

***IMPATIENS LAEVIGATA* WALL. AND *POLYPOGON MONSPELIENSIS* (L.)
DESCF.: TWO REDISCOVERY FOR BANGLADESH**

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Balsaminaceae (Touch-me-not Family) consisting of two genera and more than 900 species, distributed mainly in tropical and subtropical Africa, temperate Asia, Europe, and North America (Yuan *et al.* 2004). In Bangladesh, the family is represented by 2 genera and 7 species (Habib, 2008). In addition to that, Uddin (2018) and Rahman and Uddin (2018) added another two species (*viz. Impatiens glandulifera* Royle and *Impatiens laevigata* Wall.) from Bangladesh. Among them *I. glandulifera* was reported from Bandarban district based on a recent collection deposited at BNH (DACB67092). In contrast, *I. laevigata* was reported from Sylhet based on Wallich collection (Cat. Num. 4753 in 1820 AD) deposited at Kew (K000694815). Since the time of Wallich's collection, no other collectors (Uddin and Hassan 2004, Uddin and Hassan 2010, Arefin *et al.* 2011, Sabuj and Rahman 2011, Rahman *et al.* 2011, Uddin *et al.* 2011, Haque *et al.* 2018) has collected this species from present Bangladesh territory. After a lapse of 201 years, the first author recently collected one specimen and after a critical study identified it as *Impatiens laevigata* from Khadimnagar National Park under Sylhet district while exploring the flora of the park area.

On the other hand, Poaceae (Grass family) is one of the largest family in Angiosperms comprises c. 780 genus with 12000 species (Christenhusz and Byng 2016) and distributed throughout the world. They are mostly abundant in tropical and semi-arid temperate regions. In Bangladesh, the family is represented by 113 genera and 285 species (Ahmed *et al.* 2008). During a recent floristic exploration in Changdhupoil Union under Lalpur Upazila of Natore district, few specimens of one grass species were collected by the second author. After a critical examination and consultation the species was identified as *Polypogon monspeliensis* (L.) Desf. The species was reported by David Prain (1903) from North Bengal (consisting with present Rajshahi & Rangpur divisions of Bangladesh and Jalpaiguri and Malda divisions of India). Since then, neither it has been mentioned in any floristic works (*viz.* Ahmed *et al.* 2008, Uddin and Hassan 2018) nor collected by any author of Bangladesh.

Hence, these two species are being described here as rediscovery for Bangladesh. The specimens have been stored at BNH. Detailed description and images of the species have been given below.

Impatiens laevigata Wall. *ex* Hook.f. & Thomson in J. Proc. Linn. Soc., Bot. 4: 146. 1859 [Type: Sillet, 1820, Wall. Cat. Num. list no. 4753 (K 000694815)]; Hook.f., Fl. Brit. India 1: 473. 1875; Hajra *et al.*, Fl. India 4: 167. 1997. **(Figs 1-2)**

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Erect subshrubs, up to 1 m tall. Stem terete, rough, succulent, lower portion woody, greenish red to dull green, lenticellate, upper portion with minute white dots, glabrous. Leaves simple, alternate to spirally arranged, crowded together at apex of stem, elliptic, oblanceolate to narrowly oblanceolate, $7-18 \times 4-6$ cm, base attenuate to cuneate, apex acute to acuminate, mucronate or rarely emarginate, margin shallowly serrate to shallowly crenate with minute teeth at sinus, pale to dark green above, pale green beneath with one pair of distinct short stalked clavate glands on the petiole; lateral nerves 5-8 pairs, raised on lower side; petiole 3-6 cm long. Inflorescence axillary, 1-4 flowered umbel; peduncles slender, c. 1 cm long; bracts 1-2, green, ovate, $0.4-0.5 \times 0.3-0.4$ cm, two lateral teeth on both sides, acute. Flower yellowish tinged with pink. Pedicel 1.5-2.0 cm long. Sepals 4, outer two orbicular, $1.1-1.2 \times 0.3-0.4$ cm, green yellow, 5-nerved, minutely 2-4-toothed, obtuse; inner two falcate, $1.4-1.5 \times 0.3-0.4$ cm, pale yellow. Upper petal reniform, $1.5-1.6 \times 2.2-2.3$ cm, yellow, base truncate, cuspidate, 1-keeled; lateral united petal pinkish yellow, 2-lobed; basal lobe suborbicular, 1.1-1.2 cm diameter; distal lobes rectangular c. 1.5×0.7 cm, streaked with red lines, slightly emarginate or 2-lobed, abaxial auricle reflexed; corolla tube funnels shaped, mouth 1.3-1.4 cm wide, red inside, base narrowed down into an incurved spur, 1.6-2.2 cm long, yellow. Stamens 5; anthers obtuse joined in a ring around ovary tip, $2.2-3.8 \times 1.8-2.0$ mm; filaments narrow at base, broader at apex, 6-7 mm long, free at middle; pollens elliptical, c. 183×100 μ m, surface verrucose. Ovary superior, cylindrical, c. 5.5×1.5 mm, 4-loculed, placentation axile; style short, c. 0.7 mm long. Capsules linear, c. 3×0.6 cm, green, ridged. *Flowering & fruiting*: September-December.

