

GRASSES OF INDIAN BOTANIC GARDEN

DEB KUMAR BANERJEE AND D. C. PAL

Botanical Survey of India, Howrah

A B S T R A C T

In this paper 71 species of grasses belonging to 42 genera have been enumerated. *Panicum elegantissimum* and *Polytrias amaura* are new additions to Indian Flora. They have been collected from Indian Botanic Garden which falls under the Lower Gangetic Plains.

INTRODUCTION

The Indian Botanic Garden in Howrah, West Bengal, is the largest informal garden in Asia. It was established in 1787. It stands on the right bank of the river Hooghly and has an area of 110 hectares. The plants are arranged on geographical basis (i.e. plants from a country, planted in a particular area). The garden provides various ecological conditions e.g. the shade of big trees, the bank of the river Hooghly, ditches and ponds, garden avenues and side paths, small cultivated fields, shade of logs and bamboo bushes etc. These help natural growth of the various kinds of grasses.

A catalogue of non-herbaceous phanerogams, cultivated in the Royal Botanic Garden, Calcutta was published by Gage in 1912 and an up-to-date record was made by Sen and Naskar in 1965. So an attempt was made to study the grasses excluding Bambuseae of Indian Botanic Garden.

Collections were made at weekly intervals in different seasons (1965-1971) and in different spots. 71 grasses of 42 genera are so far collected and they are arranged alphabetically within tribes under the subfamilies *Panicoideae* and *Pooideae*.

It is interesting to note that two species [(e.g. *Panicum elegantissimum* Hook. f. and *Polytrias amaura* (Buse) Kuntze, collected during this period of study were new additions to Indian flora (Banerjee 1971 and

Jain & Pal 1968)]. Such chances of introductions are possible in the garden due to exchange of herbarium materials and seeds from different countries.

A study of the plants occurring in a botanic garden, at different intervals can, therefore, be useful.

The present work should be particularly helpful to the students interested in local flora. Specimens have been deposited in Central National Herbarium and Indian Botanic Garden, Botanical Survey of India, Howrah.

A map of the Indian Botanic Garden (Sen & Naskar, 1965) is furnished where divisions are shown.

Sub-family: PANICOIDEAE

Tribe : ANDROPOGONEAE

***Apluda mutica* Linn.**

This is a perennial grass with erect or ascending culms and narrow flat leaves, growing in patches under partial shade. (Division: 6, 7, 19, 20, 24).

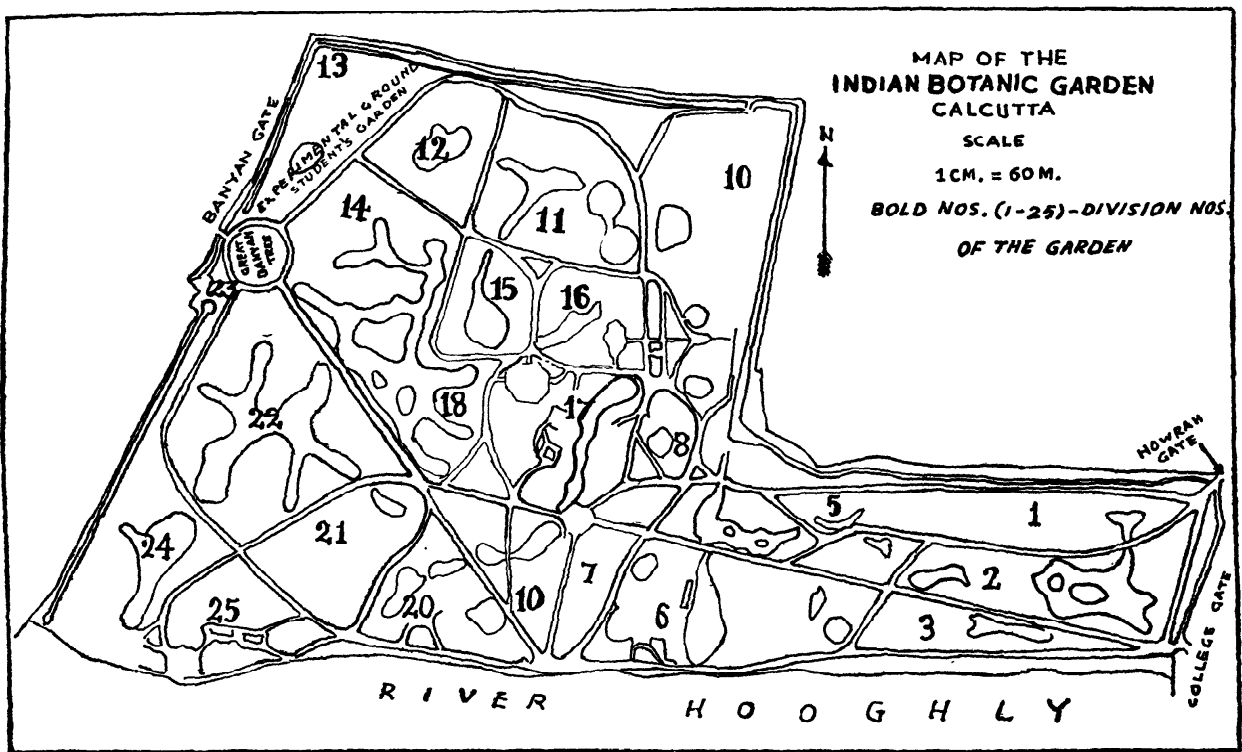
It can help as soil binder and is also used as fodder.

