



An overview of subtribes Boivinellinae Pilg. and Anthephorinae Benth. in India

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Abstract

Recent phylogenetic studies have led to division of the family Poaceae into 768 genera, 12 subfamilies, 7 supertribes, 52 tribes, 5 supersubtribes and 90 subtribes. The subtribes Boivinellinae Pilg. and Anthephorinae Benth. belong to the subfamily Panicoideae. A list of all the species belonging to the two subtribes along with the distribution has been provided.

Keywords: Boivinellinae, Anthephorinae, Poaceae, Panicoideae, India.

Introduction

Poaceae (*nom. alt.* Graminae) forms one of the fourth largest family of flowering plants following Asteraceae, Orchidaceae and Fabaceae and is the most widely distributed family all over the world. It comprises about 10,550 species (Mabberley, 2017) and 793 genera (Watson & Dallwitz, 1994). The family Poaceae can be identified as annual or perennial herbs or tall woody bamboos, jointed flowering stems or culms, hollow or solid internodes; branches arising singly from nodes and subtended by a leaf sheath; leaves alternately arranged differentiated into leaf blade and leaf sheath at the junction ligule present; leaf blades divergent, veins parallel sometimes with cross-connecting veinlets; ligules membranous; inflorescence terminal or axillary or spike like panicle or raceme or digitate; spikelets composed of distichous bracts arranged along rachilla; two lowest glumes are empty; florets with 2 opposing bracts enclosing single flower; outer bract lemma; inner bract palea; lemma often with apical bristle or awn. Flowers unisexual or bisexual; lodicules 2, rarely 3 or absent; stamens 3, 1, 2, or 6; ovary 1 celled; styles (1 or) 2 (rarely 3); fruits dry indehiscent; caryopsis.

According to Soreng *et al.* (2015) & Kellogg *et al.* (2015), there are estimated 768 genera, 12 subfamilies, 7 supertribes, 52 tribes, 5 supersubtribes and 90 subtribes in Poaceae. These recent studies are done on the basis of molecular DNA and also morphological studies. The molecular studies have been conducted based on the *matK* and *ndhF* plastid DNA markers done by Soreng *et al.* 2015. Extensive work has been done on Poaceae and have long attracted people for research purpose. Van Rhee (1678-1703) brings one of the pioneer researchers who presented an account on the southern part of India. Other workers who have worked on this field along with different aspects of the family are Hooker (1897), palynological (Tweddle & Fieller, 2005; Parveen, 2012; Schüler & Behling, 2009; Cabi *et al.*, 2010; Dwari & Mondol, 2011 and Hilu & Wright, 1982), anatomical (Gilani *et al.*, 2002; Soros & Dengler, 1998; Ellis, 1979; Dwari & Mondol, 2011 and Acedo & Llamas, 2001), phylogenetic (Zhang, 2000 and Hilu, 1999), pharmacological (Thomas *et al.*, 2009; Hedge *et al.* 2010).

The two subtribes Boivinellinae Pilg. and Anthephorinae Benth. belong to the subfamily Panicoideae based on the molecular studies. In the classification given by Soreng *et al.* (2015) the Panicoideae consists of 3241 species under 247 genera and 13 tribes. Morphological trends of Panicoideae include two florets within the dorsally compressed spikelet (Soreng *et al.*, 2015). Boivinellinae is considered to be the “forest shade clade” and Anthephorinae consists of genera where the involucral bract are derived from the lower glumes or from sterile spikelet.

Several works on the subfamily Panicoideae have been conducted by the different workers in India. Some of the Indian works include Kiran Raj & Sivadarsan, (2008); Kaliyamurthy & Murugan, (2018); Chorghe, *et al.* (2016); Kiran Raj *et al.* (2013); Sunil & Vannartta, (2014); Kiran Raj *et al.* 2015; Kumari & Lakra, 2018; Jattisha, *et al.* (2015); Punnakot *et al.* (2018); Chorghe, *et al.* 2019; Gosavi *et al.* 2015; Christopher 1978; Kiran. (2008); Tiwari & Sakharkar, 2020; Punnakot *et al.* (2017); Christopher *et al.* (1976); Boyina, *et al.* (2018); Dhatchanamoorthy *et al.* 2020; Bhat *et al.* (2018); Kolagani *et al.* (2020).

