



Updated checklist of the genus *Eragrostis* Wolf (Poaceae) in Eastern Ghats, India

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ABSTRACT

An updated checklist of the genus *Eragrostis* Wolf (Poaceae) occurring in Eastern Ghats of India based on field collections, study of herbarium specimens and literature survey is presented in this paper. A total of 23 species are recognized under the genus, of which *Eragrostis deccanensis* Bor is endemic to Peninsular India and distribution of *Eragrostis nairii* Kalidass is restricted to Odisha state.

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1. Introduction

Eragrostis Wolf, a large genus of Poaceae tribe Eragrostideae, is comprised of 406 species (POWO, 2019) and distributed mainly in tropical and subtropical regions of the world. (Chaisongkram *et al.*, 2013). It is commonly known as 'love grass' and characterized by its paleas with unwinged keels, lemmas with obtuse or acute apex, rachilla internodes not bearing tufts of hairs near the base of each floret and stamens 2 or 3. Karthikeyan *et al.* (1989) recognized 36 species from India, but thereafter, many new taxa viz., *Eragrostis amabilis* var. *peramangalamensis* (Umamaheswari & Daniel, 1998), *E. brownie* (Thoiba & Pradeep, 2018), *E. burmanica* (Sridevi & Binoj Kumar, 2001), *E. collinensis* (Vivek *et al.*, 2013), *E. dayanandanii* (Ravichandran *et al.*, 1996) *E. henryi* (Vivek *et al.*, 2013), *Eragrostis jainii* (Vivek *et al.*, 2013) *E. kiwuensis* (Matthew, 1999), *E. minor* var. *rajasthanensis* (Vivek *et al.*, 2016), *E. nairii* (Kalidass, 2015), *E. nilgiriensis* (Vivek *et al.*, 2013), *E. paniciformis* (Veldkamp *et al.*, 2017), *E. schweimurthii* (Matthew, 1999) *E. subsecunda* (Sreekumar & Nair, 1991) and *E. tremula* var. *gajanandii* (Singh *et al.*, 2011) have been described from India.

As part of ongoing studies on the grasses of Eastern Ghats, the authors have collected many species of *Eragrostis* from Odisha and Tamil Nadu parts of Eastern Ghats. The specimens were identified in consultation with pertinent literature (Bor, 1960; Rao *et al.*, 2017; Vivek *et al.*, 2013d, 2015). Besides the field collections by the authors, specimens deposited in CAL, MH and RRPC were also examined. In addition, the published papers on grasses such as Panda & Choudhury (1984), Jha (1995), Mondal & Mukherjee (1991), Panda & Das (1995), Panda *et al.* (1994), Subbiah *et al.* (2012) were referred for preparation of the checklist. A total of 23 species of *Eragrostis* are known to occur in Eastern Ghats and are enumerated below.

2. Systematic Enumeration

- Eragrostis amabilis* (L.) Wight & Arn.** in R. Wight, Cat. Indian Pl. 2: 105. 1834.

Distribution: INDIA (Andaman, Andhra Pradesh, Bihar, Daman & Diu, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh & West Bengal) and OLD-WORLD TROPICS.