Fl. Sept. to Dec.

Specimen examined: Pal & Banerjee 10156 (CAL).

***Bothriochloa caucasica* (Trin.) C. E. Hubb.**

A perennial grass with erect hard culms, very commonly grows in open places in this



garden along with *Dicanthium annulatum*. (Divisions: 2, 9, 11, 13, 14, 20).

It is a promising fodder grass.

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4810 (CAL).

Bothriochloa glabra (Roxb.) A. Camus

It is an excellent fodder grass, annual with geniculately ascending culms. Nodes densely bearded. It grows in partially shady places mixed with *Imperata cylindrica* var. *major*. (Divisions: 21, 22).

It is a coarse grass and is used as fodder.

Fl. Sept. to Nov.

Specimen examined: Banerjee & Pal 4879 (CAL).

Chrysopogon aciculatus (Retz.) Trin.

This is a common perennial grass of open fields in this garden with prostrate creeping stem. Fruits bear a sharp basal callus which is injurious to animal. (Common in all the divisions).

It is an obnoxious weed in this garden.

Fl. July to Oct.

Specimens examined: Banerjee & Pal 4868 (CAL).

Cymbopogon flexuosus Wats.

A perennial densely tufted aromatic grass with coarse leaves. It is found in cultivated condition in this garden as an ornamental plant. (Division: 13).

Fl. Sept. to Nov.

Specimen examined: Banerjee & Pal 4421 (CAL).

C. martinii (Roxb.) Wats.

A perennial aromatic grass with broad, often reddish leaves, cultivated in students' garden. (Division: 13).

It is the source of ginger-grass oil, cultivated for study of students.

Fl. Aug. to Nov.

Specimen examined: In the field (not collected due to scanty material).

Dichanthium annulatum (Forsk.) Stapf

This is a perennial grass, very common

in open grassy places mixed with *Cynodon dactylon*, *Imperata cylindrica* var. *major* and *Digitaria ciliaris*. Culms are geniculately ascending. (Common in all the divisions).

It is an excellent fodder grass.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4836, 4858 (CAL).

Hemarthria compressa (Linn. f.) R. Br.

A dwarf perennial grass with long linear leaves, commonly grows in wet places. (Very common in all the lakes).

It is a good fodder grass.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4864 (CAL).

H. protensa Steud.

Perennial grass with tufted culms, linear leaf-blades, grows in wet places. (Very common in all the lakes).

It is used as fodder grass.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4803 (CAL).

Imperata cylindrica (Linn.) P. Beauv. var. *major* (Nees) C. E. Hubb. ex Hubb et Vaughan

This is a perennial grass, with silvery white panicle, occurring in open wet places in the garden mixed with *Mnesithea laevis*, *Paspalidium flavidum* and *Eriochloa procer*. (Very common throughout all the divisions).

In Bengal it is largely used for thatching and sold as "Ullu" for tying climbing stem of the *Piper betle* (Pan).