Subfamily Panicoideae was divided into three tribes by Pilger (1940), namely Paniceae, Andropogoneae and Maydeae. Later on several subtribes were raised to tribal level. The two subtribes Boivinellinae Pilg. and Anthephorinae Benth. belong to the same tribe Paniceae. There are few or no morphological evidence of the subtribes and to differentiate them on the basis of morphology the present study is being conducted. During the revision of both subtribes, list of possible taxa under the both tribes based on literature, herbarium study has been prepared along with their distribution which are arranged alphabetically:

List of species under the subtribe Boivinellinae Pilg.:

Acroceras muroanum (Balansa) Henrard in Blumea 3: 445. 1940; Bor, Grasses Burma, Ceylon, India & Pakistan 275.196 ; Karthik. *et al.*, Fl. Ind. Enum. Monocot. 178. 1989.

Panicum munroanum Balansa, J. Bot. (Morot) 4: 140 1890.
Fl.&Fr.: March - November
Distribution: South east and North east India.

Acroceras tonkinense (Balansa) C.E. Hubb. ex Bor in Indian Forest Rec., Bot. 1: 78. 1938 & Grasses Burma, Ceylon, India & Pakistan 275.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 179. 1989.

Panicum tonkinense Balansa, Morot, J. de Bot. 4, 140 (1890)
Fl.&Fr.: August - October
Distribution: North east India

Acroceras zizanioides (H.B.K.) Dandy in J. Bot. 69: 54. 1931; Bor, Grasses Burma, Ceylon, India & Pakistan 275.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 179. 1989.

Panicum zizanioides H.B.K., Nov. Gen.et Sp. Pl. 1, 100 (1816)
Fl.&Fr.: July - December
Distribution: Eastern and North eastern India.

Alloteropsis cimicina (L.) Stapf, Fl. Trop. Afr. 9(3): 487. 1919; Bor, Grasses Burma, Ceylon, India & Pakistan 276.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 181. 1989.

Milium cimicinum L., Mant. Alt.184 (1771)
Fl.&Fr.: July - September
Distribution: Throughout India

Alloteropsis semialata (R. Br.) Hitchc.in Contr. U.S. Natl. Herb. 12: 210.1909; Bor, Grasses Burma, Ceylon, India & Pakistan 276.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 181. 1989.

Panicum semialatum R.Br., Prodr.192 (1810)
Fl.&Fr.: August - December
Distribution: Kumaon eastwards, Naga and Khasi hills.

Alloteropsis semialata var. *eckloniana* (Nees) C.E. Hubb. ex Bor, Grasses Burma, Ceylon, India & Pakistan 277. 1960; Karthik.& al., Fl. Ind. Enum.Monocot. 181. 1989.
Fl.&Fr.: February - August
Distribution: Eastern India

Cyrtococcum deccanense Bor in Kew Bull. 11(2): 255. 1956 & Grasses Burma, Ceylon, India & Pakistan 291.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 203. 1989.
Fl.&Fr.: June - October
Distribution: Southern India.

Cyrtococcum longipes (Wight & Arn. ex Hook.f.) A. Camus in Bull. Mus. Hist. Nat. 27: 118. 1921; Bor, Grasses Burma, Ceylon, India & Pakistan 291.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 203. 1989.

Panicum longipes Wight & Arn. ex Hook.f., Fl. Brit. Ind. 7, 58 (1896)

Fl.&Fr.: November-March.

