BIBLIOGRAPHY AND ABSTRACT OF PAPERS ON FLORA OF WEST BENGAL

1. Acharya, K., Rai, M., Rai, N.P. & Giri, S. 2003. "Two new records of Agaricales from Darjeeling hills, West Bengal". *J. Mycopath. Res.* 41(1): 113-114.

Abst.- Darjeeling Himalaya due to its unique environmental condition is rich in diversity. Reports *Amanita muscaria* var. *flavivolvata* (Singer) Jenkins first time from this area and *Flamulina velutipes* (Curt. ex Fr.) Sing first time from India.

2. Acharya, K., Rai, M., Subba, J. & Gurug, S. 2004. "Two species of *Lactarius* - new report from Darjeeling, West Bengal". *Indian J. Appl. Pure Biol.* 19(1): 63-66.

Abst.- Darjeeling Himalaya due to its unique environmental condition is rich in biodiversity. Here we have reported, described and illustrated *Lactarius delioiosus* (L. ex Fr.) S.F. Gray and *L. vellereus* Fr. for the first time from this area.

3. Acharya, K., Rai, N.P., Rai, M. & Majumdar, A.M. 2004. "Nutritional composition of two wild edible mushroom of Darjeeling Himalaya". *Indian J. Appl. Pure Biol.* 19(1): 79-83.

Abst.- The science of nutrition is of paramount importance in the present age. Here different nutritional parameters i.e. protein, carbohydrate, fat, amino acid and crude fibre content of *Clitocybe* sp. and *Collybia* sp. were studied. Results showed that these two mushrooms have significant amount of carbohydrate, protein, free amino acids and crude fibre whereas low in the amount of fat signifies its importance as diet for the sufferers of diabetes, obesity, hypertension, atherosclerosis etc.

4. Adhikary, H.K. (1971) 1978. "World and Indian distribution of eight commonly growing weeds in coalfields and industrial areas of Burdwan, West Bengal". *Bull. Bot. Soc. Bengal* 31 (1&2): 74-77.

Abst.- The present report includes the phytogeographical distribution of eight commonly growing weed species in India and the World. Almost all the eight species are cosmopolitan in the tropical regions of the globe. They thrive well in sandy and loamy soil and grow as roadside wasteland weeds in the tropical plains. All of those species grow well in the Gangetic plains of Bengal, Bihar and Orissa, where the soil is mostly loamy with good porosity and enough humus contents.

5. Adhikary, H.K. & Chatterjee, S.K. 1972. "Vegetation and reproductive growth of eight commonly growing weeds in coalfields and industrial areas of Burdwan, West Bengal. I. Effect of light". *Bull. Bot. Soc. Bengal* 26(1): 99-103.

Abst.- In the present study the growth and developmental behaviour of eight weed species growing in coalfields and industrial areas of Burdwan, in relation to duration and intensity of light have been reported. Vegetation and reproductive growth in all the eight-weed species have been inhibited as result of increasing duration and decreasing intensity of light. Responses showed variation from species to species of *Cassia sophera* L., *Cassia tora* L., *Malachra capitata* L. and *Sida acuta* Burm. were found to be less sensitive to such treatments.

6. Aditya, N.R. & Ghosh, R.B. 1988. "Useful angiosperms of Cooch Behar, West Bengal". *J. Econ. Taxon. Bot.* 12(2): 273-284.

Abst.- The present paper deals with an inventory of 115 species from Cooch Behar district of West Bengal. The paper gives a brief account of plants mainly wild with few cultivated plant which are naturalized. The botanical name of each species, its family and uses including method of administration are given.

7. Aditya, N.R. & Ghosh, R.B. 1989. "Further contribution to the flora of Cooch Behar district, West Bengal". *J. Econ. Taxon. Bot.* 13(2): 437-453.

Abst.- The present study is a further contribution to the Flora of Cooch Behar district of North Bengal. A total of 186 species of angiosperms embracing 64 families is recorded. Of these 155 taxa belong to dicotyledons and 31 taxa to monocotyledons.

8. Agrawala, D.K. & Chowdhery, H.J. 2007. "*Luisia secunda* Seidenf. (Orchidaceae)- A new record for India". *Indian J. Forest.* 30(2): 243-244.

Abst.- *Luisia secunda* Seidenf., a species endemic to Thailand is collected from Darjeeling district of West Bengal (India) and is reported as an addition to the Orchid flora of India.

9. Ansari, A.A. & Panda, S. 2004. "Wild Asteraceous species of Indian Botanic Garden". *Bull. Bot. Surv. India* 46(1-4):57-59.

Abst.- The paper deals with the wild Asteraceous species of Indian Botanic Garden, Howrah in West Bengal. A total number of 16 wild species growing in this garden have been

recorded. All are herbaceous. Many species flower throughout the year. The leaves of *Mikania macrantha* Kunth and *Ageratum conyzoides* L. are crushed and applied on wounds.

10. Awasthi, Dharani Dhar & Agarwal, Manjoo Rani. 1969. "On the species of *Cryptothecia* from Darjeeling district, India". *J. Indian Bot. Soc.* 48: 62-72.

Abst.- The paper deals with 7 species of the lichen genus from the Darjeeling district, including two new reports (*Cryptothecia candida* and *C. effusa*) for the Indian sub-continent.

11. Babu, C.R. & Biswas, M.C. 1970. "*Lepidium ruderale* Linn. (Brassicaceae) in India". *Curr. Sci.* 39(12): 288.

Abst.- *Lepidium ruderale* Linn. (*non* sensu Hook. *f.* & Anders.)- a native of Europe, introduced and naturalized in North America is now recorded from Konnagar, Hooghly district for the first time from West Bengal as well as India. A concise description with critical notes is provided here.

12. Bandyopadhyay, S. & Das, M. 1996. "Addition to the flora of Howrah district, West Bengal". *J. Econ. Taxon. Bot.* 20(3): 739-741.

Abst.- Twenty one species hitherto unknown from Howrah district of West Bengal have been reported in this paper. Citation along with flowering & fruiting time has also been given.

13. Bandyopadhyay, S., Mitra, S. & Mukherjee, S.K. 2003. "Addition of two taxa in the floristic composition of West Bengal". *J. Interacad.* 7(3): 340-342.

Abst.- Two plants such as *Ajuga bracteosa* Wall. ex Benth. var. *densiflora* (Wall. ex Benth.) Hook. *f.* (Lamiaceae) and *Lindernia rotundifolia* (L.) Alston (Scrophulariaceae) are first reported from West Bengal in the district of Koch Bihar. The morphological description, field notes and distribution are provided for these two taxa.

14. Banerjee, A. 1999. "Ethnobotany of a few plant species in the eroded soil of Birbhum, West Bengal". *J. Econ. Taxon. Bot.* 23(2): 527-530.

Abst.- A list of 39 plant species are presented with their flowering time, frequency and local uses.

15. Banerjee, A. 1999. "Ethnobotany of some trees in the Santhal villages of Birbhum, West Bengal". *J. Econ. Taxon. Bot.* 23(2): 531-534.

Abst.- Account of 33 species belonging to 23 families is presented with their botanical and Santhali names, flowering and fruiting time, frequency, medicinal and other uses.

16. Banerjee, A. & De, B. 2001. "Anthocyanins in some flowers of West Bengal". *J. Med. Aromat. Pl. Sci.* 23(4): 600-604.

Abst.- Total anthocyanin contents measured in dried and fresh flowers of 4 common species in West Bengal, India.

17. Banerjee, B.C. 1992. "Additions to the flora of Cooch Behar district (West Bengal)". *J. Econ. Taxon. Bot.* 16(1): 177-183.

Abst.-A total number of 196 specimens of angiosperms and pteridophytes have been recorded from Cooch-Behar district of West Bengal by C. R. Das *et al.* in 1982. The present paper deals with the additions of 99 species of angiosperms and pteridophytes on the basis of collection made by the author for that district in 1984 which have not yet been recorded by the earlier workers.

18. Banerjee, B.C. & Naskar, A.K. 1984. "Some plants new to West Bengal". *J. Econ. Taxon. Bot.* 5(4): 982.

Abst.- A survey of available literature revealed that *Trevesia palmate* (Roxb.) Vis., *Lolium temulentum* L. var. *temulentum* and *Eragrostis atrovirens* (Desf.) Trin. ex Steud. have so far been new report from West Bengal.

19. Banerjee, D.K. 1968. "The grasses of Burdwan district, West Bengal". *Bull. Bot. Surv. India* 10(3 & 4): 246-250.

Abst.- The object of the present investigation is to provide an account of the grasses of Burdwan. 75 grasses, out of which 45 belong to the sub-family Panicoideae and 30 to the subfamily Pooideae, are reported from Burdwan district (22°56' to 25°53' N and 86°48' to 88°25' E). The habit, habitat, ecological notes and economic uses have been given. Some grasses recorded from Burdwan district appear to be very recent addition to the grass flora of West Bengal.

20. Banerjee, D.K. & Pal, D.C. 1970. "Some new distributional records in Indian grasses". *Bull. Bot. Surv. India* 12(1-4): 70-72.

Abst.- The paper records new distributional area in India for 12 grasses. 3 species of grasses from Bihar, 1 from Orissa & 9 from West Bengal has been recorded. *Brachiaria subquadripara* (Trin.) Hitchc., *B. villosa* (Lamk.) A. Camus var. *barbata* Bor, *Coelorhachis khasiana* (Hack.) Stapf ex Bor, *Echinochloa cruspavonis* (H. B. K.) Schult., *Eragrostis riparia* (Willd.) Nees, *Iseilema anthephoroides* Hack., *Melinis minutiflora* P. Beauv., *Microstegium vegans* (Nees ex Steud.) A. Camus and *Setaria paniculifera* (Steud.) Fourn. ex Hemsl. have been recorded from West Bengal.

21. Banerjee, D.K. & Pal, D.C. 1974. "Grasses of Indian Botanic Garden". *Bull. Bot. Surv. India* 16(1-4): 72-81.

Abst.- 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 Lower Gangetic Plains.

22. Banerjee, G. 1997. "Check list of algae in domestic sewage of Calcutta". *Environm. Ecol.* 15(3): 548-552.

Abst.- Altogether thirty two species of sewage grown algae belonging to genera Cyanophyceae, Chlorophyceae, Euglenophyceae and Bacillariophyceae are reported. Some algae such as *Gomphonema, Gyrostigma* and *Navicula* may be used as indicators to monitor water quality.

23. Banerjee, G. 1998. "Survey of algae in habitats influenced by agro-chemical effluents and domestic sewage". *Environm. Ecol.* 16(1): 132-134.

Abst.- From the survey of habitats influenced by the effluents of an agro-chemical factory at Rishra, West Bengal single species of algae (*Oscillatoria subbrevis*) was identified. But in domestic sewage altogether 18 species of algae were identified which included six species of Cyanophyceae dominated by *Oscillatoria* (three species), eight species of Chlorophyceae dominated by *Spirogyra*, three species of Bacillariophyceae dominated by *Navicula* and *Phacus* is only representative of Euglenophyceae.

24. Banerjee, G. 2000. "Algal diversity in the scenario of an abandoned paper mill in West Bengal". *Environm. Ecol.* 18(2): 341-343.

Abst.- Survey of the algal flora of different habitats of a paper mill factory was made. Altogether 34 species of algae belonging to 18 genera were recorded from the paper mill

arena. These forms includes 12 species of Cyanophyceae dominated by *Oscillatoria* (nine species); four species of Chlorophyceae and 17 species of Bacillariophyceae dominated by *Navicula* (four species), *Cymbella* (three species), *Fragilaria* (two species) and *Phacus* is the only representative of Euglenophyceae.

25. Banerjee, L.K. 1969. "*Mollugo disticha* (L.) Ser.: A new record for West Bengal". *Sci. & Cult.* 35 (2): 63.

Abst.- During a collection trip to Salt Lake of Calcutta, a species of *Mollugo*, viz. *M. disticha* (Linn.) Ser. was collected. This species is reported for the first time in West Bengal State, thus extending its range of distribution from the Peninsular India.

26. Banerjee, R.N. 1966. "*Globba schomburgkii* Hook. *f.*- a new record for India". *Bull. Bot. Surv. India* 8 (3 & 4): 359-361.

Abst- *Globba schomburgkii* Hook. *f.* has been collected from the Thanamakua village in the district of Howrah, West Bengal. This is a new record for India. A detailed description along with specimen examined and figures has also been given in this paper.

27. Banerjee, R.N. & Babu, C.R. 1971. "A note on *Leea aurantiaca* Zoll. (Vitaceae)". *Indian Forester* 97(1): 19.

Abst.- *Leea aurantiaca* Zoll. (= *L. acuminata* Wall. ex Cl.), a species of Eastern India and Malesia is recorded here for the first time from the plains in Thanamakua village of Howrah district) of West Bengal. The correct nomenclature and a concise description of this interesting taxon are also given here.

28. Banerjee, R.N., Giri, G.S. & Basu, S.K. 1987. "On *Equisetum ramosissimum* Desf. from West Bengal plains". *J. Econ. Taxon. Bot.* 11(1): 17-19.

Abst.- The present paper deals with the occurrence of *Equisetum ramosissimum* Desf. in the plains of West Bengal. The note presents here a short description of this species based on personal observation and supplemented by some ecological notes relating to its present distribution.

29. Banerjee, R.N. & Pal, D.C. 1984. "Some neglected plants of West Bengal, India". *J. Econ. Taxon. Bot.* 5(4): 905-906.

Abst.- The paper deals with the first report of occurrence of *Eryngium foetidum* Linn., *Euphorbia heterophylla* Linn. and *E. synadenium* Linn. in West Bengal. The socio-economic importance of *Glinus oppositifolius* (Linn.) A. DC. is also recorded here for the first time.

30. Banerjee, R.N. & Paul, T.K. 1995. "Malvaceae of West Dinajpur district, West Bengal". *J. Econ. Taxon. Bot.* 19(2): 313-316.

Abst.- The district West Dinajpur was visited to study the wild plant resources. A taxonomic account of the family Malvaceae has been furnished herewith a workable key, short description and places of occurrence (not reported so far), to identify the taxa in the field for the Flora of West Bengal.

31. Barui, N.C. & Chanda, S. 1995. "Holocene vegetational history of Calcutta peat (Bhowanipur)". *J. Natl. Bot. Soc. India* 49:161-166.

Abst.- During the Metro Railway Project work between 1978 to 1985, a series of sedimentary sections were exposed in different parts of Calcutta along the stretch of excavation. The C^{14}-datings of the samples at different depths range from 7030 ± 150 YBP to 2640 and 150 YBP (Barui and Chanda 1992). Samples from a profile of 12 m thickness with two distinct black peat layers intercepted with sandy clay layers were collected from Bhowanipur, Calcutta, and palynologically investigated. In the present investigation the age of the lowermost peat band at the depth of 12m turned out to be 6550 ± 120 YBP, confirming the Holocene age of the samples. The dominant fossil pollen types recovered from the samples were *Heritiera* along with *Suaeda, Excoecaria, Barringtonia, Sonneratia, Nipa,* etc., most of which originated from the mangroves. Pollen grains of grasses (both smaller and larger) along with some fresh water elements, and fern spores were also recorded in large quantities. The fossil pollen assemblage indicated the existence of a swampy halophytic vegetation in and around Calcutta about 7030 years ago from today, which, to some extent, express similarities with the present day vegetation of the Sunderbans.

32. Barui, N.C. & Sengupta, P. 2004. "Pollen analytical investigation of some peat deposits in Bengal Basin". *J. Botan. Soc. Bengal* 58: 59-62.

Abst.- Fresh subsurface peat samples were collected and palynologically investigated from Barrackpore, N-24 Parganas, 30 km East of the Kolkata city. The pollen analytical investigation depicts the existence of large number of core mangroves and some fresh water elements and ferns. The dominant fossil pollen grains recorded from the samples were

Heritiera along with *Excoecaria, Bruguiera, Avicennia, Rhizophora, Barringtonia, Sonneratia, Suaeda, Phoenix paludosa, Nipa* and large number of fern spores such as *Achrostichum,* and grass pollen grains reflected variable amount of vegetation in three different peat bands. It also reflects the swampy halophytic vegetation to some extent compatable to the present day vegetation of the Sunderbans.

33. Basak, P. & Samajpati, N. 1998. "Agaricales of West Bengal, VII: Some mushrooms of 24-Parganas district, West Bengal". *J. Mycopath. Res.* 36(2): 89-94.

Abst.- Five species of mushrooms were reported (namely *Agaricus squalidus* Massee, *Agrocybe broadwayii* (Murr.) Dennis, *Gymnopilus dilepis* Berk. & Br., *Lentinus squarrosulus* Mont. and *Marasmiellus inoderma* (Berk.) Singer. from 24-Parganas district, West Bengal. Of these *M. inoderma* is first reported from West Bengal. *L. squarosulus* is an edible species.

34. Basak, R.K. 1968. "A note on the distribution of some plants in Birbhum district, West Bengal". *Bull. Bot. Surv. India* 10(3 & 4): 254-257.

Abst.- The distribution of 24 taxa in Birbhum district of West Bengal has been recorded, the majority of which being reported from the state for the first time. A list of such plants with notes on their distribution has also been given.

35. Basak, R.K. 1968. "*Ophiglossum nudicaule* L. *f.* var. *macrorrhizum* (Kze.) Clausen: a new record for West Bengal and Eastern India". *Indian Forester* 94: 639-640.

Abst.- *Ophiglossum nudicaule* L. *f.* var. *macrorrhizum* (Kze.) Clausen (Ophioglossaceae) have been collected from Kachujore forest near Suri in Birbhum district. This species have been new record for West Bengal and for Eastern India. A brief description along with correct nomenclature has also been given.

36. Basak, R.K. 1973. "The bibliography on the flora and vegetation of Bengal with an introductory note". *Bull. Bot. Surv. India* 15(1 & 2): 22- 38.

Abst.- A brief account of the history of explorations and taxonomic studies on vascular plants in Bengal is presented. The bibliography has about 500 references and includes most of the literature on the flora and vegetation of Bengal and some related topics. It is a step towards preparing the revised floras of the state of West Bengal and Bangladesh.

37. Basak, R.K. 1975. "Distribution of carnivorous plants in West Bengal". *Bull. Bot. Surv. India* 17(1-4): 97-107.

Abst.- The distribution of 18 species of carnivorous plants in the different districts of West Bengal is recorded with annotations. Some of these are new records for the state of West Bengal.

38. Basak, S.K. 1997. "Medicinal Plants of Bankura (W.B.) and their uses". *J. Natl. Bot. Soc. India* 51: 61-68.

Abst.- Altogether 115 medicinal plants belonging to 48 families have been collected from Bankura district in different seasons in 15 collection trips from February '95 to September '96. In this paper some of the medicinal plants which are the sources of potential drugs have been enumerated. Their scientific name, local name, family, parts used and therapeutic uses are given due to indiscriminate exploitation they require conservation and cultivation.

39. Basak, S.K. 2006. "Medicinal plants of Bankura (West Bengal) and their uses". *J. Econ. Taxon. Bot.* 30(Suppl.): 217 - 224.

Abst.- Altogether 233 medicinal plants belonging to 78 families have been collected from Bankura district, West Bengal in different seasons in 30 collection trips from February 1995 to March 1997. Out of which 115 medicinal plants belonging to 48 families have been published in *Journ. Natl. Bot. Soc.* 51:61-68. 1997 and rest 117 plants belongings to 58 families have been considered in this paper. The medicinal plants which are the sources of potential drugs have been enumerated. Their scientific name, local name, family, parts used and therapeutic uses are given. Due to indiscriminate exploitation they require conservation and cultivation.

40. Basnet, D.B. 2004. "Some common weed flora in forest plantation of Darjeeling hill of West Bengal, India". *Indian J. Envir. Ecoplann.* 8(2): 533-539.

Abst.- The study aimed to record the composition and structure of weed flora encountered in forest plantation of different altitudinal zones of Darjeeling Hills. Commonly 43 species of weeds recorded in lower hill, 92 species in middle hill and 126 species in the upper hill zone. Of which *Ageratum conyzoides* L., *Eupatorium adenophorum* Sp., *Lantana camara* L., *Diplazium esculentum* (Retz.) Sw. Schrad., *Vittardiana triloba* (Gaudich) DC., *Erianthus munja* Jesw., *Capillipedium assimile* (Steud.) A. Comus., *Poa annua* L., *Carex cruciata* Wahlenb., *Oplismenus compositus* (L.) Beur. were some of the major weeds.

41. Basnet, D.B. & Chetri, D.R. 1999. "Ethnobotany of some fibre yielding plants of Himalayan Environment of Darjeeling". *Indian J. Envir. Ecoplann.* 2(3): 335-338.

Abst.- From the biodiversity point of view Darjeeling Himalaya is very rich. Being a component of the biodiversity hotspots of the Eastern Himalaya, it is a virtual conservatory of a vast gene pool. Darjeeling can also boast of a rich cultural diversity, since it is described as a "Babel of Tribes and Nations". The diversity of both these types makes it an ideal ground for ethnobotanic studies. During the brief course of the present study 32 species of fibre yielding plants have been found which the local people use. The fibre yielding plants used by the local peoples are mostly unknown and commercially unexploited. Of the 32 species of fibre yielding plants maximum (10 species) belonged to the family Urticaceae followed by Malvaceae (4 species), and Sterculiaceae and Thymeleaceae (3 species) which are unreported from this area in the past. Further studies into the technology and economy of this fibre may leads towards the goal of producing a cheap and eco-friendly natural fibre.

42. Basu, R. 2003. "Ethnomedicinal information of yellow flowered 'palas' and 'silk cotton' in Bankura district of West Bengal". *J. Econ. Taxon. Bot.* 27(3): 580-581.

Abst.- Traditional uses of yellow flowered palas (*Butea monosperma* var. *lutea*) and silk cotton tree (*Ceiba pentandra*) by the natives of Bankura district, West Bengal have been reported in this paper.

43. Basu, Ramshankar. 2000. "Studies on sacred groves and taboos in Purulia district of West Bengal". *Indian Forester* 126(12): 1309-1318.

Abst.- Small pockets of forest maintained in a sound state on cultural and religious beliefs, serving as the pristine refuge of plants are known as sacred grooves. Taboos (religious interdictions), protect the plants and even arboreal birds, mammals, and other forest dwelling animals in any sacred grove from eviction. Purulia district in West Bengal with an area of 6,259 km^2 has a large number of sacred groves and ethnic races. 18 sacred groves were studied there between February-March 1999. These groves are spread over 72,681 m^2 area and contain 106 species variform, of which, aboriginal tree species are 55, and their total population is 1936. Ethnic groups met with are Bhumijs, Kurmis, Loharas, Mahalis, Sabars and Santhals. They offer goat, sheep, swine, calf and fowl to their deity sacramentally in the groves on religious occasions. Efforts should be made to protect this type of vegetation that existed long before human interference.

44. Basu, S.K. & Basu, S. 1975. "A census of palms cultivated in the Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 17(1-4): 32-40.

Abst.- This paper deals with the palm cultivated in the Indian Botanic Garden, Howrah. Altogether 109 species of palms have been enumerated from this garden of both economic and ornamental species. The accompanying map of the garden will help in locating the different species of palms.

45. Basu, S.K. & Basu, S. 1979. "*Holarrhena floribunda* (Apocynaceae)- A West African medicinal plant introduced in the Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 21 (1-4): 186-188.

Abst.- *Holarrhena floribunda* (G. Don) Dur. & Schinz. (Apocynaceae), an interesting medicinal plant, a native of West Africa was introduced in the Indian Botanic Garden, Howrah. Detailed description along with citation and figure has been given. Difference between *H. floribunda* and *H. antidysenterica* has also been given.

46. Basu, S.K. & Davis, T.A. 1984. "Production of bulbil shoots in *Phoenix rupicola* T. Anders.". *J. Econ. Taxon. Bot.* 5(4): 893-895.

Abst.- In this paper the abnormalities in a staminate *Phoneix rupicola* T. Anders. palm growing opposite to Curator's Quarter at Indian Botanic Garden, Howrah has been seen. The tree was producing bulbil shoots (axillary vegetative shoots) in leaf axils period to the emergence of true staminate spadices. These bulbil shoots never grew into axillary branches but withered at the later stage before the next flowering season to commence. For closer examination bulbil shoots developed during the period from 1979 to 1980 were removed from the tree and after recording morphological charactersistics from each of the bulbil shoots.

47. Bennet, S.S.R. 1965. "*Eleutheranthera* Poit.: A Compositae genus new to Indian Flora". *Curr. Sci.* 34(13): 411.

Abst.- *Eleutheranthera ruderalis* (Sw.) Sch. Bip. has been collected from Panchpara village Howrah dist., West Bengal, which is about 3 km. towards S.E. of Indian Botanic Garden. This species is an American weed and its possible introduction to the Indian soil may be through the American ships coming to the dock through the river Hooghly. This is a new record for the state of West Bengal as well as for India.

48. Bennet, S.S.R. 1965. "Genus *Kalstroemia* Scop. (Zygophyllaceae): New to Indian Flora". *Indian Forester* 91(5): 281-283.

Abst.- *Kallstroemia pubescens* (Don) Dandy, a tropical American species collected from a mile towards south of Howrah railway station of Howrah district (West Bengal) has been recorded for the first time in India. A short description of the plant together with a plate has been presented.

49. Bennet, S.S.R. 1965. "Occurrence of *Lindenbergia oppositifolia* (Retz.) Mukh. in West Bengal". *J. Bombay Nat. Hist. Soc.* 62(3): 600.

Abst.- *Lindernia oppositifolia* (Retz.) Mukh., a small herb of the family Scrophulariaceae have been collected from Horispur, Howrah district of West Bengal which is a new distributional record.

50. Bennet, S.S.R. 1966. "Two new plant records for West Bengal". *Indian Forester* 92: 227.

Abst.- *Ludwigia hyssopifolia* (G. Don) Excell. (Onagraceae) and *Micrococca mercurialis* (L.) Benth. (Euphorbiaceae) collected from Howrah district and found to be new records for West Bengal have been presented in this paper.

51. Bennet, S.S.R. 1967. "Four *Eriocaulon* species (Eriocaulaceae): New records for Eastern India". *Sci. & Cult.* 33(3): 121-122.

Abst.- Four *Eriocaulon* species viz. *Ericaulon gracile* Mart., *E. elenore* Fyson, *E. odoratum* Dalz. and *E. redactum* Ruhl. have been collected from Howrah district (West Bengal) and are reported to be new records for Eastern India.

52. Bennet, S.S.R. 1969. "A new variety of *Peristrophe bicalyculata* (Retz.) Nees from West Bengal". *J. Bombay Nat. Hist. Soc.* 66: 229.

Abst.- A new variety of *Peristrophe bicalyculata* (Retz.) Nees. (*Peristrophe bicalyculata* var. *subaequibracteata var. nov.*) have been described from Syampur, Howrah district, West Bengal.

53. Bennet, S.S.R. 1971. "On the occurrence of *Amaranthus lividus* L. ssp. *polygonoides* (Moq.) Probst. and *Fimbristylis alboviridis* Clarke in West Bengal". *J. Bombay Nat. Hist. Soc.* 68: 491-492.

Abst.- *Amaranthus lividus* Linn. ssp. *polygonoides* (Moq.) Probst. and *Fimbristylis alboviridis* Clarke were newly recorded from different localities of Howrah district, West Bengal.

54. Bera, S. & Ghorai, N. 1999. "Interaction between green house fern *Platycerium alcicorne* Desv. and its scale insect pest from Lloyd Botanic Garden, Darjeeling, West Bengal". *Indian Fern J.* 16(1-2): 12-14.

Abst.- Scale insect infestation on the leaves of stag horn fern *Platycerium alcicorne*, a common green house ornamental fern is reported from Lloyd Botanic Garden, Darjeeling, West Bengal for the first time. The damaged caused by the insect seems to be developed by insertion of characteristic marginal setae of the scales into the fern leaf tissue causing wrinkling and stunting of the fronds. Such damage deteriorates the ornamental value of the fern.

55. Bhakat, R.K. & Pandit, P.K. 2004. "An inventory of medicinal plants of some sacred groves of Purulia district, West Bengal". *Indian Forester* 130(1): 37-44.

Abst.- Sacred groves are small patches of forests protected by local communities on religious grounds. A repository of medicinal plants, these are a unique traditional Indian way of *in-situ* conservation of biodiversity. This paper deals with 18 sacred groves of Purulia district of West Bengal and also highlights the role played by these groves in medicinal plant conservation. The study for the first time records 56 species of medicinal plants growing in these groves. It also mentions the threats to the sacred groves.

56. Bhakat, R.K., Pandit, P.K. & Maity, P.P. 2007. "Conservation of local ethno-medicinal trees of Midnapore district, West Bengal through a sacred grove". *Indian Forester* 133(9): 1167-1172.

Abst.- Sacred groves are small tracts of near-virgin forest protected by the indigenous communities. Being the storehouses of medicinal plants, there are a unique Indian way of *in-situ* Conservation of biodiversity. This paper deals with an account of the role played by Chilkigarh sacred groves in West Bengal in the conservation of regional ethnomedicinal trees. The study records 30 species of locally useful trees species of which 4 are rare in the

wild. The paper calls for continued protection of the grove and also recommends to incorporate this traditional way of nature conservation into management plans.

57. Bhakat, Ram Kumar & Maiti, G.G. 2002. "Mangrove succession on Nayachar Island, Hooghly estuary." ***J. Botan. Soc. Bengal*** **56(1&2): 71-74.**

Abst.- A study on mangrove succession on Nayachar island was carried out during 1998 to 2000. This paper discusses three plant-formations groups representing three succesional stages of mangroves and their relationship with the maturity of the island.

58. Bharadwaja, T.N. & Sen, S.K. 1977. "Occurrence of water fern ***Marsilea*** **near Digha sea beach in West Bengal (India)".** ***J. Bombay Nat. Hist. Soc.*** **74(2): 392-393.**

Abst.- The fresh water fern *Marsilea* is known to be a fresh water fern. This fern was seen growing luxuriantly in a short nullah adjacent (about 100 m.) to the sea beach. It was obvisous that this part of the nullah is regularly inundated during high tide. In any case the location of this fern just adjacent to a sea coast is quite unusual and not repoted so far. Tolerance and adaptability to saline condition adds another dimension to the wide ecological amplitude of this plastic genus.

59. Bhattacharya, A., Mondal, S. & Mandal, S. 1997. "Aeropalynological study of five angiospermic plants". ***J. Natl. Bot. Soc. India*** **51: 83 - 86.**

Abst.- Aeropalynological study along with pollen production and release of five angiospermic plants like *Alstonia scholaris* R. Br. (Apocynaceae); *Azadirachta indica* A. Juss (Meliaceae); *Eucalyptus maculata* Hook. (Myrtaceae); *Moringa oleifera* Lamk. (Moringaceae) and *Psidium guajava* L. (Myrtaceae) have been conducted in order to know the incidence of pollen grains prevalent in the atmosphere. The period of anthesis varied from morning to midnight. Different types of thrips and insects interacted with flowers at different times after flower opening which enhanced the subsequent pollen dispersal and widened the mechanism of pollination. Study of pollen production per flower indicated that highest number of pollen grains were produced by *P. guajava* (8,64,575) followed by *E. maculata* (1,08,720); *M. oleifera* (23,525), *Azadirachta indica* (7,810) and *Alstonia scholaris* (3,750). Atmospheric pollen incidence of *Alstonia scholaris, Azadirachta indica, E. maculata, M. oleifera* and *P. guajava* constitute 11.4%, 7.6%, 6.8%, 4.2% and 3.9% respectively.

60. Bhattacharya, Aloke & Maiti, G.G. 1983. "Exomorphic study of achenes of *Clematis* L. (Ranunculaceae) in Eastern India". *Bull. Bot. Soc. Bengal* 37(1&2): 1-5.

Abst.- The present paper deals with the morphological structures of achenes with diagrams of different species of *Clematis* L. growing in Eastern India. It is also associated with an elaborate key based on achene morphology by which the determination of species can be achieved.

61. Bhattacharya, K. & Mukherjee, A. 1998. "Rice field weeds of Burdwan district: useful aliens-I". *Indian J. Appl. Pure Biol.* 13(2): 135-142.

Abst.- While studying various taxonomic and ecological aspets of the Angiospermic weeds of rice fields in Burdwan District, West Bengal so far 20 species representing 19 genera and 13 families were detected to be useful aliens from different phytogeographical regions of the world. These foreign elements have naturalized so efficiently not only to become a component of the local flora but also to earn ethnic nomenclature and use. Records 17 species with medicinal use out of which 2 have veterinary applications. These rice fields weeds can be used as source of food (5 species), fodder (4 species), fibre (4 species), oil for making soap, illuminant and lubricant (3 species), paper pulp (3 species), soil fertilizer (4 species), raw material for paint (2 species), spice and condiments (2 species), ornamental (2 species), narcotic, skin tattooing substances and printing ink (1 species each).