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4840 (CAL).

Mnesithea laevis (Retz.) Kunth

An erect perennial grass with slender stem. Commonly grows in small dense patches. (Divisions: 4, 6, 7, 13, 19, 20, 23, 24, 25).

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal
4865 (CAL).

Narenga porphyrocome (Hance) Bor

A tall perennial grass with a stout rhizome, cultivated in students' garden. (Divisions: 12, 13).

It is used in Bengal as support for climbing stem of *Piper betle*. The sticks are also used for walling the rooms. It is a good indicator for growing Sal (Bor, 1960).

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal
4812 (CAL).

Polytrias amaura (Buse) O. Kuntze

This is an annual prostrate grass, occurring in shady places mixed with *Cynodon dactylon*. Slender stem with golden brown inflorescence. (Divisions: 1, 2, 3, 4, 5, 8).

It is a good lawn grass.

Fl. Jan. to Mar.

Specimen examined: Banerjee & Pal
4889 (CAL).

Rottboellia exaltata Linn. f.

A tall stout grass in open places of this garden. The whole plant body is covered with tubercle-based hairs. It bears greenish white inflorescences. (Divisions: 10, 11, 12, 13, 19, 20, 24, 25).

Sometimes it is used in young stage as fodder grass for horses.

Fl. July to Oct.

Specimen examined: Banerjee & Pal
4847 (CAL).

Saccharum officinarum Linn.

A tall coarse perennial grass with solid stem and silvery panicle, cultivated in students' garden.

Cultivated for the study of the students.

Fl. Aug. to Dec.

Specimen examined: In the field. As cultivated, specimen was not preserved.

S. spontaneum Linn.

A perennial tufted grass with thick rhizome; culms solid, polished and glabrous; grows on the bank of Hooghly. (Divisions: 3, 4, 6, 7, 19, 20, 24, 25).

It helps as soil binder in the garden.

Fl. July to Nov.

Specimen examined: Banerjee & Pal
4877 (CAL).

Sorghum halepense (Linn.) Pers.

It is a tall, perennial grass with a creeping rhizome, occurring in open places near the bank of Hooghly. (Divisions: 12, 13, 14).

It was cultivated in the garden as cereal. It contains hydrocyanic acid which is harmful to animal (Bor 1960).

Fl. Sept. to Nov.

Specimen examined: In the field. As cultivated, specimen was not preserved.

Vetiveria zizanioides (Linn.) Nash.

This is a perennial, glabrous grass with a short rhizome, a very common in open places near Hooghly. It is mixed with *Chloris barbata*. (Divisions: 3, 4, 6, 7, 19, 20, 23, 24, 25).

In this garden it acts as soil binder.

Root contains oil which is used for perfumery soap and roots are also used for 'Khos-khos' In Bengal, however, the roots are not aromatic.

Fl. July to Sept.

Specimen examined: Banerjee & Pal
4874 (CAL).

Tribe : MAYDEAE

Zea mays Linn.

A tall cereal, cultivated in garden. (Divisions: 12, 13, 14, 22).

Fl. July to Nov.

Specimen examined: In the field. As cultivated, specimen was not preserved.

Tribe : PANICEAE

Axonopus compressus (Swartz.) P. Beauv.

Annual grass with a geniculate stem, digitate panicle, generally grows in shady and moist places mixed with *Paspalum orbiculare* and *Digitaria longiflora*. A naturalized American grass. (Common in all the open divisions).

It is sold as fodder grass. It is a carpet grass (Bor 1960).

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4882 (CAL).

Brachiaria distachya (Linn.) Stapf

An annual small prostrate grass commonly grows on the wayside of the garden and waste places. (Divisions: 9, 13, 15, 17, 20, 24).

It has no specific uses in this garden but it is used as fodder with other grasses.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4839 (CAL).

B. miliiformis (Presl) A. Chase

Annual grass, grows in a dry condition in open field. (Divisions: 13, 14, 15, 25).

It has no specific uses in this garden but is used as fodder with other grasses.

Fl. Sept. to Dec.

Specimen examined: Banerjee & Pal 4873 (CAL).

