

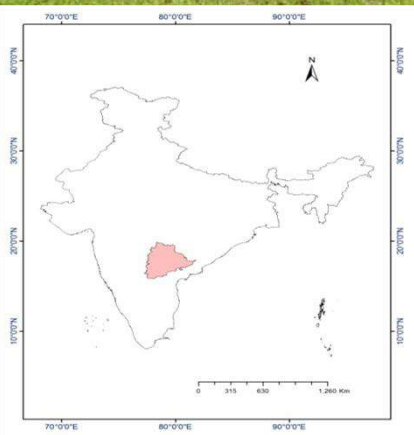
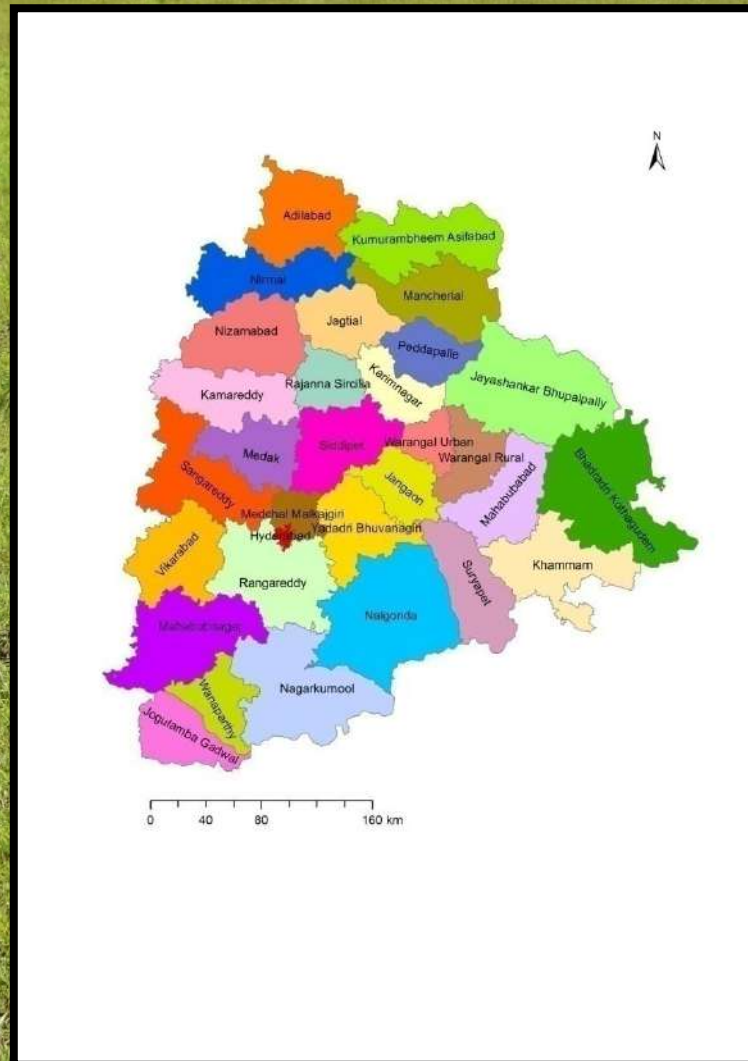
Grasses of Telangana State

Name of the Executing Staff: Dr. Nagaraju Siddabathula, DRC,BSI, HYD.

Project duration: 2019 to 2022

STUDY AREA

Telangana, the 29th state of the Indian Union, was carved out of united Andhra Pradesh in 2014. It is situated on the Deccan Plateau in the central stretch of the eastern seaboard of the Indian Peninsula. The state lies between 15° 50'–19° 55' North latitudes and 77° 14'–78° 50' East longitudes, with an area of 114,840 km².



