* Banks ex DC.    | Not known           | Spreading spider flower           | Capparaceae               | Year-round       | Shady, damp waste places, roadsides                                     |
| 14     | *Clerodendrum viscosum* Kent.    | Bhaidera            | Hill glory bower                 | Verbenaceae               | Dec-Mar          | Roadsides, waste places                                                  |
| 15     | *Coccinia grandis* (L.) Voigt.   | Telakucha           | Scarlet-fruited gourd            | Cucurbitaceae             | Jan-Sep          | Roadsides, fallow & waste lands                                         |
| 16     | *Colocasia esculenta* (L.) Schott. | Kachu               | Elephant-ear                     | Araceae                   | Aug-Nov          | Moist to stagnant areas, bank of ponds                                  |
| 17     | *Commelina benghalensis* L.      | Kanaibashi          | Day flowers                       | Commelinaceae             | Mar-Oct          | Moist to stagnant areas, irrigation channel, levee of crop fields, waste lands |
| 18     | *Commelina diffusa* Burn. f.     | Monayna             | Climbing dayflower               | Commelinaceae             | Jul-Nov          | Rabi crops fields, roadsides, fallow lands                               |
| 19     | *Croton bonplandianum* Baill.    | Bonmircha/Bon-Tulas | Bonplant’s croton                | Euphorbiaceae             | Year-round       | Roadsides, levee of crop fields, dry & sandy exposed areas              |
| 20     | *Cuscuta reflexa* Roxb.          | Shamalata           | Dodder                           | Orobanchaceae             | Apr-Sep          | Roadsides, vegetation, hedges                                           |
| 21     | *Cynanotis axillaris* (L.) Don ex Sweet | Kanainala         | Creeping Cradle Plant            | Commelinaceae             | Aug-Nov          | Fallow lands, levee of crop fields                                       |
| 22     | *Cyathula prostrata* (L.) Blume  | Pidini              | Pasture weed                     | Amaranthaceae             | Sep-Nov          | Shaded localities, roadsides, dry grassland, bank of ponds              |
| 23     | *Desmodium gangeticum* (L.) DC.  | Narinda ghush, Salpani, Chulani | Sal leaved desmodium             | Fabaceae                  | Apr-Nov          | Roadsides                                                                |
| 24     | *Desmodium heterophyllum* (Willd.) DC. | Banmatar shuti     | Variable leaf tick trefoil        | Fabaceae                  | Mar-Jul          | Bank of ponds, levee of crop fields, roadsides, shady waste places       |
| 25     | *Desmodium laxiflorum* DC.       | Not known           | Loose-flowered desmodium         | Fabaceae                  | Aug-Dec          | Roadsides, waste places                                                  |
| 26     | *Desmodium trifolium* (L.) DC.   | Tripatri            | Creeping tick trefoil             | Fabaceae                  | Year-round       | Roadsides, bank of ponds, fallow lands, grasslands                      |
| Sl. No. | Botanical Name | Local Name | English Name | Family | Flowering Period | Habitats |
|--------|----------------|------------|--------------|--------|------------------|----------|
| 27     | Drymaria cordata subsp. diandrea (Blume) J.A.Duke | Not known | West-India chickweed | Caryophyllaceae | Year-round | Waste places, edges of drains, grasslands |
| 28     | Dryopteris filix-mas (L.) Schott | Dhekishak, Paloi | Fern | Dryopteridaceae | Year-round | Bank of ponds, roadsides, waste places |
| 29     | Duchesnea indica (Jacks.) Focke. | Not known | Mock strawberry | Rosaceae | Mar-Jul | Roadsides, grassy waste places |
