THAI FOR. BULL. (BOT.) 40: 130–133. 2012.

Tripogon purpurascens (Chloridoideae: Poaceae): a native Thai grass recently recognized

ATCHARA TEERAWATANANON[1, 2, 3] & SARAWOOD SUNGKAEW[2, 3, 4] *

ABSTRACT. *Tripogon purpurascens* Duthie is reported here as a new record for Thailand. The species is described and illustrated. A key to *Tripogon* occurring in Thailand is provided.

KEY WORDS: conservation status, new record, taxonomy, Thailand.

INTRODUCTION

Tripogon Roem. & Schult. is a genus of approximately 40 species, most of which are native to the Old World tropics, especially Asia and Africa (Phillips & Chen, 2002, Clayton et al., 2006 onwards, Newmaster et al., 2008). The genus can be described as a natural group based mainly on the presence of a single terminal raceme and by having lateral nerves of the glabrous lemmas (Phillips & Launert, 1971; Clayton & Renvoize, 1986; Veldkamp & Phillips, 2003; Newmaster et al., 2008).

In Asia, the major taxonomic studies of *Tripogon* were prepared by Bor (1960), Phillips & Chen (2002), Veldkamp & Phillips (2003) and Newmaster et al. (2008), in which four species were recognised for Thailand. During preparation of the taxonomic treatment of Poaceae for the Flora of Thailand, specimens of *Tripogon purpurascens* Duthie, which is new to Thailand, were collected from Nong Bau Lam Phu Province (north-eastern Thailand), constituting a new record for the country.

KEY TO THAI *TRIPOGON* SPECIES

1. Central awn as long as or longer than the lemma body, lateral veins extended **T. trifidus**
1. Central awn shorter than the lemma body, lateral veins not extended
  2. Lemma midvein extended into a small point, 0.2−0.5 mm long **T. purpurascens**
  2. Lemma midvein extended into an awn, 1−2.5 mm long
    3. Leaf sheath glabrous on the shoulders. Lower glume 4−5 mm long **T. siamensis**
    3. Leaf sheath with dense woolly hairs on the shoulders. Lower glume 1.7−2.5 mm long
      4. Spikelet 12−15 mm long (without the awn). Upper glume c. 5 mm long. Leaf blade flat, c. 3 mm wide **T. larsenii**
      4. Spikelet 4.5−15 mm long (without the awn). Upper glume 3−3.8 mm long. Leaf blade involute, 0.5−0.8 mm wide **T. thorelii**

Tripogon purpurascens Duthie, Ann. Hort. Bot. Calc. 9: 74, t. 92. 1901; Bor, Grasses Burma, Ceyl., Ind. & Pakist.: 522. 1960; Noltie, Fl. Bhutan 3: 655. figs. 32/k-m. 2000; S.M. Phillips & S.L. Shen, Fl. China 57(4): 913. 2002. Type: India, Uttarakhand, Tehri Garhwal, Tons Valley, alt. 4,000 ft, 5 May 1900, Duthie 23532 (holotype **K!** (K245023)).— *Festuca filiformis* Nees ex Steud. Syn. Pl. Glumac. 1: 302. 1854. non Pourr. 1788.— *Tripogon abyssinicus* auct. non. Nees. ex Steud., Hook.f., Fl. Brit. India 7: 287. 1896.— *T. jacquemontii* var. *submuticus* Hook.f., Fl. Brit. India 7: 287. 1897.

[1] Natural History Museum, National Science Museum, Technopolis, Pathum Thani 12120, Thailand.

[2] Center for Advanced Studies in Tropical Natural Resources, Kasetsart University.

[3] Kasetsart University Center of excellence on bamboos, Kasetsart University.

[4] Department of Forest Biology, Faculty of Forestry, Kasetsart University, Bangkok 10900, Thailand.

* Corresponding author

Type: India, Simla, alt. 7,000−8,000 ft, Aug. 1889, *Duthie 10149* (holotype **K!** (K245021)).— *T. submuticus* Hack. ex Hook.f., Fl. Brit. India 7: 287. 1896. *nom. invaidl. pro syn. T. jacquemontii* var. *submuticus*.— *T. hookerianus* Bor, Grasses Burma, Ceyl., Ind. & Pakist.: 522. 1960. Type: India, Hazara, alt. 8,000 ft, 24 July 1896 (lectotype **K!** (K245025), designated here).