B. mutica (Forsk.) Stapf

A perennial grass with erect or ascending culm, covered with stiff long thick hairs, grows in ponds or ditches or on the bank of Hooghly. It makes association with *Panicum* spp. (Not common in all the lakes but it occurs in Prain lake, King lake and in the ditches in the north-eastern side of the garden).

It is sold in the garden as fodder grass.

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal 4876 (CAL).

B. ramosa (Linn.) Stapf

This is a leafy grass and grows in open places throughout the garden.

This grass is liked by cattle.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4888 (CAL).

B. reptans (Linn.) Gard. et C. E. Hubb.

A small prostrate grass, commonly grows under shade or in the cultivated land as weed. It makes association with *Paspalum orbiculare* and *Setaria pallide-fusca*. (Divisions: 1, 4, 5, 6, 9, 11, 15, 19, 22, 24).

It is sold in the garden along with other

grasses for fodder. It is a good fodder for cattle (Bor 1960).

Fl. July to Sept.

Specimen examined: Banerjee & Pal 4430, 4859 (CAL).

B. setigera (Retz.) C. E. Hubb.

It is an annual leafy species found in shade. It makes association with *Cyrtococcum* spp. (Divisions: 2, 3, 5, 7, 8, 10, 12, 16, 20, 21, 23, 25).

In this garden it is sometimes used as fodder with other grasses.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4875 (CAL).

Cyrtococcum patens (Linn.) A. Camus

This is an annual prostrate grass, grows in sub-shady area. (Divisions: 1, 5, 8, 9, 12, 15, 18, 21, 23).

It grows in the garden as weed.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 3190 (CAL).

C. trigonum (Retz.) A. Camus

It is an annual grass, found in dense shady and in damp places. It is associated with *Cynodon dactylon* and *Dichanthium annulatum*. (Divisions: 1, 3, 4, 5, 7, 9, 12, 15, 16, 17, 23).

It is a weed of the garden.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 10125 (CAL).

Digitaria ciliaris (Retz.) Koeler

It is an annual grass, with a tall cylindrical stem. It grows in open field, associated with *Paspalum orbiculare*, *Imperata cylindrica* var. *major*. (Very common in all the divisions).

It is sold in the garden as fodder along with other grasses.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4817 (CAL).

D. bicornis (Lamk.) Roem. et Schult. ex Loud. (*D. biformis* Willd.)

An annual grass with a prostrate stem, rooting at the nodes. It bears a pair of stiff racemes. It grows in open fields. (Common in most of the divisions).

It has some fodder value when young.

Fl. June to Sept.

Specimen examined: Banerjee & Pal 4863, 4424 (CAL).

Digitaria longiflora (Retz.) Pers. (*D. preslii* Henr.)

An annual grass with creeping stem, generally grows in open field and waste places. (Common in all the divisions).

It is sold in the garden as fodder along with other grasses.

Fl. May to Aug.

Specimen examined: Banerjee & Pal 4869 (CAL).

D. setigera Roth apud. Roem et Schult.

It is an annual tall grass, grows in dry condition under the shade of the tree. (Divisions: 9, 11, 12, 14, 16, 18, 20).

It is a good fodder grass, sold for cattle.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4837 (CAL).

D. stricta Roth ex Roem et Schult.

An annual erect herb, grows in open places. (Common in most of the divisions).

It has no specific uses in the garden.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4818 (CAL).

D. ternata (A. Rich.) Stapf

This is an annual fascicled, decumbent grass, grows in waste places. (Divisions: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 23, 24).

It has some fodder value (Bor, 1960).

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4863 (CAL).

Echinochloa colonum (Linn.) Link.

An annual grass, grows with a geniculately ascending stem. It is branched in lower parts, commonly found in moist

places. (Divisions: 1, 2, 6, 10, 12, 14, 15, 19, 20, 21, 22, 25).

It is a good fodder grass. The grains are eaten by the poorer people of Egypt. (Bor, 1960).

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4432 (CAL).

E. cruspavonis (H. B. K.) P. Beauv.

It is an annual aquatic grass and grows in ponds and ditches of the garden, associated with *Eriochloa procera* and *Panicum repens*. (Common in all the lakes).

It is used as fodder.

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal 4866 (CAL).

