HISTORY OF INDIAN MYXOMYCETES STUDY

Butler and Bisby compiled the list of the 'Fungi of India' in 1931, for the first time. They remarked that 'the Myxomycetes have not been studied in India but many of these widely distributed organisms occur there'. They did not mention any representative of Myxomycetes in their compilation, even though A. Lister (1894), in his 'Monograph of the Mycetozoa' mentioned 10 Indian collections of Myxomycetes under habitat. In the third edition of this monograph (Rev. G. Lister, 1925), 18 different species under habitat have been cited, but without the information about the collector, date of collection and substrate (Thind, 1977).

The historical account of Indian Myxomycetes has been taken by Thind (1977), Lakhanpal (1981). Contribution to the Indian Myxomycetes during seventies, has nicely been summerised by Lakhanpal (1983). While discussing the development in the study of Indian Myxomycetes, he (Lahanpal, 1983) demarcated four periods i.e. period I- upto 1924, period II- 1925-1934, period III- 1935-1952, period IV- 1953- onward.

The Indian Myxomycetes were first collected by amateur British explorers. However, their collections were very few and scattered and far from being compiled into monographs (Lakhanpal, 1983).

BEFORE 1900s

Around 1830, Dr. Wright collected Physarum cinereum (Batch) Pers. from Madras. Perhaps, this might be the first
collection of Myxomycetes from Indian subcontinent. Hooker around (1849-1850), during his survey of Indian flora, collected Physarum conglomeratum Rost., and Dictydiaethalium plumbeum (Schum.) Rost., and Lycogala epidendrum (L.) Fries, from Sikkim and one from Darjeeling. In 1862 J.C. Habson, collected Hemitrichia serpula (Scop.) Rost., from Bombay. E.S. Berkeley, collected 11 species, during 1864-1862 i.e. Physarum pusillum (Berk. & Curt.) G. Lister, Didymium difforme (Pers.) S.F. Gray, Diderma hemisphericum (Bull.) Hornem, Didymium squamulosum (Alb. & Schw.) Fries, D. melanospermum (Pers.) Macbr., Diachea leucopodia (Bull.) Rost., Comatrichia typhoides (Bull.) Rost., Lycogala epidendrum (L.) Fries, Tubifera ferruginosa (Batch.) J.F. Gmel, from Nilgiris; Fuligo septica (L.) Weber from Cannanore and Stemonites herbatica Pers. from Pondicherry. These all were determined by A. Lister. All these and others, have been deposited in the herbaria of the British Museum (Natural history) London, and Royal Botanic Garden Kew, England (Third, 1977).

Thus, up to 1900, only 15 species of the Myxomycetes were collected from the Indian flora.

From 1901-1934

Indeed Mrs. Drake was the first and pioneer collector of Indian Myxomycetes. During the period of 1911-1927, she collected very good number of specimens from Simla, Dalhause (H.P.); Nainital, Mussoorie (H.P.), Serampore, Darjeeling (W.B.). She collected about 124 specimens, belonging to 74 species. Her collection are preserved at Royal Botanic Garden, Kew, England and also in the Herbarium of the British Museum.
(Natural History), London (Third, 1977).

Most of the Drake's collections were determined by G. Lister. Before 1924, there was no publication on Indian Myxomycetes. It was G. Lister (1924), who published 'Myxomycetes from North India' for the first time, based on 36 collection made by Mrs Drake, during 1912 - 1919. Bruhl and Gupta (1927), were the second to publish "Indian Slime Fungi (Myxomycetes or Mycetozoa)" from West Bengal, in which they described 16 species. In 1934, Lodhi published "Indian Slime Moulds," the first book on Indian Myxomycetes in which he described and illustrated 43 species, based on Mrs Drake's collections.

However, during 1932 - 1934, G. Fareau, made 12 collection of Myxomycetes from Palni Hills of South India and deposited at Kew, which were determine by E.M. Wakefield (Third, 1977).

FROM 1935 - 1952

Lakhanpal (1983), aptly described this period as a 'slump' period, as there was no contribution to the Myxomycetes of India during this period.

FROM 1953 - 1970

Erandy (1953), described one new species of Myxomycetes from Southern Travencore. In fact, around 1952, interest in Indian Myxomycetes was arosed. To a certain extent floristic study of Myxomycetes was started by Agnithrudu (1954 - 1956). In a series of five papers he described 30 species from South India especially from Karnatka, and published two notes (1965 - 66), one on new species. Similarly, he described 56 species
including two new species, from Assam, in another series of three papers (1958 - 1965).

