

**ANGIOSPERMIC FLORA OF RUNCTIA SAL FOREST, BANGLADESH.
I. LILIOPSIDA (MONOCOTS)**

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Abstract

This paper presents 49 plant species belonging to 38 genera and 13 families of the division Liliopsida (monocots) from Runtia sal forest in Sherpur district, Bangladesh. The update nomenclature, habit, habitat and representative specimen have been provided for each species. Important synonyms and local names have also been furnished, wherever available.

Introduction

The Runtia sal forest with an area of 3363.93 ha is located at about 32 km north of Sherpur district headquarters. The forest area bears hills and hillocks of varying heights (max. about 160 m) intercepted by narrow depressions of valleys. Hills are located on the north and the low lands are situated on the south side of forest area. About half of the Runtia forest land falls under the deep red brown terrace soil type (Khan, 2005). The temperature of this area ranges from minimum 10.7°C (January) to maximum 33.3°C (May) and humidity varies from 74% to 89% throughout the year (Bangladesh Meteorological Department, personal communication). Runtia sal forest consists of three beats, namely, Runtia (752.49 ha), Gazni (1578.69 ha), and Tawakocha (1032.75 ha). The vegetation of the Runtia forest area is a little bit different from those of Madhupur and other sal forest areas of Bangladesh (Alam, 1995).

The floristic composition of sal forests in Bangladesh has so far received little attention (Ismail and Mia, 1973; Rashid *et al.*, 1995; Rahman, 2004). Although the Runtia sal forest area supports a luxuriant growth of angiospermic flora and plays an important role in the local economy, environment and traditional health care system, no systematic study was conducted in this sal forest till date. Therefore, a study has been undertaken with a view to prepare an inventory of angiospermic flora of Runtia sal forest and to facilitate undertaking possible measures for conservation for the rare, threatened and endangered species. This communication presents plant species belonging to the division Liliopsida (monocots) from Runtia sal forest.

Materials and Methods

The present study area includes hill tops, hill slopes, forest floors, forest margins, streams, swamps and plain lands of Runtia sal forest areas from where fresh plant materials were collected through repeated field trips during the years of 2007 and 2008.

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The collected specimens were identified at Dhaka University Herbarium (DUH) and Bangladesh National Herbarium (DACB). In some cases, standard literature, such as Hooker (1888-1897) and Prain (1903) were consulted for identification of the species. Jackson (1893-1955), Khan (1972-1987), Huq (1986) and some other literature and journals have been consulted for bringing the names up-to-date. The collected specimens were mounted and deposited in DUH for future reference. The families have been arranged according to Cronquist (1981). The genera and the species are arranged in an alphabetical order. For each species, the nomenclature has been brought updated and the local name (if available), short description, habitat and one representative specimen have been provided.

Systematic enumeration

In the present investigation, a total of 49 monocot species under 38 genera and 13 families have been recorded from Runtia sal forest. Poaceae is the largest family possessing 12 genera and 12 species, and Orchidaceae comes to the second largest with 6 genera and 6 species. Among the genera, *Dioscorea* appears as the largest genus comprising 6 species.

1. Arecaceae

Calamus tenuis Roxb., Fl. Ind. 3: 780 (1832). *Local name: Jalibet.*

A scandent rattan. On forest edges. *Representative specimen: Gazni, 15.05.2007, Ershad Tutul 17 (DUH).*

2. Araceae

Amorphophallus bulbifer (Roxb.) Bl., Rumphia 1: 148 (1837). *Amorphophallus tuberculiger* (Schott) Engl. (1879).

A herb with globose corms. On shady and moist areas. *Representative specimen: Gazni, 28.10.2007, Ershad Tutul 300 (DUH).*

Colocasia esculenta (L.) Schott in Schott & Endl., Melet. Bot.: 18 (1832). *Arum esculenta* L. (1753). *Local name: Kochu.*

A perennial herb. On shady areas. *Representative specimen: Gazni, 15.05.2007, Ershad Tutul 07 (DUH).*

Raphidophora calophyllum Schott, Bonplandia 5: 45 (1857). *Raphidophora lancifolia* Schott (1857).

A sub-parasitic climber. On the hill slopes and shady areas. *Representative specimen: Runtia, 17.05.2007, Ershad Tutul 43 (DUH).*

3. Commelinaceae

Commelina erecta L., Sp. Pl.: 41 (1753). *Commelina kurzii* C. B. Clarke (1870).