| 30     | Eichhornia crassipes (Mart.) Solms. | Kochuripana | Water hyacinth | Pontederiaceae | Apr-Jul | Stagnant areas |
| 31     | Euphorbia hirta L. | Bara dudhia | Pilipod/Garden spurge | Euphorbiaceae | Mar-Jun | Waste places, fallow lands, paddy fields, roadsides, bank of ponds |
| 32     | Euphorbia thymifolia L. | Harvangri, Dudhiya, Swetkan | Gulf sandmat | Euphorbiaceae | Year-round | Waste lands, along roadsides, wall sides |
| 33     | Glycosmis pentaphylla (Retz.) DC. | Motkila | Ram berry | Rutaceae | Oct-Apr | Bank of ponds, fallow lands |
| 34     | Heliotropium indicum L. | Hatisur | Indian Heliotrope | Boraginaceae | Sep-Apr | Open waste places, roadsides, bank of ponds, levee of crop fields |
| 35     | Hydrocotyle sibthorpioides Lamk. | Not known | Lawn pennywort | Apiaceae | Year-round | Wet damp or shaded soil, bank of ponds |
| 36     | Hydrocleys zeylanica (L.) Vahl | Kashcora | Blue water leaf | Boraginaceae | Dec-Mar | Wet damp soil, paddy fields |
| 37     | Indigofera suffrutescens Mill. | Belati Nil | Indigo | Fabaceae | Aug-Jun | Waste lands, cultivated fields, roadsides |
| 38     | Ipomoea alba L. | Dudhikalami | The Moon Flower | Convolvulaceae | Year-round | Waste lands, bank of ponds |
| 39     | Ipomoea crassicaulis (Benth.) Robinson | Pahari kalmi/Dholkolmi | Bush morning glory | Convolvulaceae | Jan-Dec | Stagnant water, roadsides, bank of pond, fallow lands |
| 40     | Ipomoea triloba L. | Not known | 3-lobed morning glory | Convolvulaceae | Dec-Mar | Roadside, waste & fallow lands |
| 41     | Justicia gendarussa Burm.f. | Justiceja/Jagatmadan | Gandarussa | Acanthaceae | Sep-Mar | Waste places |
| 42     | Lantana camara L. | Lantana, Putus | Lantana/Wild sage | Verbenaceae | Year-round | Roadside, waste places |
| 43     | Leonurus sibiricus L. | Rakadrone | Red verticilla | Lamiaceae | Oct-Apr | Fallow lands, roadsides, bank of ponds |
| 44     | Leucus aspera (Willd) Link. | Shetdrone | White verticilla | Lamiaceae | Oct-Mar | Roadside, fallow lands |
| 45     | Lindernia antipoda (L.) Aston | Choto helenchha, Sada panighash | Sparrow false pimpernel | Scrophulariaceae | Sep-Dec | Fallow land, levee of crop fields |
| 46     | Lindernia crassae (L.) Muell. | Chapraghash | Brittle false pimpernel | Scrophulariaceae | Feb-Apr | Roadside and levee of crop fields |
| 47     | Lindernia parviflora Roxb. | Panighash | Small flowered Lindernia | Scrophulariaceae | Aug-Dec | Muddy or sandy soil, disturbed area, roadside |
| 48     | Lippia alba (Mill.) N.E.Br. ex Britton & P.Wilson | Matka | Thorny amaranth | Verbenaceae | Aug-Feb | Bank of ponds and roadsides |
| 49     | Lobelia chinensis Lour. | Not known | Chinese lobelia | Campanulaceae | Year-round | Damp places, grassy fields, edges of drains |
| 50     | Ludwigia decurrens (Walzer) DC. | Panilong/Pani agra | Winged water primrose | Onagraceae | Oct-Mar | Moist to stagnant water, paddy fields, edges of drains |
| 51     | Ludwigia octovalvis (Jacq.) Raven | Panilong | Willow Primrose | Onagraceae | Oct-Mar | Moist to stagnant water, paddy fields, edges of drains |
| 52     | Ludwigia perennis L. | Panilong | Perennial water primrose | Onagraceae | Oct-Mar | Moist to stagnant water, paddy fields, edges of drains |
| Sl. No. | Botanical Name | Local Name | English Name | Family | Flowering Period | Habitats |
|--------|----------------|------------|--------------|--------|-----------------|----------|
| 53     | Ludwigia adscendens (L.) H. Harp | Keshordam/Panidoga | Creeping water/primrose | Onagraceae | Jun-Nov | Water bodies, roadsides |
| 54     | Marsilea quadrifolia L. | Shushni shak | 4-leaved water clover | Marsileaceae | Nov-Mar | Margins of ponds, boro rice fields |