62. Bhattacharya, K. & Palit, D. 2000. "Census of hydrophytes in Burdwan University Campus". *Environm. Ecol.* 18(1): 150-155.

Abst.- Deals with the systematic enumeration of hydrophytes occurring in Burdwan University Campus, West Bengal. It includes in all five species representing 4 genera of Pteridophytes and 97 species composing 73 genera of 39 families of angiosperms. On the basis of their relationship with water thay have been categorized into different types, namely emergent (73 speies), floating (8 species), submerged (8 species), rooted with floating leaves (3 species) and those with submerged and floating leaves (3 species). The findings of this work can pave pathway for investigation on their economic importance and ecological functions.

63. Bhattacharyya, P.K. 1974. "*Gmelina asiatica* L. (= *Gmelina parviflora* Roxb.) in Bengal". *Bull. Bot. Soc. Bengal* 28(1&2): 101-102.

Abst.- Occurrence of wild bushes of *Gmelina asiatica* L. (= *G. purvifolia* Roxb.) near the village Chottabelun of Burdwan district, West Bengal is reported. Description of the material is provided and comparison made with pre-existing reports.

64. Bhattacharyya, P.K. 2005. "Bryophyte flora of Barddhaman district, West Bengal". *Bull. Bot. Surv. India* 47(1-4): 11-42.

Abst.- The present paper deals with the first information on the bryophyte flora of Barddhaman district, West Bengal. Altogether 26 species under 18 genera belongings to 13 families have been reported. Each species is appended with relevant field data, necessary illustrations and diagnostic features. *Archilejeunea planiuscula* (Mitt.) Staph. and *Lejeunea boninensis* Harikawa are the new records to the known flora of the Indian Union.

65. Bist, S.S. & Katham, Tapan. 1999. "Status of orchids in Buxa Tiger Reserve". *Indian Forester* 125(5): 460-489.

Abst.- During the course of the present survey, 141 species (including 5 varieties) of orchids were encountered within Buxa Tiger Reserve (BTR) including nine(9) species reported from earlier studies. Three species, viz. *Luisia brachystachya* Bl., *Gastrochilus longiflora* Wall. and *Phaius ranus* Hook. f., reported by the earlier researchers were not seen by the authors. Combining the results of all the studies it can be inferred that at least 144 species (including 5 varieties) of orchids are present with BTR. The information regarding flowering, distribution and status of these orchids are given in a tabular form.

66. Biswas, K. 1950. "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* (Spl. Publication No. 1).

Abst.- The vegetation of the entire area can be described as a mixed group of trees, shrubs and herbs comprising 92 families and approximately 270 species. Many plants have since disappeared but the familiar common, weeds, herbs and shrubs can still be seen in and around the college compound. Some of the aquatic plants inhabiting the jhil can also be observed in their usual succession and periodic rotation, from year to year. The Lower Cryptogams were represented by the Myxomycetes, algae, fungi, lichens and liverworts. Ferns are few. The Phanerogamic (Angiospermous) flora was composed of 14 families of monocotyledons and 48 families of dicotyledons.

At present only a few species of each of these families are represented. Almost all the monocotyledonous families are represented by few plants of each family but they are no longer to be found in their former compact groups and luxuriance. Among the dicotyledons are now seen poor representatives of almost ail the families that existed before with the exception of Ulmaceae, Loranthaceae, Ranunculaceae, Malpighiaceae, Polygalaceae, Balsaminaceae, Combretaceae and Passifloraceae. Most of them have now taken refuge in the crevices of bricks or such other uncomfortable situations forming what may be called members of wall flora (Flora Muralis).

67. Biswas, K.C. 1956. "Pteridophytes of Coach Behar". *J. Bombay Nat. Hist. Soc.* 53(3): 493-496.

Abst.- 20 species of ferns and 4 species of fern-allies have been collected and described from Coach Behar, North Bengal.

68. Biswas, K.P. 1934. "Observations on some plant abnormatilies in Bengal". *Curr. Sci.* 3: 189-193.

Abst.- Various types of abnormalities have been observed in a large number of wild and cultivated species of plants in Bengal. Different types of abnormalities are fasciated flowering branch of *Achras sapota,* branched inflorescence of *Lageneria vulgaris* developing from the root-stock, crowds of branches develop forming a crown on *Phoenix sylvestris* in Southern Calcutta and branched inflorescence of *Musa sapientum* var. *paradisiaca* in Gobardanga village (24-Parganas).

69. Biswas, K.P. 1941. "The role of foreign plants in the economic life of Bengal". *Sci. & Cult.* 7: 279-284.

Abst.- A comparison of the flora of Bengal as it existed a little over two centuries and a half ago with the present day flora reveals that roughly 12.5 percent on the total of indigenous plants, or say, about 250 plants from other countries (except from various provinces of India proper) found their access into Bengal. The number of immigrants from outside India may be taken on an average one per year. *Eichhornia speciosa*, *Lantana camara, Mikania scandans, Eupatorium odoratam, Croton sparsiflorus* are introduced from Tropical America. Introduction of many exotic timber plants such as *Lagerstroemia indica, L. flos-reginae, Pterocarpus indicus,* and many other proved successful in the garden. *Papaver somniferum*

and *Nigella sativa* was also introduced as early a period as 1600. Castor, Ganja, Onion, Garlic and Chilies were introduced very likely in the 16th century. Fruit trees such as *Punica granata*, litchi, pineapple, China-badam, *Physalis peruviana* (Tapari), *Anona squamosa, A. reticulata*, *Anacardium occidentale, Psidium guajava, Eugenia malaccensis* (Jamrul), potato, tomato and many others were first grown towards the latter part of the 16th Century and the beginning of the 18th Century. An interesting aquatic *Victoria regia* which was first grown in garden sometimes in 1864. Many rare and delicate foreign palms are reared in the open palmatum and also in the 'Palm House' of the Botanic Garden. A water fern *Salvinia auriculata* has been introduced from Brazil in the Garden by the writer.

70. Biswas, M.C. 1971. "A note on the occurrence of *Olax nana* Wall. *ex* Benth. (Olacaceae) in West Bengal". *Indian Forester* 97(9): 508.

Abst.- *Olax nana* Wall. *ex* Benth.- a species hitherto distributed over N. W. Himalaya, Punjab, Nepal, Bihar, N. Bengal, Assam and Burma, is recorded here for the first time from the plains of West Bengal from Konnagar in the district Hooghly. A short description along with correct nomenclature, flowering and fruiting period and voucher specimen has also been provided here.

71. Biswas, M.C. & Paul, T.K. 2002. "A survey of leaf and flower vegetables in West Bengal". *J. Econ. Taxon. Bot.* 26(3): 665-668.

Abst.-A survey in different districts of West Bengal have been conducted to identify the leaf and flower vegetables. Leaves of 80 taxa and flowers of 22 taxa are generally used as vegetables in this state.

72. Borse, B.D., Pawar, N.S. & Borse, K.N. 2003. "Marine fungi from Sunderbans (India)- II the genus *Arenariomyces* (Halosphaeriaceae)". *J. Basic Appl. Mycol.* 1(1): 8-10.

Abst.- Deals with three species of the genus *Arenariomyces* viz. *A. majusculus* Kohlm. & Volkm.-Kohlm., *A. parvulus* Koch and *A. trifurcates* Hohnk inhabiting on intertidal wood along the coast of Sunderbans. All these species are recorded for the first time from the Sunderbans region.

73. Bose, R.B., Pandey, H.S. & Banerjee, A. K. 1987. "Bamboos of the Indian Botanic Garden". *Bull. Bot. Surv. India* 29(1-4): 29-42.

Abst.- A census of bamboos under cultivation of Indian Botanic Garden has been made. Information of their introduction, cultivation and their availability in various parts of this garden is provided. Taxonomic accounts of each taxon together with usefulness of bamboos are furnished.

74. Bose, R.B., Singh, G., Bhattacharya, A.P. & Pandey, H.S. 1987. "Indian Botanic Garden- Important non-herbaceous phanerogams of Indian Botanic Garden together with seasonal ornamental annuals under cultivation." ***Bull. Bot. Surv. India*** **29(1-4): 71-102.**

Abst.- Indian Botanic Garden, Calcutta is spread over to 310 acres of land and consists of 25 divisions. The important species grown in different division have been presented in this paper alphabetically arranged, along with seasonal ornamentals.

75. Brahma, A. & Santra, S.C. 1999. "Phenological studies of Tropical Mangrove- A case study in Indian Sundarbans". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): ***Sunderbans Mangal*****. pp. 317-324.**

Abst.- The phenology of some halophytes was studied in Indian Sundarbans. It is found to be influnced by physico-chemical properties of soil and water along with few meteorological parameters. The salinity played significant role on the overall physiological behaviour of species.

The present phenological studies revealed the fact that the maximum leaf flushing takes place during May-August each year and the flowering maxima noticed during May-October. The flowering activity of ten grouped as massive, extended, and intermediate type. However, the micro-climate of an area have some influence on flowering periodicity. Most of the studied mangrove species are pollinated by animals. A variety of animals like bats, birds, flies, beetles, and wasps are common visitors of flowers. Fruit production including onset and its subsequent growth require quite longer time in many species.

76. Brahma, G., Gantait, S. & Debnath, H.S. 2007. "A comparative study of the Quantitative structure of Mangroves of Lothian and Sajinakhali Islands of Sundarban Biosphere Reserve, India". ***Indian J. Forest.*** **30(2): 247-250.**

Abst.- The present study aims to make a comparative account of quantitative structure of mangroves in two islands of Sundarban Biospheres Reserve in terms of frequency, density and abundance. The study was done by Quadrate analysis at selected zones of the sample

sites. 17 plant species are taken into consideration, out of which 7 are present in both the Islands. Among these, *Avicennia alba* shows highest frequency in Lothian and both *Avicennia alba* and *Excoecaria agallocha* in Sijinakhali. *Avicennia alba* shows high abundance and density in Lothian and Sajinakhali in comparison to other common species; but its abundance and density level are higher in Lothian Island.

77. Bremekamp, C.E.B. 1959. "New *Ixora* species from Bengal, Burma and Nicobar Islands". *Indian Forester* 85(7): 371-375.

Abst.- This paper contains description of 5 new species of *Ixora, I. longibracteata* and *I. tigriomustax* from Chittagong Hill tracts, *I. athroqntha* from Sukna, Bengal, *I. rangonensis* from Burma and *I. tenuifolia* from the Great Nicobars.

78. Chakrabarty, D. 1998. "Limnological studies on lake Sinchal, a mountain lake in Darjeeling". *Environm. Ecol.* 16(1): 31-33.

Abst.- Various features of physico-chemical and hydrobiological variations in the lake Sinchal, situated in the hills of Darjeeling district, were studied premonsoon (March, 1996) monsoon (July 1996) and in post monsoon (November 1996) periods. Wide variations were found in the physico-chemical parameters and also in the occurrence of biotic communities.

79. Chakrabarty, N.M. 1999. "Growth and distribution of periphyton in a perennial sewage fed pond in West Bengal". *Environm. Ecol.* 17(1): 38-44.

Abst.- Periphyton community of a perennial sewage fed pond in West Bengal was studied at fortnightly intervals for one year in relation to physico-chemical features of water. The observation revealed a rich growth of algae at the surface composed of various genera, namely *Chlamydomonoas, Characium, Rivularis, Stigeoclonium, Cosmariom, Navicula* and *Nitzschia*. While *Epistylis, Trichophrya, Vorticella, Bursaria, Podophrya, Camponella, Rotaria* were the dominant animalcules. Algae declined from surface to bottom, whereas animalcules were more at the bottom and middle layer samples. The richness of periphyton in sewage fed pond with high nutrient levels seems to be suitable for growing fish.

80. Chakrabarty, T. & Balakrishnan, N.P. 2006. "Occurrence of *Mischodon zeylanicus* (Euphorbiaceae) in the Indian Botanic Garden, Howrah". *J. Econ. Taxon. Bot.* 30(2):394-396.

Abst.- The monotypic genus *Mischodon* Thw., endemic to Sri Lanka and Peninsular India, is the only representative of the subfamily Oldfieldioideae in South Asia. The species is rare and there has been no recent collection from India. Two trees, a male and a female, were found in Indian Botanic Garden, Howrah (Calcutta). Further materials were collected in February 2004 and detailed description and photograph are included.

81. Chakrabarty, T. & Balakrishnan, N.P. 2007. "The family Euphorbiaceae of West Bengal state- a synopsis". *J. Econ. Taxon. Bot.* 31(3):701-752.

Abst.- A systematic treatment of the family Euphorbiaceae of West Bengal state is presented in a synoptic form, excluding the descriptions. Altogether 138 species belonging to 46 genera occur in the state. Of these, 26 species are cultivated and among 112 indigenous species, 58 species occur in North Bengal and Darjeeling Hills, whereas 37 species occur in South Bengal. The remaining 17 species exhibit common distribution in both the northern and southern parts of the state. Keys from genera to infraspecific taxa are presented. The nomenclature, habit, habitat, flowering and fruiting periods, local names, if any and distribution for each taxon are indicated.

82. Chakraborty, M. 1992. "A survey to the monocot flora of West Bengal, part I". *J. Econ. Taxon. Bot.* 15(3): 565-583.

Abst.- In the present study an endeavour has been made to publish an exhaustive work on monocot flora of West Bengal with some other additional biosystematical data. The present paper deals with the order Helobae comprising 5 families, 14 genera and 28 species.

83. Chakraborty, M. 1996. "A survey to the Monocot flora of West Bengal- Part II". *J. Econ. Taxon. Bot.* 20(1): 131-133.

Abst.- The present paper deals with the order Pandanales comprising 2 families, 2 genera and 6 species. Description, distribution, habit and habitat of the taxa of Pandanales have been studied with cytological and palynological data along with their economic uses.

84. Chakraborty, M. & Hazra, D. 2003. "Aquatic monocot of West Bengal- Family Hydrocharitaceae, Pontederiaceae, Xyridaceae and Alismataceae". *J. Econ. Taxon. Bot.* 27(Suppl.): 1140-1150.

Abst.- Altogether 18 species of aquatic plants belonging to 4 families and 13 genera have been described here briefly which occur in different parts of West Bengal. Names, synonyms,

basionyms, a brief synoptic description, along with phenology, chromosome numbers, palynological data and economic importance have been provided with family, generic and specific key. A general introduction, methodology, discussion and references have also been incorporated as far as practicable.

85. Chakraborty, M.K. 2003. "Some fibre yielding plants of Purulia district, West Bengal". *Environm. Ecol.* 21(2): 280-282. Abst.- Deals with 15 plants species under 15 genera and 14 families used by tribals inhabited at Purulia district of West Bengal as fibre yielding plants. The author collected information on uses of the fibres during their field studies in the district. Most of the uses appeared as new. The plants are arranged alphabetically on botanical names followed by local names, habit, parts used and mode of use accordingly.

86. Chakraborty, M.K. & Bhattacharjee, A. 2003. "Ethnomedicinal uses of some exotic plants of Purulia district, West Bengal, India". *J. Econ. Taxon. Bot.* 27(3): 559-563.
Abst.- Deals with 26 exotic plants species used by the tribals inhabited in Purulia district of West Bengal. These plants belong to 24 genera and 17 families. The ethnobotanical uses recorded in this paper are unknown or less known to the outside world. So, it may be useful for further investigation.

87. Chakraborty, M.K. & Bhattacharjee, A. 2003. "Plants used as masticatories by the ethnic communities of Purulia district, West Bengal, India". *J. Econ. Taxon. Bot.* 27(3): 568-570.
Abst.- Deals with 13 species of plants belonging to 12 genera under 8 families with first hand information on use as masticatories by the tribals living in Purulia district of West Bengal. Botanical name, family, local name, description, flowering and fruiting time, occurrence, status and parts used are incorporated in brief in the paper.

88. Chakraborty, M.K. & Bhattacharjee, A. 2006. "Ethnobotany of *Gardenia gummifera* L. *f.* in West Bengal". *J. Econ. Taxon. Bot.* 30(Suppl.): 40-41.
Abst.- The gummy cape jasmine (*Gardenia gummifera* L. *f.*; family- Rubiaceae) is a shrub, growing throughout tropical moist and dry deciduous forests in India, particularly in Western Peninsula from the Satpura range southwards. Some ethnobotanical aspects of this species

popular among certain tribes like Bhumij, Munda, Santal, Oraon, Kheria, Kannali, Lohar of West Bengal have been discussed.

89. Chakraborty, Maya. 1998. "A survey to the monocot flora of West Bengal Part. III-Juncales". *J. Econ. Taxon. Bot.* 22(3): 661-664.

Abst.-The present paper deals with the order Juncales comprising one family, two genera and four species. Description, distribution, habit of the taxa of Juncales have been studies with cytological and palynological data along with their economic uses.

90. Chakraborty, P., Gupta Bhattacharya, S. & Chanda, S. 1995. "*Phoenix sylvestris* Roxb., A Common Aeroallergen from Calcutta, India". *J. Natl. Bot. Soc. India* 49: 145-148.

Abst.- *Phoenix sylvestris* Roxb. (Date sugar palm) of the family Arecaceae is a common palm tree found to be wildly grown or cultivated in various parts of India. Airborne pollen grains of this tree were recorded from the Salt Lake City, in the eastern part of Calcutta-Metropolis for two consecutive years (July, 1988 - June, 1990). Having a notion that this pollen type might have some role to play in causing upper-tract respiratory allergy, skin-prick tests were performed on allergic patients using antigenic extracts. The results have demonstrated that this pollen type possesses high allergenic potential. Total carbohydrate, lipid and soluble protein were estimated. The soluble protein, known to be the major cause of allergy, was subjected to 11% SDS-PAGE analysis. Later, skin-prick tests were performed with ammonium sulphate cut protein fractions. The optimum sensitive fraction was in the range of 30-60% saturation. This fraction was also studied by 11% SDS-PAGE.

91. Chakraverty, R.K., Basu, H.J. & Gangopadhyay, M. 1992. "A census of introduced Bignoniaceae in Indian Botanic Garden, Howrah". *J. Econ. Taxon. Bot.* 16(1):167-175.

Abst.- An account of 29 species of family Bignoniaceae introduced and growing in Indian Botanic Garden has been presented in this paper. Citation, short description, distribution, flowering & fruiting and propagation has given.

92. Chakraverty, R.K. & Mukhopadhyay, D.P. 1987. "The Great Banyan Tree". *Bull. Bot. Surv. India* 29(1-4): 59-70.

Abst.- The Great Banyan Tree at the Indian Botanic Garden, Howrah is a source of attraction to all visitors. In this paper its history, importance, growth, mythology, protection and

training of prop roots have been discussed. Some colour photos have been given to depict its various details.

93. Chandra, Dali & Ghosh, R.B. 1993. "Family Anacardiaceae in West Bengal". *J. Econ. Taxon. Bot.* 17(3): 587-591.

Abst.- For the Flora of West Bengal, Indian family Anacardiaceae have been compiled and presented in this paper. In all there are 14 species under 10 genera available in West Bengal. One new combination has been made elevating the status of taxon *Rhus succedanea* var. *himalaica* to specific level i. e. *R. himalaica*.

94. Chandra, S. & Maity, K.L. 1995. "*Macaranga balakrishnanii* Mitra and Chakr.- A new record from West Bengal". *Bull. Bot. Surv. India* 37(1-4): 137.

Abst.- *Macaranga balakrishnanii* Mitra & Chakraborty has been distributed in Sukna (Mahananda reserve forest), Darjeeling district, West Bengal. This species is not only a new record for West Bengal but a second collection in India after the type.

95. Chandra, S.K. & Bhattacharjee, J.R. 1966. "*Strophanthus wallichii* A. DC. from North Bengal- a new record". *Bull. Bot. Surv. India* 8(3 & 4): 342.

Abst.- *Strophanthus wallichii* A. DC. collected in the Kalimpong division of Darjeeling district. The specimen collected has been deposited in Central National Herbarium (CAL).

96. Chatterjee, D. 1960. "Three new records of plants from West Bengal". *Sci. & Cult.* 26(5): 231-232.

Abst.- A survey of the weed flora of the Indian Botanic Garden, Calcutta, reveals that three species of plants. viz. *Sporobolus minutiflorus* Link. (Gramineae), *Lobelia radicans* Thunb. (Campanulaceae) and *Elatostema cuneata* Wight (Urticaceae) are recorded for the state of West Bengal.

97. Chatterjee, S. & Bhattacharjee, A. 2006. "Some ethnomedicinal plants of 24-Paragana, West Bengal". *J. Econ. Taxon. Bot.* 30(Suppl.): 281-282.

Abst.- During the ethnobotanical field studies at North 24-Paragana medicinal plants have been collected used by the different tribal ethnic groups for their preventive and curative purpose for both human and veterinary medicine. In this paper, 12 important medicinal plants

have been discussed. It appears that some of the uses are unknown or less known to the outside world.

98. Chatterjee, S. & Keshri, J.P. 2005. "New records of the genus *Glaucocystis* Itzigsohn (Glaucocystophya) from West Bengal, India". *J. Econ. Taxon. Bot.* 29(2): 378-381.

Abst.- Three taxa of *Glaucocystis* Itzigsohn [*G. nostochinearum* Itzigsohn; *G. reniformis* Prasad, Mehrotra *et* Misra & *G. duplex* Prescott] have been recorded from different localities of Burdwan district of West Bengal. All these taxa are being recorded for the first time from this locality. *G. duplex* Prescott appears to the second record of the species from India.

99. Chattopadhyay, S.B. & Sen Gupta, S.K. 1952. "Additions to Fungi of West Bengal". *Bull. Bot. Soc. Bengal* 6(2): 54-61.

Abst.- In this note, an account has been given of those fungi which are new records for West Bengal. These fungi were collected by the authors in the various parts of West Bengal during the past five years. The specimens have been kept in the herbarium of Mycology Section, State Agricultural Research Institute, Government of West Bengal, Tollygunge, Calcutta. A list has been given of those fungi which have been inadvertently excluded from the "Fungi of Bengal" by Roy (Bull. Bot. Soc. Bengal. 1949). 7 species of fungi are new records for West Bengal. 15 species of fungi reported by Roy in "Fungi of Bengal" (Bull. Bot. Soc. Bengal, 1949) as occurring in those parts of Bengal, which have come under Eastern Pakistan, but have since been found to be occurring in different parts of West Bengal by the authors. 5 species of fungi previously reported as occurring in West Bengal, but not included in the monograph "Fungi of Bengal" (*Bull. Bot. Soc. Bengal*, 1949).

100. Chattopadhyay, R. & Mukherjee, A. 1996. "Contribution to the study of aquatic plant diversity of Hooghly district, West Bengal". *J. Swamy Bot. Club* 13(3&4): 27-33.

Abst.- Plant diversity of waterbodies in Hooghly district, West Bengal was surveyed, and 84 species of angiosperms have been listed of which 55 were dicots and 29 monocots. Since the waterbodies are shrinking due to anthropogenic factors leading to loss in plant biodiversity, effective steps are to be taken for conserning these water-bodies.

101. Chattopadhyay, S.B. & Sen Gupta, S.K. 1955 "Further additions to Fungi of West Bengal- II". *Bull. Bot. Soc. Bengal* 9(1): 46-50.

Abst.- In this note an account is given of those fungi which have been recorded from West Bengal by the authors since the publication of note "Addition to fungi of West Bengal" [*Bull. Bot. Soc. Bengal* 6(2):1952].

102. Chattopadhyay, S.P. 1998. "Biological spectrum of flora of Lower Long Sands Island of Sunderbans, West Bengal (India)". *J. Econ. Taxon. Bot.* 22(3): 665-669.

Abst.- Life-forms of the vegetation and biological spectrum of the flora of Lower Long Sands Island of the deltaic Sunderbans in the Bay of Bengal have been determined. The comparison of the obtained biological spectrum with the normal spectrum of Raunkier reveals that the prevent value of phanerophytes is much higher than that of any other life-form in the obtained spectrum and it is about one and half times more than that of normal spectrum. This indicates the phanerophytic phyto-climate of the area. This conforms to the Raunkiaer's general hypothesis. The predominance of phanerophytes over therophytes is probably due to moderate rainfall, adaptation of viviparous germination of seeds of some phanerophytes and adverse influence of salt on germination of seeds and growth of herbaceous vegetation.

103. Chattopadhyay, S.P. & Mal, T.K. 1996. "Angiospermic flora of Lower Long Sands Islands of Sunderbans, West Bengal (India)". *J. Econ. Taxon. Bot.* 20(2): 457-498.

Abst.-The paper deals with the floristic accounts of Lower Long Sands Island, an unexplored island of the deltaic Sunderbans in the Bay of Bengal. This account includes 52 angiospermic species (both mangroves, mangrove associates, as well as introduced and naturalised species) under 48 genera belonging to 32 families. This also includes some recently introduced species which were not previously reported to grow in all the coastal of Sunderbans of West Bengal. Artificial keys to the families, genera and species, the valid name with basionym and important synonym(s), if any local name, flowering and fruiting time, ecology, distribution (both Indian and foreign), specimens examined and use(s) have been mentioned.

104. Chattopadhyay, S.P. & Paria, N.D. 1991. "Identification and distribution of two species of *Richardia* Linn. (Rubiaceae) in India". *J. Natl. Bot Soc. India* 45: 17-22.

Abst.- The genus *Richardia* Linn. (Rubiaceae) is represented by two species in India. On proper scrutiny of relevant literature and herbarium sheets lodged in the CAL and the CUH herbaria, it is revealed that the two species are *R. brasiliensis* Gomes and *R. scabra* Linn. There are some morphological features in these taxa by which they may he distinguished

clearly. As such, individual nomenclature, ecology, flowering and fruiting time, distribution, misapplications as synonyms, etc, are provide order to support their correct identities.

105. Chaudhuri, A.B. 1959. "A short note on the distribution of grasses and sedges of the Buxa division, West Bengal". ***Indian Forester*** **85: 468-472.**

Abst.- The distribution of common grasses and few sedges in the Riverain forests, Evergreen forests, Sal forests, Wet mixed forest and dry mixed forest of the Buxa division, West Bengal and some aspects of their ecology have been noted in a broad outline. Grassland of this division occurs only in the moisture pockets and have been classified as high and low level Savannahs. Evergreen species, due to fire protection, filled up the savannah areas and invaded the sal forest ousting the grasses. Extensive grasslands are therefore not found anywhere except in the roadside, lawns and clearing have also been noted and their habitats discussed in brief.

106. Chaudhuri, A.B. 1959. "Grasses and grassland of Central Forest Division, West Bengal". ***Indian Forester*** **85: 603-605.**

Abst.- An attempt has been made to give a general idea of the distribution of grasses in the tract dealt with, and to describe briefly the main grassland types.

107. Chaudhuri, A.B. 1960. "Common grasses and sedges of Kurseong, Kalimpong and Darjeeling Forest Division, West Bengal". ***Indian Forester*** **86: 336-353.**

Abst.- An attempt has been made to list common grasses and sedges of the three hill divisions of West Bengal giving some details of their ecology and distribution. The note does not claim to be exhaustive. The autecological and synecological studies of the grasses and sedges of these hills from an essential part of the study of the flora of the Eastern Himalayas. Conditions in these three hill divisions vary greatly from the plains of the Terai to altitudes of 10,400 ft. (at Richi La in the Kalimpong division) and 12,000 ft. (at Phalut and Sandakphu of the Darjeeling Divisions). The region covers a variety of types of rocks and soil and a wide range of temperature from tropical through sub-tropical and temperate to alpine; the annual rainfall varies from 80 to 200 inches. All these factors serve to make the grassland association and the distribution of grasses exceedingly interesting. There is a large scope for the study of the systematics of grasses and sedges of this tract along with those of Sikkim, especially in the inner hill ranges and alpine climates. Hooker recorded that Gramineae was the second and

Cyperaceae the fifth largest family of the flowering plants of Darjeeling and Sikkim hills and indicates large possibilities for further exploration.

108. Chaudhuri, A.B. 1960. "Principal grasses and grassland habitats of Jalpaiguri Division". ***Indian Forester*** **86: 87-91.**

Abst.- In this article an attempt has been made to describe the principal grasses that foresters encounter in course of their daily duties and to group them into grassland types in relation to their habitats. The sal forests have become moister due to rigid fire-protection and consequently there has been rapid invasion of evergreen vegetation and, therefore, extensive grasslands or savannah-like formations are completely absent. It is therefore, very difficult to classify the grasses under definite broad grassland types although an attempt has here been made to classify the most common types. Principal sedges and their habitats have also been described.

109. Chaudhuri, A.B. 1964. "A preliminary report on the ferns of West Bengal and adjoining Sikkim forest and some aspects of their ecology". ***Indian Forester*** **90: 95-104.**

Abst.- This is a short report on the ecology and distribution of ferns that the author collected and observed mostly during the course of his inspection in the various forests of the state of West Bengal which cover very many climatological zones, viz., tropical, temperate and alpine and also very many types of rocks and soils. Common and interesting ferns occurring on alluvial tract, estuarine tract, laterite tract, terai and bhabar tract of North Bengal, and gneiss and granite rocks and disintegrated soils have been grouped into natural habitats and altitudinal zones. Collections have been compared with sheets in various herbaria and list of ferns prepared along with information collected from various herbaria and have finally been checked up at the National Herbarium at Shibpur and at the regional herbarium at Shillong. As the ferns of the state have perhaps never been grouped into their ecological zones and natural habitats, the author feels that the article will be very helpful to the foresters of the state and North Bengal in particular. The ferns are very important and unavoidable component of ground flora of the temperate forests. They are most conspicuous among ground flora and epiphytes and form a definite association with phanerogamic flora in the forests between 5000' and 9000' (1500-2700 m). Morphological characters, seasonal growth and production of leaves, etc. have not been studied by the author and not described in the article.

110. Chaudhuri, A.B. 1965. "Grasses and grassland types of West Bengal and some aspects of their ecology". *Bull. Bot. Soc. Bengal* 19: 94-108.

Abst.- The grasses and grasslands of the state of West Bengal have been studied from the morphological and ecological points of view from extensive collection and observations made during tours. They have been grouped and described under four distinct edaphic and altitudinal zones. The dominant grasses have been grouped into major types and sub-types. It has also been shown that the grasses do indicate the type of soil and to some extent the type of forest.

111. Chaudhuri, A.B. 1965. "The study of Meliaceae of India with special reference to West Bengal". *Indian Forester* 91(7): 454-461.

Abst.- The Meliaceae of the Indian region are very important from the foresters point of view. Taxonomic studies on several genera were undertaken giving special attention to *Aglaia, Amoora, Dysoxylum, Wulsura, Chisocheton, Chukrasia, Melia* and *Azadirachta* which among themselves contain more than hundred species and a check list has been prepared. Some of the species have been distinct smell to the blaze, bitter taste of the bark and leaf and distinct characteristics of bark, fruit and flower. It was found that distribution of species was mainly dependent on the rainfall and humidity and very little on rock and soil. The family has got high degree of endemism. Ceylon species and some South Western and North-Eastern species and particularly *Dysoxylum* species have high degree of endemism. The study revealed that though India has land connections of all three sides the flora is high in endemics. In the Himalayas the flora has been influenced by the Japanese, Chinese, Tibetan and Malayan elements. It was found that though the Meliaceae are mainly tropical, the eastern Himalayas have several species while in the Western Himalayas only one species. In the Nilgiri, Palni and Anaimalai hills no species of Meliaceae was found above 5000'. A detailed study of distribution and composition of the Meliaceous species in different forest types of India has been made. Analysis of the woody flora of various types of forests showed that Meliaceous species form a high percentage of vegetation of both upper and middle storeys.

112. Chaudhuri, A.B. 1969. "A critical quantitative analysis and special ecological features of the vegetation of North Bengal". *Bull. Bot. Soc. Bengal* 23(2): 109-129.

Abst.- A quantitative phytosociological study of various types of forests of North Bengal has been made. The perecentage of occurrence, density and constancy of species have been

precisely determined with regard to forest stratification and spatial distribution of species. The ecological methods adopted were belt transect and quadrats with thorough cartography of vegetation, involving accurate charting and profile representation. Analysis from such transects and clear felling coupes (random sampling units) have been studied and comments made. Ground-flora including tree species have been analysed all over. As necessity for quantitative detailed phytosociological studies were long felt, the present study should be of immense use. Selection of sampling units were made after trial and factors influencing the shape, size and number of sampling units were taken into consideration.

113. Chaudhuri, A.B. 1970. "An ecological-botanical study of the Lauraceae of North Bengal". ***Bull. Bot. Soc. Bengal*** **24(1 & 2): 121-129.**

Abst.- The family Lauraceae stands supreme in the forests of North Bengal. It surpasses all other families of tree species in this region in numerical abundance of species. In Sal forests it comes next to Sal but in temperate hills it has the highest incidence of occurrence and is very conspicuous. Nowhere in the Southeast Asia such a small area abounds with so many species. The present paper gives a complete checklist of North Bengal species, discusses the systematics and various other aspects of the family including its quantitative analysis, biological significance and ecology. It stresses the need for preservation of various species from biotic interference and pleads for up-keep of endemic flora, fauna and avifauna and thus maintains the balance in nature.