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2. *Eragrostis aspera* (Jacq.) Nees, Fl. Afr. Austral. III: 408.1841.
Distribution: INDIA (Andhra Pradesh, Bihar, Karnataka, Maharashtra, Odisha, Rajasthan & Tamil Nadu) and AFRICA.
3. *Eragrostis atrovirens* (Desf.) Trin. ex Steud., Nom. Bot., ed. 2, 1: 562. 1840.
Distribution: INDIA (Andaman, Andhra Pradesh, Bihar, Daman & Diu, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh & West Bengal), AFRICA, JAPAN, MARIANAS, MALESIA, SRI LANKA and TAIWAN.
Note: The species is characterized by its persistent and stout rhachilla with winged, ribbed internodes, florets falling entire upwards and paleas with relatively short entirely scaberulous keels.
4. *Eragrostis cilianensis* (All.) Vignolo ex Janch., Mitt. Naturwiss. Vereins Univ. Wien 5(9): 110. 1907.
Distribution: INDIA (Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu & Uttar Pradesh) and OLD WORLD.
5. *Eragrostis ciliaris* (L.) R.Br. in Tuckey, Narr. Exped. Zaire: 478. 1818.
Distribution: INDIA (Andaman, Andhra Pradesh, Bihar, Daman & Diu, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh & West Bengal) and TROPICS & SUBTROPICS.
6. *Eragrostis ciliata* (Roxb.) Nees in C.F.P.von Martius, Fl. Bras. Enum. Pl. 2: 512. 1829.
Distribution: INDIA (Andhra Pradesh, Bihar, Gujarat, Odisha & Tamil Nadu), MYANMAR to INDONESIA.
7. *Eragrostis coarctata* Stapf in Hook.f., Fl. Brit. India 7(22): 313. 1896.
Distribution: INDIA (Andhra Pradesh, Bihar, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh & West Bengal), BANGLADESH, NEPAL and MYANMAR.
8. *Eragrostis deccanensis* Bor, Grasses Burma, Ceylon, India & Pakistan: 507. 1960. *Eragrostis phleoides* Stapf in Hook.f., Fl. Brit. India 7(pt. 22): 313. 1896, *nom. illeg.*, non Stapf 1896. *Steirachne deccanensis* (Bor) Kalidass in J. Biol. Rec. 3(1): 190. 2018.
Distribution: INDIA (Andhra Pradesh, Karnataka, Kerala, Odisha and Tamil Nadu), Endemic.
9. *Eragrostis gangetica* Steud., Syn. Pl. Glumac. 1:266. 1854. *E. dayanandanii* Ravich., Krishnan & N. P. Samson in Kew Bull. 51(1): 155. 1996.
Distribution: INDIA (Andaman, Andhra Pradesh, Bihar, Daman & Diu, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh & West Bengal), AFRICA and ASIA.
Note: *Eragrostis. dayanandanii* was treated as an endemic grass of Tamil Nadu by Clayton *et al.* (2006) and Kabeer & Nair (2009). Later Vivek *et al.* (2015) merged this species under *E. gangetica*.
10. *Eragrostis japonica* Trin. in Mém. Acad. Imp. Sci. St.-Pétersbourg, Sér. 6, Sci. Math. 1: 405. 1831. *Eragrostis diarrhena* Steud., Syn. Pl. Glumac. 1: 266. 1854. *Eragrostis namaquensis* Nees ex Schrad. Linnaea 12(4): 452. 1838.
Distribution: INDIA (Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh & West Bengal), AFRICA, ASIA and AUSTRALIA.
Note: It is a highly variable species. Earlier authors distinguished *E. diarrhena* from *E. japonica* by the dense panicles and oblong to lanceolate spikelets.
11. *Eragrostis macilenta* (A.Rich.) Steud., Syn. Pl. Glumac. 1: 268. 1854.
Distribution: INDIA (Andhra Pradesh & Tamil Nadu), AFRICA and MADAGASCAR.
12. *Eragrostis minor* Host, Fl. Austriaca 1: 135. 1827. *Eragrostis poaeoides* P. Beauv., Ess. Agrost. 162. 1812. *Eragrostis pappiana* (Chiov.) Chiov. Ann. Bot. (Rome) 8 (3): 371. 1908
Distribution: INDIA (Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, & Tamil Nadu) and OLD WORLD TROPICS.
Note: This species can be easily recognized in the field by its greenish-yellow spikelets, loosely imbricate florets and 3 stamens.
13. *Eragrostis nigra* Steud., Syn. Pl. Glumac. 1: 267.1854.
Distribution: INDIA (Andhra Pradesh, Assam, Bihar, Himachal Pradesh, JammuKashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh & West Bengal), CHINA, INDO-CHINA, INDONESIA and SRI LANKA.
Note: It is very closely resembles *E. atrovirens* but can be easily distinguished from by its spikelets olive green

to blackish (vs. spikelets laden gray in *E. atrovirens*) and panicle branches divided near base (vs. panicle branches not divided near base in *E. atrovirens*).

14. *Eragrostis nairii* Kalidass in J. Econ. Taxon. Bot. 39(1):126. 2015.

Distribution: INDIA (Odisha), Endemic.