Distribution: Southern India

Cyrtococcum oxyphyllum (Steud.) Stapf in Hooker's Icon. Pl. 31: sub t. 3096. 1922; Bor, Grasses Burma, Ceylon, India & Pakistan 291.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 204. 1989

Panicum hermaphroditum Steud., Syn. Pl. Glum. 1, 65 (1854)

Fl.&Fr.: August - March.

Distribution: Andaman & Nicobar Islands, Terai-Nilgiri, Eastern India.

Cyrtococcum patens (L.) A. Camus in Bull. Mus. Hist. Nat. 27(1): 118. 1921; Bor, Grasses Burma, Ceylon, India & Pakistan 292.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 204. 1989.

Panicum patens L., Sp. Pl. 1: 58. 1753

Fl.&Fr.: May-June

Distribution: Throughout India.

Cyrtococcum trigonum (Retz.) A. Camus in Bull. Mus. Hist. al., Fl. Ind. Enum.Monocot. 204. 1989.

Panicum trigonum Retz., Observ. Bot. 3: 9. 1783

Fl.&Fr.: September-October.

Distribution: Southern, Eastern and Andaman and Nicobar Island.

Echinochloa colonum (L.) Link, Hort. Berol. 2: 209.1833; Bor, Grasses Burma, Ceylon, India & Pakistan 308.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Panicum colonum L. Syst. Nat., ed. 10. 2: 870. 1759

Fl.&Fr.: September - January

Distribution: Throughout India.

Echinochloa crus-galli (L.) P. Beauv., Ess. Agrostogr. 53, t. 11, f. 2.1812; Bor, Grasses Burma, Ceylon, India & Pakistan 310.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Panicum crus-galli L. Sp. Pl. 1: 56. 1753;

Fl.&Fr.: August - December

Distribution: Throughout India.

Echinochloa crus-pavonis (Kunth) Schult., Mant. 2: 269.1824; Bor, Grasses Burma, Ceylon, India & Pakistan 310.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Oplismenus crus-pavonis Kunth, Nov. Gen. Sp. 1: 108. 1816.

Fl.&Fr.: September - December

Distribution: South Andaman and North Eastern India.

Echinochloa frumentacea Link, Hort. Berol. 1: 204.1827; Bor, Grasses Burma, Ceylon, India & Pakistan 311.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 211. 1989.

Fl.&Fr.: November - January

Distribution: Throughout India.

Echinochloa oryzoides (Ard.) Fritsch in Verh. K.K. Zool.-Bot. Ges. Wien 41: 742. 1891; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Panicum oryzoides Ard. Animadv. Bot. Spec. Alt. 16, t. 5. 1764

Fl.&Fr.: July - October.

Distribution: Southern India.

Echinochloa picta (J. Koenig) P.W. Michael in Philipp. J. Weed Sci. 5: 18. 1978; Britto in Matthew, Fl. Tamil Nadu Carnatic 3(2): 1847. 1983; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Panicum pictum J.Koenig, Naturf. 23 : 204. 1788.

Fl.&Fr.: November - December

Distribution: South India.

Echinochloa pyramidalis (Lam.) Hitchc. & Chase in Contr. U.S. Natl. Herb. 18: 345.1917; Bor, Grasses Burma, Ceylon, India & Pakistan 311.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 211. 1989.

Panicum pyramidale Lam., Tabl. Encycl. 1: 171. 1791.

Fl.&Fr.: October - December

Distribution: South India.

Echinochloa stagnina (Retz.) P. Beauv., Ess. Agrostogr. 53, 161. 1812; Bor, Grasses Burma, Ceylon, India & Pakistan 311. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 211. 1989.

Panicum stagninum Retz., Observ. Bot. 5: 17. 1789.
Fl. & Fr.: August - December
Distribution: Eastern, Western India.

Oplismenus burmanni (Retz.) P. Beauv., Ess. Agrostogr. 54, 168. 1812; Hook. f., Fl. Brit. India 7: 68. 1896; Bor, Grasses Burma, Ceylon, India & Pakistan 317. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 240. 1989.