Progress as on : March 2021

YEAR	2018-19*	2019-20	2020-2021	Total
No. of Tours Undertaken	1	5	1	7
No. of Field Numbers Collected	97	160	103	360
No. of specimens Identified	96	155	34	285
No. of Herbarium C. Tours	0	2	0	2
Area Covered (sq. km)	120	500	107	727

*2018-19 (APRIL - NOVEMBER 2018 : 05 TOURS -NDF ON REDSANDERS)

PUBLICATIONS : 8
(1-New to Science; 7- New records)



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***Chloris telanganae* (Chloridoideae: Poaceae), a new species from Telangana State,
India**

SIDDABATHULA NAGARAJU^{1*}, PARIGI VENKATESWARA PRASANNA¹, YECHURI VENKATESWARA
RAO² & SALUGU BODAYYA PADAL²

¹ Botanical Survey of India, Deccan Regional Centre, Kendriya Sadan, Koti, Hyderabad – 500095, Telangana, India.

² Department of Botany, Andhra University, Visakhapatnam - 530 003, Andhra Pradesh, India.

*corresponding author: nagaraju.siddabathula@gmail.com



RESEARCH ARTICLE

Taxonomy of endemic dwarf grass *Oropetium villosulum* Stapf ex Bor, an overlooked cohabitant of *Oropetium thomaeum* (L.f.) Trin.

Nagaraju Siddabathula¹, Ravi Kiran Arigela^{1*}, Rajeev Kumar Singh² & P.V. Prasanna¹

¹Botanical Survey of India, Deccan Regional Centre, Zoological Survey of India Campus, Attapur Village, Hyderabad - 500048, Telangana

²Botanical Survey of India, Southern Regional Centre, TNAU Campus, Lawley Road, Coimbatore - 641003, Tamil Nadu

Email: ravibonsai@gmail.com



CORRESPONDENCE

The endemic tanglehead grass *Heteropogon fischerianus* Bor and the giant spargrass *Heteropogon triticeus* (R. Br.) Stapf ex Craib, new records for the flora of Telangana state, India

Nagaraju Siddabathula^{1*}, Ravi Kiran Arigela², Rajeev Kumar Singh² & L. Paramesh³

¹Botanical Survey of India, Deccan Regional Centre, Kendriya Sadan, Sulatan Bazar, Hyderabad-500095, Telangana, India.

²Botanical Survey of India, Southern Regional Centre, TNAU Campus, Lawley Road, Coimbatore - 641 003, Tamil Nadu, India.

³Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad - 500030, Telangana, India.

Email: nagaraju.siddabathula@gmail.com



***SCHOENEFLDIA GRACILIS* KUNTH (POACEAE: CHLORIDOIDEAE):
AN ADDITION TO THE FLORA OF TELANGANA, INDIA**

J. Swamy* and S. Nagaraju

Botanical Survey of India, Deccan Regional Centre, Room nos. 228-238, Kendriya Sadan, GPOA, Sultan Bazar, Koti, Hyderabad- 500 095, Telangana, India
*Email: swamy.2706@gmail.com

Additions to the Grasses (Poaceae) of Telangana from Kinnerasani Wildlife Sanctuary, India

J. Swamy and S. Nagaraju



SHORT COMMUNICATION

Preferent wild grasses of Scaly-breasted Munia (*Lonchura punctulata*) in Andhra Pradesh, Tamil Nadu and Telangana

Ravi Kiran Arigela^{1*}, Nagaraju Siddabathula¹, Kothareddy Prasad¹ and R. Kr. Singh²

¹Botanical Survey of India (BSI), Deccan Regional Centre (DRC), Rooms 228-228, KendraSadan, Sultan Bazar, Koti, Hyderabad-500095, Telangana, India

²Botanical Survey of India (BSI), Southern Regional Centre (SRC), TNAU Campus, Lawley Road, Coimbatore-641003, Tamil Nadu, India.