Eriochloa procera (Retz.) C. E. Hubb.

A perennial grass with a creeping rhizome, grows in wet places and ditches in garden. (Divisions: 2, 3, 8, 17, 18, 22).

It is sold in the garden as fodder along with other grasses.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4852 (CAL).

Oplismenus burmanii (Retz.) P. Beauv.

A diffusely branched annual grass, commonly forms dense patches in shady places, often creeping on the ground under the shade of the trees. (Divisions: 1, 2, 3, 5, 7, 9, 11, 13, 17, 21, 23, 25).

It has no specific uses in the garden.

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4849 (CAL).

O. compositus (Linn.) P. Beauv.

This is a creeping perennial grass, often met in same situation as *O. burmanii*.

It is sold as fodder along with other grasses.

Fl. Sept. to Nov.

Specimen examined: Banerjee & Pal 4881 (CAL).

Panicum elegantissimum Hook. f.

A perennial tufted grass, grows in open

field. This grass has been first recorded by the first author in India. This species is often confused in the field with *P. trypheron*.

It has no specific economic uses.

Fl. July to Oct.

Specimen examined: Banerjee & Pal 4860 (CAL).

***Panicum repens* Linn.**

Perennial grass with a robust elongated rhizome, grows in marshy places of the garden. (Common in the lakes). In West Bengal it is weed of rice fields.

It is an obnoxious weed of the paddy fields (Bor, 1960).

Fl. May to Aug.

Specimen examined: Banerjee & Pal 4843 (CAL).

***Paspalidium flavidum* (Retz.) A. Camus**

A variable tufted grass with several decumbent and ascending stems, commonly occurs in moist and shady places. (Common throughout the garden).

It is sold as fodder.

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4841 (CAL).

***Paspalum conjugatum* Berg.**

Annual grass with creeping and stoloniferous stem, grows in rainy season on open fields of the garden. (Common in all divisions).

It is used as lawn grass. It has much fodder value (Bor, 1960).

Fl. May to Sept.

Specimen examined: Banerjee & Pal 4856 (CAL).

***P. orbiculare* Forst.**

An annual grass with creeping rootstock, commonly found on wet soil particularly at water edges. (Common in most of the divisions).

The seeds of the grass are poisonous to animal and human beings (Bor, 1960).

Fl. Sept. to Nov.

Specimen examined: Banerjee & Pal 4855 (CAL).

***Sacciolepis indica* (Linn.) A. Chase**

It is an annual grass, generally found in swampy areas of the garden. Some plants are seen with proliferated spikelets. (Divisions: 2, 3, 6, 17, 18, 22).

Cattle like it.

Fl. July to Sept.

Specimen examined: Banerjee & Pal 4809 (CAL).

***Setaria barbata* (Lamk.) Kunth**

This is an annual grass, growing in open or subshady places. (Common in all the divisions).

It is used as fodder.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4895 (CAL).

***S. glauca* (Linn.) P. Beauv.**

An annual grass with a slender culm, generally confused with *S. pallide-fusca* which grows in open field. (Common in all the divisions).

Cattle like it.

Fl. June to Oct.

Specimen examined: Banerjee & Pal 4891 (CAL).

***S. italica* (Linn.) P. Beauv.**

It is an annual grass, cultivated in the garden for grains. (Divisions: 12, 13, 14).

Once it was cultivated for its grains.

Fl. July to Sept.

Specimen examined: Banerjee & Pal 4870 (CAL).

***S. pallide-fusca* (Schumach.) Stapf et C. E. Hubb.**

This is an annual grass, growing with *S. glauca* in the open fields of the garden. (Common in most of the divisions).

It is used as fodder along with other grasses.

Fl. June to Oct.

Specimen examined: Banerjee & Pal 4844 (CAL).

Setaria tomentosa (Roxb.) Kunth

An annual grass, grows in shady places of the garden. (Divisions: 1, 2, 4, 7, 10, 16, 17, 19, 25).

It has no specific uses in the garden.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 21612 (CAL).

Stenotaphrum dimidiatum (Linn.) Brongn.

This is a creeping perennial grass growing under the shades of the mango and Litchi trees in the garden. It has flat tape like inflorescence. It is not very common in the garden. (Divisions: 3, 4, 8, 10).

