A TAXONOMIC STUDY ON THE ANGIOSPERM FLORA OF TRISHAL UPAZILA, MYMENSINGH

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Abstract

Trishal Upazila has been floristically explored to make an inventory, identify and document the angiosperm flora. A total of 209 species under 171 genera and 69 families have been identified. Magnoliopsida (Dicots) is represented by 163 species distributed in 133 genera and 54 families, and Liliopsida (Monocots) is constituted by 46 species under 38 genera and 15 families. In Magnoliopsida Asteraceae with 12 species and in Liliopsida Poaceae with 11 species is found as the largest family. The genus Ficus and the genus Fimbristylis stand the first position, respectively in dicots and monocots. Herbs are represented by 124 species, shrubs by 36 species and trees by 49 species.

Introduction

Under the auspices of the Convention of Biological Diversity (CBD), the importance of taxonomy and floristic studies has been recognized recently by the Parties (i.e. the signatory countries), who recognized that the combination of inadequate taxonomic knowledge, the shortage of systematists and the inadequacy of sampling, collections, and infrastructure constituted a taxonomic impediment. In order to implement the CBD, the need for taxonomic and floristic knowledge as a means of underpinning biodiversity conservation is now widely accepted by governments(1).

Trishal with an area of 338.98 km² is one of the important Upazilas of Mymensingh district and is bounded on the north by Mymensingh Sadar Upazila, on the east by Goforgaon Upazila, on the south by Bhaluca Upazila and on the west by Fulbaria Upazila. The Upazila consists of 12 unions, namely Amirabari, Bailar, Balipara, Dhanikhola, Harirampur, Kanihari, Kanthal, Modbari, Mukshapur, Rampur, Sakhua and Trishal proper. Trishal Upazila has the same climatic condition as other parts of the district. The monthly minimum temperature of the area ranges from 11.7 to 26.6°C, while the maximum temperature varies from 24.0 to 32.4°C. The annual rainfall of the area is approximately 2,095 mm. Monthly average relative humidity varies from 74 to 87% throughout the year(2). The Upazila provides different types of habitats and ecosystems.

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including wetland, cultivated land, *char*, homestead area, scrub jungles, fallow lands etc. which offer luxuriant formation of angiosperm flora that play an important role in the local economy, environment and primary health care system.

The importance of studying floristic diversity in Bangladesh has long been realized. In the recent years several attempts have been made on floristic studies in different parts of the country\cite{3-4} including some protected areas\cite{5-7}. However, no floristic study on Trishal Upazila has been carried out so far. The main objectives of the present study are to explore, identify and document the angiosperms including both wild and cultivated species of Trishal Upazila.

**Materials and Methods**

The work is based on fresh materials collected from Trishal Upazila during five botanical expeditions from October, 2011 to September, 2012 covering all seasons. Plant specimens were collected from different areas of the Upazila and processed using standard herbarium techniques\cite{8}. The collected specimens have been critically studied and examined at the Department of Botany, University of Dhaka. Identifications were confirmed by matching the identified specimens housed at Dhaka University Salar Khan Herbarium (DUSH), and by consulting standard floras and recent literatures\cite{9-16}. Voucher specimens have been deposited in DUSH.

**Results and Discussion**

A total of 209 species distributed under 171 genera and 69 families have been identified from Trishal Upazila. The species along with the family name, local name and habit are listed in Table 1. Magnoliopsida is represented by 163 species under 133 genera and 54 families, while Liliopsida by 46 species distributed in 38 genera and 15 families. Herbs are represented by 124 species (59%), shrubs by 36 species (17%) and trees by 49 species (24%).

The number of species in 69 families varies from 1 to 12. Asteraceae with 12 species under 11 genera is the largest family in Mangnoliopsida, which is followed by Fabaceae with 9 species under 6 genera. In Liliopsida Poaceae appears to be the largest family consisting of 11 species and 10 genera, and followed by Araceae with 8 species distributed in 7 genera. Ten largest families in the flora of Trishal Upazila along with the number of genera and species are shown in Fig. 1. These ten families comprise 81 species that represent about 39% of the total species identified. The remaining 59 families with a total 128 species represent 61% of the total.

