

SCROPHULARIACEOUS TAXA IN BANGLADESH

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Abstract

This paper presents a total of 59 Scrophulariaceous species distributed in 23 genera from Bangladesh. An updated nomenclature, brief diagnostic characters, flowering and fruiting period and distribution within and outside Bangladesh have been furnished under each species. Chromosome number has also been cited whenever possible.

Introduction

The Scrophulariaceae is a large cosmopolitan family consisting of about 3000 species under 220 genera mainly centered in temperate regions (Heywood 1993). Most of the members of this family are herbs while few are shrubs and lianas, rarely trees. Scrophulariaceae are mostly autotrophic, less often hemiparasitic or parasitic. They are mainly characterized by sympetalous 2-lipped corolla, 4 stamens, superior ovary, simple style and capitate stigma. They inhabit a wide range of habitats including moist and marshy places, paddy fields, near and within the water bodies like ponds, rivers, beels and ditches.

Referring to the Scrophulariaceous taxa of Bangladesh, Hooker (1884) enumerated 47 species under 18 genera from the area of Bangladesh. Prain (1903) recorded 32 species from the East Bengal including Sylhet and Chittagong districts. In the "List of Plants of Chittagong Collectorate and Hill Tracts" Heinig (1925) included 26 species distributed in 15 genera. Datta and Mitra (1953) listed 33 species and 19 genera in his "Common plants in and around Dacca". However, no detailed study on this family was undertaken. Therefore, this study has been undertaken with a view to document all members of the Scrophulariaceae available in Bangladesh.

The present paper is based on herbarium specimens deposited in Bangladesh National Herbarium, Dhaka University Herbarium, and the existing literatures. A total of 59 species distributed in 23 genera from Bangladesh have been identified. Nomenclature has been brought up-to-date with the aid of modern literatures. The genera and species have been placed in an alphabetical order. A crisp diagnostic account along with flowering and fruiting period and the distribution of the species within and outside Bangladesh have been furnished. Chromosome number (2n) has also been cited whenever possible.

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Systematic enumeration of the species

1. **Adenosma indianum** (Lour.) Merr., Trans. Amer. Philos. Soc. 24 (2) : 351 (1935).
Manulea indiana Lour., Fl. Cochinch.: 386 (1790); *Adenosma capitatum* (Benth.) Hance, J. Linn. Soc. Bot. 13 : 114 (1873).

An annual herb. Leaves oblong-lanceolate to oval-oblong, Corolla pale purple to dark blue. Capsule ovoid. Flowering and fruiting : July - January. $2n = 72$ (Mehra and Vasudevan 1972).

Distributed in Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam. In Bangladesh, this species is common throughout the country.

2. **Angelonia grandiflora** Morr. in Ann., Soc. Hort. Gand. 3 : 93 (1847).

A bushy undershrub. Leaves lanceolate. Corolla white with violet spots. Capsule longitudinally 2-valved, valves entire. Flowering and fruiting : Almost throughout the year. $2n = 20$ (Verma and Dhillon 1967).

Distributed in South America; now naturalized elsewhere. In Bangladesh, this species is found in Cox's Bazar.

3. **Antirrhinum majus** L., Sp. Pl. : 617 (1753).

An erect herb with glabrous branchlets. Leaves oblong-lanceolate. Corolla lavender, orange, pink, red, yellow, white or purple. Capsule oblong, glandular outside. Flowering and fruiting: Almost throughout the year. $2n = 16$ (Verma and Dhillon 1967).

Distributed in South West Europe and the Mediterranean region. In Bangladesh, this species is found under cultivation throughout the country in the gardens.

4. **Bacopa hamiltoniana** Wettst. in Engler & Prantl, Naturl. Pflanzenfam. 4: 77 (1891).
Herpestis hamiltoniana Benth., Scroph. Ind.: 30 (1835).

An annual herb. Leaves linear-lanceolate. Corolla pink or bluish pink, with purple veins. Capsule ellipsoid-ovoid to oblong-globose, septicidally dehiscent. Flowering and fruiting: February - June. $2n = 24$ (Gill 1971).

Distributed in India, Nepal and Pakistan. In Bangladesh, this species was recorded from Dhaka under the name *Herpestis hamiltoniana* Benth. (Datta and Mitra 1953).

5. **B. monnieri** (L.) Pennell, Proc. Acad. Nat. Sci. Philadelphia 98: 94 (1946).
Lysimachia monnieri L., Cent. Pl. 2 : 9 (1756); *Herpestis monnieri* Benth., Scroph. Ind.: 30 (1835).

An annual, glabrous herb. Leaves oblong-oblong-lanceolate. Corolla white, purple or blue. Capsule narrowly ovoid. Flowering and fruiting : May - December. $2n = 64$ (Lewis *et al.* 1962).

Widespread in tropics and subtropics. In Bangladesh, this species is found in most of the districts.

6. **Centranthera indica** (L.) Gamble, Fl. Pres. Madras : 971 (1924). *Rhinanthus indica* L., Sp. Pl. : 603 (1753); *Centranthera hispida* R. Br., Prodr. : 438 (1810); *Centranthera nepalensis* D. Don, Prod. Fl. Nepal (1825).