Panicum burmanni Retz. Observ. Bot. 3: 10. 1783.
Fl. & Fr.: September - November
Distribution: Throughout India

Oplismenus compositus (L.) P. Beauv., Ess. Agrostogr. 54. 1812; Hook. f., Fl. Brit. India 7: 66. 1896; Bor, Grasses Burma, Ceylon, India & Pakistan 317. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 240. 1989.

Panicum compositum L., Sp. Pl. 1: 57. 1753.
Fl. & Fr.: September - December
Distribution: Throughout India

Oplismenus undulatifolius (Ard.) P. Beauv., Ess. Agrostogr. 54, 171. 1812; Hook. f., Fl. Brit. India 7: 66. 1896; Bor, Grasses Burma, Ceylon, India & Pakistan 318. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 240. 1989.

Panicum undulatifolium Ard., Animadv. Bot. Spec. Alt. 14, t. 4. 1764.
Fl. & Fr.: February-April
Distribution: Southern, North Eastern, and Central India

Ottlochloa nodosa (Kunth) Dandy in J. Bot. 69: 55. 1931; Bor, Grasses Burma, Ceylon, India & Pakistan 318. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 241. 1989.

Panicum nodosum Kunth, Enum. Pl. 1: 97. 1833; Hook. f.,
Fl. & Fr.: July - December
Distribution: Southern Eastern and North Eastern India.

Pseudechinolaena polystachya (Kunth) Stapf in Prain, Fl. Trop. Afr. 9: 495. 1919; Bor, Grasses Burma, Ceylon, India & Pakistan 352. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 252. 1989.

Echinolaena polystachya Kunth Nov. Gen. & Sp. 1: 119. 1816.
Fl. & Fr.: July - October
Distribution: Eastern and Southern India.

List of species under the subtribe Anthephorinae Benth.:

Digitaria abludens (Roem. & Schult.) Veldkamp in Blumea 21(1): 53. 1973; Karthik. & al., Fl. Ind. Enum. Monocot. 207. 1989.

Panicum abludens Roem. & Schult., Syst. Veg. ed. 15 bis, 2: 457. 1817.
Fl. & Fr.: September - October
Distribution: Throughout India.

Digitaria bicornis (Lam.) Roem. & Schult., Syst. Veg., ed. 15 bis 2: 470. 1817; Bor, Grasses Burma, Ceylon, India & Pakistan 299. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 207. 1989.

Paspalum bicornis Lam., Tabl. Encycl. 1: 176 1791.
Fl. & Fr.: August - October
Distribution: Southern and Eastern India.

Digitaria brownii (Roem. & Schult.) Hughes in Bull. Misc. Inform. Kew 1923(9): 313. 1923; Bor, Grasses Burma, Ceylon, India & Pakistan 300. 1960; Karthik. & al., Fl. Ind. Enum. Monocot. 207. 1989.

Panicum brownii Roem. & Schult., Syst. Veg., ed. 15 bis 2: 462. 1817.
Fl. & Fr.: Throughout the year.
Distribution: South India.

Digitaria ciliaris (Retz.) Koeler, Descr. Gram. 27. 1802; Karthik. & al., Fl. Ind. Enum. Monocot. 207. 1989.

Panicum ciliare Retz., Observ. Bot. 4: 16. 1786.
Fl. & Fr.: August - November
Distribution: Throughout India.

Digitaria compacta (Roth ex Roem.&Schult.) Veldkamp in Blumea 21(1): 71. 1973; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Paspalum compactum Roth, ., Syst. Veg., ed. 15 bis 2: 316. 1817.

Fl.&Fr.: August - December.

Distribution: North Eastern India

Digitaria cruciata (Nees) A. Camus, Fl. Indo-Chine 7(3-4): 399.1922; Bor, Grasses Burma, Ceylon, India & Pakistan 300.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Panicum cruciatum Nees, Syn. Pl. Glumac. 1(1): 39. 1854.