In Magnoliopsida, 18 families (*viz.*, Basellaceae, Bombacaceae, Brassicaceae, Caryophyllaceae, Chenopodiaceae, Elaegocarpaceae, Flacourtiaeae, Lauraceae, Leeaceae, Menyanthaceae, Moringaceae, Nyctaginaceae, Nymphaeaceae, Oxalidaceae, Passifloraceae, Rhamnaceae, Sphenocleaceae and Tiliaceae) are represented by single species.
Table 1. List of species in Trishal Upazila along with family name, local name, habit and voucher specimen.

| No. | Botanical name                  | Family name   | Local name  | Habit  | Voucher specimen |
|-----|---------------------------------|---------------|-------------|--------|------------------|
| 1   | Abrroma augusta (L.) L. f.      | Sterculiaceae | Ulotkombol  | Shrub  | Tauhid 116 (DUSH) |
| 2   | Abutilon indicum (L.) Sweet    | Malvaceae     | Potari      | Herb   | Tauhid 167 (DUSH) |
| 3   | Acacia auriculiformis A. Cunn. | Mimosaceae    | Akashmoni   | Tree   | Tauhid 312 (DUSH) |
| 4   | Achyranthes aspera L.          | Amaranthaceae | Apang       | Herb   | Tauhid 370 (DUSH) |
| 5   | Ageratum conyzoides L.         | Asteraceae    | Fulkuri     | Herb   | Tauhid 191 (DUSH) |
| 6   | Albizia niopoides (Spruce ex Benth.) Burkart | Mimosaceae | Gogon shirish | Tree   | Tauhid 163 (DUSH) |
| 7   | Alocasia fornicata (Roxb.) Schott | Araceae     | Salukachu  | Herb   | Tauhid 399 (DUSH) |
| 8   | A. macrorrhizos (L.) G. Don    | Araceae       | Mankachu   | Herb   | Tauhid 338 (DUSH) |
| 9   | Aloe vera (L.) Brum. f.        | Aloeaceae     | Gritokumari| Herb   | Tauhid 331 (DUSH) |
| 10  | Alpinia nigra (Gaertn.) B. L. Burtt. | Zingiberaceae | Tara      | Herb   | Tauhid 121 (DUSH) |
| 11  | Alstonia scholalis (L.) R. Br. | Apocynaceae   | Chatim     | Tree   | Tauhid 181 (DUSH) |
| 12  | Alternanthera paronichyoides A. St.- Hil. | Amaranthaceae | Jhulikhata | Herb   | Tauhid 89 (DUSH) |
| 13  | A. sessilis (L.) R. Br. ex DC. | Amaranthaceae | Chanchi    | Herb   | Tauhid 19 (DUSH) |
| 14  | Amaranthus dubius Mart. ex Thell. | Amaranthaceae | Not known  | Herb   | Tauhid 204 (DUSH) |
| 15  | A. spinosus L.                 | Amaranthaceae | Kantanotey  | Herb   | Tauhid 355 (DUSH) |
| 16  | A. viridis L.                  | Amaranthaceae | Notey shak | Herb   | Tauhid 108 (DUSH) |
| 17  | Anisomeles indica (L.) O. Kuntze | Lamiaeceae   | Thokma     | Herb   | Tauhid 37 (DUSH) |
| 18  | Annona reticulata L.           | Annonaceae    | None       | Tree   | Tauhid 230 (DUSH) |
| 19  | Aphananxis polystachya (Wall.) R. Parker | Meliaceae | Royna      | Tree   | Tauhid 243 (DUSH) |
| 20  | Argyrea nervosa (Burm. f.) Boj. | Convolvulaceae | Bara dudhi | Herb   | Tauhid 267 (DUSH) |
| 21  | Artocarpus heterophyllus Lamk. | Moraceae      | Kanthal    | Tree   | Tauhid 288 (DUSH) |
| 22  | A. lakuchia Buch.- Ham.         | Moraceae      | Deua       | Tree   | Tauhid 377 (DUSH) |
| 23  | Axonopus compressus (Swartz) P. Beauv. | Poaceae    | Ghoradubo har | Herb  | Tauhid 21 (DUSH) |
| 24  | Azadirachta indica A. Juss.    | Meliaceae     | Neem       | Tree   | Tauhid 227 (DUSH) |
| 25  | Banbusa balcooa Roxb.          | Poaceae       | Barakbans  | Herb   | Tauhid 411 (DUSH) |
| 26  | Bambusa bambos (L.) Voss       | Poaceae       | Bans       | Herb   | Tauhid 412 (DUSH) |
| 27  | Basella alba L.                | Basellaceae   | Puishak    | Herb   | Tauhid 334 (DUSH) |