Perennial, caespitose. *Culms* 5−20 (−35) cm tall, erect; sheaths 1−2 cm long, margins scarious, basal sheaths becoming fibrous; ligule a ciliate membrane. *Leaves*: blades filiform, 3−15 × 0.3−1 cm, margins scabrous, upper surface scabrous-hispidulous, lower surface glabrous. *Racemes* solitary, (2−) 4−7 (−17) cm long; rhachis glabrous. *Spikelet*: laterally compressed, oblong, 4−7 × 1 mm. *Florets* (2−) 4−6 (−8), imbricate; rhachilla c. 0.4 mm long; lower glume narrowly lanceolate, 1.5−2.5 (−3) mm long, acuminate, 1-nerved, scabrous on nerve. *Glumes*: upper glume lanceolate, (2.2−) 3−4.5 mm long, margins scarious, apex acute to acuminate, 1-nerved; lemma oblong-lanceolate, 2−4 mm long, bifid, 3-nerved, median nerve reaching the upper margin and exerted as a small point, 0.2−0.5 mm long, lateral nerves not extended; palea slightly shorter than lemma, apex obtuse, keels narrowly winged or wingless, ciliolate; callus hairy, hairs 0.3−1 mm long. *Stamens* 3, anthers 0.6−2 mm long; stigmas c. 4 mm long. *Caryopsis* oblong, c. 1 mm long.

Thailand.— NORTH-EASTERN: Nong Bua Lam Phu [Muang, 8 July 2001, *Teerawatananon & Sungkaew 2001-290* (**AAU**, Thailand Natural History Museum)].

India.— Himachal Pradesh: Simla, *Duthie 10149* (**K**: K245021); Simla, Kotgurh, *Thomson s.n.* (**K**: K245022); Juansar, Tonse Valley near Thadyar, *Duthie 19784* (**K**: K245024); Jammu and Kashmir: Pahlgan, Lidder, *Stewart 21625* (**K**).

Pakistan.— Northwest Frontier Province: Hazara Kagan Valley, *Inayat 20364* (**K**: K245025); l.c., *Inayat 20364a* (**K**: K245026); Punjab: Rawalpindi, *Stewart 29220* (**K**).

Nepal.— Micha, near Jumla, *Polunin, Sykes & Williams 4486* (**K**).

Distribution.— Saudi Arabia, Yemen, Afghanistan, Pakistan, India (type), Nepal, Bhutan, China.

Ecology.— Open areas on sandstone rock formations.

Notes.— *Tripogon purpurascens* is confined to a type of habitat which is commonly found in the north-eastern Thailand. The species is distributed from the Arabian Peninsula to Asia, especially in arid places and in open stony or rocky areas at moderate altitudes in the Himalaya from India and China to Pakistan (Phillips & Chen, 2002). The occurrence of this species in Thailand is thus an extension of its geographical range. The discontinuous geographical range of *T. hookerianus* from Myanmar and Indo-China may simply be due to insufficient collecting.

Tripogon hookerianus was published by Bor (1960) based on *Wingate s.n.* (**K**) and *Inayat 20364* (**K**). We designate *Inayat 20364* here as the lectotype.

ACKNOWLEDGEMENTS

The authors are grateful to the curators and the staff of K and TCD for the use of specimens. Thanks to Drs Simon Laegaard and Sylvia M. Phillips for helpful suggestions.

REFERENCES

Bor, N.L. (1960). The Grasses of Burma, Ceylon, India and Pakistan (Excluding Bambuseae),vol. 1. International Series of Monographs on Pure and Applied Biology, Division: Botany. Pergamon Press, Oxford, London.

Clayton, W.D. & Renvoize, S.A. (1986). Genera Graminum: grasses of the world. – Kew Bulletin Additional Series 13: 1–389.

Clayton, W.D, Vorontsova, M.S, Harman, K.T & Williamson. H. (2006 onwards). GrassBase: The Online World Grass Flora. http://www.kew.org/data/grasses¬db.html. [accessed 2 August 2011; 15:30 GMT].

Holmgren, P.K. & Holmgren, N.H. (1998 [continuously updated]). Index Herbariorum: a global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. Published on the internet http://sweetgum.nybg.org/ih/. [accessed 2 August 2011; 08:00 GMT].