| 55     | Mazus pumilus (Burm. f.) Steenis | Tutura | Japanese mazus | Phrymaceae | Sep-Jan | Fallow lands, ais of crop fields, roadsides |
| 56     | Melilotus officinalis subsp. alba (Medik.) H. Ohashi & Tateshi | Sada Meth/Shunzai | White melilot | Fabaceae | Jan-Apr | Crop fields |
| 57     | Melochia corchorifolia L. | Not known | Chocolate weed | Malvaceae | Jul-Oct | Sunny or slightly shaded humid localities |
| 58     | Merremia umbellata (L.) Hallier f. | Sada kalmi | Hogvine | Convolvulaceae | Feb-Jun | Along fields, roadsides |
| 59     | Mimosa pudica L. | Lazzaboty | Sensitive/Shy plant | Fabaceae | Sep-Jan | Roadsides, leev of crop fields |
| 60     | Monochoria hastata (L.) Solms. | Panikachu | Leaf Pondweed | Pontederiaceae | Feb-Sep | Stagnant water, moist areas, rice fields |
| 61     | Mukia medaraspatana (L.) Roem. | Kucchela | Rough bryony | Cucurbitaceae | Jan-Dec | Bank of pond, fallow lands |
| 62     | Nicotiana sylvestris Speg. & Comes | Bon tamak | Woodland tobacco | Solanaceae | Jan-Apr | Crop fields, roadsides, leev of crop fields |
| 63     | Oenothera javanica (Blume) DC. | Pan-turasi | Water Dropwort | Apiaceae | Mar-Aug | Wet grasslands, shallow water |
| 64     | Oldenlandia corymbosa L. | Khetpapri | Diamond flower | Rubiaceae | Sep-Dec | Leev of crop fields & irrigation channel, fallow lands |
| 65     | Oxalis debilis Kunth | Not known | Pink-sorrel | Oxalidaceae | Jan-Mar | Roadsides, waste places |
| 66     | Oxalis stricta L. | Amrul | Indian sorrel | Oxalidaceae | Dec-Apr | Dry sandy to moist areas, leev of crop fields, rice fields |
| 67     | Peperomia pellucida (L.) H.B.K. | Peperomia, Pitha pata, Shamol ghash | Shiny bush | Piperaceae | Jul-Dec | Moist areas, bank of ponds, roadsides, fallow lands |
| 68     | Persicaria chinensis (L.) Gross | Not known | Chinese knotweed | Polygonaceae | Jan-Apr | Waste and fallow lands, roadsides |
| 69     | Phylla nodiflora (L.) Greene | Nima/Deshi Henchi | Cape weed/Fog fruit | Verbenaceae | Aug-Oct | Roadsides, bank of ponds, leev of crop fields, fallow lands |
| 70     | Phyllanthus amarus Schumach. & Thonn. | Not known | Sleeping plant | Euphorbiaceae | Apr-Oct | Dry fields, roadsides, waste places |
| 71     | Phyllanthus niruri L. | Hajar/Sato dana | Gale of the wind | Euphorbiaceae | Aug-Oct | Paddy fields, roadsides, leev of crop fields, fallow lands |
| 72     | Phyllanthus sp. | Not known | Not known | Euphorbiaceae | Mar-Sep | Paddy fields, roadsides, waste places |
| 73     | Physalis heterophylla Nees. | Foska Begun | Clanny ground | Solanaceae | Feb-Apr | Crop fields, roadsides |
| 74     | Pilea microphylla (L.) Liebm. | Not known | Rockweed | Urticaceae | Year-round | On walls and in waste, rocky places |
| 75     | Pimpinella henryi (DC.) Benth. | Not known | Not known | Apiaceae | Dec-Mar | Moist areas, grasslands, waste ground, roadsides |
| 76     | Pistia stratiotes L. | Topa pana | Water lettuce | Araceae | Feb-Sep | Pond, irrigation channel, boro rice fields |
| 77     | Pogostemon auriculatus (L.) Hassk. | Not known | Not known | Lamiaceae | Jul-Sep | Roadsides, waste places |
| 78     | Polygonum hydropiper (L.) Delarbre | Bishkatali | Water pepper | Polygonaceae | Jan-Sep | Leev of crop fields, irrigation channel, fallow lands, roadsides, bank of ponds |
| 79     | Polygonum lapathifolium (L.) Delarbre | Agra | Dockleaved persicae | Polygonaceae | Jun-Aug | Leev of boro rice fields, roadsides, fallow lands |
| 80     | Polygonum plebeium R. Br. | Khetpakri, Chinaduli ghash | Bistol | Polygonaceae | Jan-Dec | Rabi crops fields, roadsides, bank of ponds, leev of crop fields, play ground, fallow lands |
| 81     | Portulaca oleracea L. | Nunia shak | Purslane | Portulaceae | Nov-Jun | Roadsides, leev of crop fields, fallow lands |