Email: ravibonsai@gmail.com



**TWO *TRIOGON* SPECIES AS ADDITIONS TO THE GRASS FLORA OF
TELANGANA STATE, INDIA**

S. Nagaraju*, P.V. Prasanna and Y.V. Rao¹

Botanical Survey of India, Deccan Regional Centre, Room nos. 228-238, 2nd Floor, Kendriya Sadan, GPOA, Sultan Bazar, Koti, Hyderabad-500 095, Telangana, India

¹Department of Botany, Andhra University, Visakhapatnam-530 003, Andhra Pradesh, India

* Email: nagaraju.siddabathula@gmail.com

(II)
***Bothriochloa insculpta* (Hochst. Ex. A. Rich.)
A. Camus (Poaceae) : A new record for the flora
of Telangana, India**

FINDINGS

Genera	91
Total taxa	254
New to Science	2
Additions	25
Endemics	23

As of now: 23 spp. Endemic grasses in Telangana State

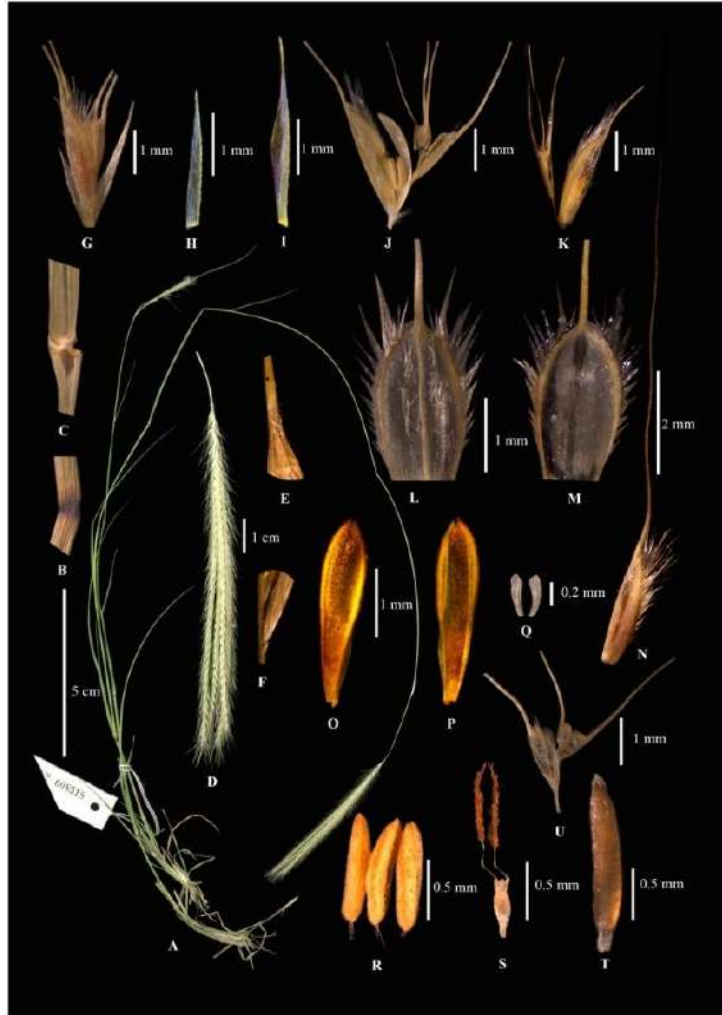


FIGURE 1. *Chloris telanganae* Nagaraju sp. nov. A. Habit; B. Node; C. Ligule; D. Inflorescence; E. Puberulous nature below the inflorescence; F. Rachis showing the scabrid nature; G. 4-awned spikelet; H. Lower glume; I. Upper glume; J. 5-awned spikelets; K. Floret; L. Abaxial view of fertile lemma; M. Adaxial view of fertile lemma; N. Side view of fertile lemma; O. Abaxial view of palea; P. Adaxial view of palea; Q. Lodicules; R. Stamens; S. Pistil; T. Caryopsis [from Nagaraju, 8518 (BSID)].