An annual herb. Leaves oblong to ovate-oblong, spreading or erect. Corolla dotted with yellow glands, commonly purplish-red, less often rose-coloured or white. Capsule ovoid. Flowering and fruiting : Almost throughout the year. $2n = 30$ (Vij and Kashyap 1975).

Distributed in Australia, China, India, Malaysia, Myanmar, Nepal and Sri Lanka. In Bangladesh, this species is found in Dinajpur, Gazipur and Sylhet.

7. **C. tranquebarica** (Spreng.) Merr., 150th Anniv. Vol. R. Bot. Gard. Calcutta : 55 (1941). *Razumovia tranquebarica* Spreng., Mant. Fl. Hal. : 45 (1807); *Centranthera humifusa* Wall. ex Benth., Scroph. Ind. : 50 (1835).

An annual herb. Leaves linear, opposite below, alternate above. Corolla dorsally dull purple, ventrally yellowish. Capsule globose. Flowering and fruiting : May - March. $2n = 36$ (Bhattacharyya 1969).

Distributed from India through Sri Lanka to Malaysia. In Bangladesh, this species is found in Comilla, Dhaka and Tangail.

8. **Curunga amara** Juss., Ann. Mus. Par. 9 : 320 (1807). *Herpestis amara* Benth., Scroph. Ind. : 30 (1835); *Gratiola amara* Roxb., Fl. Ind. 1 : 135 (1820).

A glabrous, annual herb. Leaves ovate, membranous. Corolla reddish-brown. Capsule almost orbicular, enveloped in the enlarged calyx. Flowering and fruiting : April - August.

Distributed in India, Indonesia, Malaysia and the Philippines. In Bangladesh, this species is confined to Chittagong.

9. **Dopatrium junceum** (Roxb.) Buch.-Ham. ex Benth., Scroph. Ind.: 31 (1835). *Gratiola juncea* Roxb., Pl. Corom. 2 : 16, t. 127 (1798).

An annual, slender, glabrous, erect herb. Leaves oblong to oval-oblong or obovate oblong. Corolla white, rose or pale purple. Capsule broadly ellipsoid, glabrous. Flowering and fruiting : June - December. $2n = 48$ (Bhattacharyya 1969).

Distributed in Australia, Bhutan, China, India, Indonesia, Japan, Malaysia, the Philippines, Thailand and Vietnam. In Bangladesh, this species is common in Chittagong, Dhaka and Rajshahi.

10. **Glossostigma diandrum** (L.) Kuntze, Rev. Gen. Pl. : 461 (1891). *Limosella diandra* L., Mant. 1 : 252 (1767); *Glossostigma spathulatum* Wight & Arn. in Nov. Act. Nat. Cur. 18 : 355 (1836).

A small, tufted, creeping, aquatic herb. Leaves opposite or occasionally whorled, narrowly spatulate. Corolla pale bluish, pinkish or white. Capsule globose. Flowering and fruiting : November - February. $2n = 32$ (Bhattacharyya 1969).

Distributed in Australia, India and tropical Africa. In Bangladesh, this species occurs in Chittagong and Dhaka.

11. **Kickxia ramosissima** (Wall.) Janchen in Oesterr., Bot. Zeitschr 82 : 152 (1933). *Linaria ramosissima* Wall., Pl. As. Rar. 2 : 43, t. 153 (1831).

A much branched, prostrate, perennial herb. Leaves ovate or narrowly ovate. Corolla pale yellow. Capsule ovoid or sub-globose. Flowering and fruiting : September - December. $2n = 18$ (Verma and Dhillon 1967).

Distributed in Afghanistan, Bhutan, India and Pakistan. In Bangladesh, this species is found in Dhaka.

12. **Limnophila aquatica** (Roxb.) Alston, Ann. R. Bot. Gard. Peradeniya 11 : 205 (1929). *Cyrilla aquatica* Roxb., Pl. Corom. 2 : 47, t. 189 (1798); *Diceros aquaticus* (Roxb.) Moon, Cat. : 45 (1824); *Limnophila racemosa* Benth., Scroph. Ind. : 26 (1835).

An annual, aquatic herb. Leaves ovate-lanceolate to oblong-lanceolate. Corolla white or pale blue or pale mauve. Capsule globose. Flowering and fruiting : March - December. $2n = 34$ (Bhattacharyya 1969).

Distributed in India and Sri Lanka. In Bangladesh, this species is found in Dhaka.

13. **L. aromatica** (Lam.) Merr., Interpr. Herb. Amboin. : 466 (1917). *Ambulia aromatica* Lam., Enc. 1 : 128 (1783); *Limnophila gratissima* Bl., Bijdr. : 749 (1826); *Limnophila punctata* Bl., Bijdr. : 750 (1826).

An annual, aromatic, aquatic herb. Leaves linear-lanceolate to oblong-lanceolate. Corolla mauve-purple to pale violet. Capsule broadly ellipsoid. Flowering and fruiting : Almost throughout the year. $2n = 68$ (Borgmann 1964).