114. Chaudhuri, A.S. & Chakrabarty, K. 1976. "Generic and specific diversity of the vegetation of North Bengal". ***Bull. Bot. Soc. Bengal*** **30(1&2): 101-106.**

Abst.- A thorough synthetic analysis of vegetation in the Eastern Himalaya and sub-Himalayan regions has been made. Calculations of genetic diversity, specific diversity and generic coefficient have been made in various types of ecosystems of different altitudinal zones and sufficient indications have been found so far as to their number of genera, species and individuals are concerned. Generic diversity has been observed to maintain a positive correlation with specific diversity in a particular ecosystem. Foot hill forests are very rich in tree flora which corresponds with highest concentration of arboreal avi-fauna, animals and terrestrial fauna. A preliminary study of avi-fauna, the only macro-fauna group having large numbers of individuals in this zone-shows close correlation with richness in diversity.

Generic and specific diversity was highest among the ground vegetation in the temperate ecosystem. In counting of individuals in ground flora species, special methods were evolved and diversity calculated.

Survival of *Rhinoceros unicornis, Panthera tigris, Bibos gaurus, Bubalus babalis, Cycas pectinata, Gnetum scandans, Podocarpus neriifolia* etc. in the highest diversity region depends on the protection of the ecosystem from biotic depredations.

115. Chowdhery, H.J. & Bhattacharjee, A. 2006. "A new species of the genus *Asystesia* (Acanthaceae) Blume from West Bengal, India". *Indian J. Forest.* 29(2): 211-215.

Abst.- During the plant survey in connection with the preparation of an inventory of the plants of Indian Botanic Garden, Howrah, the authors came across a species of *Asystesia* growing in a small patches along with *Asystesia gangetica* (L.) T. Anderson. The critical studies and the scrutiny of the available literature revealed it to an interesting species of the genus *Asystesia* Blume viz. *A. indica* hitherto unknown to the science. *Asystesia indica* is described here along with plate.

116. Cowan, J.M. 1929. "The *Malatas* (*Mallotus*) of Northern Bengal". *Indian Forester* 55: 226-231.

Abst.- 9 species of the genera *Mallotus* and *Macaranga* viz. *Mallotus albus* Muell.-Arg., *M. nepalensis* Muell.-Arg., *M. philippensis* Muell.-Arg., *M. repandus* Muell.-Arg., *M. roxburghianus* Muell.-Arg. and *Macaranga denticulata* Muell.-Arg, *M. gamblei* Hook. f., *M. indica* Wight and *M. pustulata* King have been recorded from the district of Darjeeling and Jalpaiguri of North Bengal. Key to the species has also been given.

117. Culshow, J.C. 1952. "Some West Bengal Plants". *J. Bombay Nat. Hist. Soc.* 49(2): 188-196.

Abst.- Authors collected and described 320 plants out of which 62 plants was not recorded by Prain for Western or Central Bengal, 18 plants recorded in Prain for Central Bengal, but not for Western Bengal and 21 species recorded in Prain as occurring in most of the provinces.

118. Das, A.P. 2002. "Survey of naturalized exotics in the flora of Darjeeling hills, West Bengal (India)". *J. Econ. Taxon. Bot.* 26(1): 31-37.

Abst.- Recent floristic surveys in Darjeeling Hills (alt. 132/3600 m) recorded 114 species under 48 families and 10 genera of exotic angiosperms in naturalized or seminaturalised or

escaped condition of which 99 species are dicotyledonous and 14 species are monocotyledonous. Of those, over 63% plants were introduced as ornamentals and over 66% are herbaceous. While, Central America (30.7%) and South America (21.5%) are the major contributors, other native regions include Europe, Sino-Japanese region, Africa etc. Reasons for such wide scale introduction and naturalization and the resulting effects on local flora and vegetation have been discussed.

119. Das, A.P. 2004. "Floristic studies in Darjeeling Hills". *Bull. Bot. Surv. India* 46(1-4):1-18.

Abst.- The geographical continuity of Darjeeling Hills with Nepal, Bhutan and Sikkim has resulted into the mosaic of floristic elements from these territories in the flora of the Darjeeling Hills, which is rich, both informs of luxuriance and species diversity, owing to a very congenial phyto-climate conditions. The flora comprise 2137 species belonging to 898 genera and 193 families, of which *ca* 1900 species in 772 genera and 159 families belong to Dicots and the rest to the Monocots. While in 479 species (404 Dicots, 75 Monocots) are endemics, 114 species are exotics which have become permanent denizens in the flora of Darjeeling Hills. The flora is also rich in medicinal and other economically important species, including NTFPs. While a number of species could not be relocated in the region, *ca* 222 species have been considered endangered, of which 104 species occur within the protected areas, thus covered under *in situ* conservation. The paper epitomizes the results of floristic studies carried out in the area by the author and his associates during the past 22 years and highlights both, the gaps as well as the future prospects.

120. Das, A.P. & Chanda, S. 1988. "Two new taxa of the family Orchidaceae from Darjeeling Hills, West Bengal (India)". *J. Econ. Taxon. Bot.* 12(2): 401-404.

Abst.- Two new orchids viz. *Gastrochilus corymbosus* A.P. Das *et* Chanda and *Liparis tigerhillensis* A.P. Das *et* Chanda have been discovered from Darjeeling hills of West Bengal. The paper gives detailed description, distribution and notes of two species.

121. Das, A.P. & Chandra, S. 1990. "Potential ornamentals from the flora of Darjeeling Hills, West Bengal (India)". *J. Econ. Taxon. Bot.* 14(3): 675-687.

Abst.- With a background of the environmental conditions of the hills of Darjeeling and Kurseong (altitudinal range 1500 to 2400m) the ornamental potentiality of its native flora has been discussed. Potential plants have been listed under five categories: I. Flowering herbs and

shrubs (92 spp.), II. Foliage plants (41 spp), III. Avenue trees (40 spp.), IV. Succulents (5 spp.) and V. Plants of special Interest (7 spp.) along with their use, availability, climatic adaptability and flowering period/ peculiarity/ specialty. The influence of naturalized exotic (introduced) ornamental plants on the local vegetation has been discussed.

122. Das, A.P. & Dorjay, Lama. 1992. "*Liparis brevicarpa* A.P. Das & Dorjey- A new species of Orchidaceae from the Darjeeling Hills, West Bengal (India)". *J. Econ. Taxon. Bot.* 16(1): 226-227.

Abst.- A new species *Liparis brevicarpa* A. P. Das *et* Dorjay Lama from the Darjeeling hills, West Bengal. Detailed description, distribution, ecology, notes and figure of this species has given.

123. Das, A.P. & Lahiri, A.K. 1997. "Phytosociological studies of the ground flora in different types of vegetation on Tiger Hill, Darjeeling district, West Bengal". *Indian Forester* 123(12): 1176-1187.

Abst.- A large part of Tiger Hill forest (Darjeeling, West Bengal) was clearfelled in the first decades of this century and a part of it was planted with *Cryptomeria japonica* (L. *f.*) D. Don in 1921. Now there exists three types of vegetation side by side: (i) Natural Forest, (ii) Plantation Forest and (iii) Grassland. Phytosociological studies were made to understand the differences in the ground covering vegetation within these vegetational types and to understand the Relative Density, Relative Frequency and Importance Value of its elements. Altogether 85 species and 3,672 individuals were recorded from just 15 one-square meter quadrate. While 33% species were same between Natural Forest and Plantation Forest, it is only 7.25% between Natural Forest and Grassland and 13.84% between Plantation Forest and Grassland. Therophytes (40%) appeared to be a most successful life-form, but Chamaephytes (24.7%) were also well presented along with 14.12% Cryptophytes, 12.94% Hemicryptophytes and 8.23% Phanerophytes. Most of the 31 species of angiosperms recorded from the Plantation Forest were sparsely distributed, feeble and produced only few or no flowers. A more spaced plantation of *Cryptomeria japonica* mixed with selected broad-leaved non-resinous trees has been suggested here to improve the picture. However, all species recorded from Natural Forest (37 spp.) and Grassland (43 spp.) were normal in their development and reproduction though were much affected with grazing.

124. Das, A.P., Sengupta, G. & Chandra, G. 1985. "Notes on some members of Solanaceae in Darjeeling Hills, West Bengal (India)". *J. Econ. Taxon. Bot.* 7(3): 661-663.

Abst.- 4 species of the family Solanaceae have been collected from Darjeeling hills in recent floristic survey. *Solanum mauritianum* Scop., *Cyphomandra betacea* (Cav.) Sendt., *Iochroma coccinea* Scheid and *Streptosolen jamesonii* Miers. have reported for the first time from this area.

125. Das, C.R. 1961. "A new report on *Spirogyra rugulosa* Iwanoff from Senchal Lake, Darjeeling, India". *Bull. Bot. Surv. India* 3(3&4): 389.

Abst.- The present note is a report on *Spirogra rugulosa* Iwanoff collected by the author from Senchal lake at altitude of about 2600 m above sea level in Darjeeling. It was found free-floating in stagnant water. This species does not appear to have been recorded from India so far.

126. Das, C.R. 1985. "An ecotone for plants at higher altitudes in Meerik, Darjeeling-Himalaya". *J. Econ. Taxon. Bot.* 7(3): 603-604.

Abst.- Meerik, the lake town about 50 km from Darjeeling in Eastern Himalaya, have nicely been observed as an ecotone at an altitude of 1800 m constituting an area of transitional zone or habitat for the floristic elements of intermingling species of the tropical plants with those of plants at higher altitudes. Over 43 species in 36 genera of flowering plants have among others been recognized of which 12 monocot genera have so far been studied from Meerik lake and adjoining area.

127. Das, C.R. & Pal, D.C. 1983. "A new taxon of *Chimonobambusa* (Poaceae) from E. Himalaya (India)". *J. Econ. Taxon. Bot.* 4(3): 1023-1024. fig. 1.

Abst.- *Chinomobambusa jainiana* sp. nov. of the sub-family Bambusae Hook. *f.* in Fl. Brit. India 1890 under Poaceae (Gramineae) has been described here with the specialised characters as specific for is own. This species has been endemic to Kalimpong (N. Bengal) [E. Himalaya].

128. Das, C.R., Sikdar, J.K., Ghosh, R.B. & Naskar, A.K. 1982. "A preliminary census of the Flora of Cooch Behar district (West Bengal)". *J. Econ. Taxon. Bot.* 3: 93-111.

Abst.- A total of 196 species of angiosperms and pteridophytes have been recorded from Cooch Behar district of North Bengal. Of these 168 species belongs to angiosperms (144 dicotyledons and 24 monocotyledons) and 28 species to pteridophytes.

129. Das, D. 1999. "Contribution to the mural flora of Purulia district, West Bengal". *Indian J. Appl. Pure Biol.* 14(1): 17-26.

Abst.- Mural flora of Purulia district (between $22^0$43' N and $23^0$42' N latitude and $85^0$49' E and $86^0$54' E longitude) in West Bengal has been studied and intensive survey and exploration of the district was undertaken for the past three years (1994-1997). One hundred thirty five (135) species belonging to 43 families (39 dicots and 4 monocots) were collected. The dominant families were Acanthaceae (nine species), Euphorbiaceae (nine speies), Fabaceae (nine species), Amaranthaceae (seven species) under dicotyledons and Poaceae (twelve species) under monocotyledons. Ten tree species viz. *Mangifera indica* (Aam), *Odina woodier* (Jiyal), *Tamarindus indicus* (Tentul), *Melia azadirachta* (Neem), *Ficus benghalensis* (Bat), *F. hispida* (Jagdumur), *F. religiosa* (Ashwatha), *Psidium guajava* (Piyara), *Trema orientalis* (Chikun), *Streblus asper* (Ashsheora) were found to be more frequent, and inspite of the stunted growth, these tree species were thriving well on nutritionally deficient substratum.

130. Das, D. 1999. "Wild food plants of Midnapore, West Bengal, during drought and flood". *J. Econ. Taxon. Bot.* 23(2): 539-543.

Abst.- Deals with about 31 wild plants of Midnapore district which are used as food resources during drought and flood. Among the 31 plants studied most of them belong to angiosperms. Excepting angiosperms, 2 belong to pteridophytes *i.e.* common fern called Dhekisak and Susni respectively which have their immense role on people of this district during drought or even in their daily life.

131. Das, D. 2000. "A preliminary taxonomic survey of host-range of *Cassytha filiformis* L. (Cassythaceae) in the lateritic district of Purulia, West Bengal (India)". *J. Econ. Taxon. Bot.* 24(2): 467-473.

Abst.-The present paper deals with an account of host range of *Cassytha filiformis* L. of lateritic, Purulia, West Bengal. The twiner parasite of Cassythaceae is so much infectious that as a bio-influencer it perfectly creeps down over the arches and on succulent stems of herbs of forest, crop fields, roadside species, garden species as well as of shrubs and trees. The

extent of plant parasitism has been discovered spreading over 60 species of 54 genera under 36 families. Of thirty six families 7 families belong to Monocot.

132. Das, D. & Ghosh, R.B. 1999. "Additions to the flora of Purulia district, West Bengal". ***Indian J. Appl. Pure Biol.*** **14(1): 83-85.**

Abst.- In the first enumeration Malick enumerated 405 plants of Angiospermic species in his treatise, "A contribution to the Flora of Purulia District, West Bengal". It includes 287 genera under 94 families which include both dicotyledons and also monocotyledons. But recent investigation reveals 72 species representing 66 genera and 37 families of angiosperms. All the species have been collected and recorded within the existing boundary of Purulia under the district Purulia.

133. Das, D. & Ghosh, R.B. 1999. "Mangroves and other phanerogams growing at Nayachar, Haldia, Midnapore, West Bengal". ***Environm. Ecol.*** **17(3): 725-727.**

Abst.- In the district Midnapore Nayachar is a newly formed Island which embraces phanerogams and mangrove vegetation stress thereby forming climax succession. A survey of the new Islands reveals the occurrence of 20 species of halophytes and 56 species of angiosperms.

134. Das, D. & Ghosh, R.B. 1999. "Observation on the host plants of parasitic angiosperms ***Dendrophthoe*** **Ettings. (*Loranthus* Linn.) in the district of Midnapore, West Bengal, India".** ***Indian J. Appl. Pure Biol.*** **14(1): 51-53.**

Abst.- Deals with the host range of *Loranthus* Linn. in the district of Midnapore. It is found commonly on mango trees but excepting mango the extent of parasitism of the plant pest spreads over 40 species of angiosperms. The intensity of infection of the parasite as well as usefulness of the host have been recorded.

135. Das, D. & Ghosh, R.B. 1999. "Preliminary survey and taxonomic census of flowering trees of angiosperms of the campus of Vidyasagar University, Midnapur, West Bengal, India". ***Indian J. Appl. Pure Biol.*** **14(1): 55-68.**

Abst.- Deals with a floristic account of the flowering trees of the campus of the Vidyasagar University, Midnapore, West Bengal, which includes 53 angiospermic species under 46 genera and 25 different families. This also includes some characteristics of plants regarding

their utility. The generic and specific keys have been provided for easy identification of these plants.

136. Das, D., Ghosh, R.B. & Maji, U. 1999. "Some laticiferous plants of the district of Midnapore, West Bengal". *Indian J. Appl. Pure Biol.* 14(1): 41-44.

Abst.- General account of some laticiferous plants occurring in the lateritic tracts of Midnapore, West Bengal, India has been made along with their family wise names, distribution. A total 66 species embracing 15 families are recorded alphabetically.

137. Das, D.C. & Samanta, A.K. 2006. "Phytosociological status of *Typha elephantiana* Roxb. (Typhaceae) in Midnapore district of West Bengal, India". *J. Econ. Taxon. Bot.* 30(1):91-96.

Abst.- *Typha elephantiana* Roxb. is a large, marshy, herbaceous plant, growing in Tropical and subtropical regions of India. It has immense diverse economic value. Phytosociologically it is related with seven constant and sixteen flexible associates. Maximum association was noted with *Azolla* and *Salvinia* and maximum with *Alisma* and *Nymphaea* during the present study.

138. Das, Debika & Pramanik, B. 1970. "A note on the *Chrysanthemum leucanthemum* Linn. (Asteraceae)". *J. Bombay Nat. Hist. Soc.* 67(3): 613-614.

Abst.- During the floristic survey of Darjeeling district in May, 1966, authors came across some specimens of *Chrysanthemum leucanthemum* Linn. (Compositae), growing in Senchal lake area which extends its distributional record to Eastern Himalayas. As the description of this plant is not available in Indian floras, the diagnostic characters with figure is provided to facilitate identification.

139. Das, G.C. 1969. "A note on the distribution of *Chenopodium murale* L. from West Bengal". *Bull. Bot. Soc. Bengal* 23(2): 197.

Abst.- While visiting the farm area near Sodepur, 24-Parganas, West Bengal the author collected *Chenopodium murale* Linn. Uptil now no report has been found as to the occurrence of the species from West Bengal. Therefore, this species is a new distribution record from West Bengal.

140. Das, S. & Ghose, M. 1990. "Pollen Morphology of some Mangrove Plants of Sunderbans, West Bengal". *J. Natl. Bot. Soc. India* 44: 59-75.

Abst.- The pollen morphology of 30 species under 20 genera from 15 different families representing a part of mangrove flora of Sunderbans has been investigated. Pollen grains are mostly tricolporate, few of them tricolpate, pantoporate, triporate and monosulcate. Exine ornamentation as revealed through light and scanning electron microscopical studies shows remarkable variation. Such variations including some other morphological features of pollen grains have been considered in the construction of an artificial key to the identification of the taxa studied. The implication of the present work is also mentioned.

141. Das, S.N. & Janardhanan, K.P. 1982. "A note on the occurrence of *Solanum sisybrifolium* Lamk. in West Bengal". *Indian J. Forest.* 5(3): 251-253.

Abst.- *Solanum sisymbrifolium* Lamk., a native of Brazil, is naturalized in different parts of India. Recently this plant growing gregariously in the meadows and fallow lands, reclaimed for building townships, such as Saltlake, Lake Town, Kalidaha-Jessore Road sector and at Ultadanga-Beliaghata sector of the Calcutta metropolis and its surroundings. The nomenclature of the plant together with the description and illustrations of the floral parts are given for facilitating identification.

142. Das, S.N. & Roy, S.C. 1983. "Three new records for Flora of West Bengal, India". *J. Econ. Taxon. Bot.* 4(3): 777-779.

Abst.- *Exacum teres* Wallich *ex* Roxb., *Vatica lancaefolia* Bl. and *Rhaphidophora hookeri* Schott are recorded here as new to the Flora of West Bengal. Short description, correct nomenclature, relevant notes and field data regarding these species are presented in the paper.

143. Das, S.N. & Roy, S.C. 1984. "A note on the occurrence of a few uncommon plants in West Bengal". *J. Bombay Nat. Hist. Soc.* 81(2): 518-521.

Abst.- 4 uncommon rare plants species viz *Hodgsonia macrocarpa* (Bl.) Cogn., (Cucurbitaceae), *Gomphogyne cissiformis* Griff., (Cucurbitaceae), *Clerodendron wallichii* Merrill (Verbenaceae) and *Glochidion sphaerogynum* Kurz (Euphorbiaceae) have been collected from the plains of North Bengal. A detailed description along with correct nomenclature, distribution, notes and specimens examined has also been given.

144. Das, S.N. & Roy, S.C. 1984. "A note on the occurrence of *Chasalia staintonii* (Hara) Deb *et* Mondal (Rubiaceae) in India". *J. Econ. Taxon. Bot.* 5(2): 473-474.

Abst.- *Chassalia staintonii* (Hara) Deb *et* Mondal has been recorded from Jalpaiguri district of West Bengal. Detailed description, drawing of the plant, specimens examined, distribution and ecology is provided.

145. Das, Silpi & Ghosh, R.B. 1982. "A preliminary census and systematic survey of climbing taxa of West Bengal with special reference to their importance". *J. Econ. Taxon. Bot.* 3(2): 565-574.

Abst.- It is preliminary survey of climbing taxa occurring in West Bengal. The total taxa recorded are 449. Economic importance of these taxa so far investigated are marked with asterisks and it is more than half of the total investigated taxa.

146. Das Das, S.K., Murmu, S. & Maity, K.L. 1992. "A census of the family Papilionaceae in West Bengal". *J. Econ. Tax. Bot.* 16(2): 305-334.

Abst.- The present communication the Papilionaceous taxa occurring in West Bengal is enumerated. It deals with the correct nomenclature along with vernacular/ local names, habit, flowering and fruiting times and distribution of each taxon. As a result, 13 species and 1 variety have been found as new record to Flora of West Bengal.

147. Datta, B.D. & Mondal, Sudhendu. 1998. "A contribution to the forest trees of Birbhum district, W. B. (India)". *J. Econ. Taxon. Bot.* 22(3): 537-545.

Abst.- This paper enlists the forest trees found in Birbhum district, West Bengal. Geographical limits, topography, edaphic and climatic factors of the area are given. In all, 166 species belonging to 92 genera and 39 families are included, giving habit, flowering and fruiting seasons as well as collection number of plants.

148. Datta, B.K., Patra, S.K. & Mondal, S. 1995. "A contribution to the grasses of Birbhum district, West Bengal". *J. Econ. Taxon. Bot.* 19(2): 317-322.

Abst.- The present paper deals with a systematic enumeration of the grasses of Birbhum district, West Bengal, with reference to their occurrence and importance. Altogether 95 species (10 cultivated and 85 wild type) belonging to 57 genera have been enumerated, from the cultivated as well as dry wastelands of the district. Some of the species of grasses like

Bothriochloa, Cynodon, Digitaria, Echinochloa, Eleusine, Hygroryza etc., are being used as fodder by the local farmers.

149. Datta, N.M. & Mitra, D. 1961. "Three newly recorded plants from West Bengal". *Indian Forester* 87: 304-308.

Abst.- *Petiveria alliacea* Linn., *Alternanthera paronychioides* St. Hill and *Pseudoelephantopus spicatus* (Juss.) Rohr. belonging to the family Phytolaccaceae, Amaranthaceae and Compositae respectively, have been found growing abundantly in different area of West Bengal. These 3 species has been new record for Flora of West Bengal.

150. Datta, S.C. & Biswas, K.K. 1973. "Autecological studies on weeds of West Bengal. V. *Ipomaea aquatica* Forsk.". *Bull. Bot. Soc. Bengal* 27: 7-14.

Abst.- *Ipomoea aquatica*, a tropical member of the Convolvulaceae, indicates a range of tolerance towards the habitat with a corresponding range of structures. The seed coat is hard, causing dormancy which can be broken by mechanical or chemical scarification. But to various abiotic disturbances, the plant does not become aggressive and this also accounts it poor fruiting and low seed yield.

151. Datta, S.C. & Biswas, K.K. 1976. "Autecological studies on weeds of West Bengal VI. *Ottelia alismoides* (L.) Pers.". *Bull. Bot. Soc. Bengal* 30(1&2): 1-9.

Abst.- *Ottelia alismoides* (L.) Pers., belonging to the Hydrocharitaceae, is an aquatic herb with remarkable leaf and floral characters as well as with well-known associates. Important morphological variations have been recorded and some of them can be correlated with particular ecological conditions. There are adaptations for both cross-and self-pollination. The mucilaginous covering of seeds aids in dispersal of the species. Some amount of corbon-di-oxide is necessary for the aquatic environment. The reproductive capacity is 851.7 and soaking in mud is a must for successful germination.

152. Datta, S.C. & Majumdar, N.C. 1966. "Flora of Calcutta and vicinity". *Bull. Bot. Soc. Bengal* 20(2): 16-120.

Abst.- As there is no separate flora for the city of Calcutta and its envirous, the paper gives an account of the angiospermic plants contained therein. The present treatise covers the trees, shrubs and herbs of the area, along with there habibit and habitat, short description, flowering time and geographical range. Here the ratio of dicots to monocots is 1:4.2 for the family

level, 1:3.6 for the genus level and 1:3.1 for the species level. The proportion of genera to species is 1:1.5 for the locality under study as compared to 1:2.4 for Bengal, 1:2.2 for the Gangetic plain and 1:7 for the whole of India. The most dominant family here is the Leguminosae which is also shared by Bengal but not by India where the Orchidaceae tops the list and not by the Gangetic plain where the Gramineae occupies the first place. The plants of the area under consideration belongs to eight geographical regions in which the most dominant element seems to be cosmopolitan, followed by Indo-China-Malaya-Australasian region and tropical America. The percentage of endemic species is 12.2. The plants fall into two broad categories: aquatic and terrestrial. Among the aquatics, types may be recognised as free-floating on surface, free suspended in water, attached floating on surface, attached submerged and reed swamps. The terrestrial plants may be either cultivated (road-side and avenue trees, garden plants, hedge plants as well as grown for vegetables) or weeds (found in road-sides and waste place, in rice-fields, in low but dry cultivated lands as well as high cultivated lands). The authors found that 21 species of monocots and 90 species of dicots were not mentioned by Prain (1903) and these have been listed for the two groups. While no new species have been reported. Name combinations for plants have been suggested: *Rorippa indica* var. *bengalensis* DC., *Pouzolzia zeylanica* var. *alienata* Wedd., *Sesbania sesban* var. *bicolor* W. & A. and *S. sesban* var. *picta* Prain.

153. Datta, S.K. 1954. "Some common weeds of Darjeeling and their control". *Sci. & Cult.* 20(1): 18-22.

Abst.- There are 29 common weeds found in Darjeeling district of West Bengal. These weeds grow profusely in the rainy season and exhibit severe competition with the crop-plant, both in their root and foliage developments. Apart from the biological, cultural and mechanical processes, the chemical method of weed control, now a day are finding extensive applications in many farms and experimental stations, in our country and abroad. The common-chemical used as weed killers, have been shown in a table form against the weeds which are killed effectively by them.

154. De, Panchanan & Maiti, G.G. 1989. "Study of Indian *Tinospora* Miers. (Menispermaceae): Petal venation of *Tinospora cordifolia*". *J. Econ. Taxon. Bot.* 13(1): 241-245.

Abst.- *Tinospora cordifolia* (Willd.) Hook. *f.* & Thoms. is a widely distributed climber mostly in India, Bangladesh, Burma & Sri Lanka. Being a taxon of the primitive family the

pecularities of vascular supply of the petal members are studied to emphasize the type of open dichotomous venation and its interpretation.

155. Deb, D.B. (1980) 1982. "On the flood in the Indian Botanic Garden in 1978". *Bull. Bot. Surv. India* 22(1-4): 141-146.

Abst.- The Indian Botanic Garden, Howrah was flooded in October, 1978. Major part of the garden remained submerged for 3 days from 4th to 6th October, the water level rising upto 1.5 m in places. Some areas remained submerged under water for about a weak. The damage caused to the garden is estimated and reported here.

156. Deb, D.B. 1985. "Problems of pineapple cultivation in the plains of southern West Bengal". *J. Econ. Taxon. Bot.* 7(1): 13-28.

Abst.- The behavior of pineapple under varied climate and edaphic conditions and the factors favouring or delimiting the commercial production in southern West Bengal are presented. By bringing wasteland under cultivation of pineapple the industry may be developed on a sound footing. It offers opportunities to cultivators and tradesman to supplement their earning and scope for employment.

157. Debnath, H.S. & Naskar, K.R. 1999. "A comparative study on the mangroves and associated flora in Ganga delta (Sunderbans) and Bay Islands (Andaman & Nicobar)". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp. 277-292.

Abst.- The geophysical position, climate and nature of the Ganga delta (Sunderbans) with that of Bay Islands (Andaman & Nicobar) are discussed for narrating the characteristic mangroves and associated flora of these two intertidal geographical niches. Both these mangrove ecosystems are highlighted in a comparative level and their roles and conservation strategies are also discussed.

158. Debta, M.R. & Chowdhery, H.J. 2007. "Two new fern records for the Flora of West Bengal". *Indian J. Forest.* 30(3): 373-376.

Abst.- *Diacalpe aspidioides* Blume and *Diplopterygium blotianum* (C. Chr.) Nakai belonging to the pteridophytic flora, recorded for the first time from the Singalila National Park, West Bengal and hence constitute new records for the state are described and illustrated.

159. Debta, M.R., Sabapathy, C.M. & Chowdhery, H.J. 2007. "A contribution to the flora of Singalila National Park, Darjeeling District, West Bengal". *J. Econ. Taxon. Bot.* 31(3): 547-559.

Abst.- The present paper deals with the floristic account of Singalila National Park. It enumerates 470 species of flowering plants and ferns distributed over 273 genera belongings to 95 families.

160. Dey, D.K. & Pati, B.R. 1999. "Contribution to grass flora of Midnapore district, W.B.". *J. Econ. Taxon. Bot.* 23(3): 723-725.

Abst.- During the course of studies of the grass flora of Midnapore district, W.B., *Iseilema anthephoroides* Hack. and *Sorghum nitidum* (Vahl) Pers. have been collected. These two taxa have not been recorded by Chatterjee & Muralimohan Reddy (1974) and Banerjee & Dutta (1975). All these reveal that these two species are interesting record to the grass flora of the district.

161. Dey, D.K. & Pati, B.R. 2001. "*Dactyloctenium sindicum* Boiss.- A new record for West Bengal, India". *J. Econ. Taxon. Bot.* 25(1): 225-226.

Abst.- *Dactyloctenium sindicum* Boiss. has been reported as a new record for flora of West Bengal. This species has been collected from Medinipur district of West Bengal. A detailed description along with citation, flowering & fruiting time, distribution, ecology and status has also be given.

162. Dey, D.K., Pati, B.R. & Pal, D.C. 2001. "*Chloris medinipurensis* (Poaceae)- A new species from West Bengal, India". *Journ. Econ. Tax. Bot.* 25(1): 52-54.

Abst.- A new species of genus *Chloris* has been described and illustrated from Medinipur district of West Bengal.

163. Dutta, P.C. & Majumdar, N.C. 1961. "Flora of Hooghly district. 1. Common summer flowering angiosperms". *Bull. Bot. Soc. Bengal* 15: 49-58.

Abst.- In the present paper only the common plants flowering in the hot and dry condition of the summer season, and their change with the change of climate factors have been recorded. Collection of plant materials was mainly concentrated around Chandernagore for the richness of vegetation. The frequency of the occurrence of flowering species under different habitat, such roadside, agriculturals fields, ditches and drains, etc. and under different conditions of

rainfall, humidity, temperature has also been recorded for clearer understanding of the biology of the flora of the locality.

164. Dutta, Ratna & Naskar, A.K. 1983. "*Avena ludoviciana* Dur. (Poaceae)- new to West Bengal". *J. Bombay Nat. Hist. Soc.* 80(2): 459-460.

Abst.- During the course of identification of material of the family Poaceae we came across a specimen of the genus *Avena* which on critical study proved to be *Avena ludoviciana* Dur. It has not been so far reported from the eastern part of India. A specimen collected by A.K. Naskar from Thanamakua, Howrah dist., West Bengal is the first record of its distribution in West Bengal.

165. Dutta, S.C. & Roy, A.K. 1972. "Autecological studies on weeds of West Bengal. I. *Tephrosia hamiltonii* J.R. Drumm.". *Bull. Bot. Soc. Bengal* 26(1): 53-62.

Abst.- *Tephrosia hamiltonii*, a perennial leguminous herb, is distributed widely in the country, although it is a characteristic species of the arid zone. No important morphological variations have been recorded, except that the plant bears four types of seed. The average seed output is about 387 and the reproductive capacity 211. Seed germination is maximum after mechanical scarifications and minimum when exposed to a temperature of 30^0 C. The seeds fail to germinate when sown to any depth of soil. The plant appears after the first few showers of pre-monsoon rain in May and completes its life-cycle with the end of the monsoon in September. It thrives in areas free from water-logging. It is found in places not protected from grazing, but receives some protection due to its association with a number of noxious weeds. The weeds possess no special outgrowth and are quite heavy to be dispersed by wind. Water, ash and nitrogen contents of the plant increase in the fruiting stage, the amount of nitrogen being more in the root than in the shoot. The root/ shoot ratio varies in different localities, but is corrected with moisture content and total organic carbon of the substratum. Culture experiments indicate that the plant has preference for sandy soil and is sensitive to water-logging and interspecific competition. Though the plants exhibit xerophytic characters, they seem to have well adapted to the prevailing soil and climate conditions of the area. The plant falls into ‘drought escaping’ and ‘drought enduring’ groups of the system of Weaver and Clements (1938).

166. Ganguli, P. & Pal, D.C. 1975. "Some notes on the distribution, nature of hosts and symptoms of a flowering parasites, *Macrosolen cochinchinensis* (Lour.) van Tiegh. in West Bengal". *J. Bombay Nat. Hist. Soc.* 72(3): 883-886.

Abst.- *Macrosolen cochinchinensis* (Lour.) van Tiegh. a flowering parasite under Loranthaceae parasitizes a large number of wild and economically important plants in different regions of West Bengal.