An erect, perennial herb. Near the swamp. *Representative specimen*: Runtia, 17.05.2007, Ershad Tutul 133 (DUH).

Commelina paludosa Bl., Enum. Pl. Jav. 1: 2 (1827). *Commelina obliqua* Buch.-Ham. ex D. Don (1825).

An erect, stout herb. On the forest edges and near the swamps. *Representative specimen*: Gazni, 17.05.2008, Ershad Tutul 358 (DUH).

Murdannia scapiflora (Roxb.) Royle, Illus. Bot. Himal.: 403, t. 95 (1839). *Commelina scapiflora* Roxb. (1832).

A perennial herb. On the forest floors. *Representative specimen*: Gazni, 17.05.2008, Ershad Tutul 401 (DUH).

4. Cyperaceae

Cyperus cyperoides (L.) O. Kuntze, Rev. Gen. Pl. 3(2): 333 (1898). *Mariscus sieberianus* Nees ex C. B. Clarke (1893).

A perennial herb. On the wet areas. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 171 (DUH).

Cyperus difformis L., Cent. Pl. 2: 6 (1756). *Cyperus goeringii* Steud. (1855).

An annual herb. Near the swamps. *Representative specimen*: Runtia, 17.05.2007, Ershad Tutul 148 (DUH).

Cyperus exaltatus Retz., Obs. Bot. 5: 11 (1789). *Cyperus altus* Nees (1834).

A perennial herb. Near the swamps. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 172 (DUH).

Cyperus laxus Lamk., III. Gen. 1: 146 (1791). *Cyperus nigro-viridis* Thw. (1864).

A perennial herb. On the hill top and near the swamps. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 04 (DUH).

Kyllinga brevifolia Rottb., Descr. Icon. Rar. Nov. Pl.: 13, t. 4, f. 3 (1773). *Cyperus brevifolius* (Rottb.) Hassk. (1884).

A perennial herb. On the edges and near the swamps. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 157 (DUH).

5. Poaceae

Axonopus compressus (Sw.) P. Beauv., Ess. Agrost. 12: 154 (1812). *Agrostis compressa* (Sw.) Poir. (1810).

A rhizomatous, perennial grass. On the forest edges. *Representative specimen*: Gazni, 17.05.2007, Ershad Tutul 84 (DUH).

Bambusa tulda Roxb., Fl. Ind. 2: 193 (1832). *Bambusa longispiculata* Gamble *ex* Brandis (1906). *Local name: Mitinga bash.*

A clump forming bamboo. On the hill slopes. *Representative specimen: Gazni, 18.05.2007, Ershad Tutul 153 (DUH).*

Chrysopogon aciculatus (Retz.) Trin., Fund. Agrost. : 188 (1820). *Andropogon javanicus* Steud. (1854).

A creeping, perennial herb. On the forest edge. *Representative specimen: Runtia, 17.05.2007, Ershad Tutul 131 (DUH).*

Cynodon dactylon (L.) Pers., Syn. Pl. 1: 85 (1805). *Cynodon glabratus* Steud. (1854). *Local name: Durba.*

A mat-forming, perennial grass. On open, moist or dry places. *Representative specimen: Gazni, 16.05.2007, Ershad Tutul 40 (DUH).*

Eragrostis unioides (Retz.) Nees *ex* Steud., Syn. Pl. Glum. 1: 264 (1854). *Eragrostis rubens* (Lamk.) Hochst. *ex* Miq. (1851).

An annual or perennial grass. On the edges of forest. *Representative specimen: Gazni, 18.05.2007, Ershad Tutul 158 (DUH).*

Gigantochloa andamanica Kurz, Forest Fl. Brit. Burma 2: 556 (1877). *Bambusa andamanica* Kurz (1870). *Local name: Kalibans.*

A closely clumped, sympodial bamboo. On the hill slopes. *Representative specimen: Runtia, 17.05.2007, Ershad Tutul 122 (DUH).*

Imperata cylindrica (L.) Beauv. var. **latifolia** (Hook. f.) C. E. Hubb., Imp. Agri. Bur. Jt. Pub. no. 7: 14 (1944). *Imperata arundinacea* var. *latifolia* Hook. f. (1896).