Ecology: Shady and wet areas near water body (*chhara*).

Distribution: India, Nepal, Myanmar and Malaysia.



Fig. 1: Field image of *Impatiens laevigata* Wall.

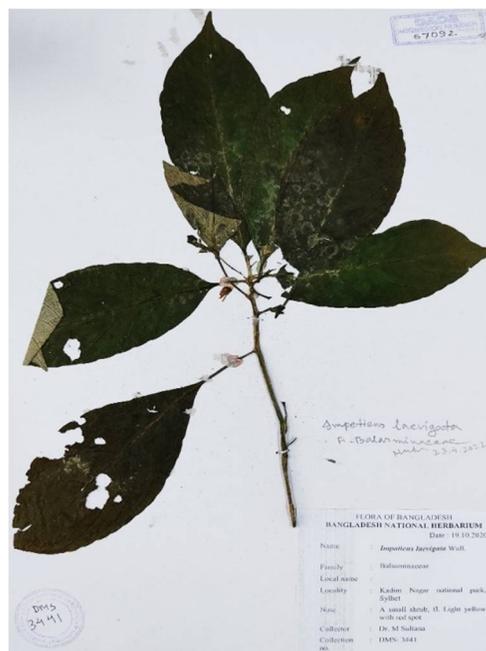


Fig. 2: Herbarium image of *Impatiens laevigata* Wall.

Specimen examined: Sylhet: Khadimnagar National Park, 17 x 2020, M. Sultana and M.S. Rahman, DMS 3228 (DACB 67094 & 67092); 23 ix 2021, M. Sultana et al., DMS 4085 (DACB 67093).

Polypogon monspeliensis (L.) Desf., Fl. Atlant. 1: 67. 1798. Boiss., Fl. Or. 5: 520. 1884; Hook.f., Fl. Brit. Ind. 7: 245. 1896; Blatter & Mc Cann, Bombay Grasses 207. 1935; Bor, Fl. Assam 5: 154. 1940; Sultan & Stewart, Grasses W. Pak. 2:315. 1959; Bor, Grasses Burma Ceyl. Ind. Pak. 403. 1960; Prain, Beng. Pl. 2: 913. 1903. *Alopecurus monspeliensis* L., Sp. Pl. 1: 61. 1753. *Agrostis alopecuroides* Lam., Tabl. Encycl. 1: n. 812. 1791. *Agrostis crinite* (Schreb.) Moench, Methodus 178. 1794. *Agrostis panicea* (L.) Aiton., Hort. Kew. 1: 94. 1789. *Agrostis tenuissima* Vest ex Steud., Nomencl. Bot. ed. 2, 1: 42. 1840. *Agrostis triaristata* Knapp, Gram. Brit. 23. 1804. *Alopecurus aristatus* Gouan, Hortus Monsp. 37. 1762. *Alopecurus aristatus* var. *monspeliensis* (L.) Huds., Fl. Angl. ed. 2: 28. 1778. *Alopecurus monspeliensis* L., Sp. Pl. 61. 1753. *Alopecurus paniceus* (L.) L., Sp. Pl. (ed. 2) 1: 90. 1762. *Milium paniceum* (L.) Host, Fl. Austriaca 1: 94. 1827. *Panicum aristatum* Cav. ex Willk. & Lange, Prodr. Fl. Hispan. 1: 57. 1861. *Phalaris crinita* Forssk., Fl. Aegypt.-Arab. 19. 1775. *Phalaris cristata* Forssk., Fl. Aegypt.-Arab. 17. 1775. *Phleum crinitum* Schreb., Besch. Gräs. 1: 151. 1769. *Phleum crinitum* Roxb., Fl. Ind., ed. 1820, 1: 316. 1820. *Phleum monspeliense* (L.) Koeler, Descr. Gramin. 57. 1802. *Polypogon alopecurus* Bubani, Fl. Pyren. 4: 279. 1901. *Polypogon crinitus* (Schreb.) Nutt., Gen. N. Amer. Pl. 1: 50. 1818. *Polypogon flavescens* J.Presl, Reliq. Haenk. 1: 235. 1830. *Polypogon intermedius* Guss. ex Nyman, Consp. Fl. Eur. 803. 1882. *Polypogon maritimus* var. *paniceus* (L.) DC., Fl. Franç. ed. 3, 3: 5. 1805. *Polypogon melillensis* Sennen, Diagn. Nouv. 168. 1936. *Polypogon monspeliensis* f. *argentinus* Hack., Anales Mus. Nac. Buenos Aires 11: 108. 1904. *Polypogon monspeliensis* var. *capensis* Steud., Flora 12: 467. 1829. *Polypogon monspeliensis* var. *indicus* Bhattacharya & S.K. Jain, Bull. Bot. Surv. India 25: 208. 1985. *Polypogon monspeliensis* f. *nana* Stuck., Anales Mus. Nac. Hist. Nat. Buenos Aires 21: 95. 1911. *Polypogon nepalensis* Nees ex Trin., Mém. Acad. Imp. Sci. Saint-Pétersbourg, Sér. 6, Sci. Math., Seconde Pt. Sci. Nat. 6(4): 225. 1845. *Polypogon paniceus* (L.) Lag., Gen. Sp. Pl. 3. 1816. *Polypogon polysetus* Steud., Flora 12: 467. 1829. *Polypogon zeylanicus* Nees ex Steud., Syn. Pl. Glumac. 1: 183. 1854. *Santia monspeliensis* (L.) Parl., Fl. Palerm. 1: 73. 1845. *Santia plumosa* Savi, Mem. Mat. Fis. Soc. Ital. 8: 479. 1798. *Vilfa alopecuroides* (Lam.) P.Beauv., Ess. Agrostogr. 16. 1812. **(Fig. 3a-c)**