(Contd.)
| No. | Botanical name | Family name | Local name | Habit | Voucher specimen |
|-----|----------------|-------------|------------|-------|------------------|
| 28  | *Blumea lacera* (Burm. f.) DC. | Asteraceae | Kukurshunga | Herb | Tauhid 193 (DUSH) |
| 29  | *B. membranacea* Wall. ex DC. | Asteraceae | Not known | Herb | Tauhid 62 (DUSH) |
| 30  | *Bombax ceiba* L. | Bombacaceae | Shimul | Tree | Tauhid 215 (DUSH) |
| 31  | *Borassus flabellifer* L. | Arecaceae | Tal | Tree | Tauhid 303 (DUSH) |
| 32  | *Bougainvillea glabra* Choisy | Lythraceae | Baganbilash | Tree | Tauhid 264 (DUSH) |
| 33  | *Butea monosperma* (Lamk.) Taub. | Fabaceae | Polash | Tree | Tauhid 139 (DUSH) |
| 34  | *Calotropis gigantea* (L.) R. Br. | Asclepiadaceae | Boro akonda | Shrub | Tauhid 249 (DUSH) |
| 35  | *C. procera* (Ait.) R. Br. | Asclepiadaceae | Akando | Shrub | Tauhid 271 (DUSH) |
| 36  | *Cardiospermum halicacabum* L. | Sapindaceae | Phutka | Herb | Tauhid 160 (DUSH) |
| 37  | *Caryota mitis* Lour. | Arecaeeae | Not known | Tree | Tauhid 336 (DUSH) |
| 38  | *Cassia fistula* L. | Fabaceae | Amal lata | Herb | Tauhid 176 (DUSH) |
| 39  | *Centella asiatica* (L.) Urban | Apiaceae | Thankuni | Herb | Tauhid 223 (DUSH) |
| 40  | *Centipeda minima* (L.) A. Br. & Aschers. | Asteraceae | Machitti | Herb | Tauhid 23 (DUSH) |
| 41  | *Chromolaena odorata* | Chenopodiaceae | Chandanbetu | Herb | Tauhid 175 (DUSH) |
| 42  | *C. limo* | Chenopodiaceae | German lata | Herb | Tauhid 201 (DUSH) |
| 43  | *Chrozophora rotteri* (Geiseler) A. Juss. | Euphorbiaceae | Khudi okra | Herb | Tauhid 100 (DUSH) |
| 44  | *Cissus adnata* Roxb. | Vitaceae | Alianga lata | Herb | Tauhid 179 (DUSH) |
| 45  | *Citrus aurantifolia* (Christm. & Panzer) Swingle | Rutaceae | Kagagilebu | Shrub | Tauhid 388 (DUSH) |
| 46  | *C. limon* (L.) Burm. f. | Rutaceae | Goralebu | Tree | Tauhid 311 (DUSH) |
| 47  | *C. maxima* (Burm.) Merr. | Rutaceae | Jambura | Shrub | Tauhid 275 (DUSH) |
| 48  | *Clerodendrum inerme* (L.) Gaertn. | Verbenaceae | Bamiui | Shrub | Tauhid 239 (DUSH) |
| 49  | *C. viscosum* Vent | Verbenaceae | Bhat | Herb | Tauhid 257 (DUSH) |
| 50  | *Coccinia grandis* (L.) Voigt | Cucurbitaceae | Telakucha | Herb | Tauhid 173 (DUSH) |
| 51  | *Codiaeum variegatum* (L.) A. Juss. | Euphorbiaceae | Patabahar | Herb | Tauhid 316 (DUSH) |
| 52  | *Colocasia esculenta* (L.) Schott. | Araceae | Kochu | Herb | Tauhid 109 (DUSH) |
| 53  | *Commelina benghalensis* L. | Commelinaceae | Kanchira | Herb | Tauhid 361 (DUSH) |