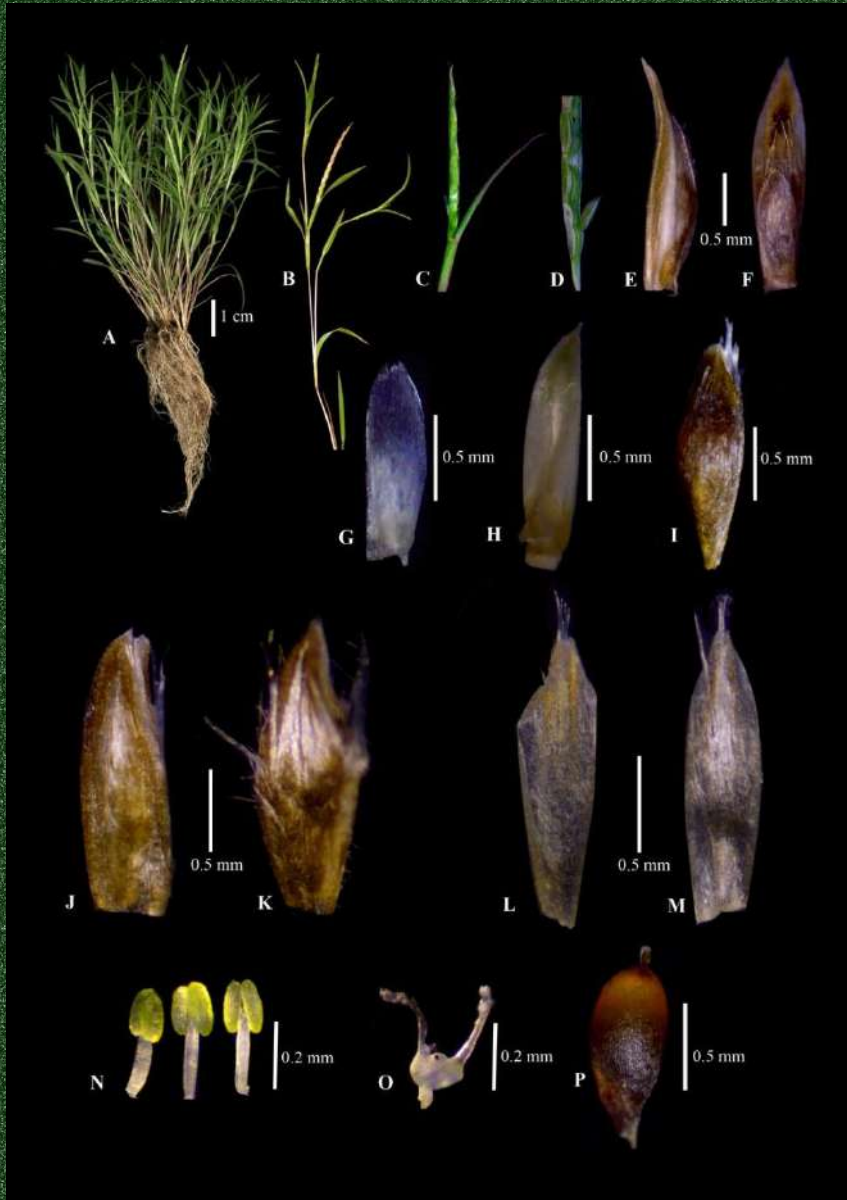
Sl. No.	Scientific name
1	<i>Aristida himayatsagarianum</i> sp. nov.
2	<i>Arthraxon depressus</i> Stapf ex C.E.C. Fisch.
3	<i>Arundinella ciliata</i> (Roxb.) Nees ex Miq.
4	<i>Arundinella nervosa</i> (Roxb.) Nees ex Hook. & Arn.
5	<i>Capillipedium filiculme</i> (Hook.f.) Stapf
6	<i>Chloris bournei</i> Rang. & Tadul.
7	<i>Chloris telanganae</i> Nagaraju, Prasanna, Y.V. Rao & S.B. Padal
8	<i>Chrysopogon velutinus</i> (Hook.f.) Bor
9	<i>Chrysopogon verticillatus</i> (Roxb.) Trin. ex Steud.
10	<i>Dichanthium mccannii</i> Blatt.
11	<i>Dimeria bialata</i> C.E.C. Fisch.
12	<i>Dimeria connivens</i> Hack.
13	<i>Dimeria kanjirapallilana</i> K.C. Jacob
14	<i>Dimeria orissae</i> Bor
15	<i>Heteropogon fischerianus</i> Bor
16	<i>Heteropogon polystachyos</i> Blatt. & McCann
17	<i>Iseilema anthephoroides</i> Hack.
18	<i>Lophopogon tridentatus</i> (Roxb.) Hack.
19	<i>Oropetium roxburghianum</i> (Schult.) S.M. Phillips
20	<i>Oropetium villosulum</i> Stapf ex Bor
21	<i>Spodiopogon rhizophorus</i> (Steud.) Pilg.
22	<i>Tripogon anantaswamianus</i> Sreek., V.J. Nair & N.C. Nair
23	<i>Tripogon wightii</i> Hook.f.