A perennial, rhizomatous herb. On the forest edges and near swamps. *Representative specimen: Gazni, 16.05.2008, Ershad Tutul 318 (DUH).*

Pogonatherum paniceum (Lamk.) Hack., Allg. Bot. Zeit. 12: 178 (1906).

An annual or perennial herb. On the hill slopes. *Representative specimen: Runtia, 17.05.2007, Ershad Tutul 128 (DUH).*

Saccharum spontaneum L., Mant. Alt. : 183 (1771). *Saccharum propinquum* Steud. (1855). *Local name: Kash.*

A rhizomatous, perennial herb. Near the swamps and on the edges of forest. *Representative specimen: Gazni, 17.05.2008, Ershad Tutul 362 (DUH).*

Setaria glauca (L.) P. Beauv., Ess. Agrost. 51: 169 (1812). *Pennisetum typhoides* (Burm. f.) Stapf & C. E. Hubb. (1933).

An annual herb. On the hill slopes. *Representative specimen: Gazni, 17.05.2007, Ershad Tutul 83 (DUH).*

Sporobolus diander (Retz.) P. Beauv., Ess. Agrost. : 26, 147, 178 (1812). *Vilfa retzii* Steud. (1841).

A slender, perennial herb. Near the swamps and on edges of forest. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 13 (DUH).

Thysanolaena maxima (Roxb.) O. Kuntze, Rev. Gen. Pl. 2: 794 (1891). *Thysanolaena acarifera* (Trin.) Wight & Arn. (1841).

A perennial, tall herb. On the hill slopes. *Representative specimen*: Runctia, 17.05.2007, Ershad Tutul 129 (DUH).

6. Zingiberaceae

Curcuma latifolia Rosc. in Trans. Linn. Soc. Lond. 8: 3 (1807).

A rhizomatous herb. On the hill top. *Representative specimen*: Runctia, 17.05.2007, Ershad Tutul 50 (DUH).

Curcuma aromatica Salisp. in Parad. Lond. 2 : t. 96 (1803). *Local name*: Bon haldi.

A leafy, rhizomatous herb. On the shady forest floors. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 05 (DUH).

Curcuma zedoaria (Christm.) Rosc. in Trans. Linn. Soc. Lond. 8: 354 (1807). *Curcuma zerumbet* Roxb. (1810). *Local name*: Shoti.

A rhizomatous herb. On the hill slopes and forest floors. *Representative specimen*: Runctia, 17.05.2008, Ershad Tutul 347 (DUH).

Globba orixensis Roxb., Asiat. Res. 11: 358 (1810).

An annual, small, rhizomatous herb. On shady areas. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 14 (DUH).

7. Costaceae

Cheilocostus speciosus (J. Koenig) C. D. Specht in C. D. Specht, Taxon 55(1): 159 (2006). *Costus speciosus* (J. Koenig) Smith (1791).

A tall herb. On the edges of forest and shady areas. *Representative specimen*: Tawakocha, 28.10.2007, Ershad Tutul 262 (DUH).

8. Marantaceae

Maranta arundinacea L., Sp. Pl.: 2 (1753). *Maranta sylvatica* Roscoe ex J. E. Smith (1819).

A herb with creeping rootstock. On high humid and shady places. *Representative specimen*: Tawakocha, 28.10.2007, Ershad Tutul 270 (DUH).

9. Pontederiaceae

Monochoria hastata (L.) Solms in A. DC., Mon. Phan. 4: 523 (1883). *Monochoria hastaefolia* Presl (1827).

A perennial, robust herb. Near the swamps. *Representative specimen*: Gazni, 17.05.2007, Ershad Tutul 93 (DUH).

10. Liliaceae

Crinum asiaticum L., Sp. Pl.: 419 (1753). *Crinum toxicarium* Roxb. (1832).

A perennial herb. On the hill slopes. *Representative specimen*: Gazni, 17.05.2008, Ershad Tutul 367 (DUH).

Chlorophytum nepalense (Lindley) Baker, Journ. Linn. Soc. 15: 330 (1876). *Chlorophytum khasianum* Hook. f. (1892).

A perennial herb. On the shady hill top. *Representative specimen*: Runctia, 16.05.2008, Ershad Tutul 205 (DUH).

Note: This species has been reported very recently as a new record for Bangladesh (Tutul *et al.*, 2008).

Curculigo orchioides Gaertn., Fruct. 1: 63, t. 16 (1788). *Curculigo brevifolia* Dryand. (1811).