(Contd.)
| No. | Botanical name               | Family name | Local name | Habit | Voucher specimen |
|-----|------------------------------|-------------|------------|-------|-----------------|
| 55  | *C. longifolia* Lamk.       | Commelinaceae | Panikanchira    | Herb  | Tauhid 59 (DUSH) |
| 56  | *Costus speciosus* Sm.     | Costaceae     | Kushtha         | Herb  | Tauhid 06 (DUSH) |
| 57  | *Combretum pilosum* Roxb.  | Combretaceae  | Jhuni ugur     | Shrub | Tauhid 340 (DUSH) |
| 58  | *Crotalaria pallida* Ait.  | Fabaceae     | Jhunjhuna       | Herb  | Tauhid 273 (DUSH) |
| 59  | *Croton bonplandianus* Baill.| Euphorbiaceae | Croton          | Herb  | Tauhid 18 (DUSH)  |
| 60  | *Curcuma zedoaria* (Christm.) Rosc. | Zingiberaceae | Shoti        | Herb  | Tauhid 17 (DUSH)  |
| 61  | *Cyathula prostrata* (L.) Blume | Amaranthaceae | Not known   | Herb  | Tauhid 394 (DUSH) |
| 62  | *Dalbergia sissoo* Roxb.   | Fabaceae     | Shishu         | Tree  | Tauhid 277 (DUSH) |
| 63  | *Datura metel* L.           | Solanaceae   | Dhutra         | Shrub | Tauhid 325 (DUSH) |
| 64  | *Dentella repens* (L.) J. R. & G. Forst. | Rubiaceae | Bhuipat    | Herb  | Tauhid 398 (DUSH) |
| 65  | *D. serpyllifolia* Wall. *ex* Craib | Rubiaceae | Bhuipat     | Herb  | Tauhid 102 (DUSH) |
| 66  | *Duranta repens* L.         | Dilleniacae  | Duronto        | Herb  | Tauhid 390 (DUSH) |
| 67  | *Dioscorea alata* L.        | Dioscoreaceae | Gurniya alu  | Herb  | Tauhid 34 (DUSH)  |
| 68  | *D. kamoongensis* Kunth     | Dioscoreaceae | Erabera lata | Herb  | Tauhid 342 (DUSH) |
| 69  | *Echolium ligustrinum* (Vahl) Vollesen | Acanthaceae | Udujati    | Shrub | Tauhid 16 (DUSH)  |
| 70  | *Eclipta prostrata* (L.) Mant. | Asteraceae | Kalokeshi     | Herb  | Tauhid 84 (DUSH)  |
| 71  | *Eichhornia crassipes* (Mart.) Solms | Pontederiaceae | Kachuripana | Herb  | Tauhid 213 (DUSH) |
| 72  | *Elaeocarpus floribundus* Blume | Elaeocarpaceae | Belphoi   | Tree  | Tauhid 123 (DUSH) |
| 73  | *Eragrostis unioloides* (Retz.) Nees ex Steud. | Poaceae | Not known   | Herb  | Tauhid 294 (DUSH) |
| 74  | *Eryngium foetidum* L.      | Apiaceae     | Not known     | Herb  | Tauhid 113 (DUSH) |
| 75  | *Erythrina fusca* Lour.     | Fabaceae     | Kantmandar    | Tree  | Tauhid 120 (DUSH) |
| 76  | *E. stricta* Roxb.          | Fabaceae     | Telimandar    | Tree  | Tauhid 127 (DUSH) |
| 77  | *E. variegata* L.           | Fabaceae     | Madar         | Tree  | Tauhid 246 (DUSH) |
| 78  | *Evolvulus nummularius* (L.) L. | Convolvulaceae | Buiokra | Herb  | Tauhid 307 (DUSH) |
| 79  | *Ficus benghalensis* L.     | Moraceae     | Bot           | Tree  | Tauhid 397 (DUSH) |
| 80  | *F. hispida* L. f.          | Moraceae     | Kakdumur      | Tree  | Tauhid 237 (DUSH) |
| 81  | *F. recemosa* L.            | Moraceae     | Jagdumur      | Tree  | Tauhid 272 (DUSH) |

(Contd.)
| No. | Botanical name                          | Family name      | Local name | Habit  | Voucher specimen |
|-----|---------------------------------------|------------------|------------|--------|------------------|
| 82  | *F. rumphii* Bl.                       | Moraceae         | Hijulia    | Tree   | Tauhid 274 (DUSH) |
| 83  | *Fimbristylis bisumbellata* (Forsk.) Bubani | Cyperaceae      | Not known  | Herb   | Tauhid 24 (DUSH)  |
| 84  | *F. dichotoma* (L.) Vahl               | Cyperaceae       | Baranirbishi | Herb   | Tauhid 211 (DUSH) |
| 85  | *F. squarrosa* Vahl                    | Cyperaceae       | Not known  | Herb   | Tauhid 44 (DUSH)  |
| 86  | *Flacourtia indica* (Burm. f.) Merril | Flacourtiaceae  | Beuchi     | Shrub  | Tauhid 08 (DUSH)  |
| 87  | *Gardenia augusta* (L.) Merr.          | Rubiaceae        | Gondhoraj  | Shrub  | Tauhid 110 (DUSH) |
| 88  | *Glinus lotoides* L.                   | Molluginaceae    | Alugash    | Herb   | Tauhid 25 (DUSH)  |
| 89  | *Glycosmis pentaphylla* (Retz.) A. DC  | Rutaceae         | Datmajan   | Tree   | Tauhid 254 (DUSH) |
| 90  | *Grewia nervosa* (Lour.) Panigr.       | Tiliaceae        | Asar       | Shrub  | Tauhid 02 (DUSH)  |
| 91  | *Hedyotis corymbosa* (L.) Lamk         | Rubiaceae        | Khet papra | Herb   | Tauhid 406 (DUSH) |
| 92  | *Heliotropium indicum* L.              | Boraginaceae     | Hatishur   | Herb   | Tauhid 76 (DUSH)  |
| 93  | *H. ovalifolium* Forssk.               | Boraginaceae     | Nagaphuli  | Herb   | Tauhid 87 (DUSH)  |
| 94  | *Hemarthria protensa* Steud.           | Poaceae          | Chailla    | Herb   | Tauhid 103 (DUSH) |
| 95  | *Hibiscus rosa-sinensis* L.            | Malvaceae        | Joba       | Shrub  | Tauhid 107 (DUSH) |
| 96  | *Holarrhena antidysenterica* (L.) Wall. ex Decne. | Apocynaceae | Kurchi     | Tree   | Tauhid 04 (DUSH)  |
| 97  | *Hydrilla verticillata* (L. f.) Royle. | Hydrocharitaceae | Kureli    | Herb   | Tauhid 225 (DUSH) |
| 98  | *Hygrophila schulli* (Buch.-Hum.) M. R. Almeida & S. M. Almeida | Acanthaceae | Talmakhna | Herb   | Tauhid 192 (DUSH) |
| 99  | *Imperata cylindrica* (L.) P. Beauv.   | Poaceae          | Kash       | Herb   | Tauhid 40 (DUSH)  |
|100  | *Ipomoea aquatica* Forssk.             | Convolvulaceae   | Kolmishak  | Herb   | Tauhid 206 (DUSH) |
|101  | *L. fistulosa* Mart. ex Choisy         | Convolvulaceae   | Dolkolmi   | Shrub  | Tauhid 169 (DUSH) |
|102  | *Jatropha gossypifolia* L.             | Euphorbiaceae    | Lal bherenda | Shrub  | Tauhid 403 (DUSH) |
|103  | *Justicia adhatoda* L.                 | Acanthaceae      | Bashok     | Shrub  | Tauhid 42 (DUSH)  |
|104  | *J. gendarussa* L.                     | Acanthaceae      | Jagadmadan | Shrub  | Tauhid 50 (DUSH)  |
|105  | *Kyllinga brevifolia* Robbt.           | Cyperaceae       | Bindimuthi | Shrub  | Tauhid 345 (DUSH) |
|106  | *K. nemoralis* (J.R. Forst & G. Forst.) Dandy ex Hutchins & Dalziel | Cyperaceae | Nirbishi   | Herb   | Tauhid 298 (DUSH) |
|107  | *Lagerstroemia parviflora* Roxb.       | Lythraceae       | Jarul      | Tree   | Tauhid 147 (DUSH) |