As of now
25 spp. New additions
to the Flora of Telangana State



Sl. No.	Species Name
1	<i>Arundinella nervosa</i> (Roxb.) Nees ex Hook. & Arn.
2	<i>Axonopus compressus</i> (Sw.) P. Beauv.
3	<i>Bothriochloa insculpta</i> (Hochst. ex A. Rich.) A. Camus
4	<i>Chloris quinquesetica</i> Bhide
5	<i>Chrysopogon serrulatus</i> Trin.
6	<i>Chrysopogon velutinus</i> (Hook.f.) Bor
7	<i>Chrysopogon verticillatus</i> (Roxb.) Trin. ex Steud.
8	<i>Cymbopogon winterianus</i> Jowitt ex Bor
9	<i>Desmostachya bipinnata</i> (L.) Stapf
10	<i>Dimeria bialata</i> C.E.C. Fisch.
11	<i>Dimeria connivens</i> Hack.
12	<i>Eragrostis macilenta</i> (A. Rich.) Steud.
13	<i>Heteropogon fischerianus</i> Bor
14	<i>Heteropogon triticeus</i> (R.Br.) Stapf ex Craib
15	<i>Isachne pulchella</i> Roth
16	<i>Iseilema jainiana</i> P. Umam. & P. Daniel
17	<i>Microstegium fasciculatum</i> (L.) Henrard
18	<i>Oropetium villosulum</i> Stapf ex Bor
19	<i>Schizachyrium brevifolium</i> (Sw.) Nees ex Buse
20	<i>Schoenefeldia gracilis</i> Kunth
21	<i>Setaria homonyma</i> (Steud.) Chiov.
22	<i>Stenotaphrum dimidiatum</i> Brongn.
23	<i>Tripogon anantaswamianus</i> Sreek., V.J. Nair & N.C. Nair
24	<i>Tripogon filiformis</i> Nees ex Steud.
25	<i>Zoysia matrella</i> (L.) Merr.

TAXONOMIC TREATMENT



Oropetium villosulum Stapf ex Bor, Kew Bull. 4(4): 571. 1950; Grasses Burma, Ceylon, India & Pakistan 474. 1960; Karthik. *et al.*, Fl. Ind. Enum. Monocot. 240. 1989; Bhattacharya (Sunanda Moulik), Grass. Bamb. India 2: 617. 1997.

Caespitose annuals. Culms 5–15 cm high, erect or geniculate, simple-branched, slender, violet tinged at base; nodes glabrous; Leaves mostly basal; sheaths 3–9 mm long, compressed, sparsely villous; blades 8–30 × 4–10 mm, linear-narrow lanceolate, apex acute-shortly acuminate; ligules 0.5–2 mm long, membranous, apex ciliolate. Inflorescence, 10–30 × 1–1.5 mm, narrow linear-oblong, terminal spike, solitary, straight, enclosed at the base by a subtending leaf. Spikelets elliptic, sessile, solitary, sunken, as long as upper glume, arranged in 2-rows. Lower glume 0.9–1.4 × 0.2–0.4 mm, oblong-ovate, membranous, hyaline, apex obtuse and 3–4-dentate. Upper glume 2–2.7 × 0.3–0.4 mm, oblong-lanceolate, coriaceous, 3-nerved, margin inflexed, apex acute-shortly acuminate. Floret 1, bisexual; callus pubescent. Lemma 1.5–1.8 × 0.5–0.8 mm, elliptic, chartaceous, 3-nerved, dorsal and margin hairy, apex truncate-subacute. Palea 1.4–1.7 × 0.3–0.45 mm, ovate-elliptic, membranous, hyaline, dorsally villous, 2-nerved, 2-keeled, apex muticous. Lodicules 2. Stamens 3; Ovary elliptic-suborbicular, gibbous. Caryopsis 1.2–1.5 × 0.4–0.5 mm, oblong-obovate, brownish

Fl. & Fr.: Jul.–Sept.