167. Ganguly, D.K. 1965. "Sunderbans". *Indian Forester* 91: 661-663.

Abst.- Distribution of various species growing in the Sundarbans, their characteristics and utilization are discussed. Methods of collection of honey and wax are described. The system of management of forests and the modes of extraction are described. The article records author's personal study of the various forestry problems in the Sunderbans and some of the solutions to these.

168. Gantait, S., Gupta, S. & Mukherjee, A. 1997. "Effect of air pollution on foliar and pollen characters of *Lantana camara* L. var. *aculeata* (L.) Moldenke and *Clerodendrum viscosum* Vent.". *Environm. Ecol.* 15(4): 792-796.

Abst.- Responses of the leaves of *Lantana camara* L. var. *aculeata* (L.) Moldenke and *Clerodendrum viscosum* Vent. of the family Verbenaceae to the polluted air were recorded on the basis of comparison of individuals occurring in Rishra, a heavily polluted industrial town of Hooghly district with those of Vidyasagar University Campus, Midnapore, a relatively pollution free area. The foliar characters to respond appreciably to pollution were thickness of leaf and epidermis; stomatal length and breadth, trichome length and density, pollen fertility of both species. Thus these plants are potentially good bio-indicators. The findings of this investigation can substantiate the multifarious approaches to monitor the environmental pollution.

169. Garg, Arti. 2006. "*Hippolytia gossypina* (Hook. *f.* & Thoms. *ex* C. B. Clarke) Shih and *Lactuca decipiens* C. B. Clarke (Asteraceae)- new records for West Bengal". *Rheedea* 16(1): 69-70.

Abst.- *Hippolytia gossypina* (Hook. *f.* & Thoms. *ex* C. B. Clarke) Shih and *Lactuca decipiens* C. B. Clarke are reported for the first time from West Bengal. Detailed description along with correct nomenclature, flowering and fruiting period, habitat, distribution and specimen examined has also be given.

170. Ghara, L.K., Maiti, G.G. & Sikdar, J.K. (1980) 1982. "*Impatiens scitula* Hook. *f.*- a new record for India". *Bull. Bot. Surv. India* 22 (1-4): 191-192.

Abst.- *Impatiens scitula* Hook. *f.* have been collected from Tongloo, in Darjeeling district of West Bengal. A detailed description with an illustration, distribution, flowering and fruiting and voucher specimen has also been given.

171. Ghora, Chhabi. 1999. "A note on the occurrence of *Dendrolobium umbellatum* (L.) Benth. (Papilionaceae) in Sunderbans, West Bengal". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp. 293- 297.

Abst.- *Dendrolobium umbellatum* (L.) Benth. [= *Desmodium umbellatum* (L.) DC.] (Papiloanaceae) restricted in West Bengal (24-Parganas-Sunderbans area) and Andaman & Nicobar Islands within Indian limit. Described with type, iconotype and the specimens collected from Sunderbans area more than 100 years ago, held in CAL are cited.

172. Ghosh, A. 2003. "Herbal folk remedies of Bankura and Medinipur districts, West Bengal". *Indian J. Traditional Knowledge* 2(4): 393-396.

Abst.- Twenty two medicinal plants belonging to nineteen families used by the tribals/local communities of Bankura and Medinipur districts, West Bengal have been reported as the potential drugs against twenty common ailments of the people.

173. Ghosh, A. 2006. "Medicinal plants used for treatment of diabetes by the tribals of Bankura, Purulia and Medinipur of West Bengal". *J. Econ. Taxon. Bot.* 30(Suppl.): 233-238.

Abst.- Diabetes is a silent killer. It is the root causes of all types of diseases and damages to kidneys, wounds, eyes, nerves and other organs. Diabetes and high blood pressure accelerate impotency, premature senescence. Important household unexplored different medicinal plants which are used to cure diabetes are discussed here.

174. Ghosh, A.K. 1941. "Submerged forest in Calcutta". *Sci. & Cult.* 6: 669-670.

Abst.- Several tree trunks have been excavated from a depth of nearly 30 feet from the surface (below the upper peat-layer of Calcutta Soil), in the eastern extensions of the Dhakuria lake in Calcutta. Erect *in situ* trunks with basal roots systems are identifid as *Heritiera fomes* Buch. (= *H. minor* Lam.). The position of these stumps as well as several

others were excavated in other parts of the lake, affords unmistakable evidence of subsidence of an extensive forest which once existed in this area. The forest has been gradually buried underground, by the slow and gradual silting up of an area that was once the delta of the Ganges.

175. Ghosh, A.K. 2003. "Herbal veterinary medicine from the tribal areas of Midnapore and Bankura district, West Bengal". *J. Econ. Taxon. Bot.* 27(3): 573-575.

Abst.- Ethnobotanical uses of plants in veterinary medicine by the tribals of Midnapore and Bankura districts have been reported.

176. Ghosh, B. & Banerjee, R.N. (1979) 1980. "Notes on *Cleome rutidosperma* DC. in India". *J. Bombay Nat. Hist. Soc.* 76(3): 555.

Abst.- The paper deals with the occurrence of *Cleome rutidosperma* DC. an African weed, in West Bengal and Assam, with additional notes on taxonomic characters, present distribution and citations.

177. Ghosh, B. & Banerjee, R.N. (1979) 1980. "Notes on the distribution of few Indian grasses". *J. Bombay Nat. Hist. Soc.* 76(2): 376-377.

Abst.- *Polypogon monspeliensis* (L.) Desf. and *Rhynchelytrum villosum* (Parl.) Chiov. have been recorded as new to the Flora of West Bengal and *Indochloa clarkii* (Hack.) Bor from Madhya Pradesh.

178. Ghosh, B. & Maiti, G.G. 1978. "Occurrence of three taxa in West Bengal". *J. Bombay Nat. Hist. Soc.* 75(2): 525-526.

Abst.- Three plant species viz. *Alchornea tiliaefolia* Muell.-Arg., *Euphorbia helioscopia* L. and *Chrozophora parvifolia* Klot. & Sch. have been new recorded as new distribution for West Bengal. Specimens examined along with extended distribution and notes have been recorded.

179. Ghosh, B. & Maiti, G.G. 1982. "*Lycium chinense* Mill. (Solanaceae) from India". *J. Bombay Nat. Hist. Soc.* 79(1): 225-227.

Abst.- *Lycium chinense* Mill.-a native of China and Japan, also growing in Tibet and cultivated in Eastern Asia for showing rambling habit, evergreen leaves and colourful berries is now recorded for the first time in India from West Bengal. Detailed description along with

citation, flowering and fruiting period, field notes and voucher specimens has also be given. A key to all the Indian species presented in this paper to facilitate identification of Indian *Lycium* L.

180. Ghosh, C., Sharma, B.D. & Das, A.P. 2004. "Weed Flora of tea gardens of Darjeeling Terai". *Bull. Bot. Surv. India* 46(1-4):151-161.

Abst.- Tea is under cultivation in Darjeeling hills since 1835 and in Terai it was introduced in 1862. Any cultivated field in this garden is liable to be affected by weed infestation as the local flora is extremely rich. The crop loss in tea gardens of this area is quite considerable and the planters practice a good variety of deweeding techniques. Four tea gardens of Terai, namely (1) Hansqua, (2) Kamalpur, (3) Satvaya and (4) Gulma and Mohorgong Tea Estates were surveyed for flora and phytosociological information. While the existence of a rich and diverse flora has been exposed, the similarity of the weed flora of these gardens is quite high and four weedy species have been recognized which are affecting all these gardens almost uniformly.

181. Ghosh, Chandra & Das, A.P. 2007. "Use of dye yielding plants by the tribal Tea Garden Workers in Terai and Hills of Darjiling". *Pleione* 1: 19-22.

Abst.- Ethnobotanical survey among the tea garden workers in hills and Terai in Darjiling district of West Bengal, India recorded the use of 12 angiosperms (*Acacia catechu, Bauhinia purpurea, Clerodendrum serratum, Curcuma longa, Deeringia amaranthoides, Mahonia nepaulensis, Mallotus philippensis, Morinda angustifolia, Rubia manjith, Tagetes patula, Terminalia bellirica* and *Toddalia asiatica*) as sources of dyes for their various types of domestic uses.

182. Ghosh, M.K. 1966. "*Marsilea minuta* L. var. *indica* Gupta- a new report for West Bengal". *Bull. Bot. Surv. India* 8(3 & 4): 344-345.

Abst.- *Marsilea minuta* L. var. *indica* Gupta has been collected from the outskirts of Calcutta i. e. Polba village near Bandel in the Hooghly district of West Bengal. Detailed description, specimen examined along with figures has also been given.

183. Ghosh, M.K. 1966. "*Hibiscus micranthus* L. *f.*: A new record for West Bengal". *Sci. & Cult.* 32(5): 260-261.

Abst.- *Hibiscus micranthus* L. *f*. has been collected from Diara Village, 24-Parganas district which is a new record for West Bengal. A complete description along with correct nomenclature, field notes, distribution and uses has also given.

184. Ghosh, M.K. 1969. "*Convolvulus arvensis* L.: A note on its distribution in West Bengal". *Sci. & Cult.* 35(8): 403-404.

Abst.- *Convolvulus arvensis* L. is a European garden pest and is commonly known as "Corn Bind Weed" or "field Bind-Weed" on account of its occurrence in the corn fields or/ and in the wild lands. It is naturalized as 'Wides' in India, but not reported so far from West Bengal. With the collection of this weed from Fartabad near Garia Station Road, 24-Parganas, West Bengal, its extended distribution is recorded.

185. Ghosh, P. & Das, D. 2006. "A preliminary census and taxonomic survey of host plant diversity of *Cuscuta reflexa* Roxb. in the Dakshin Dinajpur district of West Bengal". *J. Econ. Taxon. Bot.* 30(2): 217-220.

Abst.- The present article deals with the systematic enumeration and taxonomic survey of host plants of *Cuscuta reflexa* Roxb. in Dakshin Dinajpur district in North Bengal, West Bengal state. Altogether, 58 species belonging to 46 genera and 24 families of angiosperms are enumerated. The ratio of monocot to dicot is 1:57.

186. Ghosh, R.B. 1960. "Preliminary observations on the flora of the dilapidated walls and buildings of Calcutta and suburbs". *J. Indian Bot. Soc.* 39: 548-557.

Abst.- The study of the wall flora of a few selected localities in Calcutta and its suburbs showed the occurrence of 81 species distributed in 76 genera and 36 families of angiosperms. These included mostly annuals and perennials; the former appeared at about the same time during two successive years indicating thereby that the seeds remained dormant *in situ*, till favourable conditions prevailed. The perennials remained mostly in an allophyllous condition during the summer and recommenced growth and activity with the commencement of the monsoon.

Temperature, topography of the wall and its exposure to the sun were also of importance in determining the types of vegetation and the longevity of plants.

187. Ghosh, R.B. 1968. "Some unrecorded host plants of a flowering parasite *Dendropthoe falcata* (L. *f.*) Etting. (*Loranthus longiflorus* Desr.) in the Indian Botanic Garden, Calcutta". *Bull. Bot. Soc. Bengal* 22(2): 239-249.

Abst.- The paper deals with the host range of *Dendropthoe falcata* (L. *f.*) Ettings., in the garden. The extent of parasitism of the plant pest spreads over 36 genera and 47 species of angiosperms. Two host plants, *Protium serratum* (Wall. *ex* Colebr.) Engl. and *Syzigium fruticosum* (Roxb.) DC. have been recorded for the first time as new hosts which may be added to the general list of host range variation determined by previous workers. The intensity of infection of parasite as well as usefulness of the host has been mentioned.

188. Ghosh, R.B. 1968. "A note on two new hosts of *Dendrophthoe falcata* (L. *f.*) Ettingsh". *Indian Forester* 94: 778.

Abst.- Two additional new hosts from Indian Botanic Garden, Calcutta namely *Terminalia arjuna* Wight (Combretaceae) and *Vitex leucoxylon* Linn. (Verbenaceae) on which *Dendrophthoe falcata* (L. *f.*) Ettingsh (Loranthaceae) is attack. These 2 new records bring the total number of hosts for *D. falcata* to 328.

189. Ghosh, R.B. 1968. "Loranthaceous parasites of the Indian Botanic Garden, Calcutta". *Sci. & Cult.* 34(10): 426.

Abst.- The present author while surveying the Botanic Gardens to note the occurrence of parasites, epiphytes or hemi-parasites, has recorded two species *Dendrophthoe falcata* (Linn. *f.*) Etting. and *Macrosolen cochinchinensis* (Lour.) V.T. of Loranthaceae as parasite on the plants of the Indian Botanic Garden, Howrah. *Dendrophthoe falcata* (Linn. *f.*) Etting. growing on *Anogeissus latifolia* Wall., *Bridelia retusa* Spreng., *Careya arborea* Roxb., *Ficus benghalensis* Linn., *Garuga pinnata* Roxb., *Mangifera indica* Linn., *Shorea robusta* Gaertn., *Sterospermum personatum* (Hassk.) Chatt., *Swietenia macrophylla* King & *Terminalia tomentosa* Mart. ex Eichl. and *Macrosolen cochinchinensis* (Lour.) V.T. on *Labramia bojeri* A. DC. & *Ropalcarpus lucidus* Boj.

190. Ghosh, R.B. 1971. "On the census of the vascular epiphytic plants in the Indian Botanic Garden, Calcutta". *Bull. Bot. Soc. Bengal* 25(1&2): 33-35.

Abst.- The investigation reveals a census of the vascular epiphytic communities of the Indian Botanic Garden and it appears that census of such group of plants has been made for the first time which adds to the literature of the garden flora. The recorded epiphytes listed in the table

include 31 species spread over 26 genera of angiosperms and 3 species of Filicineae. The paper also deals the habit and extent of epiphytism of the recorded epiphytes and their classification follows several authors as indicated in the text.

191. Ghosh, R.B. 1972. "Parasitism by three species of *Loranthus* on a single host plant". *J. Bombay Nat. Hist. Soc.* 69(2): 452.

Abst.- During a random survey of the parasites growing on plants in the arboretum of the Indian Botanic Garden, Calcutta, the author noted that three different species of *Loranthus* viz. [*Dendrophthoe falcata* (L.*f.*) Etting. (Syn. *Loranthus longiflorus* Desr.), *Macrosolen cochinchinensis* (Lour.) V.T. (syn. *Loranthus ampullaceus* Roxb.) and *Loranthus ligustrinus* Wall.] are growing on a variety (Red) of *Nerium indicum*, a sub-spontaneous ornamental plant of Apocynaceae grown at different divisions of the garden, whose intensity of parasitism varied. The plants *Nerium indicum* (red variety) appears to be a new host for all three parasites.

192. Ghosh, R.B. 1985. "Eighth list of angiosperms not in the flora of British India". *Bull. Bot. Soc. Bengal* 39: 41-44.

Abst.- 64 species of angiosperms recorded from different parts of India and not included in any previously published lists have been enumerated alphabetically. Within these species *Amblyanthopsis bhotanica* (C.B. Clarke) Mez. [Jalpaiguri, North Bengal], *Lindenbergia titensis* J.K. Sikdar [Jalpaiguri dist., W.B.], *Ranunculus sardous* Crantz. [Howrah, W.B.] are new record from West Bengal as well as from India.

193. Ghosh, R.B. 1998. "Seasonal distribution of the wall vegetation of Midnapore district, W.B.". *Indian J. Appl. Pure Biol.* 13(2): 107-113.

Abst.- Deals with an account of wall flora of the district of Midnapore, West Bengal. The survey of wall plants records the distribution of 115 species of angiosperms of which 102 species belong to dicots and 13 species to monocots. Of the dicots, 7 tree species have been recorded. These consisted of 4 species of *Ficus*, 1 species of *Acacia*, 1 species of *Trema* and 1 species of *Azadirachta*. Three species of dicot climbers were also noted. Of the 13 species of monocots, 9 species of grasses have been noted.

194. Ghosh, R.B. 2001. "A preliminary taxonomic survey and systematic census of the occurrence of fungi on bamboos in the district of South 24-Parganas". *Indian J. Appl. Pure Biol.* 16(2): 83-84.

Abst.- Mycological survey of the district south 24-Parganas revealed the occurrence of 19 taxa of higher fungi growing on living or dead bamboos. Some species such as *Gonoderma lucidus, Merculias similes, Stereum percome* and *Trametes perssoni* were found to grow both on living and dead bamboos.

195. Ghosh, R.B. 2003. "A contribution on the host range of parasitic angiosperm-*Dendrophthoe falcata* (L. *f.*) Ettingsh in the district of 24-Parganas". *Indian J. Appl. Pure Biol.* 18(1): 73-76.

Abst.- Deals with the host range of *Dendrophthoe falcata* in the district of 24-Parganas. It is commonly found to infest mango trees, but the extent of parasitism has been found to spread over 50 species of angiosperm as noted in the observations.

196. Ghosh, R.B., Banerjee, R.N. & Ghosh, A.K. 1976. "*Eupatorium erythropappum* Robinson- A new record for India". *J. Bombay Nat. Hist. Soc.* 73(3): 554-556.

Abst.- A detailed description along with an illustrative diagram, place of occurrence, distribution and field notes are given for *Eupatorium erythropappum* Robinson (Compositae) which is a new record for India.

197. Ghosh, R.B. & Das, D. 1998. "*Cassytha filiformis* - a genus on its host range in the district of Midnapore, West Bengal". *Environm. Ecol.* 16(2): 485-486.

Abst.- Deals with an account of host range of *Cassytha filiformis* L. in West Midnapore, West Bengal. The twiner parasite of Lauraceae is so infectious that it perfectly creeps down over the arches and on succulent stems of different herbs, shrubs and trees. The extent of plant pest spreads over 22 genera and 24 species of angiosperms.

198. Ghosh, R.B. & Das, D. 1999. "Preliminary census and systematic survey of antidiabetic plants of Midnapore district, West Bengal, India". *J. Econ. Taxon. Bot.* 23(2): 535-538.

Abst.- Ethnobotanical census of medicinally important antidiabetic plants of the district Midnapore has been conducted since October 1994 to April 1997. Such census reveals the

reord of 55 species belonging to 2 dicots and 4 monocots families used as antidiabetic plants by tribal and local people.

199. Ghosh, R.B. & Das, D. 2002. "Observation in seasonal variation of wall vegetation of the district of Bankura, West Bengal". *J. Econ. Taxon. Bot.* 26(3): 557-561.

Abst.- Wall flora of Bankura district (22°46' to 22°38' N latitude and 86°36' to 87°46'E longitude) in West Bengal has been studied and intensive survey and exploitation was undertaken during past 4 years (1995-1999). Eighty four species belonging to monocots and dicots were collected throughout the different seasons.

200. Ghosh, R.B. & Das, D. 2004. "Observation on the seasonal distribution of the wall vegetation of Birbhum district, West Bengal". *J. Econ. Taxon. Bot.* 28(1):6-12.

Abst.- The present communication deals with an account of the wall flora of the district Birbhum district, West Bengal. The survey of wall plant records the distribution of 156 species of angiosperms of which 144 species belong to dicots and 12 species to monocots. Of the dicots 8 tree species have been recorded. These comprise of 4 species of *Ficus,* 1 species of *Mangifera*, 1 species *Psidium*, 1 species of *Sygygium* and 1 species of *Trema,* 12 species of Poaceae also show dominance on the walls.

201. Ghosh, R.B., Das, D. & Ghosh, R.H. 1999. "Preliminary systematic census and taxonomic survey of tree flora in Gope College campus, Midnapore, West Bengal". *Indian J. Appl. Pure Biol.* 14(1): 77-81.

Abst.- Gives an account of tree species growing in the vast campus of the Gope College, Midnapore. Taxonomic census reveals a record of 4 species of following plants, of which 3 species belong to monocots and rest are dicots.

202. Ghosh, R.B., Das, D. & Maji, U.K. 1999. "Additions to the Cyperaceae of Midnapore, West Bengal". *J. Econ. Taxon. Bot.* 23 (3): 736-738.

Abst.- The present contribution gives a systematic account of 22 taxa of Cyperaceae as an addition to Midnapore district.

203. Ghosh, R.B., Das, D. & Panda, S. 1998. "Synoptic study on the phytosoiological distribution of the taxa of Ranunculaceae (*sensu lato*) in the Eastern and Western Himalayas". *Indian J. Appl. Pure Biol.* 13(2): 147-152.

Abst.- Investigation an attempt has been made to reassess the status of the family Ranunculaceae based on its geographic distribution in the Eastern and Western Himalayas of Independent India. An extensive study resulted in the collection and identification of 27 genera and 28 species of this family, which inhibit the aforesaid area.

204. Ghosh, R.B. & Ghosh, A. (1977) 1978. "Some additions to the flora of Buxa division, Jalpaiguri district of West Bengal". *Bull. Bot. Soc. Bengal* 31(1&2): 78-83.

Abst.- The present list is an enumeration of 145 species belonging to 38 families of angiosperms. Of these 124 species of dicotyledons are spread over 92 genera and 21 species of monocotyledons over 17 genera. All species recorded may be considered as additions to sedges and grasses (Chowdhuri, 1959) of the Buxa Division, Jalpaiguri district of West Bengal.

205. Ghosh, R.B., Ghosh, B. & Das, J.C. 1978. "A note on *Kaempferia angustifolia* Roscoe". *J. Bombay Nat. Hist. Soc.* 75(1): 248-249.

Abst.- The species *Kaempferia angustifolia* Rosc. appears to be the first record in the wild in West Bengal. Paper deals with the description, flowering & fruiting time, distribution, ecological notes, specimens examined and citations.

206. Ghosh, R.B., Ghosh, B. & Datta, S. 1977. "Two little known or rare plants from Eastern India". *J. Bombay Nat. Hist. Soc.* 74(3): 564.

Abst.- During identification and scrutiny of some collections of plants from Eastern Himalayas, authors came across some individuals of *Dittoceras andersonii* Hook. *f.* (Asclepiadaceae), a species uncommonly recorded from Sikkim and Upper Burma (Hooker, 1883) and *Tofieldia yunnanensis* Franch. (Liliaceae), a Chinese species hitherto unrecorded in Indian regions and as such it is a new record for the Indian subcontinent.

207. Ghosh, R.B., Guha Bakshi, D.N., Mukherjee, K.D. & Mondal, S.K. 1971. "On the occurrence of *Atlantia missionis* Oliv. in the district of Burdwan in West Bengal (Rutaceae)". *J. Bombay Nat. Hist. Soc.* 68: 851-852.

Abst.- *Atlantia missionis* Oliv. of the family Rutaceae was collected from roadside at Jaugram on the way to Burdwan. The available literature and herbarium records reveal that the plant was distributed in the Western Peninsula, Red Hills, Madras, Deccan Hills and

Eastern slopes of Nilgiris and Anamalais. Its occurrence in Jaugram is a new record from the West Bengal.

208. Ghosh, R.B. & Hazra, R. 1998. "Preliminary census and taxonomic survey of weed flora of the campus of Vidyasagar University, Midnapore, West Bengal". *Indian J. Appl. Pure Biol.* 13(2): 123-128.

Abst.- Systematic census and taxonomic survey of weeds of the Vidyasagar University campus so far made spread over 196 species of angiosperms distributed under 47 families. Of these families 42 belongs to dicots and 5 monocots. The dicots represent 113 genera and monocots 36 genera.

209. Ghosh, R.B. & Mitra, B. 1982. "Contribution to the study of Asteraceae in West Bengal". *Bull. Bot. Soc. Bengal* 36: 61-66.

Abst.- In the present communication, a census of taxa of Asteraceae occurring in West Bengal has been made. In the inventory presented herewith, 205 species and 83 genera are recorded in the state against 66 genera and 112 species as observed by David Prain (1903) in his treatise "Bengal Plants". Twelve new genera are added as a result of name changes following ICBN.

210. Ghosh, R.B. & Sikdar, J.K. 1983. "A taxonomic census and systematic survey of Convolvulaceous (*sensu lato*) taxa of West Bengal". *Indian J. Forest.* 6(3): 214-222.

Abst.- The present enumeration has been based on the basis of recently collected plant species from the district of Northern Bengal. Altogether 78 species falling under 19 genera of Convolvulaceae are recorded from West Bengal with 6 new additions. The generic key is also provided indicating delimitation of different genera occurring in West Bengal. District names are abbreviated against each species. Genera and species are arranged alphabetically. New additions not previous recorded are marked with asterisk. The nomenclature of the taxa has been brought up to-date as far as possible using basionyms.

211. Ghosh, S., Das, S. & Ghosh, M. 2002. "Biology of *Nypa fruticans* (Thunb.) Wurmb.- an endangered mangrove palm of Sunderbans, India". *Advances Pl. Sci.* 15(1): 71-78.

Abst.- *Nypa fruticans* is the only species of the genus and the member of the family Arecaceae. This palm is very distinctive and grows in the littoral zones of Tropical Asia and Australia. It has rhizomatous stem with a massive dichotomously branched horizontal axis

buried in estuarine mud. The leaves are paripinnate with cluster of scales on abaxial side of midrib of the leaflets. It is monoecious with protogynous axillary inflorescence. Fruiting body globose with many congested fibrous fruits. Germination is hypogeal, admotive and incipiently viviparous. The anatomical featues also show its distinctiveness. Each guard cell has a few smaller cutinized ledges in between two prominent ledges. The trichome resembles a stoma with two deeply sunken cutinized guard-cell-like cells. The ground tissue of stem, root and petioles are spongy and aerenchymatous. The vessel elements contain scalariform to reticulate perforation plates. The palm is economically important. Seedlings can be grown in freshwater condition. For permanent settlement it needs brackish water. It is endangered in Sunderbans due to increase salinity level of water and alkalinity of soil.

212. Ghosh, S.B. 1994. "Fodder grasses of Indian Sanctuaries I- Identification of grasses, consumed by herbivores in the Mahananda and other wildlife sanctuaries of North Bengal". ***Indian Forester*** **120(10): 946-952.**

Abst.- A number of grasses have been identified, which are highly preferred and consumed by the herbivorous fauna, in the Mahananda Wildlife Sanctuary and other wildlife reserves of North Bengal. On the contrary, the famous alluvial "Savannah" grasslands of this region have been found declining due to various interwoven factors. However, it has been found that, the larger varieties of grasses such as *Agrostis brachiata, Anthistiria gigantea* var. *arundinacea, Capillipedium assimile, Centotheca lappacea, Cymbopogon pendulens, Ischaemum aristatum* subsp. *imberbe* Hack., *Panicum fluvescens, Rottbelia exaltata, Saccharum arundinaceum* var. *ciliaris, S. bengalensis, S. spontaneum* L., *Setaria palmifolia* etc. which are having underground, enormous, drought resistant rhizomes, are very suitable for plantation purposes and restoration of grasslands. The savannah of Eastern sub-Himalayas, have been found to be of mixed type of vegetation from ecological point of view and therefore, mixed plantations have been recommended. Alternated patches of tree plantation with *Dillenia pentagyna, Eugenia jambolana, Ficus* sp. etc., are advisable. A copious growth of dicotyledonous weeds have been detected which should be eradicated to protect these invaluable Savannah grasslands.

213. Ghosh, S.S. & Negi, B.S. 1958. "Occurrence of ***Carapa*** **sp. in the so called peat bed near Calcutta".** ***Curr. Sci.*** **27: 359-360.**

Abst.- For well over a century, tree trunks, roots and other isolated plant remains have been recorded from different strata of the peat beds of Narayanpur colony (lat. $22^0$8', long. $88^0$27')

near Dum Dum, West Bengal. It is almost black due to ageing. After splitting, it is observed that the inner portion of the wood is deep wine-red in colour and free from any fungus or insect attack. After detailed study it was identified as a mangrove species- *Carapa* in the peat bed.

214. Giri, G.S., Biswas, M.C., Banerjee, R.N. & Majumdar, N.C. 1982. "On the occurrence and identity of *Zingiber spectabile* Griff. in India". *J. Econ. Taxon. Bot.* 3: 251-252. f. 1.

Abst.- A Malaysian plant *Zingiber spectabile* Griff. has been recorded from West Bengal for the first time. A full description and drawing of the plant from fresh material is provided.

215. Guha Bakshi, D.N. 1969. "Occurrence of *Oxalis latifolia* H.B. & K. in the district of Murshidabad in West Bengal (Oxalidaceae)". *Bull. Bot. Soc. Bengal* 23(1): 71.

Abst.- During the summer trip to the district of Murshidabad, a very interesting weed with brilliant bluish-purple flowers was collected from Lalbagh, Murshidabad. The species after identification was found to be *Oxalis latifolia* H.B. & K.

216. Guha Bakshi, D.N., Mondal, S.K. & Sen, S. 1977. "Contribution to the study of Cyperaceae in West Bengal". *Bull. Bot.Soc. Bengal* 31(1&2): 90-97.

Abst.- The authors have enumerated the species of Cyperaceae found along the banks of the river Ganges and its tributaries-Bhagirathi and Padma passing through the “Lower Gangetic Belt”. Seventy eight species belonging to seven genera have been found in this area.

217. Guha Bakshi, D.N. & Naskar, A.K. 1967. "*Pulicaria crispa* Benth.- a new record from West Bengal". *Bull. Bot. Surv. India* 9(1-4): 277.

Abst.- *Pulicaria crispa* Benth. has been collected at Mojjhampur, Beldanga in the district of Murshidabad. This species has been new record for West Bengal.

218. Guha Bakshi, D.N. & Naskar, A.K. 1969. "A sketch flora of Chiruti in the district of Murshidabad". *Bull. Bot. Soc. Bengal* 23(2): 171-176. map 1.

Abst.- In course of an exploration trip to the district of Murshidabad, the authors paid a special visit to Chiruti, a place of archaeological and historical importance and collected 56 species of plants belonging to 40 families. The collections have been deposited at the Central

National Herbarium, Shibpur, Howrah. A short topographical account, places of collection and degree of abundance are also given.

219. Guha Bakshi, D.N., Naskar, A.K. & Lahiri, J. 1973. "Flora on the bank of Bhagirathi in the district of Murshidabad in West Bengal". ***Bull. Bot. Soc. Bengal*** **27(1-2): 15-26.**

Abst.- A brief topography and the physical aspects of the river Bhagirathi, which runs across the district of Murshidabad in West Bengal, the cradle place for the British rule in India, have been given, together with the map of the explored areas of the district.

This work is a part of the flora of the district of Murshidabad and includes only the monocotyledonous members which comprise 24 families and 99 species. Salient characters, physiognomy as well as phenology of each taxon have been pin-pointedly given only for brevity of space.

220. Guha Bakshi, D.N., Pramanik, B. & Sur, P.R. 1976. "A contribution to the Gramineae of West Bengal". ***Bull. Bot. Soc. Bengal*** **30(1&2): 89-97.**

Abst.- A brief resume of work done on the grasses of West Bengal includes the district viz. Howrah, Hooghly, some part of 24-Parganas, Nadia and Murshidabad which constitute what is popularly known as “Lower Gangetic Belt” together with original citation, basionym and distribution. Within these grasses 15 are aquatic and other 118 terrestrial grasses.

221. Guha Bakshi, D.N. & Sen, S. 1969. "A botanical exploration of Sagar Islands in 24-Parganas". ***Bull. Bot. Soc. Bengal*** **23(1): 31-34.**

Abst.- A list of plants collected from Sagar Island in 24-Parganas, West Bengal is given. The list includes 62 dicotyledonous and 21 monocotyledonous plants belonging to 40 and 9 families respectively. The occurrence of *Terminalia catappa* Linn. from Sagar Island is a new distributional record from the Sundarbans areas.

222. Guha, B.P. 1967. "A new variety of ***Cardenthera uliginosa*** **Buch.-Ham. from the district of Birbhum (West Bengal)".** ***Bull. Bot. Soc. Bengal*** **21: 47-48.**

Abst.- A new variety of *Cardenthera uliginosa,* viz. *C. uliginosa* Bach.-Ham. var. *birbhumensis* Guha, collected from Nanur, Birbhum, West Bengal is described.

223. Guha, B.P. 1971. "Grasses and sedges of Birbhum (West Bengal)". *Bull. Bot. Soc. Bengal* 25(1 & 2): 5-18.

Abst.- A general account of the grasses and sedges of the Birbhum district with a list of 95 species of grasses under 61 genera and 46 species of sedges under 9 genera are presented in this paper. Brief account of the topography, soil, climate, grass-vegetation etc. of the district together with the deltas of the degree of abundance with notes on ecology and economic importance wherever possible, flowering and fruiting times and field numbers are also given.

224. Guha, R. & Mondal, M.S. 2003. "A new species of *Caldesia* Parl. (Alismataceae) from lower Bengal". *J. Econ. Taxon. Bot.* 27 (Suppl.): 1102-1106.

Abst.-The genus *Caldesia* Parl. is represented by three species in India- *C. grandis* Samuel., *C. oligococca* (F. V. Muell.) Buch. and *C. parnassifolia* (Bassi *ex* L.) Parl. The specimen from Lower Bengal is quite distinct from the above mentioned species, though allied to *C. grandis* Samuel. and *C. parnassifolia* (Bassi *ex* L.) Parl., and deserves a distinct specific recognition. A palynotaxonomical account is presented in the text.

