



FLORA OF KARNATAKA *A Checklist*

Volume -1: Algae, Fungi, Lichens, Bryophytes & Pteridophytes.

KARNATAKA BIODIVERSITY BOARD

CITATION

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ಸಿ.ಸಿ. ಪಾಟೀಲ

ಗಣಿ ಮತ್ತು ಭೂವಿಜ್ಞಾನ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಶಾಸ್ತ್ರ ಹಾಗೂ ಗದಗ ಮತ್ತು ವಿಜಯಪುರ ಜಿಲ್ಲಾ ಉಸ್ತುವಾರಿ ಸಚಿವರು
ಸಂಖ್ಯೆ: ಗಭೂವಿಅಪಜೀಸ/491/2019



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ಸಂದೇಶ

ರಾಜ್ಯ ಜೀವವೈವಿಧ್ಯ ಮಂಡಳಿಯು ಜೀವವೈವಿಧ್ಯದ ಸಂರಕ್ಷಣೆ, ಅದರ ಘಟಕಗಳ ಸುಸ್ಥಿರ ಬಳಕೆ ಹಾಗೂ ಜೈವಿಕ ಸಂಪನ್ಮೂಲಗಳ ಬಳಕೆಯಿಂದ ಬರುವ ಲಾಭಗಳ ನ್ಯಾಯಸಮ್ಮತ ಹಂಚಿಕೆ ಮತ್ತು ಜೈವಿಕ ಸಂಪನ್ಮೂಲಗಳ ವಾಣಿಜ್ಯ ಬಳಕೆಯ ಕೋರಿಕೆಗಳನ್ನು ಪರಿಶೀಲಿಸಿ, ಮಂಜೂರು ಮಾಡುವ ಪ್ರಮುಖ ಉದ್ದೇಶ ಹೊಂದಿರುತ್ತದೆ. ಈ ಉದ್ದೇಶಗಳನ್ನು ಅನುಷ್ಠಾನಗೊಳಿಸಬೇಕಾದರೆ ರಾಜ್ಯದ ಸಸ್ಯ ಸಂಪತ್ತಿನ ಸಮಗ್ರ ದತ್ತಾಂಶಗಳ ಸಂಗ್ರಹಣೆ ಮತ್ತು ಲಭ್ಯತೆ ಅತಿ ಮುಖ್ಯವಾಗಿರುತ್ತದೆ. ವಿಷಯ ತಜ್ಞರಿಂದ ಕಡಿಮೆ ಪ್ರಚಾರದಲ್ಲಿರುವ ಸಸ್ಯ ಸಂಪತ್ತಿನ ಪ್ರಾಥಮಿಕ ತಾಂತ್ರಿಕ ಮಾಹಿತಿಯನ್ನು ಸಂಗ್ರಹಿಸಲಾಗಿರುತ್ತದೆ. ಈ ವೈಜ್ಞಾನಿಕ ಪುಸ್ತಕ "A Flora of Karnataka- A Checklist VOL-1, Algae, moss, ferns, lichens and fungi" ವು ಜೀವವೈವಿಧ್ಯ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ಪಾತ್ರವಹಿಸುತ್ತಿರುವ ವಿವಿಧ ವಿಜ್ಞಾನ ಸಂಸ್ಥೆಗಳಿಗೆ ಹಾಗೂ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಉತ್ತಮ ಕೈಪಿಡಿಯಾಗಿದ್ದು ಪ್ರಯೋಜನಕಾರಿಯಾಗಿದೆ. ವಿವಿಧ ಮೂಲಗಳಿಂದ ಮಾಹಿತಿ ಸಂಗ್ರಹಿಸಿ, ಪ್ರಕಟಿಸುತ್ತಿರುವ ಕರ್ನಾಟಕ ಜೀವವೈವಿಧ್ಯ ಮಂಡಳಿಯು ಕ್ರಮ ಶ್ಲಾಘನೀಯವಾಗಿದೆ.

(ಸಿ.ಸಿ. ಪಾಟೀಲ)

ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು,
ಕರ್ನಾಟಕ ಜೀವವೈವಿಧ್ಯ ಮಂಡಳಿ,
ಬೆಂಗಳೂರು.