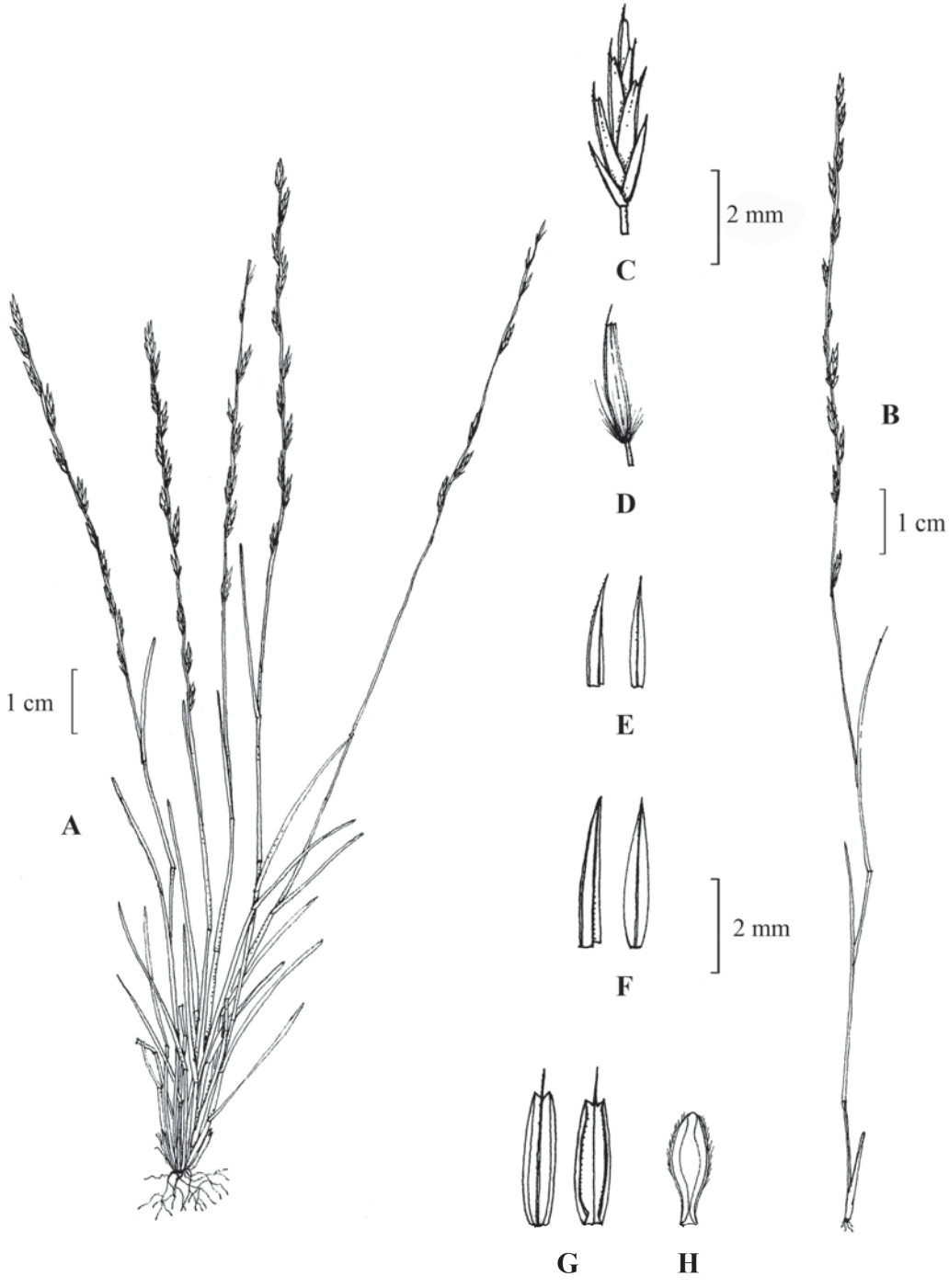

Figure 1. *Tripogon purpurascens*: A, B. habit; C. spikelet; D. floret; E. lower glumes; F. upper glumes; G. lemmas; H. palea. Drawn by A. Teerawatananon from *A. Teerawatananon & S. Sungkaew 2001-290*.

McNeill, J., Barrie, F.R., Burdet, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Wiersema, J.H. & Turland, N.J. (2006). International Code of Botanical Nomenclature (Vienna Code) adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005. A. R. G. Gantner Verlag, Liechtenstein.

Newmaster, S.G., Velusamy, B., Murugesan, M. & Ragupathy, S. (2008). *Tripogon cope*, a new species of *Tripogon* (Poaceae: Chloridoideae) in India with a morphometric analysis and synopsis of *Tripogon* in India. Systematic Botany. 33: 695–701.

Phillips, S.M. & Chen, S.L. (2002). The genus *Tripogon* (Poaceae) in China. Kew Bulletin 57: 911–924.

Phillips, S.M. & Launert, E. (1971). A revision of the African species of *Tripogon* Roem. & Schult. Kew Bulletin 25: 301–322.