### Table 1. Cont.

| Sl. No. | Botanical Name | Local Name | English Name | Family | Flowering Period | Habits |
|---------|----------------|------------|--------------|--------|------------------|--------|
| 82      | Pteris vittata L. | Dhekishak   | Ladder Brake | Pteridaceae | Year-round        | Roadside, waste & fallow lands |
| 83      | Rorippa indica (L.) Hiern. | Lai agra, Bansarisaha | Indian Field Cress | Brassicaceae | Dec-Mar           | Levee of crop fields, road sides |
| 84      | Rotala indica (Willd.) Koehne | Not known | Indian toothcup | Lythraceae | Oct-Apr           | Moist places, rice fields |
| 85      | Rumex maritimus L. | Bonpalong   | Golden dock  | Polygonaceae | Nov-Mar           | Roadside, fallow lands, levee of crop fields |
| 86      | Rungia pectinata (L.) Nees | Pindi, Punaka-pundu | Comb Rungia | Acanthaceae | Nov-May           | Warm moist shady places, road side, waste places |
| 87      | Rungia repens (L.) Nees | Par-patha, Kharmor | Creeping Rungia | Acanthaceae | Jan-Sep           | Roadside, edges of drains |
| 88      | Scoparia dulcis L. | Bon dhonia   | Sweet Broom  | Labiatae | Feb-Jun           | Bank of ponds, fallow lands, levee of crop fields |
| 89      | Senna occidentalis (L.) Link. | Bara-chalkesunda, Eski | Negro coffee, septic weed | Fabaceae | May-Oct           | Open waste places, fallow lands, road sid es |
| 90      | Senna sophera (L.) Roxb. | Kalkasunda, Kasundi | Pepper leaved senna | Fabaceae | Jul-Dec           | Waste fallow lands, road side, along railway tracks and bank of ponds |
| 91      | Sida acuta Burm. f. | Araich      | Pot cassia   | Fabaceae | Aug-Nov           | Mostly in road side and waste lands |
| 92      | Sida rhombifolia L. | Gazai       | Broom weed   | Malvaceae | Jul-Dec           | Dry habitats, road side, fallow lands |
| 93      | Sinaes arvensis L. | Atibala     | Arrowleaf sida | Malvaceae | Oct-Dec           | Waste ground, road side, rocky area |
| 94      | Solanum amercicamum Mill. | Bonsarisha | Wild Mustard | Brassicaceae | Feb-May           | Rabi crops fields, road side, waste lands |
| 95      | Solanum carolinense L. | Tit Begun  | Black nightshade | Solanaceae | Sep-Dec           | Crop fields, road side, fallow lands |
| 96      | Solanum rostratum Dunal. | Kata Begun | Horse neetle | Solanaceae | Aug-Oct           | Dry fields and waste ground, road side, ails of crop fields |
| 97      | Solanum torvum Sw. | Suchalo Begun | Buffalo bur nightshade | Solanaceae | Jul-Sep           | Roadside and ails of crop fields, fallow lands |
| 98      | Spermacoce alata Aubl. | Katabegun | Pea eggplant | Solanaceae | Aug-Oct           | Roadside, abandoned farmlands |
| 99      | Spermacoce exilis (Williams) | Not known | Pacific false button weed | Rubiaceae | Aug-Sep           | Waste areas, cultivated fields |
| 100     | Spermacoce exilis (Williams) | Not known | Winged false button weed | Rubiaceae | Sep-Oct           | Wastelands and garden paths |
| 101     | Sphenoclea zeylanica Gaertn. | Jiilomrich | Gooseweed    | Sphenocleaceae | Sep-Nov           | Wetlands areas |
| 102     | Stellaria media (L.) Vill. | Sada Fallki, Tara | Chickweed | Caryophyllaceae | Feb-Aug           | Damp waste places, gardens |
| 103     | Tephrosia candida (Roxb.) DC. | Bilokhoni | White tephrosia | Fabaceae | Aug-Feb           | Roadside |
| 104     | Tragia involucrata L. | Bichuti     | Neetle       | Euphorbiaceae | Aug-Nov           | Open wastelands, roadsides |
| 105     | Urena lobata L. | Ghamera     | Caesar’s weed | Malvaceae | Jul-Nov           | Roadside, bank of ponds, fallow lands |
| 106     | Vicia hirsuta (L.) Gray | Mashurchana/ Angchi | Hairy Tare/ Vetch | Fabaceae | Dec-Mar           | Rabi crops fields, levee of crop fields, road sides, fallow lands |
| 107     | Vicia sativa L. | Bon masur   | Wild lentil  | Fabaceae | Jul-Nov           | Levee of rabi crop fields, agricultural lands, open grasslands, road side, nurseries & gardens |
Table 2. Family-wise distribution of the recorded weed species

| Sl. No. | Family        | Genera | Species | % of taxa in total | Sl. No. | Family        | Genera | Species | % of taxa in total |
|---------|---------------|--------|---------|--------------------|---------|---------------|--------|---------|--------------------|
| 1       | Acanthaceae   | 2      | 3       | 3                  | 20      | Marsileaceae  | 1      | 1       | 1                  |
| 2       | Amaranthaceae | 4      | 7       | 7                  | 21      | Onagraceae    | 1      | 4       | 4                  |
| 3       | Apiaceae      | 4      | 4       | 4                  | 22      | Oxalidaceae   | 1      | 2       | 2                  |
| 4       | Araceae       | 2      | 2       | 2                  | 23      | Phlymaceae    | 1      | 1       | 1                  |
| 5       | Boraginaceae  | 2      | 2       | 2                  | 24      | Trifolietaceae| 1      | 1       | 1                  |
| 6       | Brassicaceae  | 3      | 3       | 3                  | 25      | Pteridaceae   | 1      | 1       | 1                  |
| 7       | Campanulaceae | 1      | 1       | 1                  | 26      | Portulaceae   | 1      | 1       | 1                  |
| 8       | Capparaceae   | 1      | 1       | 1                  | 27      | Polygonaceae  | 3      | 5       | 5                  |
| 9       | Caryophyllaceae| 2      | 2       | 2                  | 28      | Pontederiaceae| 2      | 2       | 2                  |
| 10      | Chenopodiaceae| 1      | 1       | 1                  | 29      | Portulaceae   | 1      | 1       | 1                  |
| 11      | Commelinaceae | 2      | 3       | 3                  | 30      | Pteridaceae   | 1      | 1       | 1                  |