Distrib.: **Endemic-India.**

Exsicc.: **Telangana**: Rangareddy District: Manasa hills, Rajendra Nagar, SNR 8680 (BSID)!; Vikarabad District: Ananthagiri Hills, SNR 8704 (BSID)!.

Note: It can be identify by its bulged inflorescence.

APART FROM MY PROJECT I PUBLISHED ONE BOOK



Dr. Nagaraju Siddabathula passed out his post-graduation in Botany in the year 2007 from Akkineni Nageswara Rao College, Gudivada, Krishna District, Andhra Pradesh. He joined the Central Botanical Laboratory, a unit of Botanical Survey of India at Howrah in 2013, and since 2015 he has been working at Deccan Regional Centre, Hyderabad. He pursued his doctoral studies on Poaceae from the Andhra University, Vishakapatnam, Andhra Pradesh and awarded Ph.D. degree in Botany in the year 2020. He has good expertise on the taxonomy of grasses, general flora and ethnobotany. He is the life member of the Indian Society of Remote Sensing, Dehradun. He had been trained on botanical illustrations, plant species mapping and Remote sensing data analysis. He was part of 5 in house action plan projects. He has published 01 book chapter and 21 research articles, including six new species. Presently, he is working on genera for Flora of India-Poaceae and "Grasses of Telangana State, India".



Dr. Kothareddy Prasad passed out his post-graduation in Botany in the year 2008 from Sri Krishnadevaraya University, Anantapuram, Andhra Pradesh. He pursued his doctoral studies from the same university and awarded Ph.D. degree in Botany in the year 2013. He served as a Project Investigator of SERB-DST project under young scientist scheme (2014–2017) at Botanical Survey of India, Deccan Regional Centre, Hyderabad, and subsequently as a Post-Doctoral Fellow under Acharya Jagadish Chandra Bose Post-Doctoral Fellowship (AJCB-PDF) at Central National Herbarium, Howrah, from 2017 to 2020. He has good expertise on general flora, Orchids, Grasses, Zingibers, Aroids and Milkworts. He published 2 books, 1 book chapter and 60 research articles, including one new genus and many new species. He was conferred 'Rolla S. Rao Award' by the Indian Association for Angiosperm Taxonomy in 2011, and 'Young Scientist Award' by the Andhra Pradesh Akademi of Sciences in 2018. Presently, he is serving as 'Biodiversity Research Consultant' at Andhra Pradesh State Biodiversity Board, Guntur.



Dr. P.V. Prasanna has been serving Botanical Survey of India since December, 1990. His prime interest is Angiosperm floristics with special focus on Indian grasses. 3 students have worked in his research supervision on grass flora and obtained Ph.D. degree. To his credit, he has publications of 7 books and 70 research articles.



S. Nagaraju
K. Prasad
&
P. V. Prasanna

Grass Genera of Southern India
A Field Guide and Checklist

Grass Genera of Southern India A Field Guide and Checklist



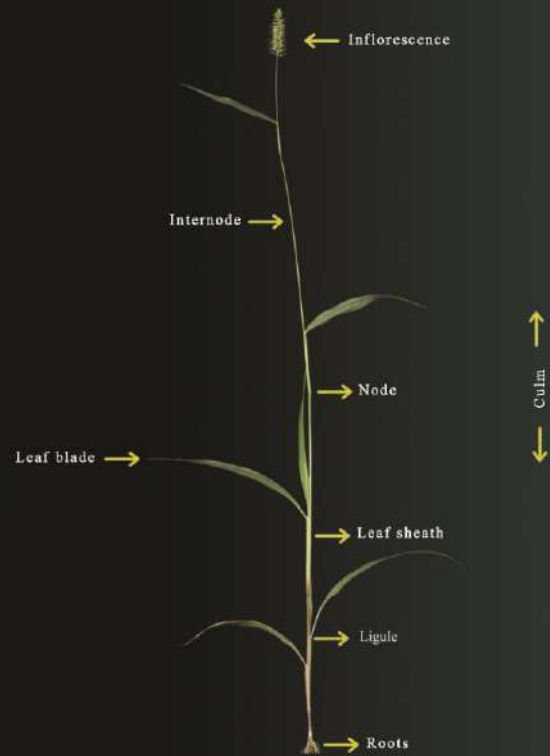
Nagaraju Siddabathula
Prasad Kothareddy
&
P. V. Prasanna