Cattle like it very much.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 3148 (CAL).

Sub-family: POOIDEAE

Tribe: ARUNDINEAE

Arundo donax Linn.

It is a tall, stout perennial grass with fistular stems, commonly grows near marshes in the garden. (Divisions: 7, 14, 19).

It is a good fodder grass. The stems of this plant are used as flute by children. In garden it is planted as ornamental plant.

Fl. Oct. to Jan.

Specimen examined: Banerjee & Pal 4811 (CAL).

Phragmites karka (Retz.) Trin. ex Steud.

This is a tall, rhizomatous, perennial grass. This moisture loving grass is found in abundance along the river Hooghly and marshes. (Only restricted on the banks of lakes and Hooghly).

It is planted by side of the lakes in the garden as ornamental plant but it is wild on the bank of the Hooghly.

Fl. Sept. to Jan.

Specimen examined: Banerjee & Pal 4814 (CAL).

Tribe: CHLORIDEAE

Chloris barbata Sw.

This is a common grass, growing in waste

places. The aerial parts of this grass dry up completely in summer, but new shoots come out in monsoon. (Common throughout all the divisions).

It has no specific uses in the garden except fodder along with other grasses.

Fl. Oct. to Feb.

Specimen examined: Banerjee & Pal 4871 (CAL).

Cynodon dactylon (Linn.) Pers.

It is a common perennial, creeping lawn grass of the garden. It grows mixed with many other grasses. (Very common grass throughout the garden).

People collect their twigs as sacred ones for offering in the different ceremonies.

Fl. Most parts of the year.

Specimen examined: Banerjee & Pal 4839 (CAL).

Tribe: ERAGROSTEAE

Dactyloctenium aegyptium (Linn.) P. Beauv.

This is a variable, annual plant with geniculate stems. It grows commonly as weed in cultivated fields or on the roadsides. (Common in all the divisions).

It is a common weed in the garden.

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal 4861 (CAL).

Desmostachya bipinnata (Linn.) Stapf

It is a rhizomatous perennial grass, growing in open places in garden. (Common in all the divisions).

This species is very important in different ceremonies of Hindus, particularly in 'Shradh Ceremony'.

Fl. June to Sept.

Specimen examined: Banerjee & Pal 4816 (CAL).

Eleusine indica (Linn.) Gaertn.

An annual grass with digitate spikes, commonly grows in moist soils or in cultivated fields. (Very common throughout the garden).

It is a common weed of the garden.

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4838 (CAL).

Eragrostis coarctata Stapf

This tufted perennial grass occurs commonly in sandy places. It is associated with *E. tenella*. (Divisions: 7, 14, 15, 19, 20).

It is sold as fodder along with other grasses.

Fl. Sept. to Dec.

Specimen examined: Banerjee & Pal 4802 (CAL).

E. gangetica (Roxb.) Steud.

This is a perennial grass growing in muddy soil. (Divisions: 2, 6, 9, 17, 19, 25).

The inflorescence of this grass is used for ornamentation after dyeing.

Fl. Sept. to Feb.

Specimen examined: Banerjee & Pal 4815 (CAL).

E. pilosa (Linn.) P. Beauv.

An annual grass frequently grows on the sandy soil in the garden. (Common in most of the divisions).

Sometimes it is used as fodder.

Fl. Aug. to Dec.

Specimen examined: Banerjee & Pal 4801 (CAL).

E. tenella (Linn.) P. Beauv.

It is a tufted annual grass found in open fields in the garden. (Very common throughout the garden).

Cattle like it very much.

Fl. Sept. to Dec.

Specimen examined: Banerjee & Pal 4850 (CAL).

Leptochloa chinensis (Linn.) Nees

An annual tufted slender grass grows frequently in moist places. (Common in all the lakes and ditches in the garden).

Sold as fodder grass along with other grasses.

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal 4867 (CAL).

L. panicea (Retz.) Ohwi.

This is an annual grass grows in semi-

moist places in the garden. (Common in all the divisions).

It has no specific uses in the garden.

Fl. July to Dec.

Specimen examined: Banerjee & Pal 4851 (CAL).

Tribe : ORYZEAE

Hygroryza aristata (Roxb.) Nees ex Wight and Arn.