Fl.&Fr.: September - December

Distribution: North Eastern India.

Digitaria didactyla Willd., Enum. Pl. 1: 91. 1809; Bor, Grasses Burma, Ceylon, India & Pakistan 300.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Fl.&Fr.: September-October.

Distribution: Introduced to India as lawn grass.

Digitaria duthieana Henrard ex Bor in Kew Bull. 8(2): 273. 1953 & Grasses Burma, Ceylon, India & Pakistan 300.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Fl.&Fr.: August-September

Distribution: Western India.

Digitaria fuscescens (C. Presl) Henrard in Meded.Rijks-Herb.61: 8.1930; Bor, Grasses Burma, Ceylon, India & Pakistan 301.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Panicum fuscescens J. Presl, Reliq. Haenk. 1(4-5): 213. 1830.

Fl.&Fr.: August - December

Distribution: Eastern India.

Digitaria griffithii (Hook.f.)Henrard in Blumea 1: 100. 1934; Bor, Grasses Burma, Ceylon, India & Pakistan 301.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 207. 1989.

Paspalum sanguinale var. *griffithii* Hook. f., Hook.f., Fl. Brit. India 7: 15. 1896.

Fl.&Fr.: August-September

Distribution: Southern India.

Digitaria ischaemum (Schreb.)Muhl.,Descr. Gram. 131. 1817; Bor, Grasses Burma, Ceylon, India & Pakistan 302. 1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Panicum ischaemum Schreb., Spec. Fl. Erlang. 16. 1804,

Fl.&Fr.: September-November

Distribution: North Western and Western India

Digitaria jubata (Griseb.)Henrard in Blumea 1: 100. 1934; Bor, Grasses Burma, Ceylon, India & Pakistan 302.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Paspalum jubatum Griseb., Nachr. Konigl. Ges. Wiss. Georg-Augusts-Univ. 84. 1868; Hook.f., Fl. Brit. India 7: 19. 1896

Fl.&Fr.: June- September

Distribution: North Eastern India.

Digitaria longiflora (Retz.) Pers., Syn. Pl. 1: 85. 1805; Bor, Grasses Burma, Ceylon, India & Pakistan 302.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Paspalum longiflorum Retz., Observ. Bot. 4: 15. 1786.

Fl.&Fr.: September to December

Distribution: Throughout India.

Digitaria nodosa Parl., Pl. Nov. 39.1842; Bor, Grasses Burma, Ceylon, India & Pakistan 303.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Fl.&Fr.: September-October

Distribution: Arid region of North Western India.

Digitaria pentzii Stent in Bothalia 3: 147. 1930; Bor, Grasses Burma, Ceylon, India & Pakistan 304.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Fl.&Fr.: August - December

Distribution: Eastern India.

Digitaria pennata (Hochst.) T. Cooke, Fl. Bombay 2: 941. 1908; Bor, Grasses Burma, Ceylon, India & Pakistan 303.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Panicum pennatum Hochst.

Fl.&Fr.: October-November

Distribution: Western, North And North Western India.

Digitaria radicata (J. Presl) Miq., Fl. Ned. Ind. 3: 437. 1857; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Panicum radicosum J. Presl, J. Presl, Reliq. Haenk. 1(4-5): 297. 1830.

Fl.&Fr.: July - March

Distribution: Eastern and North Eastern India.

Digitaria sanguinalis (L.) Scop., Fl. Carniol., ed. 2. 1: 52. 1772; Bor, Grasses Burma, Ceylon, India & Pakistan 304.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 208. 1989.

Panicum sanguinale L., Sp. Pl. 1: 57. 1753.

Fl.&Fr.: September to November

Distribution: Throughout India.

Digitaria setigera Roth ex Roem. & Schult., Syst. Veg., ed. 15 bis 2: 474. 1817; Bor, Grasses Burma, Ceylon, India & Pakistan 305.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 208. 1989.