| 12      | Convolvulaceae| 3      | 5       | 5                  | 31      | Rosaceae      | 1      | 1       | 1                  |
| 13      | Cucurbitaceae | 2      | 2       | 2                  | 32      | Rubiaceae     | 2      | 3       | 3                  |
| 14      | Dryopteridaceae| 1     | 1       | 1                  | 33      | Rutaceae      | 1      | 1       | 1                  |
| 15      | Euphorbiaceae | 4      | 7       | 7                  | 34      | Scrophulariaceae| 1     | 3       | 3                  |
| 16      | Fabaceae      | 7      | 13      | 12                 | 35      | Solanaceae    | 3      | 6       | 6                  |
| 17      | Lamiaceae     | 4      | 4       | 4                  | 36      | Sphenolecacae | 1      | 1       | 1                  |
| 18      | Lythraceae    | 2      | 2       | 2                  | 37      | Urticaceae    | 1      | 1       | 1                  |
| 19      | Malvaceae     | 3      | 4       | 4                  | 38      | Verbenaceae   | 4      | 4       | 4                  |
Table 3. Ethno-botanical uses of weed species recorded from the Bangladesh Agricultural University campus

| Sl. No. | Botanical Name          | Ethno-botanical uses                                                                                                                                                                                                 |
|--------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Achyranthes aspera      | Medicinal uses – Scorpion bite, cough, asthma, upset stomach, dermatic disorder, abdominal pain, dysentery & bowel complaints, urinary & skin diseases                                                                 |
| 2      | Alternanthera philoxeroides | Vegetables; Medicinal uses – Female diseases                                                                                                                                                            |
| 3      | Alternanthera sessilis   | Vegetables; Medicinal uses – Lactagogue, febrifuge, intestinal cramps, cooling hair wash, eye diseases, body cool, ulcer                                                                                         |
| 4      | Amaranthus graecizans   | Vegetables                                                                                                                                                                                                            |
| 5      | Amaranthus spinosus     | Vegetables; Medicinal uses – Bronchitis, biliousness, blood diseases, burning sensation, hallucination, piles, leprosy, mouthwash, toothache                                                                        |
| 6      | Amaranthus viridis      | Vegetables; Medicinal uses – Demulcent, diuretic and also in snakebites, skin diseases, blood pressure                                                                                                               |
| 7      | Ammania multiflora      | Medicinal uses – Fever, head itching                                                                                                                                                                                  |
| 8      | Anisomeles indica       | Medicinal uses – Muscular pain, aphthae, allergy                                                                                                                                                                     |
| 9      | Argyreia nervosa        | Lactation of cattle; Medicinal uses – Effect on nervous system                                                                                                                                                      |
| 10     | Cardamine flexuosa      | Vegetable                                                                                                                                                                                                             |
| 11     | Centella asiatica       | Vegetable; Medicinal uses – Cough, cold, wounds & minor injuries, headache, mental illness                                                                                                                          |
| 12     | Chenopodium album       | Vegetable; Medicinal uses – Hepatic disorders, spleen enlargement, dysentery, piles & hiccup, laxative, aphrodisiac & tonic, jaundice, urinary diseases                                                             |
| 13     | Cleome diffusa          | Not known                                                                                                                                                                                                             |
| 14     | Clerodendrum viscosum   | Medicinal uses – Anti-inflammatory, pain-relief, skin diseases, leprosy and bone injury                                                                                                                                |
| 15     | Coccinia grandis        | Vegetables; Medicinal uses – Psoriasis, ringworm, itching, small pox, skin diseases, ulcer, scabies, diabetes, asthma, bronchitis, dysentery, vomiting, cough and cold                                                                 |
| 16     | Colocasia esculenta     | Vegetable; Medicinal uses – Jaundice, cut & wounds, antibacterial, hypotensive, menstruation, stomach problems, cysts, poultice to boils, conjunctivitis, constipation, colic, digestive                                              |
| 17     | Commelina benghalensis  | Medicinal uses – Haemorrhage, fever, rabies, emollient, leprosy, epilepsy, diuretic, febrifuge, Snakebites, cancer, ulcer, constipation, boils                                                                 |