2020

SAMPLE

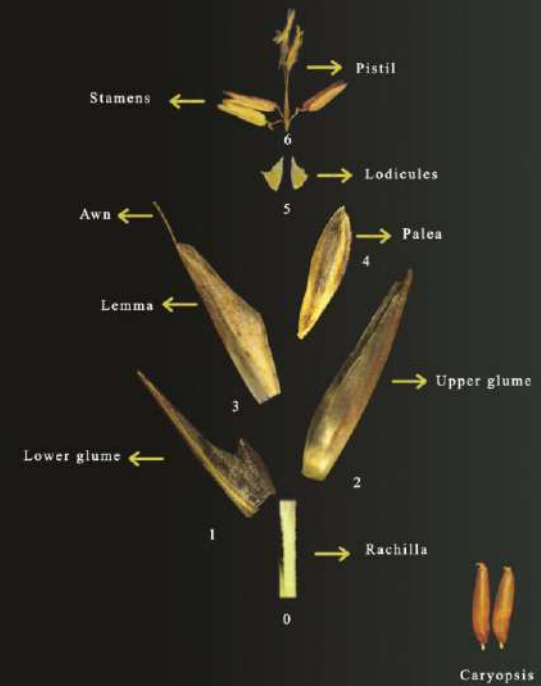
GRASS MORPHOLOGY



Setaria verticillata (L.) P. Beauv.

DISSECTED SPIKELET

(1-6) = Spikelet; (3-6) = Floret; (5-6) = Flower



Tripogon jacquemontii Stapf

SAMPLE

SETARIA P. Beauv.

Ess. Agrostogr. 51, 178. 1812, nom. cons.

Type: Setaria viridis (L.) P. Beauv., type cons.

Etymology: Latin *seta*-bristle, *aria*-possessing; alludes to the spikelets subtended by one or more persistent bristle and bristles either antrosely or retrorsely barbellate.

Annuals or perennials; culms tufted. Leaf blades linear or lanceolate; ligule a ciliate membranous or fringe of hairs. Inflorescence a panicle, dense spiciform or open spikelets contracted about primary branches. Spikelets subtended by 1 or more scabrid bristles which persist on axis, dorsally compressed, symmetrical or gibbous, florets 2. Glumes shorter than spikelets, membranous; lower glume usually with clasping base. Lower florets male or barren, with palea; lower lemma membranous; upper floret fertile; fertile lemma dorsally compressed, indurate, crustaceous, usually rugose, margins inrolled; palea ovate-lanceolate, indurate, margins involute. Lodicules 2. Stamens 3. Caryopsis ellipsoid or ovoid or orbicular.

World: 136 spp./India: 19 taxa/South India: 14 taxa; distribution: Cosmopolitan.

Key characters: Spikelets subtended by one or more bristles, persistent, scabrid; upper lemma crustaceous, occasionally transversely rugose.

Note: The genus *Paspalidium* Stapf included under *Setaria* P. Beauv.



Setaria verticillata (L.) P. Beauv.



Setaria verticillata (L.) P. Beauv.: A. Spike; B-C. Spikelets with bristles; D&E. Abaxial and adaxial view of spikelet; F&G. Abaxial and adaxial view of lower glume; H&I. Abaxial and adaxial view of upper glume; J&K. Abaxial and adaxial view of lower lemma; L. Lower palea; M&N. Abaxial and adaxial view of upper lemma; O&P. Abaxial and adaxial view of palea; Q. Lodicules; R. Stamens; S. Pistil.



THANK YOU