Note: Reported occurrence of this neo-endemic species from Nilgiri by Pavithra *et al.* (2017) need confirmation.

15. *Eragrostis nutans* (Retz.) Nees ex Steud., Nom. Bot., ed. 2, 1: 563.1840.

Distribution: INDIA (Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh & West Bengal), CHINA, MALESIA, SE ASIA and SRI LANKA.

Note: *E. nutans* is allied to *E. atrovirens* but differs by its globose (not ellipsoid) grain, narrower and denser panicles, persistent paleas and smaller spikelets.

16. *Eragrostis papposa* (Roem. & Schult.) Steud., Nom. Bot., ed. 2, 1: 564.1840.

Distribution: INDIA (Andhra Pradesh & Punjab), AFRICA, PAKISTAN and SPAIN.

17. *Eragrostis pilosa* (L.) P.Beauv., Ess. Agrost. 71. 1812.

Distribution: INDIA (Andhra Pradesh, Arunachal Pradesh, Bihar, Goa, Gujarat, Jammu-Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu & Uttar Pradesh) and OLD WORLD TROPICS.

18. *Eragrostis riparia* (Willd.) Nees in C.F.P.von Martius, Fl. Bras. Enum. Pl. 2: 512. 1829.

Distribution: INDIA (Andhra Pradesh, Bihar, Karnataka, Kerala, Maharashtra, Odisha, Sikkim, Tamil Nadu, Uttar Pradesh & West Bengal), MYANMAR, NEW GUINEA, PHILIPPINES and SRI LANKA.

19. *Eragrostis tenella* (L.) P.Beauv. ex Roem. & Schult. Syst. Veg., ed. 15 bis 2: 576. 1817. *Eragrostis amabilis* var. *insularis* (C.E.Hubb.) P. Umam. & P. Daniel in J. Econ. Taxon. Bot. 22(1): 216. 1998. *Eragrostis amabilis* var. *peramangalamensis* P.Umam. & P. Daniel in J. Econ. Taxon. Bot. 22(1): 216. 1998.

Distribution: INDIA (Andhra Pradesh, Karnataka, Kerala, Maharashtra & Tamil Nadu), MADAGASCAR, MASCARENES and SRI LANKA.

Note: Veldkamp (2002) while revising the genus *Eragrostis* for Malesia, merged *E. tenella* and *E. viscosa* under *E. amabilis*.

20. *Eragrostis tenuifolia* (A. Rich.) Hochst. ex Steud., Syn. Pl. Glumac. 1: 268. 1854.

Distribution: INDIA (Andhra Pradesh, Bihar, Daman & Diu, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu & Uttar Pradesh), AFRICA, AUSTRALIA and NEW GUINEA.

Note: It is often confused with *E. pilosa* due to the presence of open panicle and long pilose hairs in the axils of its branches but it is easily distinguished from the former by the nerveless glume and jagged outline of the spikelets.

21. *Eragrostis tremula* Hochst. ex Steud., Syn. Pl. Glumac. 1: 269. 1854. *E. tremula* var. *gajanandii* Singh, Bala Purohit, Indian For. 137(6): 797. 2011.

Distribution: INDIA (Andhra Pradesh, Bihar, Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh & West Bengal), AFRICA, AFGHANISTAN and MYANMAR.

22. *Eragrostis uniolooides* (Retz.) Nees ex Steud., Syn. Pl. Glumac. 1: 264. 1854.

Distribution: INDIA (Andaman, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh & West Bengal), AFRICA, ASIA, MYANMAR, NEPAL and SRI LANKA.

Note: Pinkish spikelets and the granular lemmas are the notable feature to identify the species in the field.

23. *Eragrostis viscosa* (Retz.) Trin. in Men., Acad. Sci. Petersb. Ser. 6.1:397. 1830.

Distribution: INDIA (Andhra Pradesh, Bihar, Daman & Diu, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh & West Bengal), AFRICA, MALESIA, MYANMAR, PHILIPPINES and SRI LANKA.

Note: Except the viscid nature of inflorescence, culm nodes and leaf sheath axils, it is practically impossible to segregate the species from *E. amabilis*.

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