A slender herb. On the forest floors. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 20 (DUH).

Molineria recurvata (Dryand.) Herb., Amaryll.: 84 (1834). *Curculigo capitulata* (Lour.) O. Kuntze (1891).

A large herb. On the hill slopes. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 199 (DUH).

Pancratium verecundum Ait., Hort. Kew. 1: 412 (1810).

A perennial, bulbolous herb. On the hill top. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 198 (DUH).

11. Smilacaceae

Smilax perfoliata Lour., Fl. Cochinch.: 622 (1790). *Smilax prolifera* Roxb. (1832). *Local name*: Kumarilata.

A large climber. On the hill slopes. *Representative specimen*: Gazni, 15.05.2007, Ershad Tutul 11 (DUH).

12. Dioscoreaceae

Dioscorea bulbifera L., Sp. Pl.: 1033 (1753). *Dioscorea pulchella* Roxb. (1832).

A large climber. On the hill slopes. *Representative specimen*: Gazni, 16.05.2008, Ershad Tutul 333 (DUH).

Dioscorea esculenta (Lour.) Burkill, Gard. Bull. Straits Settl. 1: 396 (1917). *Dioscorea fasciculata* Roxb. (1832).

A climber. Near the swamps. *Representative specimen*: Gazni, 25.05.2007, Ershad Tutul 254 (DUH).

Dioscorea hispida Dennst., Hort. Ind. Malabar: 33 (1818). *Dioscorea daemona* Roxb. (1832).

A twining climber. On the hill slopes. *Representative specimen*: Gazni, 16.05.2008, Ershad Tutul 305 (DUH).

Dioscorea kamoonsensis Kunth, Enum. Pl. 5: 395 (1850). *Dioscorea triphylla* Wall. (1832).

A climber. On the hill slopes. *Representative specimen*: Gazni, 16.05.2008, Ershad Tutul 302 (DUH).

Dioscorea oppositifolia L., Sp. Pl.: 1033 (1753). *Dioscorea oppositifolia* L. var. *meeboldtii* Prain & Burkill (1939).

A twining herb. On the hill slopes. *Representative specimen*: Gazni, 25.05.2007, Ershad Tutul 253 (DUH).

Dioscorea pentaphylla L., Sp. Pl.: 1032 (1753). *Dioscorea triphylla* L. (1753).

A twining herb. On the hill slopes. *Representative specimen*: Gazni, 17.05.2008, Ershad Tutul 338 (DUH).

13. Orchidaceae

Aerides multiflora Roxb., Pl. Corom. 3: 68, t. 271 (1820). *Aerides multiflora* Roxb. var. *dactyloides* Mokter *et al.* (1989).

A perennial epiphyte. Occurs on trunk and branch of *Lagerstroemia* species. *Representative specimen*: Runcitia, 17.05.2007, Ershad Tutul 54 (DUH).

Bulbophyllum lilacinum Ridl., Journ. Linn. Soc. 32: 276 (1896).

A perennial epiphyte. Common on *Ficus* species. *Representative specimen*: Runcitia, 17.05.2007, Ershad Tutul 78 (DUH).

Cymbidium aloifolium (L.) Sw., Nov. Act. Soc. Upsal. 6: 73 (1799). *Cymbidium erectum* Wight (1851).

A perennial epiphyte. Most common on *Dillenia* species. *Representative specimen*: Gazni, 17.05.2007, Ershad Tutul 95 (DUH).

Dendrobium macrostachyum Lindl., Gen. Sp. Orch. Pl.: 78 (1830). *Dendrobium gamblei* King & Pantl. 15: 584 (1897).

An epiphytic herb. Common on *Lagerstroemia* species. *Representative specimen*: Runcitia, 17.05.2007, Ershad Tutul 51 (DUH).

Papilionanthe teres (Roxb.) Schltr., Orchis 9: 78 (1915). *Vanda teres* (Roxb.) Lindl. (1833).

A perennial, scrambling epiphyte. On hill slopes. *Representative specimen*: Runcitia, 17.05.2007, Ershad Tutul 53 (DUH).

Geodorum densiflorum (Lamk.) Schltr., Feddes Report. 4: 259 (1929). *Limnodorium densiflorum* Lamk. (1792).

An annual, terrestrial herb. Common on hill tops and shady areas. *Representative specimen*: Gazni, 18.05.2007, Ershad Tutul 183 (DUH).

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