(Contd.)
| No. | Botanical name                  | Family name       | Local name | Habit  | Voucher specimen |
|-----|---------------------------------|-------------------|------------|--------|------------------|
| 108 | Lannea coromandelica (Houtt.) Merr. | Anacardiaceae     | Jiga       | Tree   | Tauhid 251 (DUSH) |
| 109 | Laporta interrupta (L.) Chew     | Urticaceae        | Bichuti    | Shrub  | Tauhid 349 (DUSH) |
| 110 | Lasia spinosa (L.) Thw.          | Araceae           | Kantakachu | Herb   | Tauhid 321 (DUSH) |
| 111 | Lawsonia inermis L.              | Lythraceae        | Mehedi     | Shrub  | Tauhid 305 (DUSH) |
| 112 | Leea indica Merril               | Leeeaceae         | Kukurhiwa  | Shrub  | Tauhid 389 (DUSH) |
| 113 | Lemna perpusilla Torrey          | Lemnaceae         | Khudipana  | Herb   | Tauhid 32 (DUSH)  |
| 114 | Leonurus japonicas Houtt.        | Lamiaceae         | Roktodhron | Herb   | Tauhid 343 (DUSH) |
| 115 | Leucus aspera (Willd.) Link.     | Lamiaceae         | Dhondokalas | Herb   | Tauhid 159 (DUSH) |
| 116 | L. indica (L.) R. Br. ex Vatke   | Lamiaceae         | Shetodron  | Herb   | Tauhid 01 (DUSH)  |
| 117 | Limnophila heterophylla Roxb.    | Scrophulariaceae  | Not known  | Herb   | Tauhid 409 (DUSH) |
| 118 | L. repens (Benth.) Benth.        | Scrophulariaceae  | Not known  | Herb   | Tauhid 410 (DUSH) |
| 119 | Lindernia antipoda (L.) Alston   | Scrophulariaceae  | Not known  | Herb   | Tauhid 219 (DUSH) |
| 120 | L. micrantha D. Don              | Scrophulariaceae  | Not known  | Herb   | Tauhid 315 (DUSH) |
| 121 | L. rotundifolia (L.) Alston      | Scrophulariaceae  | Not known  | Herb   | Tauhid 91 (DUSH)  |
| 122 | Lippia alba (Mill.) N. E. Br. ex Briton & P. Wilson | Verbenaceae | Pichas-lakri | Herb   | Tauhid 86 (DUSH)  |
| 123 | Litchi chinensis Sonn.           | Sapindaceae       | Lichu      | Tree   | Tauhid 284 (DUSH) |
| 124 | Litsea monopetala (Roxb.) Pers.  | Lauraceae         | Akorma     | Tree   | Tauhid 13 (DUSH)  |
| 125 | Ludwigia adscendens (L.) Hara    | Onagraceae        | Kesardam   | Herb   | Tauhid 195 (DUSH) |
| 126 | L. hyssopifolia (G. Don) Exell Apud A. & R. Fernandes | Onagraceae | Not known  | Herb   | Tauhid 292 (DUSH) |
| 127 | Mangifera indica L.              | Anacardiaceae     | Aam        | Tree   | Tauhid 197 (DUSH) |
| 128 | Maranta arundinacea L.           | Marantaceae       | Araroot    | Herb   | Tauhid 253 (DUSH) |
| 129 | Melia azedarach L.               | Meliaceae         | Goranim    | Tree   | Tauhid 136 (DUSH) |
| 130 | Melochia corchorifolia L.        | Sterculiaceae     | Tikiokra   | Herb   | Tauhid 350 (DUSH) |
| 131 | Meyna pubescens (Kurz) Robyns    | Rubiaceae         | Not known  | Shrub  | Tauhid 110 (DUSH) |
| 132 | Mikania cordata (Burm. f.) Robinson | Asteraceae     | Assam lata | Climber | Tauhid 58 (DUSH)  |