225. Gupta, D. & Patra, S.K. 1987. "*Ophiglossum gramineum* Willd.: A new record from West Bengal". *Bull. Bot. Soc. Bengal* 41: 47.

Abst.- Different species of *Ophioglossum* are generally distributed in the cooler hilly regions though some species have been recorded from the hotter regions of plain of India also. The species recorded in this communication has been collected from the Ballavpur forest near Santiniketan in the Birbhum district of West Bengal. This plant has been obtained near a natural streamlets during rainy season. It grows together with grasses and other herbaceous plants in rainy season (August-September). This species is the new record for the Flora of West Bengal.

226. Gupta, D. & Sen, C. 1978. "Observation on blue-green algae of paddy field soils of Gangetic West Bengal. I. Burdwan District". *Indian Agric.* 31(3): 221-225.

Abst.- Survey for blue-green algae growing on paddy fields of Gangetic Burdwan district (eastern part) has been made. Collections have been made periodically in the months when the fields were under cultivation. The fifteen species obtained have been enumerated and their periodic occurrence has been recorded.

227. Gupta, D. & Sen, C. 1987. "Some Cyanophyceae from Gangetic delta of West Bengal-I. Hooghly district- A taxonomic enumeration". *J. Econ. Taxon. Bot.* 10(2): 381-385.

Abst.- The present communication records 28 species of Blue-green algae representing 13 genera from Hooghly district of West Bengal.

228. Gupta, Dilip. 1975. "Some new records of blue-green algae from West Bengal-II". *Bull. Bot. Soc. Bengal* 29: 29-31.

Abst.- Four blue-green algae viz., *Gloeocapsa decorticans* (A. Br.) Richter *ex* Wille; *Oscillatoria amonea* (Kutz.) Gomont; *Nostoc piscinale* Kutz. *ex* Born. *ex* Flash. and *Anabaena variabilis* Kutz. *ex* Born. *et* Falh. var. *ellipsospora* Fritsch have been reported for the first time from West Bengal.

229. Gupta, P. & Kumar, Sheo. 2005. "*Microcystis aeruginosa* Kutzing bloom in ponds of Maldah district, West Bengal". *Bull. Bot. Surv. India* 47(1-4): 115-120.

Abst.- Maldah district lies between $24^0$41' and $25^0$32'30" N latitude and $87^0$48' and $80^0$28' E longitude extended over 3,733.177 sq. km constitute variety of water bodies with luxuriant growth of algal forms. Survey was carried out in two seasons in 9 ponds namely Bhadobartola, Damau, Jorkuppa, Kuppa, Meennatola, Rohini, Salami Darwaza, Samda and Shivrampalli infested with *Microcystis aeruginosa* Kutz. and its bloom. Quantitatively, *M. aeruginosa* Kutz. varied from pond to pond depending upon the concentration of pollutants and degree of anthropogenic activities. Taxonomically, the species is very important because of its characteristic features among the Cyanophycean forms, global distribution and occurrence.

230. Gupta, S.K. & Banerjee, A.B. 1972. "Screening of selected West Bengal plants for antifungal activity". *Econ. Bot.* 26(3): 255-259.

Abst.- A systematic screening of 170 different West Bengal plants was carried out to find antifungal antibiotics, using *Aspergillus niger* and *Trichophyton rubrum* as test organisms. From them, four plant species, viz. *Curcuma zedoaria, C. aromatica, C. amada* and a *Brassica* sp. have been found to contain active antibiotic principles with strong inhibitory effects against both test organisms.

231. Haldar, D., Das, A.K. & Chattopadhyay, B.K. 1997. "Two more dematiaceous fungi from West Bengal". *J. Mycopath. Res.* 35(1): 59-61.

Abst.- Two more dematiaceous fungi viz. *Pseudocercospora treaticola* (J.M. Yen) Deighton and *Chlamydmyces palmarum* (Cooke) E.W. Mason have been collected and worked out in details. They are described and illustrated. *Pseudocercospora treaticola* is reported for the first time in India while *Chlamydmyces palmarum* from West Bengal.

232. Haldar, D. & Ray, J.B. 2004. "New host records of *Dermatiaceous hyphomycetes* from West Bengal, India". *J. Mycopath. Res.* 42(1): 89-93.

Abst.- During the study of *Dermatiaceous hyphomycetes* (1993-1998), the genera are studied- and the host cited are new to science, of the respective hyphomycetes in relation to their habitats.

233. Halder, D., Das, A.K., Roy, J.B. & Chattopadhay, B.K. 1998. "Two follicolous hyphomycetous fungi from West Bengal". *J. Mycopath. Res.* 36(1): 45-47.

Abst.- Two species of leaf inhabiting hyphomycetous fungi viz. *Cercospora solani* de Thueme and *Cercospora mikaniae* Ellis & Everhart have been collected from the district of Murshidabad, West Bengal and these are worked out in details in the laboratory.

234. Hedge, S.N. 1990. "Enumeration of native orchids of West Bengal vis-à-vis Darjeeling Hills". *J. Econ. Taxon. Bot.* 14(2): 287-304.

Abst.-West Bengal having diverse phytogeographical situations from sea-coasts, plains, to the snow peaks is rich in orchids. The present paper, tracing the history of orchid collections, enumerates about 322 species known so far and distributed in various phytogeographical zone in West Bengal. Based on the field visit and literature, present status of the species have been assessed and 53 species have been considered as rare and endangered and 66 species as showy and horticulturally important. Measures for conservation *in situ* and have been discussed and creation of orchid sanctuaries and orchidaria suggested.

235. Hotwani, G. & Mukherjee, A. 2005. "Studies on medicinal plants of Burdwan: II". *Fl. & Fauna* 11(1): 81-90.

Abst.- The present paper deals with the inventorization of 120 species of medicinal plants belonging to 64 families and 114 genera growing in different parts of the Burdwan District. This work is in conformity with the first phase wherein 110 such species alongwith their

common synonym(s), family and local name, plant part(s) and/or material used and medicinal properties/uses were brought into light.

236. Hotwani, G. & Mukherjee, A. 2005. "Inventorization of plants in the campus of Burdwan University on the basis of diseases cured by them". *Indian J. Appl. & Pure Biol.* 20(1): 59-66.

Abst.- Herbal remedies against skin diseases, diabetes, diarrhoea, jaundice and rheumatism were identified from the plants growing in the campus of Burdwan University. As many as 82 species were identified, of which 44 species are useful in treatment of skin diseases, 18 species in diabetes, 33 species in diarrhoea, 11 species in jaundice and 37 species in rheumatism. Useful plant part(s) and/or material of each species against respective diseases have also been worked out. A thorough pharmacological screening and therapeutic proving of these plants against the diseases concerned can handover very useful medicines.

237. Hotwani, Gita & Mukherjee, A. 2005. "Studies on medicinal plants of Burdwan University Campus". *J. Botan. Soc. Bengal* 59 (1&2): 13-22.

Abst.- The present paper deals with the inventorization of 110 angiosperms belongings to 48 families growing in the campus of Burdwan University, the uses of which in treatment of different diseases are in record. Common synonyms(s), family and local name, plant parts(s) and/or material used and medicinal properties uses of each species have also been mentioned.

238. Jagadeesh Ram, T.A.M. & Sinha, G.P. 2002. "Phytodiversity of Sunderbans Biosphere Reserve with special reference to lichens". *Geophytology* 32(1-2): 35-38.

Abst.- Deals with the preliminary report of the lichens of Sunderbans biosphere reserve. Systematic collections made from different pans of Sunderbans Biosphere Reserve and also the lichen specimens brought from Botanical Survey of India, Howrah (CAL) have been studied. Seventy two species belonging to 28 genera and 15 families have been identified. All these family, genera and species are arranged alphabetically. The new distributional records for the West Bengal lichen flora is provided.

239. Jagadeesh Ram, T.A.M. & Sinha, G.P. 2005. "Two new records of lichens for India from Sunderbans Biosphere Reserve, West Bengal". *Bull. Bot. Surv. India* 47(1-4): 193-196.

Abst.- Two taxa *viz. Sarcographa subtricosa* (Leighton) Mull.-Arg. and *Trypethelium*

subeluteriae Makhija & Patwardhan have been found as new records for Indian lichen flora while carrying out lichenological investigations in Sundarbans Biosphere Reserve, West Bengal. The study is based on the lichen specimens collected from the area between the years 2001-2003 and have been investigated as per well established lichenological techniques in respect of morphology, anatomy and chemistry (Culberson & Kristinsson, 1970; White & James, 1985). The specimens are deposited in the herbarium of Botanical Survey of India, Eastern Circle, Shillong (ASSAM). Descriptions of these taxa are provided to facilitate their identification.

240. Jagadeesh Ram, T.A.M., Sinha, G.P. & Borthakur, S.K. 2006. "Lichens of Lothian Island Wildlife Sanctuary, West Bengal". ***Phytotaxonomy*** **6: 45-48.**

Abst.- The paper enumerates the lichens of Lothian Island Wildlife Sanctuary of Sundarbans Biosphere Reserve, West Bengal. Altogether 46 species belonging to 26 genera and 16 families are recorded. Lichens of this sanctuary and their phorophyte preference has been also given in a tabular form.

241. Jain, S.K., Banerjee, D.K. & Pal, D.C. 1975. "Grasses of Bihar, Orissa and West Bengal". ***J. Bombay Nat. Hist. Soc.*** **72(3): 758-773.**

Abst.- The paper lists 489 species and varieties belonging to 155 genera of grasses occurring in Bihar, Orissa and West Bengal. The occurrence of the taxa in one or more of these three states is indicated. 32 taxa are reported as new distribution records for these states.

242. Jain, S.K. & De, J.N. 1966. "Observation on ethnobotany of Purulia, West Bengal". ***Bull. Bot. Surv. India*** **8(3 & 4): 237-253.**

Abst.- The paper deals with the plants by the aboriginal tribes such as the Santals, Bhumijs, Birhors and Kherias inhabiting the Purulia distinct of West Bengal. 210 plants species employed by these people for food, medicine and miscellaneous domestic uses are discussed. Many uses the plants reported by the tribals are not recorded earlier.

243. Jain, S.K. & Pal, D.C. 1968. "First record of the genus ***Polytrias*** **Hackel (Poaceae) in India".** ***Sci. & Cult.*** **34(8): 361-362.**

Abst.- The monotypic genus *Polytrias* was first reported from India. The plant *Polytrias amaura* (Buse) Kuntze of the subfamily Panicoidae of the tribe Andropogoneae recently

collected in a shaded spot in the Indian Botanic Garden (West Bengal), which was a new record for West Bengal as well as from India.

244. Jana, D. & Bandyopadhyay, A. 2000. "Pollen analysis of winter honey samples from Murshidabad district, West Bengal". *Geophytology* 30(1-2): 91-97.

Abst.- Qualitative and quantitative pollen analyses of 25 apiary honey samples (*Apis cerana indica*) and 6 squeezed honey samples (*A. florae*) cololected during Nov. 1999-Feb 2000 from Murshidabad district, West Bengal were carried out. The majority of the honey samples were found to be unifloral with *Brassica nigra, Coriandrum sativum, Helianthus annus, Moringa oleifera, Zizyphus jujuba* and *Eucalyptus globules*. Other important reliable sources of necter for honey bees during winter were also identified.

245. Kachroo, P. 1956. "Plant types of the ponds of lower Damodar valley". *J. Ind. Bot. Soc.* 35: 430-445.

Abst.- Aquatic vegetation of the ponds and other water collections within lower Damodar Valley (District of Burdwan and Hooghly) has been studies. Water level controls the growth and gregariousness of the aquatic flora. Recession in the post-monsoon pool-level is a major factor in determinging plant communities as borne out by a study of depth of water and monthly incidence of some aquatic plants in about 20 ponds. Most of the ponds have a zonation into: flood, post-monsoon pool-level, recession and continuous water zones- the latter exhibiting various plant types: floating leaf, flexuous, floating mat, carpet, submerged, pleuston and microscope. In each zone the preponderance of species is enumerated.

246. Kamilya P. 1992. "*Glochidion subsessile* subsp. *birmanicum* (Euphorbiaceae): A new record for India". *J. Natl. Bot. Soc. India* 46: 43-45.

Abst.- *Glochidion subsessile* Balakr. & T. Chakrab. subsp. *birmanicum* T. Chakarb. & M. Gang., hitheroto known to be endemic to Myanmar (Burma), is recorded from West Bengal, India for the first time and this plant is thus an addition to the Flora of India.

247. Kamilya, P. & Paria, N. 1994. "Chilkigarh (Midnapore)- a vegetational pocket". *J. Natl. Bot. Soc. India* 48: 41-68.

Abst.- A floristic account of Chilkigarh under Jhargram subdivision in the district of Midnapore (West Bengal) has been made for the first time. Out of 318 species under 244 genera belonging to 81 families, dicot taxa include 255 species under 197 genera belonging

to 68 families, and monocot taxa include 63 species under 47 genera of 13 families. Assemblage of deciduous, semideciduous, evergreen and semiaquatic plants makes the vegetation mixed type occurring at the bank of small Dulong river. Such a botanically rich vegetational pocket has become threatened due to indiscriminate exploitation by the local populace for various reasons.

248. Krishna, B. & Das, S. 1976. "Five unreported orchids from northern district of West Bengal". ***Bull. Bot. Surv. India*** **18(1-4): 224-225.**

Abst.- Five species of epiphytic orchids viz. *Bulbophyllum affine* Lindl., *B. odoratissimum* Lindl., *Cymbidium giganteum* Lindl., *Eria stricta* Lindl. and *Panisea uniflora* (Lindl.) Lindl. have been gathered in a general botanical collection in Jalpaiguri and Darjeeling district of West Bengal. All these 5 species are prove to be new record for West Bengal.

249. Krishna, B. & Das, S.N. 1984. "Additions to the flora of Bengal". ***J. Bombay Nat. Hist. Soc.*** **80(3): 662-663.**

Abst.- While making intensive plant exploration in northern parts of West Bengal via Jalpaiguri and Darjeeling districts during March-April 1973 and October-November 1976, several interesting species were collected which on critical study proved not to have been reported earlier from West Bengal. Hence these 5 taxa viz. *Erigeron bonariensis* L. (Asteraceae), *Aeschynanthus grandiflora* Spreng. (Gesneriaceae), *Dendrobium crepidetum* Lindl., *Phalaenopsis mannii* Reichb. f. (Orchidaceae) and *Smilax lanceaefolia* Roxb. (Liliaceae) are now being reported as new records for West Bengal and additions to the Flora of Bengal.

250. Krishna, B. & Dutta, R. 1983. "A precursory study of the vegetation of Malda district, West Bengal". ***Indian J. Forest.*** **6(2): 137-144.**

Abst.- Malda district situated in northern part of central Bengal received less attention in Prain's (1903) work. A floristic exploration undertaken by the senior author yielded 93 species belonging to 85 genera and 40 families. An enumeration of the taxa is prepared as a prelude to further extensive work.

251. Kuiri, I., Kumar, P., Kumar, K. & Kumar, J. 2002. "Ethnomedicinal plants for the treatment of rheumatism at Baghmundi, Purulia, West Bengal". ***Advances Pl. Sci.*** **15(2): 421-423.**

Abst.- An attempt has been made to prepare a list of some ethnobotanically important medicinal plants commonly used by the tribal healers of Baghmundi for the treatment of rheumatism prevailing among common people of the locality.

252. Kumar, Dinesh & Manocha, N. 1999. "*Herbertus udarii* Kumat *et* Manocha, a new species from India". *Geophytology* 29(1-2): 105-109.

Abst.- A new species of *Herbertus* S.F. Gray, *H. udarii* Kumar *et* Manocha has been described from Darjeeling, West Bengal. The species although closel resembles with *H. longifissus* (St.) Miller, also known from Darjeeling, but differs in the characters, like plant size, stem anatomy, shape of leaves and leaf-lobes, vitta extension in the same and the SEM details of the leaf cuticle. All the vegetative features have been critically evaluated.

253. Kumar, Sheo, Lal, J. & Gupta, P. 2005. "*Ricciocarpos* Corda (Hepaticae) from Maldah district, West Bengal: A new generic record for Gangetic Plain". *Bull. Bot. Surv. India* 47(1-4): 131-132.

Abst.- Genus *Ricciocarpos* Corda (Family Ricciaceae) has been recorded for the first time from the Gangetic Plain of West Bengal. The same has been described along with the ecological notes and associated aquatic macrophytes.

254. Kundu, S.R. 2006. "The studies on endemic plants of West Bengal, India". *J. Econ. Taxon. Bot.* 30(1):172-176.

Abst.- During studies on phyto-endemism in West Bengal, *ca* 16 taxa (0.44%) were found to be endemic [10 dicots (0.37%) and 6 monocots (0.63%)], belonging to 11 families of Angiosperms. The Darjeeling Himalayan (the part of Central Himalaya) region is found to be ideal abode for endemic taxa in West Bengal. The high demographic pressure in last century enforced shrinkage of wild habitats, resulting further confinement of endemic plant resources; ultimately, leading to designate these plants as 'anthropogenic endemics'.

255. Kundu, S.R. & Pal, M. 1997. "A preliminary observation on some endemic plants of West Bengal". *J. Econ. Taxon. Bot.* 21 (3): 735-737.

Abst.- The local confinement and extinction of species within a specified area is due to anthropogenic interference and habitat destruction. High rate of industrialization and rapid pace of urbanization in West Bengal accelerate enforced extinction as well as stunted

dispersal of some plants. These plants should be regarded as anthropogenic endemic. An enumeration of seven endemic taxa confined to West Bengal is given in this paper.

256. Kundu, S.R. & Pal, M. 1998. "Autecological investigation of *Pyrrosia adnascens* (Sw.) Ching (Polypodiaceae) in Indian Botanic Garden, Howrah". *J. Econ. Taxon. Bot.* 22(1): 58.

Abst.- Investigative studies of *Pyrrosia adnascens* (Sw.) Ching (Polypodiaceae), an epiphytic fern of Indian Botanic Garden, Howrah, happened to be the latest addition to the previously listed 34 vascular epiphytes (Ghosh, R.B. 1971). Systematic account, salient features, distribution, economic potentiality, extent of epiphytism regarding host species of *P. adnascens* (Sw.) Ching.

257. Mahapatra, A.K. 1978. "A brief survey of some unrecorded, less known and threatened plant species of Sunderban of West Bengal". *Bull. Bot. Soc. Bengal* 32: 54-58.

Abst.- From the survey of district 24-Parganas, West Bengal, particularly the islands of its Sunderbans area, nine interesting species belonging to eight families have been recorded. Out of these *Ipomoea carnea* is regarded as new record, *Moghania macrophylla, Grevillea robusta, Wissadula periplocifolia, Trianthema triquetra* are regarded as less known and *Cerbera manghas, Cassytha filiformis, Hibiscus tiliaceous, Xylocarpus moluccensis* var. *gangeticus* are regarded as threatened species to the Sunderban of West Bengal.

258. Mahapatra, S.C.S., Guha, J., Roy, N.N. & Paul, A.K. 1965. "The weed flora in the rice field of Kalimpong on the Eastern Himalayas". *Indian Agric.* 9(1): 33-40.

Abst.- The survey of rice fields in Kalimpong (3,000-3,500 ft.) revealed a number of weed species from the families of dicotyledons, monocotyledons and Pteridophytes. A complete list of weeds is appended with local names, time of flowering and fruiting and their mode of propagation. Total 61 species of weeds were collected, of which 37 dicots, 19 monocots and rest 5 pteridophytes. Ratio of occurrence of dicotyledons and monocotyledons was 2:1. The largest number of species represented from the family Compositae among dicotyledons and from the family Gramineae among monocotyledons.

259. Mahata, Amarendra Nath, Mukherjee, A. & Mondal, M.S. 1998. "A census of Pandanance in West Bengal". *J. Natl. Bot. Soc. India* 52(1&2): 33-40.

Abst.- The Pandanance R. Br. is represented in West Bengal by 4 species of the only genus *Pandanus* S. Parkinson, among which *P. unguifer* Hook. *f.* is endemic to the Eastern Himalaya including Darjeeling district. This work provides information about morphology, chromosome number, distribution and uses of the concerned taxa.

260. Maheshwari, J.K. 1964 (1965). "*Alternanthera philoxeroides* (Mart.) Griseb.- A new record for India". *Bull. Bot. Surv. India* 6(2-4): 313-314.

Abst.- *Alternanthera philoxeroides* (Mart.) Griseb. is recorded for the first time from the lakes and water pools in the eastern parts of India, namely West Bengal and Bihar. In this paper detailed description of species along with notes on its synonymy, ecology, teratology, distribution, naturalization and figure has been given.

261. Maiti, G.G. 1999. "Monocots of Sunderbans and their present status". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp. 400-414.

Abst.- An account of 50 monocotyledonous plants of Sunderbans is presented. The present status of these plants is noted. The complete absence of orchid species, which were previously reported prior to 1905, is surprising. Thus, it needs to protect and preserve the plants, which are mostly grown as mangrove associate along with few mangroves in the Sunderbans of 24-Parganas (South), West Bengal.

262. Maiti, G.G. & Guha Bakshi, D.N. 1981. "Invasion of exotic weeds in West Bengal since 1903: Dicotyledons and Monocotyledons. *J. Econ. Taxon. Bot.* 2: 1-21.

Abst.- The credit of first arrival of the European ship, a Portuguese merchant vessel in India, goes to Vasco-da-gama in 1498 and since then frequently regular ships came to India at Goa via Brazil and then through Cape of Good Hope. In course of their settlements and stay at Goa, and other south Indian regions, quite a good number of exotic plants were introduced from different parts of the globe, especially from the Mediterranean regions. Many undesirable weeds were naturalized in the Indian soil alongwith these exotic plants. Some of the distribution of the species were specific and some were general in different zones of India. Sir David Prain (1903a) in his 'Bengal Plants' accounted those exotics alongwith other indigenous plants. Bruhl in 1908 made a statistics of those exotics reported by Prain (1903a). After Prain's monumental work, many unwanted weeds have been introduced in West Bengal which have been accounted here. Both monocots and dicots have been included.

263. Maiti, G.G. & Sikdar, J.K. 1985. "A census to Polygonaceae of West Bengal". *Indian J. Forest.* 8(3): 187-198.

Abst.- The family Polygonaceae of West Bengal is analysed with 12 genera and 47 species with their distribution in the different district. Prain's (1903a) observation is based on the undivided Bengal and the later the works of Prain (1903b, 1905) and Hara (1966, 1971) have appeared for the particular areas. Recently some work was done for the district floras in thesis form but the total assessment of Polygonaceae of the present day West Bengal is lacking. So the survey of this family is presented in this paper with latest nomenclature and distributional ranges. Key for the genera and the species of each genus are also provided.

264. Majee, S., Mondal, S. & Mandal, S. 1998. "Observations on the plant wealth of Purulia district, West Bengal with reference to aerobiology". *Environm. Ecol.* 16(3): 501-513.

Abst.- Deals with systematic field survey of Purulia district, West Bengal with a view to preparing the pollination calendar. The plants were categorized into three groups namely herbs, shrubs and trees. A total of 315 angiospermic plant species were recorded with mode of pollination, frequency of occurrence in the field, habit of the plants and their flowering period. Plants like *Acacia, Ageratum, Amaranthus, Azadirachta, Brassica, Carica, Cassia, Chenopodium, Cocos, Cucurbita, Lantana, Morus* and *Parthenium* are allergenically potent in this area.

265. Maji, S. & Sikdar, J.K. 1983. "Sedges and grasses of Midnapore district, West Bengal. *J. Econ. Taxon. Bot.* 4(1): 233-254.

Abst.- The paper present an enumeration of 115 edible wild taxa of angiosperms (Dicotyledons 102, Monocotyledons 13) which were collected and recorded during senior author's floristic survey in Midnapore district of West Bengal for six years. The correct nomenclature together with flowering and fruiting seasons, local names, edible parts and precise localities have been provided against each species.

266. Majumdar, N.C. 1965. "Aquatic and semi-aquatic flora of Calcutta and adjacent localities". *Bull. Bot. Soc. Bengal* 19: 10-17.

Abst.- The study of the aquatic and semi-aquatic plants of Calcutta and its neighbourhood showed the occurrence of a large number of plant species, of which a total number of 103 have been enumerated. The plants growing in different positions in water, i.e., floating,

suspended, and rooted to the substratum and those growing in marshy places and watery rice field have been studied. In different seasons, water level of a pond varies, affecting the growth of different kinds of aquatics has also been observed. The list of aquatic and semi-aquatic plants gives an idea about the type of aquatic flora of the locality.

267. Majumdar, N.C., Krishna, B. & Biswas, M.C. 1984. "Vegetation of the Neora and adjacent regions in Kalimpong Forest Division, West Bengal". *J. Econ. Taxon. Bot.* 5(5) 1013-1025.

Abst.- The vegetation of a virgin valley near Kalimpong, Darjeeling has been described with an enumeration of the plants collected. 45 ferns, 154 angiosperms and 1 gymnosperm were enumerated. The vegetation is suggested to be conserved.

268. Majumdar, R.B. 1956. "Studies on the grasses of 24-Parganas, West Bengal". *Bull. Bot. Soc. Bengal* 10: 1-114.

Abst.- In this work the grasses of 24-Parganas are treated some what extensively giving full descriptions to the tribes, genera and species along with relevant keys.

269. Malakar, A., Chattopadhyay, G., Ghosh, A. & Chanda, S. 1995. "Pollen and chemical analyses of three selected honey samples". *J. Natl. Bot. Soc. India* 49: 155-160.

Abst.- Microscopical analyses of some selected honey samples from different origins show variable number and types of pollen grains. Honey samples collected from Midnapore contain small number of pollen grains and this sample showed the presence of *Brassica nigra, Cocos nucifera* and some Acanthaceous pollen grains. In Madhyamgram honey sample common pollen types were *Psidium guajava, Peltophorum pterocarpum, Borassus flabellifer* and some were unidentified. Common pollen grains in Sunderbans honey originated from *Avicennia alba, Excoecaria agallocha, Rhizophora mucronata,* followed by *Bruguiera gymnorrhiza, Ceriops* sp. and a few others in a lesser concentration confirming the mangrove origin of honey. All pollen spectra confirmed the geographical origin of honey samples.

These three honey samples have been analysed chemically to pinpoint the source of energy. With regard to protein a higher percentage (0.875%) has been recorded in Sunderbans honey as compared with Midnapore (0.022%) and Madhyamgram (0.038%). It also depicted in gel electrophoresis that the major bands 50-37.5 KD and minor bands 37.5KD appear to be somewhat common in all three cases irrespective of their origin.

Midnapore, Madhyamgram and Sunderbans honey contain 0.012%, 0.027%, 0.024% lipid respectively. Fatty acid composition of the samples reveals the predominance of saturated fatty acids over the unsaturated. Out of 18 different fatty acids palmitic acid (16:0) was found to be the major component followed by oleic acid (18:1) in all other samples.

270. Malick, K.C. 1966. "A contribution to the flora of Purulia district, West Bengal". *Bull. Bot. Surv. India* 8(1): 45-59.

Abst.- The present paper deals only with the angiospermic flora of the district of Purulia of West Bengal. The enumeration of species consists of 94 families, 287 genera and 405 species, of which dicotyledons contain 78 families, 235 genera and 324 species, and the rest are monocotyledons. Among dicotyledonous families, predominant are Papilionaceae, Rubiaceae and Euphorbiaceae and among monocotyledonous Gramineae and Cyperaceae. The collection includes some plants which appear to be new to West Bengal flora.

271. Malik, Suvamoy, Bhattacharya, A. & Mukherjee, A. 2006. "Biological spectrum of Chandur forest in Hooghly district, West Bengal". *Indian J. Forest.* 29(2): 145-148.

Abst.- The biological spectrum of Chandur, a tropical deciduous forest of Arambagh range under Hooghly Forest Division, West Bengal, reveals that per hundred species of its flora no less than 46.20 are phanerophytes, 20 chamaephytes, 8.97 hemicryptophytes, 4.83 cryptophytes and 20 therophytes. These involve 143 species of angiosperms and one species each of pteridophytes and angiosperm. The phanero-chamaephytic phytoclimate with dominance of phanerophytes indicates adequate protective measures in vogue while the relative higher value of chamaephytes reflects the care taken to maintain their existence from adverse factors like grazing and trampling. The decline in the number of hemicryptophytes is a matter of concern given the role play in eco-restoration, particularly in preventing soil-erosion.

272. Mallick, P., Chatterjee, S. & Keshri, J.P. 2005. "The genus *Ophiocytium* Naegeli and *Centritractus* Lemmermann (Heterococcales; Xanthophyta) in West Bengal, India". *J. Econ. Taxon. Bot.* 29(1): 54-58.

Abst.- Five taxa of *Ophicytium* Naegeli [*O. capitatum* Wolle; *O. capitatum* var. *longispinum* (Moebius) Lemmermann; *O. arbusculla* (A. Braun) Rabemhorst; *O. cochleare* (Eichw.) A. Braun and *O. parvulum* (Perty) A. Braun] and one taxa of *Centritractus* Lemmermann [*C.*

belanophorus Lemmermann] have been recorded from West Bengal. Except *O. cochleare* all taxa are being the first recorded for Eastern India.

273. Mandal, B.K. 1987. "Cultivation of mat making sedges in low lying areas of West Bengal". *J. Econ. Taxon. Bot.* 10(2): 443-446.

Abst.- Growing of sedges (*Cyperus tegetum* Roxb.) in marshy areas in West Bengal provides wonderful scope for the generation of rural employment. Growing of raw material including processing, drying and bundling of harvested culms is very labour intensive. Mat making is very easy and in rural areas an elderly woman or a man can weave one mat a day and have a net income of about Rs. 20/- per day. The profit of Rs. 80,000/ha is much higher than a farmer can get be growing two crops of rice per annum. The traditional method of cultivation and processing as described in the paper is very primitive and there is wide scope for further research in varietal improvement and water, fertilizer and management.

274. Mandal, N.R., Guha Bakshi, D.N. & Sur, P.R. 1980. "Occurrence of *Parthenium hysterophorus* Linn. from Eastern India: a new record". *Indian Forester* 106(1): 224.

Abst.- The occurrence of *Parthenium hyterophorous* L. (Composite) from Belur station, in district Howrah, West Bengal is reported for the first time from the Eastern region of India. The plants occur in colony and it close association with species like *Cynodon dactylon* Pers., *Cyperus* sp., *Lantana* sp. etc.

275. Mandal, R., Ghosh, D. & Naskar, K.R. 1999. "Studies on the species and varieties of *Avicennia* L. from the Indian Sunderbans with special reference to their cross-pollination mechanism". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp 263-267.

Abst.- Three species and three putative varieties of the genus *Avicennia* L. have been collected and studies during the field investigations in the Sunderbans Mangal. Their morphological differences in respect of their leaves and trunks have been noted. In this paper, the possible cross-pollination and inter-crossing among these species are highlighted. Their ecological set up has also been discussed.

276. Mandal, R., Ghosh, D.C., Ghosh, A.K., Sarkar, A.K. & Naskar, K.R. 1995. "On distributional record of *Scyphiphora hydrophyllacea* Gaertn. *f.* and *Atalantia correa* M.

Roem. from the inter-tidal mangrove forests of the Indian Sundarbans". *J. Natl. Bot. Soc. India* 49: 71-74.

Abst.- The Mangrove flora of the Indian Sundarbans were explored, identified, and also preserved for the further studies. During the field studies only 28 true mangrove species, 20 mangrove associated or back-mangrove species and 22 other salt resistant angiosperm species were collected and identified from the Indian Sundarban mangrove forest regions. During these studies, two angiosperm species, viz. *Scyphiphora hydrophyllacea* Gaertn. *f.* (Family- Rubiaceae) and *Atalantia correa* M. Roem (Family- Rutaceae) were collected and reported from the Sundarbans mangrove ecosystem.

277. Mandal, S., Mandal, D. & Palit, D. 2003. "A preliminary survey of wetland plants in Purulia district, West Bengal". *Indian J. Appl. Pure Biol.* 18(2): 247-252.

Abst.- From the preliminary survey of waterbodies in Purulia district, West Bengal, 68 species of vascular plants were identified. Among these species 3 were pteridophytes, viz. *Isoetes, Marsilea, Salvinia* and the remaining 65 species include 46 genera representing 32 families of angiosperms. As a component of the wetland ecosystem these plants associate themselves with the ecological function of the wetlands. The utilitarian aspects of these plants deserve exhaustive assessment.

278. Mandal, S.K., Bhattacharjee, Aloke & Nayek, A.K. 1997. "*Hygrophila bengalensis* Mandal, Bhattacharjee *et* Nayek Sp. Nov.- A new species of *Hygrophila* Br. from 24-Parganas(S), West Bengal". *J. Bombay Nat. Hist. Soc.* 94(3): 546-548.