Distributed in Australia, Bhutan, China, India, Indonesia, Japan, Korea, Laos, Malaysia, the Philippines and Vietnam. In Bangladesh, this species occurs in Chittagong, Dhaka, Dinajpur, Gazipur, Khagrachari and Patuakhali.

14. **L. cana** Griff., Notul. 4 : 98 (1847).

An annual, aquatic herb. Upper leaves elliptic or linear-oblong, lower ones pinnatisect to lacerate. Corolla violet, blue or purple. Capsule enclosed in persistent calyx with 5 teeth. Flowering and fruiting : September - December.

This species is endemic to Bangladesh and has been reported from Dhaka, Jamalpur and Pabna (Khan *et al.* 2001).

15. **L. chinensis** (Osbeck) Merr., Amer. J. Bot. 3 : 581 (1916). *Columnnea chinensis* Osbeck, Dagb. Ostend. Resa : 230 (1757); *Limnophila hirsuta* (Heyne ex Benth.) Benth. in DC., Prodr. 10 : 388 (1846).

An annual herb. Leaves ovate-lanceolate or elliptic-lanceolate, or rarely spatulate. Corolla purple-red, blue or rarely white. Capsule compressed, ovoid to ellipsoid. Flowering and fruiting : April - October.

Distributed in Australia, Cambodia, China, India, Indonesia, Laos, Malaysia, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is found in Chittagong and Cox's Bazar.

16. **L. diffusa** Benth. in DC., Prodr. 10 : 387 (1846). *Stemodia cimicina* Benth. in Wall. Cat. no. 3933 (1831); *Limnophila camphorata* Hook. f., Fl. Brit. Ind. 4 : 267 (1884).

An annual, erect or decumbent, diffuse herb. Leaves elliptic-ovate or oblong-lanceolate. Corolla 2-lipped, glabrous outside, hairy inside. Capsule septicidally 4-valved. Flowering and fruiting : September - January.

Distributed in India, Indonesia and Myanmar. In Bangladesh, this species is reported from Chittagong and Dhaka.

17. **L. erecta** Benth. in DC., Prodr. 10 : 388 (1846).

Annual aquatic herb. Leaves linear-elliptic. Corolla white or pink, 2-lipped. Capsule ovoid. Flowering and fruiting : July - October.

Distributed in Indonesia, Malaysia, Myanmar, Thailand and Vietnam. This species was reported in 1884 from the then Bengal, the area now falls under Bangladesh (Hooker 1884).

18. **L. heterophylla** (Roxb.) Benth., Scroph. Ind. : 25 (1835); *Columnnea heterophylla* Roxb., Fl. Ind. 3 : 97 (1832).

A perennial aquatic herb. Leaves linear-lanceolate to ovate-oblong. Corolla pale pinkish-violet or pink. Capsule ovoid, pale brown. Flowering and fruiting : February - September. $2n = 34$ (Sarkar *et al.* 1976).

Distributed in Cambodia, China, India, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is common in Dhaka, Narayanganj, Rajshahi, Sunamganj and Sylhet.

19. **L. indica** (L.) Druce, Rep. Bot. Soc. Exch. Club Br. Isles 3: 420 (1914). *Hottonia indica* L., Sp. Pl. ed. 2 : 208 (1762); *Gratiola trifida* Willd., Sp. Pl. 1 : 104 (1797); *Limnophila gratioloides* R. Br., Prod. : 442 (1810).

A perennial aquatic herb. Lower leaves pinnately dissected, root-like, uppermost often undivided, linear-spathulate to linear-lanceolate. Corolla pale yellow, occasionally pale purple. Capsule subovoid, black. Flowering and fruiting : February - October. $2n = 34$ (Shetty and Subramanyam 1971).

Distributed in Africa, Australia, Cambodia, China, India, Indonesia, Japan, Laos, Malaysia, Nepal, Oceania, Pakistan, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is located in Chittagong and Dhaka.

20. **L. micrantha** Benth. in DC., Prod. 10 : 387 (1846).

An annual, aquatic herb. Leaves linear-oblong to ovate. Corolla white or mauve to purple-red. Capsule flattened-spherical to broadly ellipsoid, light purplish-brown. Flowering and fruiting : August - November.

Distributed in India, Myanmar, Nepal and Pakistan. In Bangladesh, this species was recorded over 100 years back from Chittagong (Prain 1903).

21. **L. repens** (Benth.) Benth. in DC., Prod. 10 : 387 (1846). *Stemodia repens* Benth., Scroph. Ind. : 23 (1832); *Limnophila conferta* Benth. in DC., Prod. 10 : 387 (1846).

An aquatic annual herb. Leaves rhomboid-oblong to ovate-elliptic. Corolla white, dull violet-pink to pinkish-purple. Capsule ovoid-ellipsoid, blackish. Flowering and fruiting : Almost throughout the year.

Distributed in Australia, Bhutan, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, the Philippines, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is commonly found in Chittagong, Cox's Bazar, Dhaka and Sylhet.

22. **L. roxburghii** G. Don, Gen. Syst. 4 : 543 (1837). *Capraria gratissima* Roxb., Fl. Ind. 3 : 92 (1832).