(Contd.)
| No. | Botanical name | Family name | Local name | Habit | Voucher specimen |
|-----|----------------|-------------|------------|-------|------------------|
| 133 | *Miliusa velutina* (Dunal) Hook. f. & Thom. | Annonaceae | Gandhi-gajari | Tree | Tauhid 05 (DUSH) |
| 134 | *Mimosa pudica* L. | Mimosaceae | Lajabati | Tree | Tauhid 35 (DUSH) |
| 135 | *Momordica charantia* L. var. *charantia* C. B. Clarke | Cucurbitaceae | Korolla | Herb | Tauhid 242 (DUSH) |
| 136 | *Monochoria hastata* (L.) Solms | Pontederiaceae | Baranukha | Herb | Tauhid 200 (DUSH) |
| 137 | *Moringa oleifera* Lamk. | Moringaceae | Sajna | Tree | Tauhid 145 (DUSH) |
| 138 | *Morus alba* L. | Moraceae | Tut | Tree | Tauhid 366 (DUSH) |
| 139 | *Mukia maderaspatana* (L.) M. Roem. | Cucurbitaceae | Agmukhi | Herb | Tauhid 202 (DUSH) |
| 140 | *Murdania nodiflora* (L.) Brenan | Commelinaceae | Kureli | Herb | Tauhid 356 (DUSH) |
| 141 | *Najas indica* (Willd.) C. cham. | Najadaeceae | Not known | Herb | Tauhid 242 (DUSH) |
| 142 | *Nechanandra alternifolia* (Roxb.) Thw. | Hydrocharitaceae | Rasnajangi | Herb | Tauhid 349 (DUSH) |
| 143 | *Nymphoides indicum* (L.) O. Kuntze | Menyanthaceae | Panchuli | Herb | Tauhid 408 (DUSH) |
| 144 | *Ocimum americanum* L. | Lamiaceae | Bantulshi | Herb | Tauhid 170 (DUSH) |
| 145 | *O. tenuiflorum* L. | Lamiaceae | Tulshi | Herb | Tauhid 270 (DUSH) |
| 146 | *Oplismenus burmannii* (Rtez.) P. Beauv. | Poaceae | Not known | Herb | Tauhid 314 (DUSH) |
| 147 | *Oxalis corniculata* L. | Oxalidaceae | Amrul | Herb | Tauhid 03 (DUSH) |
| 148 | *Pancratium verecandum* Ait. | Liliaceae | Kumur | Herb | Tauhid 112 (DUSH) |
| 149 | *Passiflora edulis* Sims. | Passifloraceae | Tangphal | Herb | Tauhid 244 (DUSH) |
| 150 | *Pedilanthus tithymaloides* Poit. | Euphorbiaceae | Rangchita | Herb | Tauhid 396 (DUSH) |
| 151 | *Peperomia pellucida* (L.) H. B. & K. | Piperaceae | Luchipata | Herb | Tauhid 310 (DUSH) |
| 152 | *Persicaria hydropiper* (L.) Spach. | Polygonaceae | Bishkatali | Herb | Tauhid 88 (DUSH) |
| 153 | *P. viscosa* (Buch.-Ham. ex D. Don) Nakai | Polygonaceae | Not known | Herb | Tauhid 96 (DUSH) |
| 154 | *Phoenix sylvestris* Roxb. | Arecales | Khejur | Tree |Tauhid 134 (DUSH) |
| 155 | *Physalis angulata* L. | Solanaceae | Bantepari | Herb | Tauhid 322 (DUSH) |
| 156 | *Piper betle* L. | Piperaceae | Ban pan | Shrub | Tauhid 245 (DUSH) |
| 157 | *Pistia stratiotes* L. | Araceae | Topapana | Herb | Tauhid 209 (DUSH) |
| No. | Botanical name                                       | Family name    | Local name | Habit  | Voucher specimen |
|-----|-----------------------------------------------------|----------------|------------|--------|-----------------|
| 160 | *Polyalthia longifolia* (Sonn.) Thw.               | Annonaceae     | Debdaru    | Tree   | Tauhid 346      |
| 161 | *Polycarpum prostratum* (Forssk.) Aschers. & Schweinf. | Caryophyllaceae | Gima shak  | Herb   | Tauhid 73       |
| 162 | *Polygonum plebeium* R. Br.                        | Polygonaceae   | Anjaban    | Herb   | Tauhid 74       |
| 163 | *Pothos scandens* L.                                | Araceae        | Batilata   | Herb   | Tauhid 124      |
| 164 | *Pouzolzia zeylanica* (L.) Benn. & R. Br.          | Urticaceae     | Kullaruki  | Herb   | Tauhid 20       |
| 165 | *Psidium guajava* L.                                | Myrtaceae      | Peyara     | Tree   | Tauhid 143      |
| 166 | *Ricinus communis* L.                               | Euphorbiaceae  | Rerhi      | Shrub  | Tauhid 161      |
| 167 | *Rorippa indica* (L.) Hiern.                       | Brassicaceae   | Bonsharisha| Herb   | Tauhid 65       |
| 168 | *Rumex dentatus* L.                                 | Polygonaceae   | Banpalang  | Herb   | Tauhid 64       |
| 169 | *Saccharum spontaneum* L.                           | Poaceae        | Kash       | Herb   | Tauhid 286      |
| 170 | *Segittaria guayanensis* H.B. & K. subsp. *lappula* (D. Don) | Alismataceae | Kaowathukri| Herb   | Tauhid 386      |
| 171 | *S. sagittifolia* L.                                | Alismataceae   | Chhotokut  | Herb   | Tauhid 323      |
| 172 | *Salvia plebeia* R. Br.                            | Lamiaceae      | Bhuitulshi | Herb   | Tauhid 68       |
| 173 | *Saraca indica* L.                                 | Caesalpiniaceae| Ashoke    | Tree   | Tauhid 364      |