| 18     | Commelina diffusa       | Medicinal uses – Boils, dysentery                                                                                                                                                                                      |
| 19     | Croton bonplandianum    | Medicinal uses – Jaundice, abscesses, headache, venereal sores, cough, fever, vomiting, cholera, venereal sores, scabies                                                                                                                                                       |
| 20     | Cuscuta reflexa         | Medicinal uses – Liver diseases, contraceptive, abortifacient, liver disease, hepatitis, bronchitis, antioxidant, dandruff, epilepsy, hair fall, pile                                                                 |
| 21     | Cyanotis axillaris       | Medicinal uses – Eardrum inflammation, ascites, abortions                                                                                                                                                              |
| 22     | Cyathula prostrata      | Medicinal uses – Cough, dysentery, cholera, intestinal worms                                                                                                                                                           |
| 23     | Desmodium gangeticum    | Medicinal uses – Antipyretic, anti-catarhal, astringent, aphrodisiac, tonic, snakebites, scorpion sting, typhoid, fever, piles, asthma, bronchitis, cough, biliousness, dysentery & diarrhoea                                              |
| 24     | Desmodium heterophyllum | Medicinal uses – Urinary retention, digestive complaints, stomach-aches                                                                                                                                                |
| 25     | Desmodium laxiflorum    | Medicinal uses – Unconsciousness, chronic fevers, vomiting, puerperium, small-pox, dysentery, stomachache, UTI, bronchitis, cough                                                                                                                                               |
| 26     | Desmodium trifolium     | Medicinal uses – Cough, asthma, bilious complaints, abscesses, dysentery, diarrhoea, convulsion, wounds, ulcers, skin diseases                                                                                                                                              |
| 27     | Drymaria cordata subsp.  | Medicinal uses – Fever, respiratory chest-ailments, colds, bronchitis, eye troubles                                                                                                                                   |
|        | diandra                 |                                                                                                                                                                                                                     |
| 28     | Dryopteris filix-mas     | Medicinal uses – Anti-helminthic, tapeworms                                                                                                                                                                             |
| 29     | Duchesnea indica        | Medicinal uses – Cancer, empyrosis, snake bite, furuncle                                                                                                                                                               |
| 30     | Eichornia crassipes     | Medicinal uses – Gastrointestinal disorders, respiratory tract disorders (including asthma), fever, hair loss, greying of hair, liver disorders (including jaundice), skin disorders, spleen enlargement, cuts & wounds, cancer, hepatoprotective, snake venom neutralizing, anti-inflammatory, antibiotic, fungicide, fever, jaundice, rheumatism, eczema & skin disease |
| 31     | Euphorbia hirta         | Medicinal uses – Cough, asthma, dysentery, urinary tract infection, breast pain, used in worms, bowel complaints, warts                                                                                             |
| 32     | Euphorbia thyrsifolia   | Medicinal uses – Worm infestation, bowel affections, diarrhoea, amenorrhoea                                                                                                                                             |
| 33     | Glycosmis pentaphylla   | Medicinal uses – Dysentery, cough, fever, jaundice, rheumatism, eczema & skin disease                                                                                                                                 |
| 34     | Heliotropium indicum    | Medicinal uses – Cough, fever, wounds, eye diseases, ulcers, sores, gum boils, skin affections, stings of insects & reptiles, night blindness, aphrodisiac                                                                 |
| 35     | Hydrocotyle sibthorpioides | Medicinal uses – Skin disease, asthma, bone fracture, oedema, fever, detoxication, throat pain, psoriasis                                                                                                               |
| 36     | Hydrocleys zealanica    | Vegetable; Medicinal uses – Diabetes, wound healing, antiseptic, healing ulcers                                                                                                                                         |
| 37     | Indigofera suffruticosa | Fodder; Medicinal uses – Febrifuge, antispasmodic, diuretic, abortive, analgesic, purgative, or soothing agent against stomach & urinary problems, jaundice, ulcers                                                                 |
| Sl. No. | Botanical Name                  | Ethno-botanical uses                                                                 |