Fl.&Fr.: Throughout the year

Distribution: Throughout India.

Digitaria stewartiana Bor in Kew Bull. 6(2): 166. 1951 & Grasses Burma, Ceylon, India & Pakistan 305.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 208. 1989.

Fl.&Fr.: January - October

Distribution: North Western Himalaya.

Digitaria stricta Roth ex Roem. & Schult., Syst. Veg., ed. 15 bis 2: 474. 1817; Bor, Grasses Burma, Ceylon, India & Pakistan 305.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 209. 1989.

Fl.&Fr.: September to October

Distribution: Throughout India.

Digitaria ternata (A. Rich.) Stapf, Fl. Cap. 7(2): 376. 1898; Bor, Grasses Burma, Ceylon, India & Pakistan 306.1960; Karthik.& al., Fl. Ind. Enum. Monocot. 209. 1989.

Cynodon ternatus A. Rich., Tent. Fl. Abyss. 2: 405. 1851.

Fl.&Fr.: September-February.

Distribution: Central and North Eastern India.

Digitaria tomentosa (J. Koenig ex Rottler) Henrard in Blumea 1: 100. 1934; Bor, Grasses Burma, Ceylon, India & Pakistan 306.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 209. 1989.

Milium tomentosum J. Koenig ex Rottler, Neue Schriften Ges. Naturf. Freunde Berlin 4: 220. 1803.

Fl.&Fr.: September- January

Distribution: Southern India.

Digitaria violascens Link, Hort. Berol.1: 229.1827; Bor, Grasses Burma, Ceylon, India & Pakistan 307.1960; Karthik. & al., Fl. Ind. Enum.Monocot. 209. 1989.

Fl.&Fr.: July to November

Distribution: Southern and North Eastern India.

Digitaria wallichiana Stapf, Fl. Trop. Afr. 9(3): 436. 1919; Bor, Grasses Burma, Ceylon, India & Pakistan 307.1960; Karthik. & al., Fl. Ind. Enum.Monocot. 209. 1989.

Fl.&Fr.: June-August.

Distribution: Southern India.

Trachys copeana Kabeer & V.J. Nair in Kew Bull. 62(3): 503. 2007.

Fl.&Fr.: September

Distribution: South India.

Trachys deccanensis M. Anil Kumar & B.R.P. Rao in Rheede 27(2): 79. 2017.

Fl.&Fr.: June to December

Distribution: South India.

Trachys muricata (L.) Pers., Syn. Pl. 1: 85. 1805; Bor, Grasses Burma, Ceylon, India & Pakistan 369.1960; Karthik.& al., Fl. Ind. Enum.Monocot. 269. 1989.

Cenchrus muricatus L., Mant. Pl. Altera 302. 1771.

Fl.&Fr.: October-December.

Distribution: South India.

Trachys narasimhanii Ravich.in Rheede 23(1): 22. 2013.

Fl.&Fr.: November to February

Distribution: South India.

Discussion

The subfamily Panicoideae was described by Link in 1827 and was recognized to be a monophyletic group (Tateoka, 1962; Kellogg & Campbell, 1987) later, several phylogenetic studies have led to emergence of several sub-tribes of which two of them are Boivinellinae Pilg. and Anthephorinae Benth.

In India, 7 genera and 24 species are reported under the subtribe Boivinellinae Pilg. 5 species are found in North East India, 13 species are found in South India, 1 species is reported from South Eastern region of India, 1 species is found in Western India, 1 species from Central India and 6 species are distributed throughout India.

Likewise, 2 genera and 25 species are reported under the subtribe Anthephorinae Benth. 15 species are found in the Southern India, 4 species found in the Eastern India, 6 species North Eastern part of India, 4 species are reported from North Western region of India, 2 species are found in Central part of India, 1 species found in Western and Northern India and 5 species are found throughout India.

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