An erect, stout, glabrous herb. Leaves elliptic-lanceolate. Corolla bluish purple with a yellow mouth. Capsule oblong to ellipsoid, glabrous. Flowering and fruiting : August - November. $2n = 36$ (Mehra and Vasudevan 1972).

Distributed throughout India. In Bangladesh this species was reported from Sylhet (Hooker 1884).

23. **L. rugosa** (Roth) Merr., Interpr. Herb. Amboin. : 466 (1917). *Herpestis rugosa* Roth, Nov. Pl. Sp. : 290 (1821).

A perennial herb. Leaves ovate-lanceolate to ovate-elliptic. Corolla purple-red to blue. Capsule pale brown, broadly ovoid. Flowering and fruiting : September - December.

Distributed in Bhutan, India, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, Pacific Islands, the Philippines, Thailand and Vietnam. In Bangladesh, this species occurs in Chittagong and Dinajpur.

24. **L. sessiliflora** (Vahl) Blume, Bijdr. : 749 (1826). *Hottonia sessiliflora* Vahl, Symb. Bot. 2 : 36 (1791).

A perennial aquatic herb. Upper leaves often pinnately divided, submerged leaves pinnatisect. Corolla pale mauvish-pink. Capsule globose, compressed. Flowering and fruiting: April - October.

Distributed in Bhutan, China, India, Indonesia, Japan, Korea, Malaysia, Myanmar, Nepal, the Philippines, Sri Lanka and Vietnam. In Bangladesh, it is available in Chittagong, Comilla, Dhaka, Dinajpur, Gopalganj, Mymensing, Rangamati and Sylhet.

25. **Lindenbergia indica** (L.) Vatke, Oesterr. B. Zeits. 25 : 10 (1875). *Dodartia indica* L., Sp. Pl. : 633 (1753); *Lindenbergia polyantha* Royle ex Benth., Scroph. Ind. : 22 (1835).

An erect annual herb. Leaves ovate. Corolla pubescent outside, upper lip shortly bifid with the divisions, lower lip with oblong. Capsule oblong. Flowering and fruiting : October - January. $2n = 28$ (Bhattacharrya 1967).

Distributed in Afghanistan, China, India, Malaysia, Myanmar and Nepal. In Bangladesh, this species is found all over the country

26. **L. muraria** (Roxb. ex D. Don) P. Bruehl in Journ. Dept. Bot. Cal. Uni. 2 (Bot.) : 27 (1920). *Stemodia muraria* Roxb. ex D. Don, Prod. Fl. Nepal : 89 (1825); *Lindenbergia urticaefolia* Lehm. in Link & Otto, Ic. Pl. Rar. : 95, t. 48 (1831).

A densely glandular-hairy, annual or perennial herb. Leaves ovate. Corolla 2-lipped, the upper lip pubescent inside, lower lip rounded. Capsule pubescent at the apex. Flowering and fruiting : September - February. $2n = 50$ (Mehra and Vasudevan 1972).

Distributed in Afghanistan, India, Nepal and Pakistan. In Bangladesh, this species is found in Chittagong, Dhaka, Natore and Rajshahi.

27. **L. philippensis** (Cham. & Schl.) Benth. in DC., Prodr. 10 : 377 (1846). *Stemodia philippensis* Cham. in Linnaea 3 : 5 (1828).

A perennial, stout, erect, much branched herb. Leaves ovate to ovate-lanceolate. Corolla yellow, outside with purple patches. Capsule narrowly ovoid. Flowering and fruiting: November - March.

Distributed in Cambodia, India, Laos, Myanmar, Philippines, Thailand and Vietnam. In Bangladesh, this species is found in Chittagong.

28. **Lindernia anagallis** (Burm. f.) Pennell, J. Arnold Arbor. 24 : 252 (1943). *Ruellia anagallis* Burm. f., Fl. Ind. : 135 (1768); *Gratiola cordifolia* Colsm., Prod. Desc. Grat. : 15 (1793); *Vandellia pedunculata* Benth., Scroph. Ind. : 37 (1835); *Lindernia cordifolia* (Colsm.) Merr., Enum. Philipp. Pl. 3 : 437 (1923).

A small annual herb. Leaves linear to linear lanceolate or broadly ovate. Corolla white, purple or light yellow. Capsule linear-cylindric. Flowering and fruiting : March - November.

Distributed in Australia, Bhutan, Cambodia, India, Japan, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam. In Bangladesh, this species is available in Comilla, Dhaka and Rangamati.

29. **L. antipoda** (L.) Alston in Trimen, Hand. Fl. Ceylon 6 : 214 (1931). *Ruellia antipoda* L., Sp. Pl. : 635 (1753); *Gratiola veronicifolia* Retz., Obs. Bot. 4 : 8 (1786); *Bonnaya veronicifolia* (Retz.) Spreng., Syst. Veg. 1 : 14 (1825).

A very small annual herb. Leaves variable in shape, oval oblong, obovate-oblong, oblanceolate or linear-elliptic. Corolla pale violet or violet-blue to pale blue or white, occasionally pale purple. Capsule linear-cylindric or subulate-cylindric. Flowering and fruiting : Almost throughout the year. $2n = 18$ (Philcox 1968).

