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The Sedges and Grasses of Gautambudhnagar (Noida) U.P. India

Shalu Chaudhary, A.K.Gupta and Lalit Kumar

Department of Botany, Meerut College, Meerut-250001 (U.P.), India.

Abstract
The present study is the result of two years (April 2005-April 2007) of extensive survey and exploration of sedges and grasses of Gautambudh Nagar. A total number of 95 species of Cyperaceae and Gramineae (Poaceae) have been collected from this area. Out of 95 species of these two families belonging to 68 genera, 65 species belong to Gramineae (Poaceae) and 30 species belong to Cyperaceae. There are two plants of Cyperaceae and Gramineae (Poaceae) respectively: *Eleocharis capitata* R. Br. and *Isachne albens* Trin., which have been reported for the first time from this area.

Keywords: Sedges, Grasses - Gautambudhnagar

DISTRICT GAUTAMBUDHNAGAR

The district Gautambudh Nagar was formed on May 6, 1997. It was previously the tehsil of district of Ghaziabad. The district lies between 28° 3654 North latitude and 77° 2144 East longitude. The approximate area of the district is 1501 sq km (86007.30 hectare). On its North lies Ghaziabad district. To its west is Delhi Metropolitan City. To its south is the district Aligarh and to its East is Bulandhshahar district. Gautambudh Nagar district comprises of 4 tehsils which are Noida, Dadri, Dhankaur, and Surajpur.

TOPOGRAPHY

Gautambudh Nagar district falls in the great Indo-Gangetic alluvial plain of North West India. The region is flat and has a gradual slope from north to south. There is no hilly tract. This region is of vital importance as agriculture is being practiced. There is vast expanse of saline of alkaline soil in the district.

RIVERS, CANALS AND WATER WAYS

No river passes in Gautambudh Nagar. There is only one canal named as Rajwaha main kaldha and only small portion of fertile land is irrigated by this canal. Beside the canal, a number of permanent and temporary tanks, ditches, ponds and tube wells are spread all over the district.

GEOLOGY AND SOIL

The survey area forms the part of great Indo-Gangetic alluvial plain. Its soil is fine loam and sandy loam. The alluvium is composed of recent and fresh matter deposits of clay, silt and sand which are of loose to semi-consolidated nature. Loam and silty soils are found in the district. It can be differentiated into the following

i. **The upland plain:-** Most of the part of the district consists of most extensively cultivated and highly productive regions. The upland plain is covered with old alluvium which is properly irrigated and highly productive.

ii. **Sandy region:-** A very small part of the district is covered with soil comprising of sandy loam.

The soils as classified by National Bureau of Soil Survey and land use planning (ICAR) Nagpur, the district has mainly Aquents - Fluvents, Aquents - Orcherpts and Och-Repts types of soils.

CLIMATE

Gautambudh Nagar district falls in semi-dry agro climatic zone due to the marked diurnal differences in temperature, moderately low rainfall and high saturation deficit. This type of climate is characterized by extreme summer heat alternating with great winter cold, which are unfavorable for the growth of luxuriant vegetation. During the monsoon months of July, August, and September oceanic air prevails in the district. Extremely hot summer and dryness and a cold winter is prevalent due to sweep of air from a westerly or north westerly direction. The influx of air form the easterly or south easterly direction usually causes for increased humidity, cloudiness and precipitation.

CHARACTERISTICS OF SEDGES AND GRASSES

A total no of 30 species of sedges (Cyperaceae) and 65 species of Gramineae (Poaceae) have been collected from this area. The following are some of the common species of Cyperaceae and Gramineae (Poaceae) which appear in this area (Table 1)

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*Corresponding Author
Shalu Chaudhary
Department of Botany, Meerut College, Meerut-250001 (U.P.), India.