|--------|--------------------------------|--------------------------------------------------------------------------------------|
| 38     | *Ipomoea alba*                 | Medicinal uses – Snakebite, boils & wounds, purgative, swelling of legs due to aprain |
| 39     | *Ipomoea crassicaulis*         | Medicinal uses – Antioxidant, antimicrobial, antibacterial, antifungal, cancer, anticongulants, immunomodulatory, anti-diabetic, hepato-protective, anti-inflammatory, anxiolytic, sedative, wound healing, embryotoxic activities |
| 40     | *Ipomoea triloba*              | Vegetable                                                                            |
| 41     | *Jussiaea gendarussa*          | Medicinal uses – Facilitate childbirth, milk ejection, placental expulsion, abortion |
| 42     | *Lantana camara*               | Medicinal uses – Headaches, fever, flu, coughs, colds, toothaches, indigestion boils, swellings & pain of the body, leprosy, ulcer, tuberculosis |
| 43     | *Leonturus sibiricus*          | Medicinal uses – Emmenagogic, diuretic & vasodilator                                  |
| 44     | *Leucus aspera*                | Vegetables; Medicinal uses – Psoriasis, chronic skin eruptions, chronic rheumatism, painful swellings, cough & cold |
| 45     | *Lindernia antipoda*           | Medicinal uses – Intestinal worms (Vermifuge)                                         |
| 46     | *Lindernia crustacea*          | Medicinal uses – Dysentery, ring worm, indigestion                                     |
| 47     | *Lindernia parviflora*         | Medicinal uses – Blood dysentery, ephemeral fever of livestock                         |
| 48     | *Lippia alba*                  | Medicinal uses – Analgesic/anti-inflammatory/antipyretic, sedative, culinary seasoning, diarrhoea & dysentery, cutaneous diseases, hepatic diseases/choleretic/vesicle ache, gastrointestinal disorders, menstrual disorders, antispasmodic, respiratory diseases, syphilis, gonorrhoea |
| 49     | *Lobelia radicans*             | Medicinal uses – Fever, asthma, rheumatism                                            |
| 50     | *Ludwigia decurrens*           | Vegetable; Medicinal uses – Various skin, gastrointestinal, wound & bone joint disorders |
| 51     | *Ludwigia octovalvis*          | Medicinal uses – Rheumatism, dermatitis, boil, ulcer, impetigo, pimple, gastrointestinal complaints e.g. diarrhoea & flatulence |
| 52     | *Ludwigia perennis*            | Medicinal uses – Astringent, vulnerary & aphrodisiac, colomorrohia, haematuria, ulcers, pharyngopathy, vitiated conditions of vata, gout |
| 53     | *Ludwigia ascedens*            | Medicinal uses – Fractured bones, chronic rheumatism, cephalalgia, hemiplegia, facial paralysis & eczema, wounds, bruised parts of the body |
| 54     | *Marsilea quadrifolia*         | Vegetable; Medicinal uses – Hypertension, headache, nervous disorders, body aches, insomnia, epilepsy |
| 55     | *Mazus pumilus*                | Medicinal uses – Epilepsy, typhoid, anti-febrile, emmenagogue, aperitive & tonic        |
| 56     | *Mellilotus officinalis* subsp. | Medicinal uses – Inflammation & swellings, dysentery, diarrhoea                       |
| 57     | *Melochia corchorifolia*       | Vegetable; Medicinal uses – Antiasthmatic, anti-inflammatory, anti-gonorrhoea, antibiotic, anti-dysenteric, swellings of abdomen, sores |
| 58     | *Merremia umbellata*           | Vegetables                                                                            |
| 59     | *Mimosa pudica*                | Medicinal uses – Diarrhoea, diabetes, urinary calculi, dysentery, epilepsy, sexual diseases, toothache, leprosy, dysentery, vaginal & uterine complaints, inflammation, leucoderma, fatigue, asthma, blood diseases, jaundice, ulcers, small pox |
| 60     | *Monochoria hastata*           | Medicinal uses – Bronchitis, asthma, cough & breathlessness                            |
| 61     | *Mukia medaraspatana*          | Medicinal uses – Toothache, jaundice, vertigo & biliousness                            |
| 62     | *Nicotiana sylvestris*         | Not known                                                                             |
| 63     | *Oenanthe javanica*            | Vegetables and feed for fish and small ruminants; Medicinal uses – Stomachache from flatulence, bowel movement |
| 64     | *Oldenlandia corymbosa*        | Medicinal uses – Clear heat & toxins, activate blood circulation, promote diuresis and relieve stranguria (urinary obstruction), tumours of the digestive tract lymphosarcoma and carcinoma of the liver & larynx, appendicitis, hepatitis, pneumonia, cholecystitis, cellulites, snake bite, skin sores, ulcers, sore throat, bronchitis, gynaecologic infections & pelvic inflammatory diseases |
| 65     | *Oxalis debilis*               | Medicinal uses – Boils, swelling, labour pain                                         |
| 66     | *Oxalis stricta*               | Medicinal uses – Stomach infection                                                    |
| 67     | *Peperomia pellucida*          | Medicinal uses – Fever, cold, cough, viral diseases, rheumatic pain, asthma, vaginal infections, kidney infections |
| 68     | *Persicaria chinensis*         | Vegetable; Medicinal uses – Nerve damage, lymph-node inflammation                    |
| 69     | *Persicaria lapathifolia*       | Medicinal uses – Antibacterial activity against Flexner dysentery sticks              |
| 70     | *Persicaria hydropiper*         | Medicinal uses – Toothache, epilepsy, gangrene, rheumatism, gout                      |
**Table 3: Cont.**

| Sl. No. | Botanical Name               | Ethno-botanical uses                                                                 |