Distributed in Australia, Bhutan, Cambodia, India, Japan, Laos, Malaysia, Myanmar, Nepal, the Philippines, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is common throughout the country.

30. **L. ciliata** (Colsm.) Pennell, Brittonia 2 : 182 (1936). *Gratiola ciliata* Colsm., Prod. Desc. Grat. : 14 (1793); *Bonnaya brachiata* Link & Otto, Ic. Pl. Select. : 25, t. 11 (1820); *Gratiola serrata* Roxb., Fl. Ind. 1 : 140 (1820).

A very small annual herb. Leaves oblong-lanceolate or oblong-oval. Corolla pale mauve to white. Capsule linear-cylindric. Flowering and fruiting : May - August. $2n = 18$ (Bhattacharyya 1967).

Distributed in Australia, Cambodia, China, India, Japan, Laos, Malaysia, Myanmar, the Philippines and Vietnam. In Bangladesh, this species is found almost throughout the country.

31. **L. crustacea** (L.) F. Muell., Census Austral. Pl. 1 : 97 (1882). *Capraria crustacea* L., Mant. : 87 (1767); *Torenia crustacea* (L.) Cham. & Schlecht., Linnaea 2 : 570 (1827); *Vandellia crustacea* (L.) Benth., Scroph. Ind. : 35 (1835).

A small annual herb. Leaves ovate to ovate-cordate. Corolla purplish-blue. Capsule ovoid, oblong or globose. Flowering and fruiting : April - December. $2n = 42$ (Darlington and Wylie 1955).

Distributed in Tropical and subtropical Asia from India eastward into Australasia and Polynesia, and also in tropical Africa and America. In Bangladesh, this species is found all over the country.

32. **L. elata** (Benth.) Wettstein in Engler & Prantl, Nat. Pflanzenfam. 4 : 79 (1891); *Vandellia elata* Benth., Scroph. Ind. : 36 (1835).

A small annual herb. Leaves elliptic to ovate. Corolla purple, purple-red or blue. Capsule ellipsoid, oblong or globose. Flowering and fruiting : August - December.

Distributed in Cambodia, China, Indonesia, Malaysia, Myanmar, Thailand and Vietnam. In Bangladesh, this species occurs in Chittagong.

33. **L. hyssopioides** (L.) Haines, Bot. Bihar & Orissa 4 : 635 (1922). *Gratiola hyssopioides* L., Mant. 2 : 174 (1771); *Ilysanthes hyssopioides* Benth. in DC., Prod. 10 : 419 (1846).

A small annual herb. Leaves oblong to oblong-lanceolate. Corolla white to pale blue. Capsule obliquely ovoid. Flowering and fruiting : August - May. $2n = 26$ (Darlington and Wylie 1955).

Distributed in China, India, Indonesia, Malaysia, Sri Lanka and Vietnam. In Bangladesh, this species is found in Chittagong, Dhaka, Narayanganj and Rangamati.

34. **L. micrantha** D. Don, Prodr. Fl. Nepal. : 85 (1825). *Vandellia angustifolia* Benth., Scroph. Ind. : 37 (1835).

An annual herb. Leaves linear to linear-lanceolate. Corolla pale pinkish-violet or white. Capsule linear-cylindric. Flowering and fruiting : May - November. $2n = 18$ (Bhattacharyya 1969).

Distributed in Cambodia, India, Indonesia, Japan, Korea, Laos, Myanmar, Nepal, Sri Lanka, Thailand and Vietnam. Hooker (1884) reported this species (under the name *Vandellia angustifolia* Benth.) from an area of the then Bengal that now lies in Bangladesh.

35. **L. mollis** (Benth.) Wettstein in Engler & Prantl, Nat. Pflanzenfam. 4(3b) : 79 (1895). *Vandellia mollis* Benth., Scroph. Ind. : 37 (1835); *Lindernia montana* Koord., Exkur. Java 3 : 178 (1912).

An annual marshy herb. Leaves ovate to ovate-lanceolate. Corolla purple to yellow-white. Capsule narrowly ovoid or ellipsoid. Flowering and fruiting : July - November.

Distributed in Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Pakistan and Vietnam. In Bangladesh, this species is found in Sylhet.

36. **L. multiflora** (Roxb.) Mukerjee, Journ. Ind. Bot. Soc. 24 : 131 (1945). *Torenia multiflora* Roxb., Fl. Ind. ed. 2, 3 : 96 (1832); *Vandellia multiflora* (Roxb.) G. Don, Gen. Syst. 4 : 549 (1838).

A small annual herb. Leaves oblong to elliptic. Corolla white to pale white. Capsule ovoid-ellipsoid. Flowering and fruiting : June - November. $2n = 20$ (Bhattacharyya 1967).

Distributed in Bhutan, India, Malaysia and Nepal. In Bangladesh, this species is found throughout the country.

37. **L. parviflora** (Roxb.) Haines, Bot. Bihar & Orissa 4 : 635 (1922). *Gratiola parviflora* Roxb., Pl. Corom. 3 : 3, t. 204 (1819); *Ilysanthes parviflora* (Roxb.) Benth. in DC., Prod. 10 : 419 (1846).