Email: shaluchaudhary57@gmail.com

Table 1. Sedges and Grasses of Gautambudhnagar (Noida) U.P. India

S. No.	Botanical Name	Local Name	Family	Flowering & Fruiting	Place of Collection	Habit
1.	*Acrachne racemosa* (Heyne) Ohwi	Chinki	Gramineae	August- October	G.T. Road	Herb
2.	*Alopecurus nepalensis* Trin. ex Steud	-	Gramineae	December- April	Dankaur	Herb
3.	*Apluda mutica* Linn.	Ponai, Send	Gramineae	September- February	Bulandshahar Road	Herb
4.	*Aristida funiculata* Trin.	Bachai	Gramineae	September- November	Jevar	Herb
5.	*Arundo donax* Linn.	Narsal	Gramineae	September- February	Bisrak	Herb
6.	*Avena sterilis* Linn.	Jai	Gramineae	January- March	Sadatpur	Herb
7.	*Bothriochloa pertusa* (Linn.) A. Camus	-	Gramineae	July- October	Dadri Road	Herb
8.	*Brachiaria ramosa* (Linn.) Stapf.	Makra Ghas	Gramineae	June- October	Jevar	Herb
9.	*Bulbostylis barbata* (Rottb.) Clarke	Piazi	Cyperaceae	August- November	Bisrak	Herb
10.	*Carex fedia* Nees.	Motha	Cyperaceae	February- April	Dankaur	Herb
11.	*Carex wallichiana* Sprengel	Motha	Cyperaceae	February- April	Dankaur	Herb
12.	*Cenchrus biflorus* Roxb.	Anjan	Gramineae	July- October	Jevar	Herb
13.	*Chloris barbata* (Linn.) Sw.	-	Gramineae	August- November	Bisrak	Herb
14.	*Chrysopogon fulvus* (Spreng.) Chiov.	Zargha	Gramineae	September- October	Dankaur	Herb
15.	*Coix lacryma-jobi* Linn.	Sankuru	Gramineae	September- December	Jevar	Herb
16.	*Cymbopogon jwarancusa* (Jones) Schult	Lakhvee	Gramineae	April - June	Choramora	Herb
17.	*Cynodon dactylon* (Linn.) Pers.	Doob Ghas	Gramineae	Major part of the year	Jevar Road	Herb
18.	*Cyperus alopecuroides* Rottb.	-	Cyperaceae	August- November	Dadri	Herb
19.	*Cyperus flabelliformis* Rottb.	Nagarmotha	Cyperaceae	November - May	Golf Chowk Noida	Herb
20.	*Cyperus kyllingia* Endl.	Motha	Cyperaceae	June- October	Dankaur	Herb
21.	*Cyperus rotundus* Linn.	Motha	Cyperaceae	July- October	G.T. Road	Herb
22.	*Dactylotenium aegytium* (Linn.) Beauv.	Makra	Gramineae	May- October	Noida	Herb
23.	*Dendrocalamus strictus* (Roxb.) Nees	Bans	Gramineae	-	Dadri Road	Shrub
24.	*Desmostachya bipinnata* (Linn.) Staf	Doab, Durva	Gramineae	June- October	Jevar	Herb
25.	*Dichanthium annulatum* (Forsk.) Stapf	-	Gramineae	September December	Dankaur	Herb
26.	*Digitaria longiflora* (Retz.) Pers.	-	Gramineae	August- November	Hoshiarpur	Herb
27.	*Echinochloa colona* (Linn.) Link.	Sawank	Gramineae	June- October	Bisrak	Herb
28.	*Eleocharis capitata* R. Br.	-	Cyperaceae	September - November	Dadri	Herb
29.	*Fimbristylis aestivalis* Vahl.	-	Cyperaceae	September - December	Gijhapur	Herb
30.	*Fimbristylis cymosa* R. Br.	-	Cyperaceae	August- October	Mamura	Herb
31.	*Fimbristylis spathacea* Roth.	Landas	Cyperaceae	August- October	Mamura	Herb
32.	*Fimbristylis tenera* Roem. and Schult	-	Cyperaceae	August- October	Garden, Dadri Road	Herb
33.	*Hackelochloa granularis* (Linn.) Kuntze.	Trinpali	Gramineae	August- November	Dankaur	Herb
34.	*Imperata cylindrica* (Linn.) Beauv.	Siru	Gramineae	June- October	Jevar	Herb
35.	*Isachne albens* Trin.	-	Gramineae	August- December	Jevar Road	Herb
36.	*Leptochloa chinensis* (Linn.) Nees.	-	Graminea	July- November	Salarpur	Herb
37.	*Mnesithea laevis* (Retz.) Kunth.	-	Gramineae	August- October	Salarpur	Herb
38.	*Narenga porphyrocoma* (Hance) Bor.	Kawal	Gramineae	August- November	Jevar	Herb
39.	*Oplismenus burmannii* (Retz.)	-	Gramineae	September -	National Labour	Herb