|--------|------------------------------|--------------------------------------------------------------------------------------|
| 71     | *Phylla nodiflora*           | Medicinal uses – Dysentery, cough, leucorrhoea, dandruff                             |
| 72     | *Phyllanthus amarus*         | Medicinal uses – Scalp infections, jaundice, fevers, diarrhoea, urinary infections, skin diseases, cold, wounds |
| 73     | *Phyllanthus niruri*         | Medicinal uses – Gonorrhoea & other ailments of genito-urinary tract, jaundice, dysentery, bruises & wounds, scabby infections, stomach-ache |
| 74     | *Phyllanthus sp.*           | Not known                                                                            |
| 75     | *Physalis heterophylla*      | Medicinal uses – Ear problems, inflammations, cancer, skin diseases, urinary purgative |
| 76     | *Pilea microphylla*          | Not known                                                                            |
| 77     | *Pimpinella heveana*         | Medicinal uses – Diarrhoea, antiseptic                                               |
| 78     | *Pistia stratiotes*          | Medicinal uses – Swelling, skin diseases, leprosy & eczema, irregular urination      |
| 79     | *Pogostemon*                | Medicinal uses – Cough                                                                 |
| 80     | *Polygonum plebeium*         | Vegetable; Medicinal uses – Jaundice, diabetes, urinary disorder, menorrhagia, vomiting, dysentery, haemorrhoids, mouth ulcer, sore nipples, scurvy, disease of kidney, liver, spleen bladder and cardio-vascular system, pyorrhoea, insulin secretion, blood purifier, fever, sun stroke |
| 81     | *Portulaca oleracea*         | Fronds are largely used as cushion for cattle sheds; Medicinal uses – Blisters on the tongue, worship at the time of illness. |
| 82     | *Pteris vittata*             | Medicinal uses – Diuretic, stimulant, anti-scorbutic, asthma, ear diseases, Backache, Body ache |
| 83     | *Rorippa indica*            | Medicinal uses – Not known                                                            |
| 84     | *Rotala indica*             | Medicinal uses – Cathartic, externally applied to burns                               |
| 85     | *Rumex maritimus*           | Medicinal uses – Swollen feet, inflammation                                           |
| 86     | *Rangia pectinata*          | Medicinal uses – Small pox, pain, swelling                                            |
| 87     | *Rangia repens*             | Medicinal uses – Skin diseases, fever, cough, expelling worms                         |
| 88     | *Scoparia dulcis*           | Medicinal uses – Fever, cough, kidney stone, boils & tumours, pneumonia, malaria, diabetes, gonorrhoea |
| 89     | *Senna occidentalis*        | Medicinal uses – Skin diseases, snakebites, antidote to poison, pain due to thorn prick in legs, foot & mouth diseases of cattle |
| 90     | *Senna sophora*             | Medicinal uses – Ringworms, gonorrhoea, syphilis, asthma, pox, fever, sore, abscesses, carbuncle |
| 91     | *Senna tora*                | Medicinal uses – Ringworms, snake bite, skin diseases cough, dermatitis indigestion & stomach complaints, antioxidant    |
| 92     | *Sida acuta*                | Medicinal uses – Rheumatism, stomach ache, diuretic, impotency, skin diseases, snakebites |
| 93     | *Sida rhombifolia*          | Medicinal uses – Snakebite, skin troubles, diuretic, rheumatism, tuberculosis, stomach-ache, wound, headache, eyes inflammation, debility, arthritis |
| 94     | *Sinapis arvensis* L.       | Medicinal uses – Not known                                                            |
| 95     | *Solanum americanum*        | Medicinal uses – Skin disease, jaundice & hear diseases                               |
| 96     | *Solanum carolinense*       | Medicinal uses – Anodyne, antispasmodic, aphrodisiac and diuretic, epilepsy, bronchitis, convulsive disorders, sore throats |
| 97     | *Solanum rostratum*         | Medicinal uses – Swollen feet, inflammation                                           |
| 98     | *Solanum torvum*            | Medicinal uses – Antimicrobial, antiviral, immuno-secretory, antioxidant, analgesic and anti-inflammatory, cardiovascular and anti-platelet, aggregation activities, fever, hypertension & various stomach complaints including gastric ulcer |
| 99     | *Spermacoce alata*          | Medicinal uses – Malaria                                                               |
| 100    | *Spermacoce exilis*         | Medicinal uses – Headache, fever, ulcers                                              |
| 101    | *Sphenoclea zeylanica*      | Medicinal uses – Vegetables                                                           |
| 102    | *Stellaria media*           | Medicinal uses – Diabetes, sedative, bleeding piles & urinary complaints, skin diseases |
| 103    | *Tephrosia candida*         | Medicinal uses – Fish poison                                                           |
| 104    | *Tragia involucrata*        | Medicinal uses – Fever, venereal complaints, itching of skin, headache, enlarged spleen, dyspepsia, whooping cough |
| 105    | *Urena lobata*              | Medicinal uses – Bowel complaints, especially colic, stomach-ache, diarrhoea and dysentery, gonorrhoea, urinary diseases |
| 106    | *Vicia hirsuta*             | Fodder                                                                                |
| 107    | *Vicia sativa*              | Medicinal uses – Snake bite, uterine tonic, emmenagogue, congestive & nervous dysmenorrhoea, amenorrhoea, sterility, menstrual disorders |

Sources: 
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