A small annual herb. Leaves linear-lanceolate to oblong-lanceolate. Corolla white or pinkish-white, with 2 yellow dots at the throat. Capsule oblong to globose. Flowering and fruiting : July - November. $2n = 26$ (Bhattacharyya 1969).

Distributed in India, Nepal and Sri Lanka. In Bangladesh, this species occurs in Chittagong and Dhaka.

38. **L. procumbens** (Krock.) Philcox in Taxon 14 : 30 (1965). *Anagalloides procumbens* Krock., Fl. Siles. 2 (1) : 398, t. 26 (1790); *Vandellia erecta* Benth., Scroph. Ind. : 36 (1835).

A small annual herb. Leaves sessile elliptic to oblong, somewhat rhomboid. Corolla white, pink to purple. Capsule globose to ovoid-globose. Flowering and fruiting : July - December. $2n = 30$ (Bhattacharyya 1969).

Distributed in Afghanistan, China, India, Indonesia, Japan, Kazakhstan, Laos, Nepal, Pakistan, Russia, South Europe, Tajikistan, Thailand and Vietnam. In Bangladesh, this species is available all over the country.

39. **L. pusilla** (Willd.) Boldingh, Zakfl. Java.: 165 (1916). *Gratiola pusilla* Willd., Sp. Pl. 1 : 105 (1797); *Vandellia scabra* Benth., Scroph. Ind.: 36 (1835); *Lindernia hirta* (Cham. & Schlecht.) Pennell, J. Arnold Arbor. 24 : 250 (1943).

A small annual herb. Leaves ovate to orbicular-ovate. Corolla white or pale mauve or pale blue. Capsule globose. Flowering and fruiting : April - January. $2n = 40$ (Bhattacharyya 1969).

Distributed in Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, the Philippines, Sri Lanka, Thailand and Vietnam. In Bangladesh, this species is common in Chittagong, Dhaka, Gazipur, Mymensingh, Narayanganj, Sylhet and Tangail.

40. **L. rotundifolia** (L.) Alston in Trimen, Hand. Fl. Ceylon 6 : 214 (1931). *Gratiola rotundifolia* L., Mant. : 274 (1767); *Ilysanthes rotundifolia* (L.) Benth. in DC., Prod. 10 : 420 (1846).

A small annual herb. Leaves broadly ovate, elliptic or rounded. Corolla bluish-white. Capsule ovoid-globose, glabrous. Flowering and fruiting : Almost throughout the year.

Distributed in India, Madagascar, Mascarene Islands, Mauritius and Sri Lanka. In Bangladesh, this species is found in Chittagong.

41. **L. ruellioides** (Colsm.) Pennell, Brittonia 2 : 182 (1936). *Gratiola ruellioides* Colsm., Prod. Desc. Grat. : 12 (1793); *Gratiola reptans* Roxb., Fl. Ind. 1 : 140 (1820); *Bonnaya reptans* (Roxb.) Spreng., Syst. Veg. 1 : 41 (1824).

An annual herb. Leaves elliptic-ovate, ovate-oblong or orbicular. Corolla pink or purplish. Capsule cylindrical. Flowering and fruiting : May - January.

Distributed in Cambodia, China, India, Indonesia, Japan, Malaysia, Myanmar, New Guinea, the Philippines and Vietnam. In Bangladesh, this species is found in Dhaka and Sylhet.

42. **L. tenuifolia** (Colsm.) Alston in Trimen, Hand. Fl. Ceylon 6 : 214 (1931). *Gratiola tenuifolia* Colsm., Prod. Desc. Grat. : 8 (1793); *Bonnaya tenuifolia* (Colsm.) Spreng., Syst. Veg. 1 : 42 (1825).

An annual herb. Leaves linear to linear-lanceolate. Corolla white, pale blue or bluish-violet. Capsule linear-cylindric. Flowering and fruiting : April - November. $2n = 18$ (Bhattacharyya 1969).

Distributed in Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, New Guinea, the Philippines and Vietnam. In Bangladesh, this species is available in Dhaka, Gazipur, Narayanganj and Narsingdi.

43. **L. viscosa** (Hornemann) Boldingh, Zakfl. Java : 165 (1916). *Gratiola viscosa* Hornem., Enum. Pl. Hort. Hafn. : 19 (1807); *Vandellia hirsuta* Buch.-Ham. ex Benth., Scroph. Ind. : 36 (1835); *Lindernia viscosa* (Reichb.) Alston in Trimen, Handb. Fl. Ceylon 6 : 213 (1931).

A small annual herb. Leaves ovate to suborbicular. Corolla white or pink with or without a yellow throat. Capsule globose. Flowering and fruiting : May - November. $2n = 20$ (Sarkar *et al.* 1980).

Distributed in Cambodia, China, India, Indonesia, Laos, Myanmar, New Guinea, the Philippines, Thailand and Vietnam. In Bangladesh, this plant is found in Dhaka, Khulna and Mymensingh.