	Beauv			November	Institute Noida	
40.	*Panicum maximum* Jacq	Bans	Gramineae	November – April	Dadri	Herb
41.	*Phragmites karka* (Retz.) Trin.	Narkul	Gramineae	September – January	Jevar	Herb
42.	*Poa annua* Linn.	-	Gramineae	December – March	Company Garden Noida	Herb
43.	*Rottboellia exaltata* Linn.	Barsali Bhursali	Gramineae	September - November	Dadri Road	Herb
44.	*Saccharum officinarum* Linn.	Ekh	Gramineae	February- April	Budhaki	Herb
45.	*Saccharum sopntaneum* Linn.	Kansh, Munj	Gramineae	September - December	Jevar Road	Herb
46.	*Scirpus affinis* Roth.	-	Cyperaceae	February- June	Dankaur	Herb
47.	*Scirpus articulatus* Linn.	-	Cyperaceae	January- April	Jever Road	Herb
48.	*Scirpus comosus* Wall.	-	Cyperaceae	October- November	Jevar	Herb
49.	*Scirpus grossus* Linn.	-	Cyperaceae	September- November	Dadri	Herb
50.	*Scirpus tuberosus* Desf. etc.	-	Cyperaceae	August- October	Dadri	Herb
51.	*Thysanolaena maxima* (Roxb.) Kuntze.	Nastura	Gramineae	November – February	Noida	Herb
52.	*Triticum aestivum* Linn.	Gehun	Gramieae	January- March	Salarpur	Herb
53.	*Urochloa panicoides* Beauv.	-	Gramineae	August-October	G.T. Road	Herb
54.	*Vetiveria zizanioides* (Linn.) Nash.	Khas, Veeran mool	Gramineae	July- November	Dankaur	Herb
55.	*Zea mays* Linn.	Makka, Makai	Gramineae	July- October	Samaspur	Herb

The present study indicates that the family Gramineae (Poaceae) is dominant with 65 species followed by Cyperaceae with 30 species.

NEW RECORDS FOR UPPER GANGETIC PLAIN

Since the publication of "Flora of Upper Gangetic Plain and adjacent Siwalik and Sub-Himalayan Tracts" by Duthie (1903-1929) [1] several workers have contributed to the flora of this region. Raizada (1976) [2] has brought out a supplement to this flora incorporating the additions reported by various people from time to time. Raizada (1957) [3] and Raizada et al. (1964) [4] also published "Grasses of the Upper Gangetic Plain". Hussain (1967) [5] published "Some New Records of Plants for the Upper Gangetic Plain". During the present study of Sedges and Grasses of this area there are 2 plants: *Eleocharis capitata* R. Br and *Isachne albens* Trin., of Cyperaceae and Gramineae (Poaceae) respectively which have been reported for the first time form this area.

SUMMARY

The present study is the result of two years (April 2005 - April 2007) of extensive survey and exploration of Sedges and Grasses of Gautambudh Nagar. Both cultivated and wild plants are collected in flowering and fruiting stages as far as possible. The specimens were critically examined and identified with the help of the available floras such as Flora of Upper Gangetic Plain and of the Adjacent Siwalik and Sub-Himalayan Tracts, Flora of Garhwal, Flora of Delhi, Flora of Pauri, Flora of Dehradun, Flora of Udhampur and Flora of the Indian Desert etc.. The critical herbarium specimens were matched with the authentic specimens lodged at Forest Research Institute, Dehradun and Botanical Survey of India, Dehradun. The families of the flowering plants were arranged according to Betham and Hooker's (1862-1883) system of classification. A key to the genera of each family and to the species of each genus is provided. An attempt has been made to check up the nomenclature upto date as far as possible after consulting the available literature [6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23 and 24].

A total no of 95 species of Cyperaceae and Gramineae (Poaceae) have been collected from this area. Out of 95 species of these two families belonging to 68 genera, 65 species belong to Gramineae (Poaceae) (62 genera) and 30 species belong to Cyperaceae (6 genera). There are two plants of these two families which have been reported for the first time from this area.

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