Abst.- A new species of *Hygrophila* Br. (*H. bengalensis* Mandal, Bhattacharjee & Nayek) have been recorded from Gorkhara, Sonarpur, 24-Parganas (South), West Bengal. The difference between *H. salicifolia* and this species has also given.

279. Mandal, S.K. & Mukherjee, A. 2003. "An ethnobotanical envision into Santhali festivals in Purulia district, West Bengal". *Ethnobotany* 15(1-2): 118-124.

Abst.- Deals with Dhanshing-Manshing (Nagardola) and Saharai festivals of Santhals residing in Purilia district, West Bengal. As many as 20 species of plants are brought to light which are directly (17 species in sacred performances) and indirectly (5 species in making musical instruments) related to these festivals. Relevance of these festivals to biodiversity conservation through aesthetic rejuvenation has been emphasized.

280. Mandal, Swapan, Roy, S. K. & Ghosh, P. D. 2002. "Primary evaluation of certain promising Cashew (*Anacardium occidentale* L.) germplasms in West Bengal condition". *J. Botan. Soc. Bengal* 56 (1&2): 33-42.

Abst.- The economic importance of cashew is recognished from long time (Northwood, 1966, Abubakar, 1985). Keeping this view in mind, a detailed survey was conducted at different cashew growing areas of West Bengal for selection of some promising germplasm from the cultivated ones. However, these ten germplasms are suitable and can be cultivated in the red laterite soil of West Bengal commercially. It is also useful for soil conservation, afforestation and waste land development (Ghosh, 1990). No significant and confirmatory relation could be established for morphological traits as it is mostly influnced by environment. Significant difference is noted in all quantitative characters under study and it is due to narrow genetic base, heterozygosity, agroclimatic condition, socio-economic and geographical environment (Johnson 1955; Rao et al., 1957).

281. Manna, A.K. & Samajpati, N. 1998. "Agaricales of West Begal VI: some mushrooms of 24-Parganas district, West Bengal". *J. Mycopath. Res.* 36(2): 59-65.

Abst.- Five species of mushrooms were reported: namely *Hygrophorus agathosmus* (Fr.) Fr., *Lepista sordida* (Fr.) Singer., *Tricholoma crassum* (Berk.) Sacc., *Collybia diminuta* (Berk. & Br.) Sacc. and *Collbia dryophila* (Bull. ex Fr.) Kummer from 24-Parganas district. Of these *H. agathosmus* and *Collybia dryophila* are first reported from West Bengal. *T. crassum* is a edible species.

282. Matthew, K.M. (1966) 1967. "A preliminary list of plants from Kurseong". *Bull. Bot. Surv. India* 8(2): 158-168.

Abst.- The present paper deals with a preliminary checklist of Kurseong in the district of Darjeeling. The area covered between 1400m to 2000m in the Kurseong subdivision of Darjeeling district during 3 years of exploration. Among dicotyledonous families, Asteraceae are predominant and Orchidaceae and Gramineae in monocotyledons.

283. Matthew, K.M. 1969. "A botanical exploration of Kurseong in Darjeeling district". *J. Indian Bot. Soc.* 48: 289-295.

Abst.- The paper reports on an intensive exploration of a restricted area for over 3 years in one of the botanically very interesting areas of India. An account of the geographical situation (with a map), vegetational types and climatic conditions is given, to bring out the

interest in such a study. Hundred and ten families of flowering plants and conifers are listed, showing the number of genera and species in each family. Attention is drawn to the possibility of conclusions regarding distributional patterns of vegetation in the Indian sub-continent from the fact that 33% of the plants are common with South India. The exotic flora of the north and south Indian Hill stations, too, are worth comparative study.

284. Mazumdar, B.C. 1975. "Physico-Chemical analyses of some types of Bael (*Aegle marmelos* Correa) fruits growing in West Bengal". *Indian Agric.* 19(3): 295-298.

Abst.- Five types of ripe bael (*Aegle marmelos* Correa) fruits differing in size and shape and growing in the district of 24-Parganas in West Bengal were subjected to physico-chemical tests. Differences in various characters e.g., weight and size of fruits, shell thickness, seed numbers and size, percentage of total, reducing and non-reducing sugars, titratable acidity, T.S.S. as well as the Vit. C content could be noted between fruit samples of different types. In general, considering the higher level of the different fruit constituents analysed, spherical flattened fruits categorized as type "A" could be graded as superior to the other types.

285. Mitra, D. & Bennet, S.S.R. 1966. "*Phyllanthus mukerjeanus* (Euphorbiaceae): a new species from West Bengal". *Bull. Bot. Soc. Bengal* 19: 145-146.

Abst.- *Phyllanthus mukerjeanus* Mitra *et* Bennet was collected from Burgachia of Howrah district, West Bengal. This species is a new record for the Flora of West Bengal. The detailed description along with latin diagnosis, palynology and illustration has also been given.

286. Mitra, D. & Roy, B. 1977. "*Ipomoea learii* Paxt.- a naturalized plant of India". *J. Bombay Nat. Hist. Soc.* 74(1): 211-212.

Abst.- Authors explored *Ipomoea leari* Paxt.- a beautiful introduced garden climber naturalized in India, from open roadside towards Kurseong, in Darjeeling. From herbarium records it was observed that the plant is widely distributed in Darjeeling (W.B.), Gauhati (Assam), Monghyr (Bihar), Patiala (Punjab), Singtam (Sikkim) of India and Singapore.

287. Mitra, S., Bandopadhyay, S. & Sarkar, A. K. 2000. "*Indigofera mysorensis* Rottler ex DC. (Leguminosae-Papilionoideae)- An endemic species of Peninsular India from West Bengal". *J. Bombay Nat. Hist. Soc.* 97(1): 165-166.

Abst.- During a plant collection tour in Uttar Dinajpur district, West Bengal, specimens of a branched, erect, sticky, villous undershrubs were collected from the deforested dry sandy

areas of Hemtabad Forest Beat in Raniganj subdivision. This specimen was identified as *Indigofera mysorensis* Rottler ex DC., a species that has hitherto been considered as endemic to Deccan Peninsula. This species is recorded here for the first time from a disjunct locality i. e. Hemtabad forest in Uttar Dinajpur, West Bengal.

288. Mitra, S. & Mukherjee, S.K. 2003. "Morpho-anatomical study of cypsela of *Crassocephalum crepidioides* (Benth.) S. Moore- A rare plant of West Bengal (India)". *J. Swamy Bot. Club* 20: 19-22.

Abst.- The *Crassocephalum crepidioides* a rare plant of West Bengal has been reported first time from the Jalpaiguri district. Morpho-anatomical features of cypsela have been studied in detail along with its exomorphic floral and vegetative characters. Details on nomenclature and phenology of this plant are also provided.

289. Mitra, S. & Mukherjee, S.K. 2005. "Ethnobotanical usages of grasses by the tribals of West Dinajpur district, West Bengal". *Indian J. Traditional Knowledge* 4(4): 396-402.

Abst.- In the present paper, 27 ethnobotanical usages of 16 taxa of grasses are documented from 4 major tribal communities of West Dinajpur district of West Bengal. All the ethnobotanical information collected from these tribal communities is documented along with their vernacular names, phenology, place of collection, mode of preparation and the processes of medication.

290. Mitra, S. & Mukherjee, S.K. 2005. "Root and rhizome drugs used by the tribals of West Dinajpur in Bengal". *J. Trop. Med. Pl.* 6(2): 301-315.

Abst.- The district West Dinajpur (presently Uttar and Dakshin Dinajpur) has 5350 sq. km. area (2052 sq. miles), situated in between $26^0$29/54 N to $25^0$10/55 N latitude and between $89^0$0/30 E to $87^0$48/37 E longitude, in the Jalpaiguri division of West Bengal, India. In the present paper 107 less known usages of the root and rhizome drugs of 71 species of angiosperms belongings to 68 genera of 45 families are recorded from the 4 major tribal communities of the district for the ailments of 31 different human diseases. Of these 107 ethnomedicinal usages, 19 usages are new to literature.

The species are enumerated in alphabetical sequences giving their family name, vernacular names, status of distribution, field number and ethnobotanical usages by the tribal people, mode of preparation, doses and duration of the treatment etc. on the basis of available information.

291. Mitra, S. & Mukherjee, S.K. 2007. "Plant used as ethnoveterinary medicine in Uttar and Dakshin Dinajpur districts of West Bengal, India". In: A.P. Das & A.K. Pandey (eds.): Advances in Ethnobotany, pp. 117-122.

Abst.- Domestic animals play a very significant role in human civilization. The present paper enumerated 23 ethnoveterinary medicinal plants used by the four major tribal communities of the Uttar and Dakshin Dinajpur districts to treat the ailments of cattle, to promote better lactation and also to improve the quality of meat, egg, etc. which are being traditionally used till date.

292. Mitra, S. & Mukherjee, S.K. 2007. "Diversity and reassessment of Bamboo in West Bengal". *J. Econ. Taxon. Bot.* 31(1):78-90.

Abst.- In the present paper an attempt has been made to reassess and enumerate all the species of Bamboo native to this state and exotic species. The study revealed that 17 genera with 33 species and 3 varieties grow in West Bengal. A key is provided to all the genera, species and their varieties for easy identification, along with their phenological data, ecological notes and uses. Taxonomic notes are also provided wherever required.

293. Mitra, S.N., Ghosh, R.B. & Naskar, J.N. 1971. "A census of the aquatic and semi-aquatic vegetation of Indian Botanic Garden, Howrah". *Bull. Bot. Soc. Bengal* 25 (1&2): 111-115.

Abst.- A study of the aquatic and sub-or semi-aquatic vegetation of the Indian Botanic Garden, Calcutta, mentioned in the text has been made for the first time and the plants are enumerated and arranged alphabetically. 16 dicot families and 34 species and 12 monocot families with 60 species are represented. Three families of pteridophyta with 3 species has been recorded in the hydrophytic vegetation of the garden. Algal flora has been omitted.

294. Mitra, Sujay & Gupta, Dilip. 1994. "The genera *Nostoc* Vaucher and *Anabaena* Bory from Greater Calcutta". *J. Natl. Bot. Soc. India* 48(1&2): 77-80.

Abst.- Greater Calcutta now includes new areas which were once considered as suburb. An extensive periodical survey records ten species of the genera *Nostoc* and *Anabaena,* of which five species have not been recorded earlier from this area.

295. Mohanty, L. & Debta, M.R. 2003. "*Aeschynanthus micrantha* C.B. Clarke- An interesting find for the floras of West Bengal". *J. Econ. Taxon. Bot.* 27(Suppl.): 1107-1109.

Abst.- *Aeschynanthus micrantha* C. B. Clarke has been reported as a new record for flora of West Bengal from Gorumara National Park of Jalpaiguri district. Description along with nomenclature, flowering and fruiting time, ecology, distribution and figure has been given.

296. Molla, H.A. & Roy, B. 1984. "Folklore about some medicinal plants from the tribal areas of Jalpaiguri district, West Bengal". *Bull. Bot. Surv. India* 26(3&4): 160-163.

Abst.- The paper deals with ethnobotanical uses of 30 plants belonging to 20 families which were reported by the tribals viz. Mech, Robha, Nepali, Oraon and Munda. The information may be useful for further studies since most of the uses are less known to other societies.

297. Mondal, A.K. & Mandal, S. 1998. "Comparative aerobiological studies on urban and rural belts of West Bengal". *J. Mycopath. Res.* 36(1): 37-39.

Abst.- Aerobiological studies of urban and rural areas of West Bengal were conducted using Rotorod Sampler for one year. The most dominant type of fungal spore was *Alternaria* showing the presence of 35.83% in rural area and 24.88% in urban area followed by *Cladosporium, Curvularia, Bipolaris, Tetraploa, Helminthosporium* etc. The *Alternaria* spores were predominant in the atmosphere compared to other spore types. The study will help in the compilation of fungal spore calendar for urban and rural areas.

298. Mondal, M.S. 1989. "Pollen morphology of aquatic flora of the Indian Botanic Garden, Howrah, West Bengal". *Bull. Bot. Surv. India* 31(1-4): 63-82.

Abst.- The paper presents pollen morphological study of the aquatic flora growing in the different pools and lakes of the Indian Botanic Garden, Shibpur, Howrah, West Bengal. In the present study 64 species, comprising 4 pteridophytes, 23 dicotyledons and 37 monocotyledons have been described with special notes and/or remarks, if any. This study will be helpful for correct taxonomic identification of the aquatic plants as well as correlation of the lake sediments.

299. Mondal, N., Mondal, S. & Mandal, S. 1998. "Enumeration of aquatic angiosperms of Purulia district, West Bengal". *Environm. Ecol.* 16(1): 95-100.

Abst.- Hydrophytes of Purulia district altogether 78 species comprising 60 genera, representing 40 families of aquatic angiosperms were enumerated. The collected species have been arranged alphabetically mentioning the scientific name with mode of pollination, local name, habit, flowering period and distributional pattern. The plants like *Nelumbo nucifera, Nmphaea nouchali, Nymphoides cristatum, Eichhornia crassipes, Pistia stratiotes* and *Leersia hexandra* were found to grow extensively and gregariously in the district.

300. Mondal, Sudhendu & Chanda, S. 1989. "Monitoring of the airborne allergens of biological origin". *Bull. Bot. Soc. Bengal* 43: 27-34.

Abst.- The present work mainly deals with monitoring the air borne allergens of biological origin like pollen grains and spores as probable causal agents of respiratory allergic disorders. Aeropalynological survey was carried out during the last twenty years to detect the allergenic pollen present in the atmosphere of West Bengal. The abundance of pollen grains of Poaceae in the air is followed by Arecaceae, Amaranthaceae, Chenopodiaceae, Asteraceae, Urticaceae, Fabaceae, etc. It has been found that in addition to the anemophilous plants, some entomophilous plants also release pollen to the atmosphere in West Bengal. Airborne pollen grains were trapped and identified by using Gregory's sampler. The maximum contribution was made by grass pollen followed by the weeds and trees. These aerobiological data are important for the diagnosis and therapeutic treatment of patients suffering from allergic disorders caused by pollen grains.

301. Mukherjee, A. & Chaudhuri, M. 1998. "A contribution to the study of Euphorbiaceae in Darjeeling- Sikkim Himalaya". *J. Econ. Taxon. Bot.* 22(3): 527-536.

Abst.-The present investigation records 19 genera and 41 species of the family Euphorbiaceae from the Darjeeling-Sikkim regions of the Eastern Himalaya. Among these plants *Euphorbia himalayensis*, *E. sikkimensis* and *Macaranga pustulata* are endemic to the Himalayas while *Drypetes assamica* and *D. indica* are confined to Darjeeling, Sikkim, Assam and North-Eastern Hills. Among the Euphorbiaceae plants occurring in the area under study three species of *Euphorbia* viz. *E. himalayensis, E. sikkimensis* and *E. stracheyi* are microtherms being found in high altitudes (2100-5000 m). These species in general and others like *Aporusa octandra, Baccaurea ramiflora, Breynia retusa, B. vitis-idaea, Cleidion speciflora, Drypetes indica, Mallotus nepalensis* and *Sauropus androgynous* appear to be regionally threatened and hence their conservation is envisaged.

302. Mukherjee, A. & Banerjee, G. 1999. "Ecological studies on the forests of Midnapore district, West Bengal: assessment of Angiospermic parasites". *Environm. Ecol.* 17(1): 214-221.

Abst.- During the ecological studies on the forests of Abhoya, Arabari, Bhimpur and Godapiasal, which are of dry sal type under North Dry Deciduous zone, 14 species of parasitic angiosperms representing 12 genera of 5 families were found of which Loranthaceae was the most dominant. The diagnostic features, flowering and fruiting periods of each parasite were recorded with information about extent of detriment extended to their perspective host(s). The Loranthaceous types are semi-parasites of slow and progressively destructive solution with *Dendropthoe falcata* (L. *f.*) Etting. in lead being most detrimental to economic plants. Four species of partial root parasites belonging to Scrophulariaceae occur in grassy places in and around forests. They extend trivial damage to grasses and other herbs, together with other biotic interference and constraints, and they also damage the ground cover and contribute to soil erosion, a chronic ailment depleting nutrient resources of forests of Midnapore district.

303. Mukherjee, A. & Chaudhuri, M. 1996. "The Hypericaceae of West Bengal". *J. Econ. Taxon. Bot.* 20(1): 123-129.

Abst.- The Hypericaceae Juss. is represented in West Bengal in form of 9 species of the only genus *Hypericum.* All the species are found only in Darjeeling Himalayan region except *H. japonicum* which spread also to the plains.

304. Mukherjee, A.K. 1982. "An insufficiently known *Dioscorea*". *J. Econ. Taxon. Bot.* 3(3): 776.

Abst.- A male plant of *Dioscorea kalkapershadii* Prain *et* Burkill has been recorded from Shalimar, Howrah, West Bengal. Description of bulbil, leaf and tuber and citation of specimens has been provided.

305. Mukherjee, A.K. 1984. "The environmental impact analysis for three mangrove species of Indian Sunderbans". *Bull. Bot. Surv. India* 26(3&4): 181-182.

Abst.- The paper deals with three mangrove species of Indian Sunderbans namely *Heritiera fomes* Buch.-Ham., *Nypa fruticans* Wurmb. and *Acrostichum aureum* L. which have become endangered due to different environmental impact on them. The main factors causing rapid decrease in the population of these three species are (i) Lack of fresh water supply, (ii) human

population pressure and (iii) over exploitation. The problem has been assessed and measures suggested to save the three species.

306. Mukherjee, A.K. 1984. "Mangrove wealth of India Sunderbans-utilization and conservation". *J. Econ. Taxon. Bot.* 5(1): 227-230.

Abst.- In this paper utilization and conservation of plant, animal and weed environmental wealth of Indian Sundarbans has been discussed.

307. Mukherjee, A.K. & Banerjee, L.K. 1968. "Three new plant records along Midnapore coast in West Bengal". *J. Bombay Nat. Hist. Soc.* 65(1): 268-269.

Abst.- During the field collection undertaken in connection with ecological studies on the vegetation of the West Bengal coast, a few interesting plants viz. *Cyperus arenarius* Retz. and *Portulaca tuberose* Roxb. from Digha and *Syzygium ruscifolium* (Willd.) Sant. & Wagh from Sagar Islands were obtained. Of which these three species were found to be new records for West Bengal.

308. Mukherjee, A.K. & Banerjee, L.K. 1981. "Three new plant records for West Bengal". *J. Bombay Nat. Hist. Soc.* 78(1): 103-106.

Abst.- Eight exploration trips to 20 different forest ranges under four forest division including the cultivated lands, waste lands, marshy areas, etc. were undertaken during the year 1975 to 1977 by the authors and about 1100 species were collected and identified. A list of such plants with short diagnostic characters, flowering and fruiting, distributional notes, ecological features etc. is appended of which a good numbers are new records from West Bengal.

309. Mukherjee, A.K. & Deb Roy, Sutapa. 1987. "An account of Piperaceae and Saururaceae in the hills of Darjeeling district, West Bengal". *J. Econ. Taxon. Bot.* 9(2): 367-371.

Abst.- The present paper is an attempt to give an account of Piperaceae and Saururaceae occurring in hills of Darjeeling district. While *Piper* is represented by 8 species, *Peperomia* has 3 species commonly in this region. *Houttuyinia cordata*, the sole representative of Saururaceae in India, has also been found from sub-temperate elevation of Darjeeling hills. Most of these plants have ethnobotanical importance.

310. Mukherjee, Achala & Das, T.M. 1976. "Stomatal study of some weeds of the paddy fields and adjoining regions". *Bull. Bot. Soc. Bengal* 30 (1&2): 69-72.

Abst.- Variation in size and shape and frequency of stomata in the upper and lower surface of leaves of different weed species occurring in rice fields and its adjoining areas of West Bengal was studied. Wide variation in these characters as well as in the shape of epidermal cells were noted in all the species studied. The ratio of stoma and pore space also varied. Size of the stoma showed inverse relationship with the size of the pore space. The data may provide useful information for systematic study and weed control measures.

311. Mukherjee, Ambarish & Roy, Ruchira. 1993. "The genus *Primula* L. in the hills of Darjeeling, West Bengal". *J. Natl. Bot. Soc. India* 47(1&2): 23-30.

Abst.- The present communication records 12 species of *Primula* L. from Darjeeling Hills of West Bengal. Key to the identification of these plants are provided here along with brief description and other pertinent information. *Primula boothi, P. floribunda, P. griffithii* and *P. tanneri* are new records for the state.

312. Mukherjee, D.K. & De, Ira. 1962. "Seed testing: Survey of weeds from different fields (Crop, vegetables, flowers) in West Bengal". *Sci. & Cult.* 28(4): 179-180.

Abst.- A systematic survey and collection of various kinds of weeds has been undertaken since August 1960 , by the seed Testing Organization, Govt. of West Bengal to build up a weed and weed seed herbarium for ready reference for identification of weed seeds. Three fields stations viz. State Agricultural Farm, Chinsurah, Hooghly (heavy clay soil), State Seed Multiplication Farm, Kalyani, Nadia (loamy soil) and Gouripore Farm of the Globe Nursery, 24-Parganas (light loamy soil) were selected to represent different soil types. Periodical survey and collection of the weeds at a fixed date at monthly intervals were undertaken. During the period December 1960, till March 1961, 99 different species of weeds were collected from different fields. 218 weed species from the various fields belonging to 29 families are classified and documented.

313. Mukherjee, S.K. 1960. "The genus *Bruguiera* in the Sundribans". *Bull. Bot. Surv. India* 2: 173-174.

Abst.- Occurrence of 3 species of *Bruguiera* in the Sundribans is reported in this paper, viz., *B. gymnorhiza, B. cylindrica* and *B. parviflora. B. gymnorhiza* is frequent all over the Sundribans while the other 2 are rare species in that area and *B. cylindrica* being reported for

the first time from Western Sundribans. The distinguishing character, exhaustive synonymy, range of distribution and uses are also given.

314. Mukherjee, S.K. 1965. "A sketch of vegetation of Jalpaiguri district of West Bengal". *Bull. Bot. Surv. India* 7(1-4): 134-137.

Abst.- The paper deals with detailed sketch of the vegetation of Jalpaiguri district of West Bengal has been given. A climatological data based on observation from 1886-1940 has also be given.

315. Mukherjee, S.K. 1966. *Bruguiera hainessii* Rogers from Sundribans- A new record". *Bull. Bot. Surv. India* 8(3 & 4): 357.

Abst.- *Bruguiera hainessii* Rogers has been collected from the Swan Island in the Western Sundribans. The difference and allied between *B. hainessii* and *B. cylindrica* has also given.

316. Mukherjee, S.K. 1972. "Orchids of the plains of North Bengal". *Bull. Bot. Surv. India* 14(1-4): 92-103.

Abst.- The present paper deals with the orchids of North Bengal. There are 54 species growing in that area. These fall under 24 genera; 23 species are epiphytic and 31 are terrestrial. Among the terrestrials, one is saprophytic, viz, *Didymoplexis pallens* Griff.

317. Mukherjee, S.K. & Bhattacharyya, P.K. 1970. "A new *Cuscuta* from Bengal". *Bull. Bot. Soc. Bengal* 24: 147-149.

Abst.- At present only one species of *Cuscuta* namely *C. reflexa* Roxb. was recognised from Bengal. One plant has been found growing in the district of Burdawan and Midnapur which does not match to any known species of *Cuscuta* (Tourn.) L. Apart from morphological distinction, difference in anatomy and karyology has also been found. This plant is described here as *Cuscuta sharmanum* Mukherjee *et* Bhattacharyya *sp. nov.*

318. Mukhopadhyay, A., Chattapadhyaya, P. & Pal, R. 2003. "Algal diversity of coastal West Bengal in relation to water quality". *Seaweed Res. Utilis.* 25(1-2): 69-76.

Abst.- In an initial survey of estuarine region of North and South 24-Parganas of coastal West Bengal, several species of Cyanophyceae, Chlorophyceae, Bacillariophyceae, Dinophyceae and Rhodophyceae have been recorded and their growth and seasonal abundance in relation to different environmental parameters have been studied. Hugli, Matla and Bidya estuary of

the eastern part were included in the study area. A large number of phytoplankton species were recorded from the Hugli estuary but in Matla estuary, a large number of macro-algal species belonging to Chlorophyceae, Ulvophyceae and Rhodophyceae were dominant in the swampy areas. These algae were collected and unialgal laboratory cultures were set up to study the reproductive behaviour and their growth potentiality *in vitro*. Phytoplankton species were collected by plankton net and water samples were analysed for different parameters like phosphate, nitrate, BOD, salinity etc.

319. Mukhopadhyay, C.R., Ghosh, R.B. & Basu, P.K. 1989. "Further contribution to the flora of Mirik- An ecotone of West Bengal". *J. Econ. Taxon. Bot.* 13(3): 525-537.

Abst.- The paper presents additions to earlier contribution by Das (1985) from Mirik. This work is a part of the flora of Mirik and its environs. It includes a list of 137 species of which 96 species belongs to dicotyledons and 41 species to monocotyledons both of which comprise a total of 39 families of angiosperms.

320. Mukhopadhyay, Mousumi & Maiti, G.G. 2000. "Microcharacters of *Fimbristylis* Vahl (Cyperaceae)- as an aid to identification of common species of West Bengal". *J. Natl. Bot. Soc. India* 54(1&2): 99-111.

Abst.- The genus *Fimbristylis* Vahl is the second largest genus of the family Cyperaceae having more than 300 species distributed in warm to tropical regions of the world. In India the number of species is estimated as 92 distributed India. The taxonomic status of the genus is often controversial considering the genera like *Abilgaardia* and *Trichelostylis.*

There are many problems regarding the taxonomic identity of different species of this genus due to variation of many features like habit and habitat, nature of leaves, number of spikelets and floral characters.

In this context, many microcharacters like glumes, filaments, styles, stigmas and finally the nuts etc. are taken into consideration to overcome the problem of identity of different species and their respective present status. Altogether the present survey is done only for 12 species collected from different place of West Bengal.

321. Munshi, M. & Kundu, S.R. 1997. "Preliminary observations of angiosperm hosts of *Microsorum punctatum* (L.) Copel. (Polypodiaceae) in Indian Botanic Garden". *Indian J. Forest.* 20(4): 352-354.

Abst.- Autecological studies on *Microsorum punctatum* (L.) Copel. carried out in the Indian Botanic Garden, Shibpore, Howrah list as many as 11 species of angiosperms on which the species is epiphytic. This is an addition to the 34 species of epiphytic plant listed by Ghosh (1971) from the Indian Botanic Garden.

322. Namhata, D. 1994. "Kremnophytes of Midnapur district, West Bengal". *J. Econ. Taxon. Bot.* 18(2): 293-296.

Abst.-The present paper deals with the Kremnophytic plants of Midnapur district of West Bengal. An enumeration of species accompanied by locality of collection and specimens number is also given.

323. Namhata, D. & Mukherjee, A. 1990. "An enumeration of the angiosperms on the campus of the University of Burdwan". *J. Econ. Taxon. Bot.* 14(1):41-47.

Abst.- The present work is a systematic enumeration of 229 angiosperms occurring in the campus of the University of Burdwan. These plants belong to 259 genera representing 91 families. The exotic elements owe their introduction to the members of the Royal family of Burdwan.

324. Naskar, K. & Guha Bakshi, D.N. 1986. "On the verge of extinction of some important mangrove species from the Sunderbans delta in West Bengal". *J. Econ. Taxon. Bot.* 8(2): 431-437.

Abst.- Among 69 principal littoral species, *Heritiera fomes* Buch.-Ham., *Nipa fruticans* Wurm. and *Ceriops* spp. are on the verge of extinction from these Sunderbans delta in West Bengal. The main causes attributed for these elimination are the changes of the natural/cultural landscapes, the rapid and premature exploitation and lacking of adequate natural regeneration for those important mangroves species. But it is very much essential to conserve all these plants for keeping the nature in balance. The rapid rate of biotic and abiotic interference and thereby inhabitation or clearance of forest beds for agricultural purpose, the once vast Sunderbans is now facing several severe natural calamities.

325. Naskar, K.R. 1986. "Economic importance of the dominant mangrove family Rhizophoraceae from the Sundarbans Delta of Twenty Four Parganas, W.B.". *J. Econ. Taxon. Bot.* 8(2): 359-372.

Abst.- Among the principal plant species the members of Rhizophoraceae rank the first and dominant family in the mangrove swamps of Sundarbans. Rhizophoraceae in the Sunderbans comprises of nine (9) species under four genera. All these species have some economic importance for providing timber woods, fuel woods and charcoals, posts and pillars wood, woods for agriculture equipments, packing boxes, turnery articles, tannin sources, plywood adhesives, cottage and building woods etc. Besides these, mangrove trees and shrubs protect tidal forests from the surges of the cup-shaped Bay of Bengal.

326. Naskar, K.R. 1999. "Status of the mangroves in Indian Sunderbans- In the perspective of India and World Mangals". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp. 20-89.

Abst.- Mangroves are the threatened coastal, deltaic intertidal halophytic plants, play very dominant and important roles in the estuarine mouths, sea land interphase areas or deltaic ecosystems of both the tropical and subtropical zones, especially, in the highly polluted South-East Asian Countries, several Pacific Islands and Australian coasts. Inspite of their important roles and immense ecological impacts, these mangroves and the mangrove ecosystems have faced both the biotic and abiotic threat and these highly productive mangrove zones have been cleared or the mangrove ecosystems have also been degraded very rapidly during the last three centuries. Along with these, the mangrove and mangrove ecosystems of the world are also highlighted in brief. In these perspectives, the mangroves and the mangrove associates of the Indian Sunderbans are highlighted. Their distributions in the different mangrove habitats of the Indian sub-continent and the mangals of both Old and New World Tropics and sub-tropis are also highlighted based on the field studies and the pioneer works on the Indian and the world mangroves.

327. Naskar, K.R. & Chakrabarty, N.M. 1987. "Studies of the family Lemnaceae from the Lower Ganga Delta". *Bull. Bot. Soc. Bengal* 41: 5-72.

Abst.- The commonly growing duck-weed species from the lower parts of Bengal are *Wolffia airrhiza* (L.) Horkel ex Wimmer. *Spirodela polyrrhiza* (L.) Schleiden, *Lemna perpusilla* Torrey and *L. trisulca* L., All these belong to the family Lemnaceae Benth. *&* Hook. *f.* (1753) and are the smallest among the Angiospermae. Their morphology, ecoclimatic factors and growth patterns were observed both in the laboratory and natural environments. All these plant species are very much liked by the major carp species both indigenous and exotics and they have much food value as they contain a high percentage of carotinoides, vitamin-C and

certain proteins, which are normally absent in plants. These weed species very often flourish in domestic sewage and waste water and are able to draw excess nutrients, which also help in overcoming the eutrophic condition of sewage water. For this reason and to determine the suitable environmental and water conditions some field trials were undertaken in different laboratories and field conditions. Some of the interesting findings and efficiencies of biomass production are mentioned alongwith some experimental results.

328. Naskar, K.R. & Guha Bakshi, D.N. 1981. "Some of the important medicinal plants of Apocynaceae, West Bengal". ***Bull. Bot. Soc. Bengal*** **35: 7-14.**

Abst.- The Apocynaceae is very significant for its several important glucosides, alkaloid contents and other medicinal aspects. In this paper, the authors have made an attempt to study in detail from literature and available herbarium sheets about the medicinal aspects of the members commonly distributed in West Bengal with their common vernacular names.

329. Naskar, K.R. & Guha Bakshi, D.N. 1982. "Sunderbans- the world famous mangrove forest of the district 24-Parganas in the West Bengal (India)". ***J. Econ. Taxon. Bot.*** **3(3): 883-918.**

Abst.- The charm and fascination of the Sunderbans are too well known to reemphasis. During the last two centuries, the Sunderbans allure hundreds and thousands of naturalists, botanists, zoologists, foresters, explorers and hunters. A good number of workers worked on it. During the time of Indian independence, about ⅔ of the forests were allotted to the share of Bangladesh. In this paper, a concise account of the topography, physiognomy, distribution as well as usefulness, detailed keys of the reported families and species have been provided. Forest types, phytosuccession, frequency, habitat etc. have been given. Altogether, *ca* 46 species (about 25 true mangroves and 21 obligate/ mangrove associates have been dealt. Eco-floristic pattern and management have also been discussed.

330. Naskar, K.R. & Guha Bakshi, D.N. 1983. "A brief review of some less familier plants of the Sunderbans". ***J. Econ. Taxon. Bot.*** **4(3): 699-711.**

Abst.- Along with the famous mangrove species of the Sundarbans Delta, a number of herbaceous or shrubby weed species are also dominated or spreaded throughout the area, which could not attract much interest to the botanists or the naturalists for their dwarfness as well as less importance, in comparison to these unique and characteristics halophytic-mangrove species. In this present dissertation, a brief review of all such 80 species is made so

far for exemplifying their importance and integrity in the chain of ecological succession of this peculiar or rather interesting salt-water or/and brackish-water, estuarine, environments.