English name: Annual Beard Grass, Rabbit Foot Grass.

Annual grass. Culms solitary or caespitose, erect or geniculately ascending; 5-70 cm tall. Sheaths glabrous, the uppermost sheaths sometimes inflated; ligule eciliate, membranous, 4-12 mm long. Leaf-blades linear, flat, ascending, 5-15 cm × 4-8 mm, adaxial surface scaberulous, abaxial surface smooth, apex acute. Inflorescence spiciform panicle, oblong or ovate, continuous or interrupted, 5-12 × 1.0-3.5 cm, pale green, dense, sometimes lobed, thickly clothed in yellow bristles; rachis scabrous. Pedicels linear, 0-0.5 mm long, scabrous. Spikelets solitary, narrowly oblong, laterally compressed, 1.5-2.5 mm long, falling entire; callus square, base obtuse. Glumes narrowly obovate-oblong, 1-2.7 mm long, puberulous, membranous, 1-keeled, margins ciliate, apex emarginate, apex of lobes slightly acute, awned from the sinus; awn 4-10 mm long, yellowish. Lemma oblong, 0.5-1.5 mm long, glabrous, hyaline, without keel, 5-nerved, veins obscure, apex dentate, 4-fid, muticous or 1-awned, 0.5-4.0 mm long. Palea as long as lemma, hyaline, 2-nerved. Stamens 3, 0.3-0.5 mm long. Caryopsis obovate-oblong, 1.0-1.2 mm long. *Chromosome number* 2n=56, (Gupta et al., 2017). *Flowering and fruiting*: February-April.

Ecology: Temporary pools, marshes, flooded depressions, inundated plains, river estuaries, rice paddies, along stream edges, ditches and humid habitats and as weed in many type of winter crops.



Fig. 1: *Polypogon monspeliensis* (L.) Desf. a) Panicle, b) spikelet and c) habitat.

Distribution: China, India, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Russia, Tajikistan, Turkmenistan, Uzbekistan; N and S Africa, SW Asia (Caucasus), Europe.

Specimens examined: Natore: Lalpur, Chongdhupoil, Dononjoypara, 27 ii 2019, M.T. Hasan, MTH 68 (Abdulpur Govt. College, Natore); Dononjoypara, 25 ii 2020, M.T. Hasan, MTH 609 (DACB); Milkipara, near railway track, 29 ii 2020, M.T. Hasan, MTH 611 (Abdulpur Govt. College, Natore); Purba Gosaipur, 05 iii 2020, M.T. Hasan, MTH 612 (Abdulpur Govt. College, Natore).

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