44. **Majus pumillus** (Burm. f.) van Steenis, Nova Guinea 9 : 31 (1958). *Lobelia pumila* Burm. f., Fl. Ind. : 186, t. 60 (1768); *Lindernia japonica* Thunb., Fl. Jap. : 253 (1784); *Majus rugosus* Lour., Fl. Cochinch. : 358 (1790).

A small annual herb. Leaves oblong-oval to obovate-spathulate. Corolla pale blue on adaxial side, white on opposite side. Capsule obovoid. Flowering and fruiting : Almost throughout the year. $2n = 40$ (Verma and Dhillon 1967).

Distributed in China, India, Japan, Malaysia, Myanmar and Sri Lanka. In Bangladesh, this species is found in Comilla, Dhaka, Kustia, Mymensingh and Sylhet.

45. **Mecardonia procumbens** (Mill.) Small, Fl. Southeast U.S. : 1338 (1905). *Erinus procumbens* Mill., G. Dict. ed. 8, n. 6 (1768); *Herpestis chamaedryoides* H. B. & K., Nov. Gen. et Sp. 2 : 369 (1818); *Bacopa procumbens* (Mill.) Green. in Publ. Field Columb. Mus. B. 2 : 261 (1907).

An annual, prostrate, glabrous herb. Leaves elliptic to ovate. Corolla lemon yellow. Capsule oblong. Flowering and fruiting : February - June. $2n = 22$ (Fedorov 1969).

Distributed in India, Nepal and subtropical America. In Bangladesh, this species is found in Bogra and Rajshahi.

46. **Microcarpaea minima** (Koenig ex Retz.) Merr., Philipp. J. Sci. 7 : 100 (1912). *Paederota minima* Koenig ex Retz., Obs. Bot. 5 : 10 (1789); *Microcarpaea muscosa* R. Br., Prod. : 426 (1810).

A small annual herb. Leaves linear-oblong to linear-spathulate. Corolla pinkish-red. Capsule ovoid-ellipsoid. Flowering and fruiting : March - September.

Distributed in China, India, Indonesia, Japan, Korea, Malaysia, Oceania, Thailand and Vietnam. In Bangladesh, this species is found in Chittagong and Dhaka.

47. **Mimulus strictus** Benth., Scroph. Ind. : 28 (1835). *Mimulus gracilis* auct. non R. Br.: Hook. f., Fl. Brit. Ind. 4 : 259 (1884).

An erect glabrous herb. Leaves linear-oblong. Corolla white or pale blue. Capsule compressed, loculicidal. Flowering and fruiting : March - September. $2n = 16$ (Gill 1971).

Distributed in Australia, China, India, Nepal, Pakistan and tropical Africa. This species was recorded from a part of the then Bengal that now falls in Bangladesh (Hooker 1884).

48. **Russelia equisetiformis** Schlecht. & Cham., *Linnaea* 6 : 377 (1831). *Russelia juncea* Zucc., *Flora* 15 (2) : 99 (1832).

A weeping shrub. Leaves ovate, mostly reduced to linear scales. Corolla bright red. Capsule oval, brown. Flowering and fruiting : Almost throughout the year. $2n = 20$ (Verma and Dhillon 1967).

Cultivated throughout the tropics and readily naturalizing. In Bangladesh, this species is confined to Chittagong.

49. **Scoparia dulcis** L., *Sp. Pl.* : 116 (1753). *Gratiola micrantha* Nutt., *Amer. J. Sci.* 5 : 267 (1822); *Scoparia grandiflora* Nash, *Bull. Torrey Bot. Club* 23 : 105 (1896).

An erect, perennial herb. Leaves obovate-oblong to oblanceolate. Corolla white. Capsule subglobose, longer than calyx. Flowering and fruiting : Almost throughout the year. $2n = 20$ (Lewis *et al.* 1962).

Throughout the tropics and subtropics. In Bangladesh, this species is commonly found throughout the country.

50. **Sopubia stricta** Baker, *Jour. Linn. Soc.* 21 : 427 (1885).

An annual herb. Leaves linear. Corolla pale mauve to deep purple. Capsule loculicidally and septicidally dehiscent. Flowering and fruiting : September - December.

Distributed in Bhutan, India and Myanmar. In Bangladesh, this species was reported from a part of the then Bengal that is now under Bangladesh (Hooker 1884).

51. **Striga angustifolia** (D. Don) Saldanha, *Bull. Bot. Surv. India.* 5 : 70 (1963). *Buchnera angustifolia* D. Don, *Prod. Fl. Nepal* : 91 (1825); *Buchnera euphrasioides* Benth., *Scroph. Ind.* : 41 (1835).

A small annual herb. Leaves linear, setulose on both surfaces. Corolla white. Capsule ovoid, glabrous. Flowering and fruiting : August - May.

Distributed in Bhutan, China, India, Indonesia, Myanmar, Nepal, Sri Lanka and Vietnam. This species was recorded from the then East Bengal that now falls under the territory of Bangladesh (Prain 1903).

52. **S. asiatica** (L.) Kuntze, *Rev. Gen. Pl.* 1 : 466 (1891). *Buchnera asiatica* L., *Sp. Pl.* : 630 (1753); *Striga lutea* Lour., *Fl. Coch.* : 22 (1790); *Buchnera hirsuta* Benth., *Scroph. Ind.* : 41 (1835).