331. Naskar, K.R. & Guha Bakshi, D.N. 1983. "An eco-taxonomical studies on the typical Halophytic Flora of the Sunderbans in the district of 24-Parganas, West Bengal with special reference to their socio-economic impact". *J. Econ. Taxon. Bot.* 4(3): 713-746.

Abst.- The Sundarbans comprises the single largest mangrove forest zone of India, and the flora is an interesting feature as because its unique adaptation to salinity, and some completely, different ecological perspectives. The taxonomy identity, ecology and its socio-economic impact are the subject of this endeavour.

332. Naskar, K.R. & Guha Bakshi, D.N. 1985. "*Aelurops lagopoides* (L.) Trin. *ex* Thw. - A new distribution record from the Sunderbans delta in West Bengal". *J. Econ. Taxon. Bot.* 7(1):201-202.

Abst.- *Aelurops lagopoides* (L.) Trin. *ex* Thw. has been recorded from Sagar and Khasimara Islands of Sunderbans, West Bengal. A short description is also provided.

333. Naskar, K.R., Mandal, R., Sarkar, D. & Sen, N. 1999. "Floral diversity of Mangal of the Indian Sunderbans- Highlighting distribution and status of the different mangrove species". D.N. Guha Bakshi, P. Sanyal & K.R. Naskar (eds.): *Sunderbans Mangal*. Pp. 251-262.

Abst.- Since the late 18th Century, large number of world reputed botanists have worked and published good number of publications, viz. monographs, books, scientific papers, periodical and reported good number of the mangroves and mangrove associated back mangal from the tidal and above tidal regions of the Sunderbans. On the other hand, the landscape of the Indian Sunderbans have changed remarkably due to the neo-tectonic movement and tilting effect of the river Hooghly towards east and large scale human interaction, several of these earlier reported species have become extinct or are in a very much threatened or degraded condition and finally on the verge of extinction. Several other angiosperms flora have also been collected from these Indian parts of the Sunderbans, which had no earlier record of distribution from this Sunderbans area. All these floral components/elements of the Indian Sunderbans and the diverse type of habitats are now highlighted in this present treatise with special reference to their degree of abundance, economic and natural potentialities.

334. Ojha, S., Dutta, S., Chakraborty, M.R. & Chatterjee, N.C. 2004. "Occurrence and distribution of lichens in Burdwan, West Bengal". *Pl. Archs.* 4(1): 133-139.

Abst.- During an extensive survey of the occurrence and distribution of lichen thalli in Burdwan, West Bengal, crustose and foliose types were noticed to be characteristically associated with the woody trees but they do have tree specificity. The foliose types were recorded to be associated with the trunks of *Ficus benghalensis, Borassus flabellifer* and *Mangifera indica* whereas the crustose types were associated with the trunks of *Saraca asoca, Putranjiva roxburghii* and *Thevetia peruviana* and such both the types were said to be conticolous in nature. The mycobionts were mostly restricted to the class Ascomycetes but only one belonged to the class Deuteromycetes. All the three types of hyphae like binding, skeletal and generative were found to be associated with the lichen thallus. The photobionts belonged to either Cyanophyceae or Chlorophyceae. Spores of different sizes, shapes, septations and ornamentations were also noticed in the lichen thallus.

335. Pal, A.K. & Purkayastha, R.P. 2000. "Variability in *Colletotrichum gloeosporioides* a common parasite of some mangrove plants of Sunderbans". *J. Natl. Bot. Soc. India* 54(1&2): 7-11.

Abst.- *Colletortrichum gloeosporioides* (Penzig) Penzig & Sacc. was isolated from 10 mangrove plant species of Sunderbans. Their growth characteristics, interaction reactions, response to various amino acids and amides and their tolerance to fungicides were studied *in vitro.* Results indicate the existence of 10 distinct strains within the species. Despite differential growth response to different amino acids and amides all strains sporulated in the medium containing asparagine but the intensity of sporulation differed significantly. Tolerance of strains of 3 fungicides (viz. Bavistin, Bagalol-6, Dithane M-45) was also tested under identical conditions. Aithough the rate of growth varied with the strains and chemical nature of fungicides. Bavistin (10 µg ml^{-1}) appeared to be most effective in inhibiting the growth of all but the strain 'B' was least sensitive.

336. Pal, Aparna & Paria, N.D. 1986. "On the affinity of some economic Pedaliaceae with special reference to pollen morphology and a note on their occurrence in the Salt Lake City, Calcutta, West Bengal". *J. Econ. Taxon. Bot.* 8(1): 191-195.

Abst.- All attempt has been made in the present investigation to provide clues to the systematic position of three economically important members of Pedaliaceae (*s.l.*) with

special reference to their pollen affinity. An emphasis has also been placed on their occurrence in Salt Lake City, which reflects a similar habitats to these plants in dry and coastal areas.

337. Pal, D.C. (1980) 1982. "Observations on folklore about plants in Bengal, Orissa and Bihar". *Bull. Bot. Surv. India* 22 (1-4): 96-99.

Abst.-During the exploration of Bihar, Orissa and West Bengal ethnobotanical information was collected from the tribes of Kondh, Munda, Oraon, Santal and Lodha along with plants. It is found that 20 species under 19 genera and 16 families are used by them for veterinary medicine. It is further discovered that most of them are new to the present day knowledge. Hence an attempt has been made to enumerate all such folklore plants in the present work incorporating its botanical name, local name, locality, traditional uses with voucher specimens deposited in Economic Botany Section of Botanical Survey of India.

338. Pal, D.C., Roy, B. & Rai Chaudhuri, H.N. 1981. "First record of certain grasses from West Bengal". *Bull. Bot. Soc. Bengal* 35: 133-135.

Abst.- The identity of four grasses namely *Apocopis vaginata* Hack., *Dimeria bialata* C. E. C. Fischer, *Dimeria connivens* Hack and *Dimeria ornithopoda* Trin. var. *megalatha* Bor are discussed. They are being reported from West Bengal for the first time.

339. Pal, D.C., Soren, A.M. & Sen, R. 1989. "Less known uses of twenty plants from the tribals areas of Bankura district, West Bengal". *J. Econ. Taxon. Bot.* 13(3):695-698.

Abst.- During the course of ethnobotanical field studies among the Santal, Oraons, Mundas, Koras etc. of Bankura district of West Bengal the authors have come across 20 plants (viz. *Atylosia scarabeoides* Benth., *Aristolochia indica* L., *Smilax zeylanica* L., *Polygala chinensis* L., *Sida rhombifolia* L., *Vitex peduncularis* Wall., *Euphorbia thymifolia* L., etc.) belonging to 20 genera and 15 families are used for medicine, food, magico-religious belief and other which are not commonly known to others. It is therefore, useful and interesting to record this knowledge about plant uses for further studies.

340. Pal, T.K., Adhya, T.K. & Santra, S.C. 1986. "Algal flora of Murshidabad district, West Bengal I. A survey from Berhampore and adjoining areas". *Bull. Bot. Soc. Bengal* 40: 33-43.

Abst.- Present communication is a part of an extensive survey being conducted to study the algal flora of Murshidabad district of West Bengal. Thirty three taxa belonging to Cyanophyceae and Chlorophyceae are described. They include one species of *Anabaena, Ulothrix, Cladophora, Hydrodictyon* and *Chara*; two species of *Aphanocapsa, Aphanothece, Calothrix, Microcystis, Nostocopsis, Oscillatoria, Chlorella, Characium* and *Nitella*; three species of *Gloeotrichia* and *Lyngbya*; four species of *Spirogyra.* Two taxa are being reported for the first time from Indian subcontinent and sixteen species appear as an addition to the algal flora of West Bengal.

341. Panda, S. & Paul, T.K. 2001. "*Cleome aspera* Koenig *ex* DC. (Capparaceae)- A new report for West Bengal state". *J. Econ. Taxon. Bot.* 25(3): 602-604.

Abst.- *Cleome aspera* Koenig *ex* DC. (Capparaceae) has been reported as a new record for Flora of West Bengal. A detailed description along with citation, flowering and fruiting time, ecology and specimen examined has been given.

342. Pandey, H.S. & Srivastava, R.C. 2005. "Notes on the *ex-situ* cultivation of a rare/threatened screw-pine". *J. Econ. Taxon. Bot.* 29(1):65-69.

Abst.- The paper throws light on horticultural potentialities, performance and cultivation aspects of a rare/threatened species viz. *Pandanus unguifer* Hook. *f.* in the plain of Lower Bengal, which was introduced in Indian Botanic Garden from its type locality (Mungpo) in Darjeeling district of West Bengal which comes under Eastern Himalayan region.

343. Paria, N.D. 1978. "A contribution to the flora of Ballygunge Science College Campus". *Bull. Bot. Soc. Bengal* 31(1&2): 62-73.

Abst.- In 1950, K. Biswas enumerated 270 species of angiosperm under 62 different families which constituted the major part of the flora of South Calcutta. The present attempt is a systematic account of angiosperms occurring in the Ballygunge Science College only. Out of the present survey about 285 species of angiosperms under 77 different families are recorded in which is revealed that more than fifty percent of the plants as recorded earlier have disappeared due to migratory habit and other causes, a good number of plants have invaded the area of the campus. Thus along with the remaining earlier population, the new population of 155 species under 58 different families add much to the present existing flora of the Ballygunge Science College Campus.

344. Patil, R.P. 1961. "A note on the vegetation of Sazenikhali in the Sunderbans". *Indian Forester* 87: 481-483.

Abst.- The present paper embodies observations on the mangrove vegetation at Sazinakhali, a rather remote spot in the Gangetic Sunderbans, near Port Canning. Near the forester's out post *Excoecaria agallocha* dominates with *Ceriops roxburghiana* as the undergrowth. The effect on the vegetation of some clearing made by the forest department is noted. Near-by there is a swamp with almost pure *Avicennia* and pure stands of *Phoenix paludosa* occur on higher ground. Thus distribution of dominants forms a sort of mosaic. Vigorous regeneration by mangrove seedlings was evident during September, the period of the visit. Phenological observations are also recorded.

345. Patra, S., Ghosh, R.B. & Mondal, S. 1995. "Notes on added distribution and some unrecorded taxa of angiosperms not included in Sir David Prain's Bengal Plants". *J. Econ. Taxon. Bot.* 19(3): 519-524.

Abst.- The paper enumerates 39 species of plants which have extended their distribution including 5 species not included in Prain's 'Bengal Plants' (1903).

346. Patra, S.K., Ghosh, R.B., Gupta, D. & Bhattacharya, K.N. 1992. "*Burmannia coelestis* L. (Burmaniaceae)- a new record from West Bengal". *J. Econ. Taxon. Bot.* 16(2): 341-342.

Abst.- *Burmannia coelestis* L. (Burmanniceae)- a new record from West Bengal. This paper deals with the correct nomenclature, description, distribution, flowering and fruiting period, specimens examined along with figure.

347. Paul, A.K. & Bhattacharya, R.K. 1959. "Paddy field weed flora of the state Agricultural farm, Chinsurah, West Bengal". *J. Indian Bot. Soc.* 38: 249-253.

Abst.- Fifty-seven (57) weed species have been recorded of which Cyperaceous and Graminaceous species predominate over all others. Some of the weed species were eliminated in time and are being replaced by others. Occurrence of various weed species, their number, distribution and elimination may be understood if their ecological conditions are studied in detail.

348. Paul, C.R. 2003. "Botany and ethnobotany of *Azadirachta indica* A. Juss. (Meliaceae) in India". *J. Econ. Taxon. Bot.* 27(1): 17-19.

Abst.- *Azadirachta indica* A. Juss. belongs to the family Meliaceae is a global name for the patent right and its property. The plant is well-known in greater parts of India for its roots, leaf, bark, fruit, seed, seed oil etc. as medicinal and others. Almost all the ethnic communities and rural people in India have their specific imperial knowledge on this tree. They use the different parts of the plant as preventive and curative for different ailments of their own and for their domestic animals. In this paper different uses of "Neem" ethnic groups both by tribals and other folks have been discussed. The information have been collected from primary and secondary sources *i.e.* from field, herbarium studies, published literature sources etc.

349. Paul, C.R. 2004. "Some low cost food preservation & processing techniques by the tribals of Bankura District, West Bengal". *J. Econ. Taxon. Bot.* 28(3):597-598.

Abst.- This work brings into light some food processing and preservation techniques adopted by the tribals of Bankura district, West Bengal.

350. Paul, C.R. & Verma, N.K. 2004. "Botany and ethnobotany of *Diospyros melanoxylon* Roxb. (Ebenaceae)". *J. Econ. Taxon. Bot.* 28(3):599-601.

Abst.- "Beedi leaf"- leaf of *Diospyros melanoxylon* Roxb. is used for making "Beedi"- indigenous cigarette mostly smoked by the village people including tribals and different ethnic communities. In Bankura district, West Bengal- the tribal people (Santal, Munda, Oraon and Kheria) use the leaf for wrapping tobacco for making a kind of beedi- called "Chata" which is about 12-13 cm long. Beedi is a cottage industry product at Bankura district.

Though tobacco is a narcotic and has its bad effect on health, in spite of that both the genders of the tribal communities smoke both beedi and "Chata". Awareness Programme on adverse effects of tobacco smoking is needed at tribal villages.

351. Paul, T.K. 2003. "Botanical observations on the Purulia pumped storage Hydropower project area, Bagmundi Hills, Purulia district, West Bengal". *Bull. Bot. Surv. India* 45(1-4): 121-142.

Abst.- The paper present a vegetation and floristic account of the proposed Purulia plumped storage hydropower project of Bagmundi hills, Purulia district, West Bengal. The primary impact of the project would be submerging of *ca* 4 sq. km. area of the forest for construction of two rock field dams. A total number of 246 species under 192 genera belonging to 78

families have been identified from the area, of which 54 species are ethnobotanically significant.

352. Paul, T.K. & Biswas, M.C. 1995. "*Solanum diphyllum* L.- a new record for India". *Bull. Bot. Surv. India* 37(1-4): 137-138.

Abst.- *Solanum diphylla* L. has been recorded from Thanamakua in Howrah district, West Bengal. This species is also a new record for India. A detailed description, flowering & fruiting period, ecology, voucher specimens along with figure has also given.

353. Paul, T.K. & Chaudhury (Halder), G. 2007. "A contribution to the study of Amaranthaceae in West Bengal". *J. Econ. Taxon. Bot.* 31(3): 560-578.

Abst.- The present paper deals with the taxonomic studies on the family Amaranthaceae in West Bengal state. 15 genera and 32 species are found to grow in this state. *Centrostachys aquatica* (R. Br.) Wall. *ex* Moq., a rare and threatened species, has been collected after 100 years from this state. *Stibanthus scandens*, a woody climber, occurs between 900-2100 m altitude in Darjeeling district. *Cyathula capitata* Moq. and *C. tomentosa* (Roth) Moq. are reported here as new record for West Bengal.

354. Pramanik, A. 1990. "On the endemic status of three wild legumes with special reference to their distribution in West Bengal". *J. Bombay Nat. Hist. Soc.* 87: 172-173.

Abst.- The present communication deals with the endemic status and general distribution of *Smithia grandis* Baker, *Geissaspis cristata* W. & A. and *Zornia quilonensis* Ravi with special reference to West Bengal. Taxonomic interpretations are also included wherever required.

355. Rai, P.C. & Das, A.P. 2004. "Ethnobotanical significance of the flora of Neora Valley National Park in the district of Darjeeling, West Bengal (India)". *Bull. Bot. Surv. India* 46(1-4):337-355.

Abst.- Recent floristic survey of Neora Valley National Park in Kalimpong sub-division of Darjeeling district of West Bengal revealed that the park is a rich repository of the ethnobotanically important plant resources that includes species of food, medicine, ornamental, poisonous and other assorted ethnic values. Based on available literature and direct interaction with forest dwellers living in the periphery of the park, altogether 83 medicinal, 59 edible, 18 ornamental, 21 poisonous (irritants and lethal) and 11 plants having fascinating assorted ethnic uses have been recognized. The forest dwellers have their own

dictionary of local names for the identification of these valuable plant resources by which they are maintaining their own ancient ethnoscience. Many of these medicinal plants species were assessed to be the valuable resources for the treatment of a range of human ailments for which there are no complete answers in the modern medicinal science.

356. Rai, P.C., Sarkar, A., Bhujel, R. B. & Das, A. P. 1998. "Ethnobotanical studies in some fringe areas of Sikkim and Darjeeling Himalayas". *J. Hill Res.* 11(1): 12-21.

Abst.- Ethnobotanical studies in far-flung remote village in Darjeeling and Sikkim Himalayas have recorded 48 medicinal, 40 edible, 32 ornamental and 19 plants of other ethnic uses by Lepcha, Sherpa, Bhutia, Limbu, Rai and other Nepali community inhabitants. While Nepali Jaributi System and Bhutia System found to have well defined methods of preparation and administration. The Lepcha system is not organized one though they have provided Lepcha names to almost to all of their useful plants.

357. Rai, Upakar & Das, A. P. 2007. "Occurrence of Stemonacece in Darjiling Hills- an addition to the flora of West Bengal". *J. Botan. Soc. Bengal* 61(1): 47-49.

Abst.- *Stemona* species are widely distributed in eastern India, Bangladesh, Mayanmar, Malay-Peninsula and Orissa. This is a first report of *S. tuberosa* (family Stemonaceae) from the Darjiling hills of West Bengal. The report has added a new family (Stemonaceae) to the flora of West Bengal. Detailed description along with correct nomenclature, specimen cited, ecology and distribution has also been given.

358. Raichaudhuri, H.N., Molla, H.A., Pal, D.C. & Roy, B. 1982. "Plants used in traditional medicine by some tribals of Jalpaiguri district, West Bengal". *Bull. Bot. Surv. India* 24 (1-4): 87-90.

Abst.- The paper deals with 30 selected species of plants e. g. *Costus speciosus* (Koen.) Sm., *Drynaria quercifolia* (L.) J. Sm., *Melastoma malabathricum* L., *Mimosa pudica* L., *Pedilanthus tithymaloides* (L.) Poit., *Premna latifolia* Roxb., *Solanum viarum* Dunal, *Thelypteris arida* (D. Don) Morton, etc. which are used as medicine by some of the tribals like Mech, Rabha and Oraon of the Jalpaiguri district of West Bengal in their traditional system of treatment.

Ethnobotanical field study reveals some interesting information about mode of their uses of plants in various ailments either single or in combination with other plant parts. It has been observed that though these tribes are living under same environment and using the same

species of plants for curing diseases, their prescriptions are quite different. This indicates that the tribes are still retaining their own tradition so far as treatments are concerned.

359. Raichaudhuri, H.N. & Tribedi, G.N. 1976. "On the occurrence of some medicinal plants in 24-Parganas, West Bengal". ***Bull. Bot. Surv. India*** **18(1-4): 161-165.**

Abst.- The paper deals with thirty nine species of medicinal plants collected from northern and middle parts of the district 24-Parganas in West Bengal. The areas covered in the survey were Parmadan forest near Bongaon, Gobardanga, Bira, Joypul, Duttapukur, Basirhat, Taki, Hasnabad and Hingalganj. The crude drugs collected from these plants have been exhibited in the crude Drug Museum of the Pharmacognosy Section, Botanical Survey of India, Howrah after proper drying and identification.

360. Rajendran, A. & Daniel, P. (1990) 1992. "The occurrence of ***Premna lucidula*** **Miq. (Verbenaceae) in India".** ***Bull. Bot. Surv. India*** **32 (1-4): 191-193.**

Abst.- *Premna lucida* Miq. (Verbenaceae) have been distributed in Arunachal Pradesh, Sikkim and West Bengal. It is a new distributional record from India. A detailed description, citation, flowering & fruiting, distribution, notes, voucher specimens and illustration have been given.

361. Ram, Nirmal & Jana, M.M. 1997. "Ecological impact of compaction under Teak plantation in the foothill of Darjeeling Himalaya". ***Indian Forester*** **123(7): 623-630.**

Abst.- Ecological study under Teak plantation of 1968 in the foothill of Darjeeling Himalayas reveals that due to compaction of forest floor, decrease in height, diameter and basal area of Teak trees were in order of 8.3, 16.4 and 34.7 per cent respectively. It may be due to less porosity and much bulk density of the soil. Due to compaction of the forest floor, species density of the undergrowth was 121.93% more than controlled area. Whereas species diversity was 68.30% less than controlled forest floor. Compaction leads presence of *Paspalum sanguinalle* and *Oplismenus burmannii* grasses having their value of 69.47 and 21.56 density/m^2 whereas their presence in controlled forest floor were 21.14 and 4.80 respectively. So, result indicates that grasses are compaction resistants under controlled forest floor. *Coffea bengalensis* a shrub represents 75% of its distribution. From compacted forest floor undergrowth biomass production was 1.150 ton/ha and from controlled floor, it was 2.584 ton/ha. So decrease of undergrowth production from compacted forest floor was 124.69 per cent. Result also indicates that in compacted forest floor, fodder quantity was 1152.94 per

cent more than miscellaneous undergrowth biomass production. So, the result indicates that due to compaction of Teak plantation, productivity of Teak trees and its undergrowth decreases. This may be due to less porosity and much bulk density of the soils which has direct link with intake of water. Any biological activities under forest floor should be avoided for conservation of soils and water for better productivity point of view.

362. Rao, A.S., Rathore, S.R. & Srivastava, S.C. 1979. "*Didymoplexis pallens* Griff.- rediscovery of a rare saprophytic orchid in the Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 21(1-4): 151-155.

Abst.- A rare, saprophytic orchid *Didymoplexis pallens* Griff. described first by Griffith from the Indian Botanic Garden, Howrah and collected thereafter, after long intervals at different spots in the garden, has been studied in detail. This study of a live population has brought out interesting observations on its biology. The description is supported by photographs and line drawings.

363. Rao, T.A., Banerjee, L.K. & Banerjee, A.K. 1967. "Some plant records for West Bengal". *Sci. & Cult.* 33(3): 125.

Abst.- In course of studies on the ecology of West Bengal coast the authors collected 5 plants viz. *Rothia trifoliata* Pers., *Gisekia pharnaceoides* Linn., *Trianthema triquetra* Rotll. ex Willd. and *Cyperus esculentus* Linn. which are new records for West Bengal and the occurrence of *Aeluropus lagopoides* (L.) Trin. ex Thw. away from the places where it was originally collected serves to extend the known range of distribution in the state.

364. Rao, T.A. & Mukherjee, A.K. 1965. "Distribution of some plants along Midnapore coast in West Bengal". *Curr. Sci.* 34(20): 589-590.

Abst.- While studing the ecology of Midnapur coast of West Bengal state *Aeluropus lagopoides* and *Drosera burmanni* were collected near the coast, of which the former taxon is a new record and the latter an extension of its known distribution in the state.

365. Rao, T.A. & Mukherjee, A.K. 1972. "An ecological approach towards classification of coastal vegetation of India- 1. Strand Vegetation". *Indian Forester* 98(10): 594-607.

Abst.- The ecology of the Indian coastal vegetation which is not only of great theoretical but also of practical interest has hither to been insufficiently known. Champion and Seth (1968) dealt this vegetation type in a concise manner under the group 'Littoral and Tidal swamp

forests of India". During the last 12 years, extensive data have been collected on the physiographic, floristic and edaphic aspects, and based on these, an attempt is now made to analyze and to reclassify the Indian Coastal vegetation in greater detail, but adhering to the original frame work given by Champion and Seth 1968. In the present paper, the coastal vegetation type has been further sub-divided into three types: Sand Strand, Rock Strand and Coral Strand. Under each type, the salient features such as distribution, topography, floristics and edaphic characters pertinent to each type have been discussed at length with suitable summary diagrams based on relative cover value of plants from quadrates and the and the analytical data.

366. Rao, T.A., Mukherjee, A.K. & Banerjee, L.K. 1970. "Vascular plants of the coastal Midnapore district, West Bengal". *Indian Forester* 96: 668-677.

Abst.- An ecologically annotated inventory of the species growing different habitats in the coastal belt of Midnapore district, West Bengal is presented. This list includes 156 species belonging to 120 genera and 55 families. It has a few members which are not reported from the gangetic Sundriban area or Orissa coasts and includes a large number of local plants chiefly represented by agrestals/ruderals.

367. Rao, T.A., Shanware, P.G. & Mukherjee, A.K. 1974. "Ecological studies on the coastal sand dunes and slacks in the vicinity of Digha, Midnapur district, West Bengal". *Indian Forester* 100: 101-107.

Abst.- An ecological account of the vegetation and soils of the coastal dunes and slacks, is presented. The floristic and soil data are recorded in terms of habitat types, recognised by their topography, edaphic conditions and the associated flora. A few plant grouping were observed to form a graded continuum from summit to mid-slope but no one of them reoccur in swale, indicating thereby the prevailing influence of the physiographic conditions on the plant colonization trend.

368. Rathore, S.R. 1979. "Ecological notes on *Cymbidium aloifolium* Sw. (Orchidaceae) in the Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 21(1-4): 168-170.

Abst.- Notes of ecological interest on *Cymbidium aloifolium* Sw. and its fourteen hosts including a palm and a gymnosperms in the Indian Botanic Garden, Howrah has been observed and recorded in a tabulated form, along with a photograph.

369. Rehaman, C.H., Mondal, S. & Mandal, S. 2000. "Study of host range of some phanerogamic parasites of Birbhum district, West Bengal". *Asian J. Microbiol. Biotechnol. Envir. Sci.* 2(2-4): 141-144.

Abst.- Deals with the host range of four Angiospermic parasitic plants namely *Dendropthoe falcata* (L. *f.*) Etting., *Microsolen capitellatus* (Wight & Arn.) Dans., *Cuscuta reflexa* Roxb., *Cassytha filiformis* Linn. which are grown as parasites upon different Angiospermic plants in the district of Birbhum, West Bengal. Number of host plants in case of first parasite (*D. falcata*) is 9 covering 9 families, second parasite (*M. capitellatus*) growing only on a single host, the third one (*C. reflexa* having 22 host species of 16 families and the fourth parasitic plant (*C. filiformis*) attacking 10 host species of 1 families. It has been noted that *Dendropthoe falcata* and *Macrosolen capitellatus* prefer exclusively dicot trees and shrubs as the host where as two parasitic plans like *Cuscuta reflexa* and *Cassytha filiformis* grow on both dicot and monocot trees, shrubs, herbs and climbers.

370. Rogers, C.G. 1901. "Flowering of *Arundinaria falconeri* in the Darjeeling district in 1901". *Indian Forester* 27: 185-187.

Abst.- Flowering of *Arundinaria falconeri* from the Rangirumand Rangbi Forest of Darjeeling district in 1900 have been determined here. The name of associate species has also been provided.

371. Roy, A. & Banerjee, L. K. 1998. "Preliminary observation on the plant diversity of the lake Rabindra Sarobar, Calcutta, India". *J. Econ. Taxon. Bot.* 22(2): 419-422.

Abst.- Preliminary studies have been conducted on the lake Rabindra Sarabor, Calcutta for collection of data regarding microphytes, aquatic macrophytes, its threat and conservation.

372. Roy, A., Banerjee, L.K. & Mukherjee, P.K. 1999. "*Sagittaria montevidensis* Cham. & Schult. (Alismataceae) - a new record for India". *Rheedea* 9(1): 85-88.

Abst.- *Sagittaria montevidensis* Cham. & Schult., an American weed, is reported from the wetlands around Calcutta- with detailed description, illustration and necessary notes.

373. Roy, A. & Saha, T. 2007. "Floristic diversity of Dankuni Canal, West Bengal". *J. Econ. Taxon. Bot.* 31(2): 361-366.

Abst.- Paper deals with the diversity, distribution and changing pattern of aquatic macrophytes and bank flora of Dankuni canal where domestic and industrial wastes are frequently disposed off.

374. Roy, Ponty, Banerjee, Ratna & Halder, Jharna. 2005. "Some medicinal formulations for women based on some medicinal plants of North 24-Parganas, W.B.". *J. Botan. Soc. Bengal* 59 (1&2): 37-41.

Abst.- The medicinal plants of Mochpole, Kokapore, Berununpukuria, Sadarpore, Jagannathpore and Rudrapore villages under Ichhapore-Nilgunje Gram Panchayet, Barasat I of North 24 Parganas district were identified and documented. The women of the ST and SC population of these villages were trained and awared of the use of medicinal plants for the cure of aliments. They were trained to prepare ten (10) formulations of herbal drug which could be used for the treatment of their common aliments and with cure upto 80-90 percent.

375. Roy, S. & Das, A.P. 2004. "An effective remedy for jaundice with *Thespesia populnea* from Purulia district of West Bengal (India)". *Ethnobotany* 16(1-2): 50-51.

Abst.- *Thespesia populnea* is a small tree reported to be used widely and effectively against jaundice in Purulia district of West Bengal. The particular use is now not restricted among the tribal communities but is also taken frequently by educated and professional persons.

376. Roychowdhury, K.N. 1979. "Lichens of the Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 21(1-4): 163-167.

Abst.- The paper deals with 49 taxa of lichens collected from the Indian Botanic Garden, Howrah. Out of these, *Dirinaria confluens* var. *coccinea* and *Bacidia submedialis* are reported new to Indian lichens flora. Distinguishing characters for each species are given to facilitate the identification.

377. Roychowdhury, K.N. 1985. "Lichen Flora of 24-Parganas including Sundarbans and Parmadan forest". *J. Econ. Taxon. Bot.* 6(1): 9-44.

Abst.- The paper deals with the lichen flora of 24-Parganas, including Sundarbans and Parmadan forest. About 161 species belonging to 50 genera and 17 families have been collected from those areas during surveys undertaken in different seasons of which some taxa have already been published as new records. The remaining species are being presented in this paper.

378. Sabata, B.C. & Nayar, M.P. 1985. "Phytoplanktonic studies in river Hooghly". *Bull. Bot. Surv. India* 26(1-4): 219-221.

Abst.- The river Hooghly flowing through Calcutta and Howrah has a high degree of pollutants. Present study revealed the source of pollution with phytoplanktonic abundance in the stream. Samples were collected from 5 sites near Howrah and Calcutta from June 1985 to May 1986. Members of Bluegreen algae, Bacillariophyceae and Chlorophyceae were found during the study. Changes in physico-chemical parameters due to pollution were observed. Several parameters were responsible directly and indirectly which occurred in phytoplanktonic population. A correlation between biological examination and chemical examination of river water has been made.

379. Safui, B., Chandra, S. & Bhattacharyya, A. 1985. "Some additions to the flora of Jalpaiguri district, West Bengal". *J. Econ. Taxon. Bot.* 7(1): 1-4.

Abst.- The paper contains 45 taxa which are new additions to the flora of Jalpaiguri district. Of these 27 species are of dicotyledons spread over 24 genera under 19 families, 15 species are of monocotyledons over 13 genera under 7 families and 3 species are of Pteridophytes over 3 genera under 2 families.

380. Safui, B., Singh, J.N. & Mondal, N.R. 1979. "An ecological approach to the study of aquatic weeds with special reference to *Salvinia molesta* Mitchell in Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 21(1-4): 139-141.

Abst.- The study includes observations on the habit, habitat, association with other aquatic flora and growth behaviour of *Salvinia molesta,* a problematic weed in the lakes of Indian Botanic Garden, Howrah. The minerals and other characteristics of its aquatic media in which this species thrives and perennates have been studied to explain the differential rates of growth in its two phases which come in succession in January and June each year.

381. Saha, S. 2003. "Plant association and stratification studies in the forests of Singalila range, Darjeeling". *J. Phytol Res.* 16(1): 39-42.

Abst.- In between 1800 and 3000 m altitude, two forest types- Lower mixed broad leaves forests and Upper mixed broad leaved forests could be identified. The former was 'closed' forest having three association sets while the latter had 'open' forest of two association sets. All these forests had three layer stratification. For a temperate vegetation, the density and

diversity of trees, shrubs and herbs were very high and it appeared to be in the stable mid-successional stage.

382. Saha, S. & Kayal, R.N. 1998. "*Jasminum caudatum* Wall. ex Lindl. (Oleaceae)- a new record for West Bengal". *J. Bombay Nat. Hist. Soc.* 95(3): 543.

Abst.- During an ethnobotanical survey in Jalpaiguri dist., West Bengal, a specimen of *Jasminum* sp. was collected, which was identified as *Jasminum caudatum* Wall. ex Lindl., hitherto unreported from West Bengal.

383. Sahu, A.K. & Panda, S. 1998. "Population dynamics of a few dominant plant species around industrial complex in West Bengal, India" *J. Bombay Nat. Hist. Soc.* 95(1): 15-18.

Abst.- The paper deals with the population dynamics of four plants species, namely *Croton bonpalandianum* Baill., *Clerodendrum viscosum* Vent., *Chromolaena odorata* (L.) King & Robinson and *Lantana camara* L. var. *aculeata* (L.) Moldenke in the vicinity of two industrial complexes at Kuntighat and Rishra in West Bengal, India. Out of the four plant species, the former two were studied at Kuntighat and the latter two at Rishra. *Croton bonplandianum* and *Clerodendrum viscosum* showed higher flux rate than the others. Though all the species except, *Lantana camara*, showed high mortality rate they produced large numbers of plants for survival. The aggressive nature of these species was note worthy, in spite of the pronounced effect of pollutants.