GOVERNMENT OF KARNATAKA
(Forest, Ecology and Environment Department)



Karnataka Biodiversity Board

ANANTH HEGDE ASHISARA

Chairman (State Minister Rank)



Shri Ananth Hegde Ashisara,
Chairman,
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MESSAGE

Karnataka Biodiversity Board was established in the year 2004 and subsequently, the state of Karnataka notified the Karnataka Biological Diversity Rules in the year 2005. The Board has initiated a number of Biodiversity Conservation measures under the directions of Central and State authority. We have declared 4 Biodiversity Heritage Sites, initiated Biodiversity awards etc. The present work was commissioned under the provisions of Rule13(8) of Karnataka Biological Diversity Rules, 2005 which provides for collection, compilation and publishing of technical and statistical manuals or guides relating to conservation. The Board has been conducting various programmes, events, trainings, workshops which necessitate the requirement of outreach materials in the form of pamphlets, brochures and scientific books. This book is first of its kind in the entire country, will also serve as a checklist and field guide, especially for educational institutions and researchers. It is a commendable work which forms an instrument for measuring and conserving the plant wealth of Karnataka.

I appreciate the Member Secretary, Karnataka Biodiversity Board experts and its staff for bringing out such a useful publication.

(Ananth Hegde Ashisara)



ಡಾ. ಸಂದೀಪ್ ದವೆ, ಫಾ.ಆ.ಸೀ.

ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ
ಆರಣ್ಯ, ಜೀವಿ ಪರಿಸ್ಥಿತಿ ಮತ್ತು ಪರಿಸರ ಇಲಾಖೆ



ಕರ್ನಾಟಕ ಸರ್ಕಾರ
Government of Karnataka

Dr. SANDEEP DAVE, I.A.S.
Additional Chief Secretary to Govt
Forest, Ecology and Environment
Department

FOREWORD

Since time immemorial, plants have been a fundamental bioresource for medicines, industrial materials with economic and cultural importance. Plants also stabilize ecosystems and form the habitats that sustain the planet's human, animal and microbial life.

India is a tropical country, gifted with the Western Ghats which is spread over 1600 kms forming a huge repository of flora and fauna and is recognized as one of the World's Biodiversity Hotspots. Being one of the first countries with a proactive legislation, India enacted a comprehensive Biological Diversity Act in 2002 to implement the provisions of the Convention on Biological Diversity (CBD). Subsequently, the Karnataka Biological Diversity Rules in 2005 were notified by Government of Karnataka for achieving conservation, sustainable utilization and equitable sharing of benefits arising from the utilization of bioresources, which also provide for the documentation of the bioresources in the State.

Preparation of the People's Biodiversity Register (PBR) is the basic documentation which generally captures the information on vascular plants and other components of biodiversity. Whereas, the non-vascular plants *viz* algae, fungi, lichens, bryophytes also contribute a major share, which play an essential role in every aspect of ecosystem function, development and stability, the pteridophytes are the first vascular plants and are the link between their primitive predecessors and modern plants – the Gymnosperms and Angiosperms – which are discussed in Volume – 2 of the series. This book not only provides an exhaustive list of the often uncommon plants from the above groups, but also contains information on their synonymy, habitat and their distribution. Using this information along with other data such as medicinal and commercial usage of bioresources will yield good results towards the mitigation of the over exploitation and biopiracy of floral wealth of Karnataka.

I would like to acknowledge the Karnataka Biodiversity Board for its substantial efforts in the preparation of this book.


(Sandeep Dave)

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PREFACE

The Biological Diversity Act, 2002 came into existence with three objectives i.e., 1) Conservation of Biological diversity, 2) Sustainable use of its components and 3) fair and equitable sharing of benefits arising out of use of biological resources. Out of the three objectives, conservation is considered as the prime and of foremost importance since sustainable use and sharing of benefits is possible only if there is resource database. The Board, under the provisions of Rule 13(11) of the Karnataka Biological Diversity Rules, 2005 which provides for building up database and to create information and documentation system for biological resources to ensure the effective management, promotion and sustainable use of biological resource and knowledge has considered that effective documentation is a key for future conservation. The Board felt the need to compile the baseline profile of plants of Karnataka which will serve as a ready reference for conservation. The work is an outcome of contributions by experts and leading scientists from specific groups, who were engaged in compiling this huge data.

The present book titled 'Flora of Karnataka – A Checklist' is mainly focused on providing the younger generation and scientific institutions with information pertaining to generally uncommon flora such as algae, moss, ferns, lichens, fungi up to the widely known tallest plants, the Gymnosperms and Angiosperms in the next volume.