It is a floating grass, grows extensively on ponds and jhills of the garden. The feathery green roots come out from the nodes. (Occurs in the lakes of the north-western side of the garden).

Cattle are fond of this grass and the grain is said to be eaten by the poorer people (Bor, 1960).

Fl. Oct. to Dec.

Specimen examined: Banerjee & Pal 4819 (CAL).

Oryza sativa Linn.

This is an annual cultivated important cereal. It was cultivated as cereals in the garden.

Fl. Aug. to Oct.

Specimen examined: In the field. As cultivated, specimen was not preserved.

Tribe : SPOROBOLEAE

Sporobolus diander (Retz.) P. Beauv.

It is a deep rooted densely tufted grass; commonly growing in open field. (Common in all the divisions). It is associated with *Eragrostis tenella*.

It has no specific uses in the garden.

Fl. Aug. to Oct.

Specimen examined: Banerjee & Pal 4414 (CAL).

S. fertilis (Steud.) Clayton

It is a perennial, densely tufted grass, generally grows in open field. (Common in all the divisions).

It is sold as fodder along with other grasses.

Fl. July to Nov.

Specimen examined: Banerjee & Pal 4846 (CAL).

Tribe : THYSANOLAENEAE

Thysanolaena maxima (Roxb.) O. Ktze.

It is a tall, perennial grass with a solid stem. (Divisions: 12, 13, 17, 19).

It is cultivated in the garden as ornamental plant.

In this area, inflorescence is used for brooms.

Fl. Aug. to Nov.

Specimen examined: Banerjee & Pal 4854 (CAL).

Tribe : TRITICEAE

Triticum aestivum Linn.

This is a cultivated, annual cereal.

It was cultivated as cereal in the garden.

Fl. Feb. to April.

Specimen examined: In the field. As cultivated, specimen was not preserved.

ACKNOWLEDGEMENTS

The authors wish to express their grateful thanks to the Director and the Joint Director, Botanical Survey of India, for all necessary facilities in these studies and to Dr. S. K. Jain for his guidance in the preparation of this paper. We are also grateful

to Shri L. D. Sangle for careful and neat typing of this paper.

REFERENCES

- BANERJEE, D. K. *Panicum elegantissimum* Hook. f. from India. *J. Bombay nat. Hist. Soc.* 68(2) : 494-495. 1971.
- AND D. C. PAL. Some new distribution records in Indian Grasses. *Bull. bot. Surv. India* 12(1-4) : 70-72. 1970.
- BISWAS, K. Study of the flora of South Calcutta with special reference to the Flora of the University College of Science Compound, Ballygunge, Calcutta. *Bull. bot. Soc. Bengal* (Special publication No. 1), 1950.
- BOR, N. L. *The Grasses of Burma, Ceylon, India & Pakistan*. London, 1960.
- DATTA, S. C. AND N. C. MAJUMDAR. Flora of Calcutta and vicinity. *Bull. bot. Soc. Bengal* 20 : 16-120. 1966.
- GAGE, A. T. A catalogue of non-herbaceous phanerogams cultivated in the Royal Botanic Garden, Calcutta. *Rec. bot. Surv. India* 5 : 1-367. 1911-12.
- HOOKE, J. D. *Flora of British India* 7, 1897.
- JAIN, S. K. AND D. K. BANERJEE. Notes on Indian Grasses-VI. The identity and distribution of certain species. *Sci. & Cult.* 33(3) : 117-119. 1967.
- AND D. C. PAL. First record of the genus *Polytrias* Hackel (Poaceae) in India. *Ibid.* 34(8) : 361-362. 1968.
- MAJUMDAR, R. B. Studies on the grasses of 24-Parganas. *Bull. bot. Soc. Bengal* 10(1 & 2) : 1-114. 1956.
- Weed flora of the district of 24-Parganas, W. Bengal. *Indian Agr.* 6 : 89-213. 1966.
- PRAIN, D. *Bengal Plants* 2, 1903.
- SEN, J. AND J. N. NASIKAR. Non-herbaceous phanerogams of the Indian Botanic Garden, Calcutta. *Bull. bot. Surv. India* 7(1-4) : 31-61. 1965.