| 174 | *Schumannianthus dichotomus* (Roxb.) Gagnep.       | Marantaceae    | Shitalpati | Shrub  | Tauhid 79       |
| 175 | *Scoparia dulcis* L.                               | Scrophulariaceae| Bondhoney | Herb   | Tauhid 41       |
| 176 | *Senna sophora* (L.) Roxb.                         | Caesalpiniaceae| Chotokolkeshunda | Shrub | Tauhid 174     |
| 177 | *S. tora* (L.) Roxb.                               | Caesalpiniaceae| Chakunda  | Herb   | Tauhid 149      |
| 178 | *Sesbania bispinosa* (Jacq.) Wight                 | Fabaceae       | Dhainchha  | Herb   | Tauhid 242      |
| 179 | *S. grandiflora* (L.) Poir.                        | Fabaceae       | Bakphul    | Shrub  | Tauhid 131      |
| 180 | *Sida rhombifolia* (L.) Pers.                      | Malvaceae      | Lalberela  | Herb   | Tauhid 353      |
| 181 | *Solanum myriacanthum* Dunal                       | Solanaceae     | Rulpuk     | Shrub  | Tauhid 153      |
| 182 | *S. sinuibracteolatum* Lamk.                       | Solanaceae     | Kanta begun| Herb   | Tauhid 302      |
| 183 | *S. violaceum* Ortega                              | Solanaceae     | Byakur     | Herb   | Tauhid 126      |
| 184 | *Spermacoce alata* Aubl.                           | Rubiaceae      | Ghuiiojihil shak | Herb | Tauhid 29       |
| No. | Botanical name                  | Family name | Local name       | Habit  | Voucher specimen |
|-----|--------------------------------|-------------|------------------|--------|------------------|
| 185 | *Sphaeranthus africanus* L.   | Asteraceae  | Not known        | Herb   | Tauhid 81 (DUSH) |
| 186 | *Sphenoclea zeylanica* Gaertn.| Sphenocleaceae | Jhiil marich   | Herb   | Tauhid 11 (DUSH) |
| 187 | *Splanthes calva* DC.        | Asteraceae  | Marhatitiga      | Herb   | Tauhid 208 (DUSH)|
| 188 | *Sporolobus diander* (Retz.) P. Beauv. | Poaceae | Benajoni         | Herb   | Tauhid 381 (DUSH)|
| 189 | *Stephania japonica* (Thunb.) Miers | Menispermaceae | Nimukha       | Herb   | Tauhid 70 (DUSH) |
| 190 | *Strybus asper* Lour.         | Moraceae    | Sheora           | Tree   | Tauhid 269 (DUSH)|
| 191 | *Swietenia macrophylla* King | Meliaceae   | Mehogoni         | Tree   | Tauhid 266 (DUSH)|
| 192 | *Synedrella nodiflora* (L.) Gaertn. | Asteraceae | Not known      | Herb   | Tauhid 348 (DUSH)|
| 193 | *Syngonium podophyllum* Schott | Araceae     | Not known       | Herb   | Tauhid 332 (DUSH)|
| 194 | *Syzygium cumini* (L.) Skeels | Myrtaceae   | Kalojam          | Tree   | Tauhid 259 (DUSH)|
| 195 | *S. fruticosum* DC.          | Myrtaceae   | Bonjam           | Tree   | Tauhid 268 (DUSH)|
| 196 | *Tabernaemontana divaricata* (L.) R. Br. ex Roem. & Schult. | Apocynaceae | Dudhpul         | Shrub  | Tauhid 301 (DUSH)|
| 197 | *Tamarindus indica* L.       | Caesalpiniaceae | Tentul        | Tree   | Tauhid 392 (DUSH)|
| 198 | *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn. | Combretaceae | Arjun          | Tree   | Tauhid 122 (DUSH)|
| 199 | *Thevetia peruviana* (Pers.) K. Schum. | Apocynaceae | Holde karobi    | Tree   | Tauhid 382 (DUSH)|
| 200 | *Tinospora cordifolia* Miers | Menispermaceae | Gulancho      | Herb   | Tauhid 400 (DUSH)|
| 201 | *Trevesia nudiflora* L.      | Euphorbiaceae | Meragoda       | Tree   | Tauhid 299 (DUSH)|
| 202 | *Typhonom trilobatum* (L.) Schott | Araceae     | GhetyKachhu     | Herb   | Tauhid 56 (DUSH) |
| 203 | *Urena lobata* L.            | Malvaceae   | Jangli ghagra   | Herb   | Tauhid 101 (DUSH)|
| 204 | *Vernonia cinerea* (L.) Nees | Asteraceae  | Kukshim         | Herb   | Tauhid 48 (DUSH) |
| 205 | *Vigna mungo* (L.) Hepper    | Fabaceae    | Mashkalai       | Herb   | Tauhid 404 (DUSH)|
| 206 | *Vetiveria zizanioides* (L.) Nash | Poaceae | Khuskus         | Herb   | Tauhid 97 (DUSH) |
| 207 | *Xanthium indicum* Koen. ex Roxb. | Asteraceae | Gaghray        | Herb   | Tauhid 330 (DUSH)|
| 208 | *Zanthoxylum rhetsa* (Roxb.) DC. | Rutaceae   | Bajna           | Tree   | Tauhid 141 (DUSH)|
| 209 | *Ziziphus mauritiana* Lamk.  | Rhamnaceae  | Boroi           | Tree   | Tauhid 184 (DUSH)|
In Liliopsida, four families, namely Aloaceae, Costaceae, Liliaceae and Najadaceae are represented by single species. Out of 171 genera identified from the study area *Ficus* with 4 species is found as the largest genus in dicots, while *Fimristylis* with 3 species appears to be the largest in monocots.