384. Sahu, A.K. & Santra, S.C. 1986. "Floristic composition of industrial wastelands in Southern Bengal, India". *J. Econ. Taxon. Bot.* 8(2): 301-306.

Abst.- This paper deals with the Angiospermic flora of industrial wastelands in southern part of Bengal, India. A total of 75 species and 69 genera belongings to 35 families have been recorded during 1982-1983. The description of habitat, climate, seasonal distribution of flora, dominance of the families, life form analysis and regeneration strategies of dominant perennial plants of the respective wastelands have been given.

385. Saini, R.P. 2000. "Medicinal plants of Darjeeling hills- a study by silviculture (Hills) Division, Darjeeling". *Indian Forester* 126(8):822-837.

Abst.- The forest areas are well endowed with plants having useful medicinal properties very well recognized by village and tribal people. Generally the village folks even now cure their

ailments by treatments from such plants having medicinal value. Efforts were taken during 1997-1999 by Silviculture (Hills) Division, Darjeeling to raise different medicinal plants collected from forest areas on the basis of information extended by local people. Since 1997 nurseries have been started at different ranges of the division viz. Lava, Sukna, Bhuttabari, Kalijhora, Sonada and Lloyd Botanic Garden, Darjeeling to raise medicinal plants and study various information on the parts of plants used flowering time, fruiting time, seeding, methods of propagation and above all ailments for which it is applicable has been gathered and stated for ready reference in this article.

386. Samanta, A.K. 2006. "The genus *Dioscorea* L. in Darjeeling and Sikkim Himalayas- A census". *J. Econ. Taxon. Bot.* 30(3): 555-563.

Abst.- Present paper deals with the distribution of thirteen species of *Dioscorea* L. in Darjeeling and Sikkim Himalayas along with their systematic enumeration, key to the identification, flowering and fruiting period etc.

387. Samanta, A.K. 2006. "Flowering and fruiting calender of some angiospermic climbers of Darjeeling and Sikkim Himalayas". *J. Econ. Taxon. Bot.* 30(3):681-693.

Abst.- Present investigation deals with the flowering and fruiting calendar of 250 angiospermic climbers of Darjeeling and Sikkim Himalayas along with their habit and mode of pollination. Out of 250 climbers, 50 are annual and herbaceous, 190 perennials and woody and 10 geophytes. Out of total 250, 72.22% species and varieties were found to be entomophilous, 13.9% anemophilous and 13.9% amphiphilous in mode of pollination.

388. Samanta, A.K., Manzur Kadir, A.F.M. & Das, A.P. 1999. "*Aristolochia* L. in Darjeeling and Sikkim Himalayas". *Rheedea* 9(1): 23-30.

Abst.- Present investigation reports the distribution of eight species of *Aristolochia* L. in Darjeeling and Sikkim Himalayas along with their systematic enumeration, key to the identification, flowering and fruiting periods and specimens cited. Within this 8 species six species is distributed within West Bengal.

389. Samantha, A.K. & Das, A.P. 1996. "Variation distribution and phytosociology of *Holboellia latifolia* Wall. (Lardizabalaceae) in Darjeeling Himalaya". *J. Swamy Bot. Club* 13(1-2): 45-50.

Abst.- *Holboellia latifolia* Wall. (Lardizabalaceae) is a shrubby climber distributed in the temperate Himalayas (1500-3100 m) and represented by two varieties, *latifolia* and *angustifolia* (Wall.) Hook. *f. et* Thoms. The distribution pattern of these two varieties and their phytosociology are presented. 80 species of angiosperms, under 54 families and 68 genera were recognised as its associates.

390. Samantha, A.K. & Das, D.C. 2003. "Ethnobotanical studies on *Typha elephantiana* Roxb. (Typhaceae) in the southern parts of West Bengal, India". *J. Econ. Taxon. Bot.* 27(3): 576-579.

Abst.- *Typha elephantiana* Roxb., is a tall hardy, perennial marshy herb, cultivated in a large scale in West Bengal. The immense ethnic potentialities of this species to the people of West Bengal have been investigated and presented.

391. Santapau, H. 1965. "The Indian Botanic Garden in first 175 years". *Bull. Bot. Surv. India* 7: I-VII.

Abst.- These are but a few of the highlights of the Botanic Garden of Calcutta during the first 175 years of its existence. Very large number of economic plants, viz. Jute, Rheea, sugarcane, tea and cinchona has cultivated in the garden.

392. Sanyal, M.N. 1973. "A contribution to the shrubs and woody climbers of the forests of Bankura dist., West Bengal". *Indian Forester* 99(3): 152-158.

Abst.- The paper presents the essential features of topography, soil, climate and forest-vegetation of the district of Bankura, West Bengal. It also deals with the enumeration of 52 angiospermic forest plants including woody climbers and shrubs belonging to 26 families. Flowering and fruiting times, place of collection etc. have also been mentioned.

393. Sanyal, M.N. 1974. "A contribution to the sedges and grasses of Bankura district of West Bengal". *Bull. Bot. Soc. Bengal* 28 (1&2): 75-78.

Abst.- The present paper deals with 30 species of sedges and 72 species of grasses of the district of Bankura, West Bengal, belonging to two families Cyperaceae and Gramineae. It also includes the essential features of topography, climate, soil and vegetation under different ecological aspects. Synonyms of plants whereever necessary and flowering and fruiting time are also mentioned.

394. Sanyal, M.N. & Namhata, D. 1992. "An account of rice field weeds of Bankura district, West Bengal". *J. Econ. Taxon. Bot.* 15(3): 667-675.

Abst.-The topography, climate, geology and the strategic location of the district have affected a flora endowed with variety and distinction. A through floristic survey of the district reveals 74 species of rice-field weeds that constitute a unique flora. These are enumerated in the present communication aimed towards the preparing of a schedule for successful eradications of these notorious weeds.

395. Sanyal, M.N. & Namhata, D. 1995. "A cencus of medicinal plants from Bankura district, West Bengal". *J. Econ. Taxon. Bot.* 19(2): 435-442.

Abst.- The communication places 65 species of medicinal plants belonging to as many genera under 36 families occurring in Bankura district for record. These are arranged against their therapeutic value.

396. Sarkar, P.K. & Banerjee, A.K. 1984. "Photosynthetic bacteria of West Bengal". *Bull. Bot. Soc. Bengal* 38: 43-49.

Abst.- Evidence has been provided for the widespread occurrence of purple nonsulfur bacteria in the water and sludge samples collected from fresh water bodies in West Bengal. Some aspects of ecology of these photoorganotrophic bacteria and their enrichment in artificial culture media were studied. Several pure cultures were isolated and a few collected ones were characterized in detail for systematic identification. Some aspects of growth physiology of a new isolate of *Rhodospirillum photometricum* were studied and these revealed some new facts about this organism.

397. Sarma, P. & Goulam Mustafa. 1986. "New records of *Spirogyra* spp. from West Bengal". *Bull. Bot. Soc. Bengal* 40: 27-32.

Abst.- Five species of *Spirogyra* viz. *S. condensata* (Vauch.) Kutz., *S. elliptica* Jao, *S. farlowii* Trans., *S. porticalis* (Mull.) Cleve and *S. setiformis* (Roth) Kutz. have been reported for the first time from West Bengal.

A search for lileraliere has also revealed a few earlier reports containing new taxa from West Bengal, which were not included in the recent report.

398. Sau, A. 2004. "Botany and ethnobotany of *Heritiera fomes* Buch.-Ham. (Sterculiaceae)". *J. Econ. Taxon. Bot.* 28(3):653-654.

Abst.- *Heritiera fomes* Buch.-Ham. of the family Sterculiaceae is a mangrove plant locally called as "Sundari". It is believed that the name 'Sunderban' for the mangrove forest of South 24-Parganas, West Bengal has been derived from the name of 'Sundari' plant. It is interesting to mention that the plant form buttress but devoid of true pneumatophores (breathing root). The plant is easily distinguished by its silvery coating on adaxial side of the leaves. Fruit does not possess vivipary germination. On the other hand the seed possesses boat like keel on testa which helps for propagation through water.

The plant is ethnobotanically important for its wood, bark, leaf, seed and gum.

399. Sau, A. & Gupta, R.K. 2005. "Algal flora of Indian Botanic Garden, Howrah, West Bengal". *Bull. Bot. Surv. India* 47(1-4): 63-86.

Abst.- A survey on algal flora of Indian Botanic Garden was undertaken during December 1998 to November 2001. A total of 167 taxa belonging to 79 genera, mainly of Cyanophyceae, Chlorophyceae and Bacillariophyceae have been enumerated for the first time.

400. Sen, A. 1976. "A new species of *Teramnus* Sw. (Fabaceae) from Manbhum (India)". *J. Bombay Nat. Hist. Soc.* 73(1): 187-188.

Abst.- During a revision of the genus *Teramnus* Sw., author came across some specimens doubtfully identified. On such specimen collected by V. Ball, *s. n.* 1866-67 from Manbhum (W.B.) previously identified as *T. labialis* Spreng., proves on careful examination to be different from *T. labialis* Spreng. As its characters are indicative of a new species *Teramnus hookerianus sp. nov.* Type location along with description has also given.

401. Sen, C. & Gupta, D. 1993. "Some Cyanophyceae from Gangetic delta of West Bengal II. Howrah district- A taxonomic enumeration". *J. Econ. Taxon. Bot.* 17(2): 312-314.

Abst.-The present communication recorded 12 species representing 9 genera of blue-green algae from Howrah district of West Bengal.

402. Sen, C. & Gupta, Dilip. 1987. "The genus *Oscillatoria* Voucher from Greater Calcutta". *Bull. Bot. Soc. Bengal* 41(1&2): 41-45.

Abst.- The present communication records sixteen species of the genus *Oscillatoria* from greater Calcutta, West Bengal.

403. Sen, C.R. 2002. "Effective of two selected pesticides on some blue-green algae of rice fields of West Bengal." ***J. Botan. Soc. Bengal*** **56 (1&2): 65-69.**

Abst.- The present communication deals with the effect of different concentrations of one insecticide (Dimecron) and of one herbicide (2,4-D) on blue-green algae of rice fields in the district of Nadia, West Bengal. It was noted that beyond 400 ppm concentration of Dimecron, no blue green algae under study could grow and the effect was remarkarly dissimilar in non-heterocystous and heterocystous forms. On the other hand both heterocystous and non-heterocystous members showed similar respons to 2,4-D and none could thrive beyond 200-ppm concentration except *Calothrix brevissima.*

404. Sen, C.R. 2006. "Some Cyanophyceae from greater Calcutta-I: A taxonomic enumeration". ***J. Econ. Taxon. Bot.*** **30(4): 885-890.**

Abst.- The present communication records 59 species of blue-green algae representing 24 genera from greater Calcutta. *Amphithrix xanthina* (Mont.) Bornet & Flah. is reported for the first time from West Bengal as well as from India.

405. Sen, G.C. 1963. "The epiphytic flowering plants of Darjeeling Hills, other than orchids". ***Bull. Bot. Surv. India*** **5(2): 111-115.** Abst.-Abundance of epiphytes has been observed in the hilly region of Darjeeling district. As many as 34 species of epiphytes falling under 22 genera and 15 different families are found to be epiphytic flowering plants other than orchids growing in the region in question between 305 to 3,660m.

The abundance of epiphytes may be attributable to various factors viz. topography, altitude, rainfall and humidity prevailing in the district.

The flowering epiphytes have been classified into two main classes- total type and partial type in accordance with their mode of epiphytism.

Nature of epiphytism, short description of morphology, flowering time, distribution within the district and also the occurrence in other regions of all the said 34 species have been described in short with reference to Hooker's Flora of British India.

406. Sen, J. & Naskar, J.N. 1965. "Non-herbaceous phanerogams of the Indian Botanic Garden, Calcutta". ***Bull. Bot. Surv. India*** **7(1-4): 31-61.**

Abst.- A complete census of purely horticultural garden varieties of phanerogams of this Indian Botanic Garden being made in this paper. A map showing the working divisions of

this garden is appended as a ready guide to anybody interested in determining the location of any species listed in this paper. This is a complete census of the more stable and largest group of plant population of a garden, such as this, is to act as a companion to the inquiring botanists and horticulturist and also serve as a quick reference work.

407. Sen, N. & Naskar, K.R. 2006. "Taxonomy of the diatom flora of Sunderbans Mangals in West Bengal, India". *J. Econ. Taxon. Bot.* 30(1):55-70.

Abst.- Taxonomic enumeration of 42 species of diatoms belongings to 27 genera has been made from the Sunderbans Mangals in India. Distribution and their habit and habitat have also been studied and indicated. The following genera are represented along with the species number indicated in parentheses.

Melosira (2), *Stephanopyxis* (1), *Cyclotella* (1), *Coscinodiscus* (3), *Hemidiscus* (1), *Corethron* (1), *Rhizosolenia* (2), *Climacodium* (1), *Chaetoceros* (5), *Bacteriastrum* (3), *Biddulphia* (2), *Asterionella* (1), *Fragilaria* (1), *Synedra* (1), *Diatoma* (1), *Achnanthes* (2), *Cocconeis* (1), *Navicula* (2), *Stauroneis* (1), *Pinnularia* (1), *Pleurosigma* (1), *Gyrosigma* (1), *Gomphonema* (1), *Anomoeoneis* (1), *Cymbella* (1), *Amphora* (1) and *Nitzschia* (3).

408. Sharma, V.S. 1969. "Some interesting plants from West Bengal". *Indian Forester* 95:311-313, fig. 3.

Abst.- During studies on the weed-flora of the of the Indian Botanic Garden, Shibpur, Howrah (W. Bengal), some interesting plants were met with *Indigofera spicata* Forsk. has been collected for the first time from Bengal. Detailed description with illustrations is given for the hitherto little known *Melochia pyramidata* Linn, along with a key to its identity. *Oxalis martiana* Zucc., an introduction from S. America, was met with in wild state. *Turnera subulata* J. E. Smith was also observed as growing wild in the garden.

409. Sharma, V.S. 1969. "*Ludwigia erecta* (L.) Hara- Onagraceae- a new record for India". *J. Bombay Nat. Hist. Soc.* 66: 421-422.

Abst.- *Ludwigia erecta* (Linn.) Hara, has been collected from the Indian Botanic Garden, Shibpore, Howrah (West Bengal) during the floristic studies on the weeds of the Indian Botanic Garden which is a new record for West Bengal as well as for India.

410. Shraddha, N. Shimpi & Dutta, R.S. 2004. "Noteworthy Pteridophytes from Apalchand Reserve, Jalpaiguri District, West Bengal". *Bull. Bot. Surv. India* 46(1-4): 221-225.

Abst.- Apalchand Reserve provides agreeable conditions for the pteridophytes population and diversity. There are 31 noteworthy species of ferns and fern allies belonging to 28 genera and 25 families. They are terrestrial, aquatic and epiphytic in habitat. Dominant terrestrial species are *Pteris quadriaurita* Retz., *Lygodium flexuosum* (L.) Sw., *Diplazium esculentum* (Retz.) Sw., *Athyrium hohenackerianum* (Kuntze) Moore etc., while *Ceratopteris thalictroides* (L.) Ad. is the most common aquatic pteridophyte. Among the epiphytes, *Dryneria quercifolia* (L.) J. Sm., *Microsorium membranaceum* Retz. are very frequent. Extremely rare *Christensenia aesculifolia* (Bl.) Maxon is also found. *Phlegmariurus phyllanthum* (Hk. & Arn.) and *Palhinhaea cernua* (L.) Franco & Vasc. should be taken care of from over exploitation.

411. Sikdar, J.K. 1981. "Notes on some plant records for Bengal". *J. Bombay Nat. Hist. Soc.* 78(2): 419-421.

Abst.- In course of floristic survey of Jalpaiguri district of West Bengal the author collected 7 rare and interesting plants from different forest areas which are new records for the West Bengal.

412. Sikdar, J.K. (1982) 1983. "Notes on the occurrence of some plants of West Bengal". *J. Bombay Nat. Hist. Soc.* 79(3): 563-566.

Abst.- This paper deals with the distribution of same plants in Jalpaiguri district as well as in West Bengal, notes on the occurrence of 12 taxa in Jalpaiguri and Darjeeling district and other parts of West Bengal are given here with their correct nomenclature.

413. Sikdar, J.K. 1984. "A sketch on the sedge and grass flora of Jalpaiguri district, West Bengal". *J. Bombay Nat. Hist. Soc.* 81(2): 346-354.

Abst.- The paper lists 42 species belonging to 10 genera of sedges and 126 species belonging to 66 genera of grasses occurring in Jalpaiguri district. The precise localities with reference to forest ranges and forest division in this district together with collector's name and numbers have been given against each species.

414. Sikdar, J.K. 1984. "Contribution to the flora of Baikunthapur Forest Division, Jalpaiguri District (West Bengal)". *J. Econ. Taxon. Bot.* 5(3): 505-532.

Abst.- The present paper is resulting out of intensive botanical collection by the author in different seasons during the year 1974 to 1977. An account of the vegetation with an enumeration of 299 species of Angiosperms, pteridophytes and gymnosperms which are not recorded earlier from Baikunthapur Forest Division in Jalpaiguri district, based on the collections by others are provided. The critical study yielded three interesting species which are new records for the Flora of West Bengal.

415. Sikdar, J.K. 1985. "Contribution towards the botany of the Wild-Life Sanctuaries of Jalpaiguri District, West Bengal". *Bull. Bot. Soc. Bengal* 39: 5-27.

Abst.- The district of Jalpaiguri has three Wild-life Sanctuaries namely Jaldapara, Chapramari and Gorumara, the botany of which are briefly discussed. The paper enumerates 263 species of phanerogams and 7 species of ferns and fern-allies, most of which were collected during three seasonal field-collection tours undertaken during 1975-76 in connection with studies on the project "Vegetation and Flora of Jalpaiguri district". The collections have been deposited in the Central National Herbarium (CAL), Howrah. The composition of the flora and vegetation types of these sanctuaries are also provided.

416. Sikdar, J.K. 1986. "Some observations on three little known species endemic to Bhutan and Northeast India". *J. Bombay Nat. Hist. Soc.* 83(1): 273-276.

Abst.- During field studies on the flora of Jalpaiguri district in West Bengal, in 1975-76, author collected three rare endemic species viz. *Ardisia bhotanica* (Mrysinaceae), *Senecia bhot* (Compositae) and *Aganosma gracilis* (Apocynaceae) from the hilly tracts in the north-eastern part of the district, from the Buxaduar and Jainti forest ranges.

417. Sikdar, J.K., Basu, S.K. & Samanta, D.N. 1983. "A sketch on the pteridophytic flora of Jalpaiguri district, West Bengal". *J. Econ. Taxon. Bot.* 4(3): 667-683.

Abst.- The paper deals with the taxonomic account of the pteridophytic flora of Jalpaiguri district in West Bengal. This account is the resulting out of intensive botanical collections by one of us (J. K. Sikdar) made during the year 1974 to 1977. The species marked with asterisk (*) are not collected by the authors but these are already been reported or only collected from the said areas. In all 5 fern-allies and 48 ferns have been enumerated from the district.

Later nomenclature with citation, basionyms and few selected synonyms have been given. In addition, sori seasons, field number and field note, precise localities in the district, ecological observations along with detailed distributional data have also been made. The arrangement of the families is according to R. E. G. Pichi Sermolii (1977).

418. Sikdar, J.K. & Ghosh, R.B. 1981. "A taxonomic survey and systematic census of tree legumes of North Bengal". *Indian J. Forest.* 4(4): 265-272.

Abst.- The paper presents an account of flowering tree legumes of North Bengal. Fifty-eight (58) species under twenty six (26) genera are recorded. Correct nomenclature with basionyms, short diagnostic characters, flowering and fruiting and brief notes are attached against each taxon.

419. Sikdar, J.K. & Ghosh, R.B. 1981. "A note on *Sabia paniculata* Edgew. ex Hook. *f.* & Thoms. (Sabiaceae) from West Bengal". *J. Bombay Nat. Hist. Soc.* 78(3): 626-627.

Abst.- *Sabia paniculata* Edgew. ex Hook. *f.* & Thoms. has not recorded earlier from Bengal by D. Prain (1903). Cowan & Cowan (1929) listed the occurrence of the taxon in the state along with the other 4 species, but without mentioning precise locality. The present record of the taxon by the senior author from a new locality in the plains of the Jalpaiguri district is interesting, as its records extended distribution from Darjeeling and Assam range. A brief description of the species together with correct nomenclature, flowering and fruiting time, distribution and ecological notes are also given.

420. Sikdar, J.K. & Maiti, G.G. 1981. "*Acanthus carduaceus* Griffith- a scarsely known endemic plant from West Bengal". *J. Bombay Nat. Hist. Soc.* 78(3): 635-637.

Abst.- During a plant collection tour in the Jalpaiguri district during 1975-76, the senior author noticed a robust scandent shrub with deeply pinnatifid, spinescent leaves and white flowers arranged in compact terminal raceme which was identified as *Acanthus carduaceus*, described by Griffith in 1837-38, based on his own collections from Oongar, Bhutan. After 97 years later K.P. Biswas collected from Buxaduar on the way to Sinchula. But unfortunately this extension of distribution was not reorded. The present collection from Jalpaiguri district confirms its occurrence in West Bengal. A detailed description of the plant and pollen morphology is presented in the paper.

421. Sikdar, J.K. & Maiti, G.G. 1982. "A note on *Sauropus macranthus* Hassk. (Euphorbiaceae) from West Bengal". *J. Econ. Taxon. Bot.* 3: 227-229.

Abst.- A collection of *Sauropus macranthus* Hask. from Jalpaiguri district of West Bengal a new addition to West Bengal flora as well as its extension of distribution westward. The correct nomenclature, description, type, flowering and fruiting time, ecological notes, specimens examined and detailed figure have also been provided.

422. Sikdar, J.K. & Maji, S. 1981. "Some noteworthy plants from West Bengal". *J. Bombay Nat. Hist. Soc.* 78(3): 628-630.

Abst.- During floristic survey (1975-1977) in the areas of the Jalpaiguri and Midnapore district, the authors collected plants species viz. *Cissus assamica* (Laws.) Craib. (Vitaceae), *Connarus paniculatus* Roxb. (Connaraceae), *Crotalaria humifusa* Grah. (Fabaceae) and *Phyllochlamys spinosa* Bur. (Moraceae) which have now extended their distributional range to the northern and southern tracts of West Bengal.

423. Sikdar, J.K. & Rao, R.S. 1984. "Further contribution to the flora of Buxa Forest Division, Jalpaiguri district (West Bengal)". *J. Bombay Nat. Hist. Soc.* 81(1): 123-148.

Abst.- The paper presents an enumeration of 500 taxa belonging to 109 families of Angiosperms. Of these 424 species of Dicotyledons are spread over 306 genera and 93 families and 76 species of monocotyledons over 58 genera and 16 families. All the taxa recorded here may be considered as further additions to sedges and grasses by Chaudhuri (1959) and the species from Buxa Division given by Ghosh & Ghosh (1977). In this paper a small number of collections made earlier but not worked out and reported earlier from this Division, and added along with extensive collection by me (J. K. Sikdar) from Buxa division in different seasons during the years 1974-77 while working out of the 'Flora of Jalpaiguri District'. Topography and general features of Buxa Division (D), earlier work, with recent additions on new, interesting and little known species, for India. Eastern India and West Bengal are given under introduction.

In the systematic enumeration nomenclature, localities with reference to forest ranges and field numbers are given.

424. Sikdar, J.K. & Samanta, D.N. 1983. "Herbaceous flora (excluding Cyperaceae, Poaceae and Pteridophytes) of Jalpaiguri district, West Bengal- A check list" - *J. Econ. Taxon. Bot.* 4(2): 525-538.

Abst.- The paper presents a check list of 421 herbaceous taxa belonging to 87 families of angiosperms occurring in Jalpaiguri district. Of these, 321 species of dicotyledons are spread over 202 genera and 22 families. The herbaceous taxa belonging to the family Cyperaceae, Poaceae and also to be Pteridophytes are excluded in this communication. The results included in the present text are based on 3 year's intensive exploration in different forest divisions and ranges including the cultivated fields and barren lands, followed by the 2 year's exhaustive study of the specimens and literature in the Central National Herbarium (CAL).

425. Singh, A. & Roychaudhury, K.N. 1984. "Some pyrenocarpous lichens from 24-Parganas district, West Bengal, India. I. *Anthracothecium*". *Bull. Bot. Surv. India* 26(3&4): 187-188.

Abst.- Three species of genus *Anthracothecium* viz. *A. confine, A. ochrotropum,* and *A. parvinucleum* from 24-Parganas district are described. The first two species are new record for India.

426. Singh, J.N. & Ghosh, M.K. 1984. "Chemical nature of Hooghly (Ganga) River Water and an assessment of their impact on the eco-pedon system of Indian Botanic Garden, Howrah". *Bull. Bot. Surv. India* 26(1&2): 46-51.

Abst.- The eco-pedon system of the protected premises of the Indian Botanic Garden, located along the river Hooghly in the lower Gangetic plain in the district of Howrah, has been studied with a conservational point of view to understand the indiscernible phenomenon of the impact of the river water on the garden eco-pedo-chemical characteristics often submerged due to occasional tidal inundation of the river during the monsoon.

It is experimentally revealed that a chemically dilute river water siphons off the mineral riches of the submerged soil system during flash floods. The intensity of mineral erosion is noted to be directly propotional to the periodic length of submerged of the soil system not withstanding its natural revamping capacity.

427. Singh, J.N. & Ghosh, M.K. 1988. "Bio-aquatic nature of Indian Botanic Garden lakes". *Bull. Bot. Surv. India* 30(1-4): 161-167.

Abst.- Nine large lakes out of twenty five occurring in the Indian Botanic Garden, Howrah have been studied for bio-aquatic nature. The characteristics of stational parameters are discussed. It is held that the dispositions of the lakes vis-à-vis temporal change and the

human interference are responsible factors affecting proper conservation of these water bodies.

428. Srivastava, S.C., Mitra, S. & Bandyopadhyay, S. 2003. "Some plants of ethnomedicinal importance from Darjeeling district, West Bengal". *J. Econ. Taxon. Bot.* 27(4): 972-977.

Abst.- The paper deals with 34 plants of medicinal importance along with their vernacular names, process of medication and their doses.

429. Srivastava, S.C. & Paul, T.K. 2003. "*Rivina bengalensis* - A new species from India". *Indian J. Forest.* 26(4): 357-358.

Abst.- A new species of *Rivina bengalensis* S.C. Srivastava & T.K. Paul (Phytolacaceae) from Howrah district, West Bengal state, India is described.

430. Sur, P. & Das, S. 1976. "Some additions to the West Bengal grasses". *Bull. Bot. Soc. Bengal* 30(1&2): 99-100.

Abst.- Distribution reports from West Bengal in respect of three grasses, *Isachne miliacea* Roth, *Paspalum dilatatum* Poir. and *Paspalum longifolium* Roxb. var. *lorirhachis* Bor are presented.

431. Sur, P.R. 2004. "Contribution to the Apocynaceae of West Bengal". *J. Econ. Taxon. Bot.* 28(3):562-572.

Abst.- The present paper deals with 16 genera and 21 species of family Apocynaceae occurring in West Bengal. The nomenclature, detail description, local names, flowering and fruiting time and distribution are all discussed.

432. Thapa, Kishore & Bera, S. 1996. "A preliminary report on spore morphology of some ferns from Darjeeling Himalayas, West Bengal". *J. Natl. Bot. Soc. India* 50: 35-46.

Abst.- The present paper deals with the spore morphology of 34 fern species from Darjeeling and the adjoining areas of sub Himalayan West Bengal. The species studied belong to eight families viz., Ophioglossaceae, Pteridaceae, Dennstaedtiaceae, Gleicheniaceae, Dryopteridaceae, Davalliaceae, Blechnaceae and Polypodiaceae. Morphological evolution of spores following the projection line and depression line has been studied. *Pteris biaurita, P. longipinnula, Onychium siliculosum* of Pteridaceae, *Araiostegia pulchra* of Davalliaceae and

Gleichenia glauca of Gleicheniaceae show primitive condition following the projection line and depression line. *Botrychium lanuginosum* of Ophioglossaceae, *Dennstaedtia appendiculata, D. scabra* of Dennstaedtiaceae, *Athyrium thelypteroides, Dryopteris sparsa. D. atrata* of Dryopteridaceae, *Leucostegia immersa* of Davalliaceae, *Polypodium amoenum, P. luchnopus, P. microrhizoma, Microsorum normale, Pseudodrynaria coronans* of Polypodiaceae are believed to be advanced forms, following the projection line. Following the depression line, the spores of *Dryopteris chrysocoma, D. serratodentata* of Dryopteridaceae and *Polypodium argutum* and *Microsorum punctatutn* of Polypodiaceae are likely to be evolved.

433. Thothathri, K. & Prasad, R. 1970. "On *Centrosema virginianum* (Linn.) Benth. in India". *Curr. Sci.* 39 (15): 353.

Abst.- *Centrosema virginianum* (Linn.) Benth. a perennial climber has been found growing as an escape in Pasighat, 24-Parganas district, West Bengal under wild condition. Its occurring therefore constitutes a second record of this plant in a wild condition and first of its kind in West Bengal. It is remarkable that the plant has made its appearance after more than 100 years when it first came to India as a cultigen in the Shibpur Botanical garden, Howrah.

434. Udar, Ram & Chandra, V. 1965. "Discovery of *Haplomitrium hookeri* (Smith) Nees in Asiatic flora." *Curr. Sci.* 34(21): 618.

Abst.- So far, *Haplomitrium hookeri* (Smith) Nees has been recorded only from North America, Europe and Spitsbergen. The authors have found this species from Darjeeling, West Bengal. This discovery constitute the first Asiatic record for extends the distributional range of this taxon.

435. Uniyal, B.P. & Banerjee, B.C. 1985. "Additions to the last two decades to the angiosperms of West Bengal". *J. Bombay Nat. Hist. Soc.* 82(2): 328-336.

Abst.- The paper includes 192 plants which have been added to the Flora of West Bengal during the years 1959-1981. Names marked with an asterisk (*) denote the 'new species' and with double asterisks (**) denote 'new record for India' from West Bengal and with three asterisks (***) as 'new new records for West Bengal'. The names in the list are given as they were originally published without any changes.

436. Uniyal, B.P. & Dutta, R. 1983. "Addition to the grasses of Bihar, Orissa & West Bengal". *J. Bombay Nat. Hist. Soc.* 80(1): 262.

Abst.- The authors have identified few species of grasses that can now be added to the list published by Jain *et al.* (1975) in the grasses of Bihar, Orissa and West Bengal. The species are *Calamagrostis pseudophragmitis* (Hall. *f.*) Koeler var. *pseudophragmitis*, *Festuca gigantea* (L.) Vill. and *F. undata* Stapf. var. *aristata* Stapf from Darjeeling and *Paspalum longifolium* from Malda, West Bengal.

437. Upreti, D.K., Roychowdhury, K.N. & Singh, A. 1985. "Some pyrenocarpous lichens from 24-Pargana district, West Bengal, India -IV. *Trypethelium,* V. *Melanotheca*". *J. Econ. Taxon. Bot.* 6(2): 457-459.

Abst.- *Trypethelium tropicum* (Ach.) Muel.- Arg., *T. luetum* Tayl., *T. eluteriae* Sprel. and *Melanotheca indica* Nyl. have been collected from 24-Parganas district, West Bengal. Detailed description along with citation and specimen examined has been been given.

438. Yonzon, G.S., Babu, C.R. & Das, D. 1970. "On the occurrence of *Eupatorium ligustrium* DC.". *Indian Forester* 96: 351.

Abst.- *Eupatorium ligustrinum* DC.- a native of Central America, perhaps introduced, now naturalized in Darjeeling and is recored here for the first time for India. A detailed description is also provided along with flowering and fruiting time.

439. Yonzone, G.S., Yonzone, D.K.N. & Tamang, K.K. 1984. "Medicinal plants of Darjeeling district". *J. Econ. Taxon. Bot.* 5(3): 605-616.

Abst.- The present paper is an attempt to bring into light the medicinal plants of the district Darjeeling and includes plants that have either already been proved to be of medicinal value pharmaceutically or are used by the native herbalists and hence scientifically still obscure. In the wake or large scale deforestation in the Himalayan mountains by various agencies and lack of effective measures to curb the same, it is feared that many medicinal plants may disappear or have already disappeared before they were observed, studied and their medicinal potentialities ascertained. Along with a brief description of the plant, the name of the plant part, drug obtained and purpose for which it is used, range of occurrence within the district, local name and flowering and fruiting periods have been given.

AUTHOR INDEX