Likewise, Ghosh and Datta (1962, 1963), from Orissa; Kar (1964), from Calcutta; Singh and Pushpavathy (1965, 1966) from Delhi; Agnihothrudu and Chinappa (1968, 1969), from Karnataka; Indira (1968-1971) from Tamil Nadu, described and illustrated some more species of myxomycetes from respective localities.

Third et al (1955-1971), made an extensive and intensive survey of East-west of southern Himalaya. In a series of 24 papers, they described 165 species including 17 new species, 2 new varieties and 4 new forms. Third compiled all his work and earlier work as well in The Myxomycetes of India, in which he described 186 species, 3 varieties and 6 forms. This monograph mainly represent the systematic work done on Indian Myxomycetes during fifties and sixties though it was published in 1977.

The most significant achievement during the sixties was the award of Ph.D. Degree to Dr. P.U.Indira in 1966, on Myxomycetes. She was the first Indian student to obtain Ph.D. on myxomycetes (Lakhanpal, 1983).

FROM 1970 ONWARD

From 1970 onward, it seems a good number of mycologist focused their attention towards the study of Indian Myxomycetes. Most significant contribution is of Lakhanpal (1971, 1972, 1973, 1978), Lakhanpal and Mukerji (1976, 1978). In the series of papers, they described large number of myxomycetes from Delhi, Himachal Pradesh, Nainital and also contributed to experimental and ecological knowledge of
myxomycetes.


The decade of seventies culminated in the Lakhanpal and Mekerji's monograph of 'Indian Myxomycetes' which is a compilation of extensive work carried by the authors, gives an account of 294 species, 3 varieties and one form of myxomycetes belonging to 43 genera, from Indian flora. Indian myxomycetes attracted the attention of good number of students during 1970-1994 (As many as Eight students have been awarded doctorate degree in the field). During this period, interest in the study of myxomycetes, has been widened beyond the floristic exploration and systematics. Cultural work on Myxomycetes in India was initiated in sixties by Kar (1962-1964), on Physarella oblonga and Physarum wingatense. It was extended as much as for seven species of myxomycetes by Indira (1964, 65, 69, 71), Indira et al. (1963, 71, 74). Lakhanpal (1980), Lakhanpal and Mekerji (1976), Lakhanpal and Sood (1981),
studied five different species of myxomycetes for the germination, swarm cell fusion and formation of plasmodia, and sporophore development. Ecological studies of myxomycetes of India initiated by Indira (1968) and recorded her observation on the distribution and habitat of 22 species in Coorg district of Mysore. Lakhanpal and Mukerji (1981), made their observation on seasonal distribution of a number of species in the North-Western Himalaya and Delhi. Lakhanpal and Chopra (1980), recorded their observation on pH and height of substrate suitable for growth. This study opened better direction for further investigation.

FROM THE STATE OF MAHARASHTRA

The state of Maharashtra constitutes major part of peninsular India, which is rich in natural flora. The mycological survey has been done extensively but myxomycetes was totally neglected. Probably, the first Myxomycetes recorded from Maharashtra was *Hemitrichia serpula* (Scop) Rost. from Bombay by J.C. Habson in 1862. The study of myxomycetes in Maharashtra is about 20 years old. In mid seventies, systematic study of myxomycetes were undertaken by Dr. V.D. Ranade from University of Poona, and by Dr. S.P. Nanir from the Marathwada University, Aurangabad, for their Doctoral work, from the region of western Maharashtra and Marathwada, respectively. Likewise, some species of myxomycetes were reported by Chimankar et al. (1993), Chavan and Kulkarni (1974), Jadhav et al. (1993), Mishra and Ranade (1979), Nanir (1978-1985), Nanir and Rokade (1986, 1991, 1992, 1993), Nanir et al. (1992), Patil and Ranade (1974), Patwardhan and Joshi (1975), Rokade and Nanir (1993),
Ranade and Mishra (1977), Thite (1975). Extensive and intensive floristic work of Myxomycetes of Maharashtra has been undertaken in this laboratory and it has been extended to Gujarat and Madhya Pradesh. Recently Myxomycetes of Khandesh, and East Vidarbha and Nashik, Thana, & Ahmadnagar have been completed by Rokade (1990), Chimannkar. (1993), and Jadhav (1994) respectively.

Till to date 189 species from 29 genera have been described from this laboratory. In the present work 106 species belonging to 24 genera are being presented. All these are being collected and described for the first time from the Gujarat.