The study area presents diverse habitats with different types of vegetation. Some common trees found in the area include *Acacia auriculiformis, Albizia procera, Aphanamixis polystachya, Alstonia scholaris, Cassia fistula, Dalbergia sissoo, Phoenix sylvestris* etc. The species *Heliotropium indicum, Croton bonplandianus, Leucus aspera, Senna tora* are commonly found along the roadsides. In the low-lying areas including *beels* and other aquatic bodies, 12 aquatic plants are commonly found (e.g. *Eichhornia crassipes, Hydrilla verticillata, Ipomoea aquatica, Lemna perpusilla, Limnophila heterophylla, Ludwigia adscendens, Monochoria hastata, Nymphaea pubescens, Nymphoides indicum, Pistia stratiotes, Sagittaria guayanensis subsp. lappula and Sagittaria sagittifolia*). In this study the species *Alternanthera paronichyoides, Cayratia trifolia, Dioscorea kamonensis, Ecbolium ligustrinum, Heliotropium ovalifolium* and *Sphenoclea zeylanica* were rarely found in the study area.

In Trishal, modern agriculture, urbanization, lack of knowledge of plant collection technique, lack of awareness and exotic plantation are great threats to its angiosperm flora. Considering the present pace of these threats there is a possibility of losing a number of plant species including medicinal plants even before they are properly identified and studied. To save the naturally growing rare, especially the medicinal plant species in the study area, adequate attention is necessary to take *in situ* and *ex situ* measures for their conservation and sustainable development.
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