An annual or perennial herb. Leaves linear. Corolla yellowish. Capsule ovoid, dark brown. Flowering and fruiting : Almost throughout the year. $2n = 40$ (Kumar and Abraham 1941).

Distributed in Bhutan, China, India, Malaysia, Nepal, Pakistan, Sri Lanka, and tropical and South Africa. This species was recorded from an area of the then East Bengal, which is now under Bangladesh (Prain 1903).

53. **S. densiflora** (Benth.) Benth. in Hook., Comp. Bot. Mag. 1: 363 (1836). *Buchnera densiflora* Benth., Scroph. Ind.: 41 (1835).

A perennial hispid herb. Stem erect. Leaves linear, entire or sparingly serrate. Corolla white, sometimes bluish-white. Capsule oblong, enveloped in calyx. Flowering and fruiting: Almost throughout the year. $2n = 40$ (Bhattacharyya 1967).

Distributed in China, India and Taiwan. In Bangladesh, this species occurs in Rajshahi as a root parasite of sugarcane.

54. **Torenia diffusa** D. Don, Prodr. Fl. Nep. : 86 (1825). *Torenia vegans* Roxb., Fl. Ind. ed. 2, 3 : 96 (1832).

A sprawling or creeping, branched, annual herb. Leaves ovate or ovate-lanceolate. Corolla violet-purple. Capsule oblong-ellipsoid. Flowering and fruiting : May - September.

Distributed in Bhutan and India. In Bangladesh, this species is found in Chittagong.

55. **T. flava** Buch.-Ham. ex Benth., Scroph. Ind. : 38 (1835). *Torenia hokutensis* Hayata, Ic. Pl. Formos 9 : 80 (1920).

An erect herb, usually branched from base, villous. Leaves ovate to elliptic. Corolla yellow. Capsule narrowly ellipsoid. Flowering and fruiting : June - November.

Distributed in Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Thailand and Vietnam. In Bangladesh, this species occurs in Chittagong.

56. **T. fournieri** Lind. ex Tourn., Ill. Hort. 23 : 129 (1876).

A small herb. Leaves oblong-ovate to ovate. Corolla pale blue above, narrowed and orange-yellow at base. Capsule narrowly ovoid to ellipsoid. Flowering and fruiting : April -August. $2n = 18$ (Bhattacharyya 1967).

Distributed in Cambodia, China, India, Laos, Thailand and Vietnam. In Bangladesh, this species is cultivated as an ornamental plant all over the country because of its beautiful flower.

57. **T. violacea** (Azaola ex Blanco) Pennell, J. Arnold Arbor. 24 : 255 (1943). *Mimulus violaceus* Azaola ex Blanco, Fl. Phillip. ed. 2 : 357 (1845); *Torenia peduncularis* Benth. ex Hook. f., Fl. Brit. Ind. 4 : 276 (1884).

An annual herb. Leaves ovate to narrowly ovate. Corolla pale yellow or white. Fruit a capsule. Flowering and fruiting : August - November.

Distributed in Bhutan, Cambodia, China, India, Indonesia, Laos, Malaysia, the Philippines, Thailand and Vietnam. In Bangladesh, this species is confined to Sylhet.

58. **Verbascum chinense** (L.) Santapau, Fl. Purandhar. : 90 (1958). *Scrophularia chinensis* L., Mant. 2 : 250 (1771); *Celsia coromandeliana* Vahl, Symb. Bot. 3 : 79 (1794); *Verbascum coromandelianum* (Vahl) Kuntze, Rev. Gen. Pl. 1 : 468 (1891).

An annual or biennial herb. Radical leaves compound or pinnatisect, with several small leaflets or segments at base and a large oblong-oval acute terminal leaflet, cauline leaves oblong-ovate. Corolla yellow. Capsule ovoid. Flowering and fruiting : March - August. $2n = 80$ (Malik 1960).

Distributed in Afghanistan, Cambodia, China, India, Laos, Myanmar, Pakistan, Sri Lanka and Thailand. In Bangladesh, this species is found in Chittagong and Dhaka.

59. **Veronica undulata** Wall. ex Jack in Roxb., Fl. Ind. 1 : 147 (1820). *Veronica anagallis* Bong. in Mem. Acad. Petersb. Ser. 6 (2) : 157 (1833); *Veronica anagallis-aquatica* L. subsp. *undulata* (Wall.) Elenevsk. in Byull. Mosk. Obshch. Ispyt Prir., Biol. 82 (1) : 153 (1977).

A perennial herb. Leaves mostly elliptic to ovate, sometimes ovate-oblong or linear-lanceolate, rarely lanceolate. Corolla pale blue, pale purple, violet or white. Capsule subglobose. Flowering and fruiting : April - September. $2n = 28, 32$ (Bhattacharyya 1969).

Distributed in Afghanistan, China, India, Japan, Korea, Laos, Nepal, Pakistan, Thailand and Vietnam. In Bangladesh, this species is found in Dhaka, Kishoreganj, Kurigram, Mymensingh and Rajshahi.

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