(Virender Singh, IFS)

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Dr. J.R. Sharma. (Fungi)

Mr. B.O. Sharma & A. Pinokiyo. (Lichens)

Dr. D.K. Singh. (Bryophytes)

Dr. K.G. Bhat. (Pteridophytes)

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1. Sri R.M.N. Sahai, IFS (Retd.), Former Chairman, Karnataka Biodiversity Board for his vision which resulted in this book.
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3. Dr. M. Sanjappa, INSA Senior Scientist, Mahatma Gandhi Botanical Garden, GKVK for taking the lead in gathering the information.
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7. Members of Publication Committee, Karnataka Biodiversity Board for various inputs and suggestions:
 - a) Dr. M. Sanjappa, INSA Senior Scientist, Mahatma Gandhi Botanical Garden, GKVK, Bengaluru – 560 065.
 - b) Prof. C. Kameswara Rao, Executive Secretary, FBAE, No. 1 Gupta's layout, Southend Road, Bengaluru – 560 004.
 - c) Prof. M. Narayana Swamy, Professor & Head, Dept. of Veterinary Physiology, Veterinary College, Hebbal, Bangalore – 560 024.
 - d) Dr. S.N. Hegde, Former Professor & Chairman, Dept. of Zoology, University of Mysore, No. 109, Vikasa, 7th Main, 3rd Cross, Bogadi II Stage, Mysore – 570 026.
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 - f) Smt Sahana S. Hegde, Deputy Director (Horticulture), Karnataka Biodiversity Board, Malleshwaram, 18th Cross, Bengaluru – 560 003.
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Composition of the Board

The present Board has been constituted vide order No:
FEE 203 ENV 2016, Bengaluru. Dated: 13.02.2017.

Sl. No	Board Members	Designation
1	Sri Ananth Hegde Ashisara, Chairman, Karnataka Biodiversity Board, Ground Floor, Vanavikas, 18 th Cross, Malleshwaram, Bengaluru – 560 003.	Chairman
2	Sri Sandeep Dave, IAS, Additional Chief Secretary to Government, Forest, Ecology and Environment Department, MS Building, Bengaluru-01.	Ex-officio Member
3	Sri Vijay Kumar Gogi, IFS, Principal Secretary to Government, Forest, Ecology and Environment Department, MS Building, Bengaluru-1.	Ex-officio Member
4	Sri Rajender Kumar Kataria, IAS, Secretary to Government, Department of Agriculture, MS Building – 560 001.	Ex-officio Member
5	Sri Punati Sridhar, IFS, Principal Chief Conservator of Forests (HoFF), Aranya Bhavan, 18 th Cross, Malleshwaram, Bengaluru – 560 003.	Ex-officio Member
6	Smt Meenakshi Negi, IFS, Commissioner, Department of AYUSH, Dhanvantari Road, Ananda Rao Circle, Bengaluru – 560 009.	Ex-officio Member
7	Dr. C. G. Kushalappa, Dean Forestry, University of Agriculture and Horticultural Sciences (Shivamogga), College of Forestry (Ponnampet), Kunda Road, Ponnampet – 571 216.	Non-officio Member
8	Dr. M. Mahadeva Murthy, Professor, Dept. of Forestry and Environmental Science, UAS, GKVK, Bengaluru – 560 065.	Non-officio Member
9	Dr. Jayakara Bhandary M, Associate Professor, Dept. of Botany, Government First Grade College, Car Street, Mangaluru – 575 001.	Non-officio Member
10	Prof. M. Narayana Swamy, Professor & Head, Dept. of Veterinary Physiology, Veterinary College, Hebbal, Bengaluru – 560 024.	Non-officio Member
11	Dr. Niranjana Murthy, Professor & Scheme Head, AICRP on Potential Crops, RIOF Building, UAS, GKVK, Bangalore – 560 065.	Non-officio Member
12	Smt Anita K. Arekal, IFS, Additional Principal Chief Conservator of Forests (Social Forestry), Aranya Bhavan, 18 th Cross, Malleshwaram, Bengaluru – 560 003.	Special Invitee
13	Sri B.T. Khanapure, Drugs Controller, Drugs Control Department Palace Road, Near Karnataka Public Service Commission, Bengaluru – 560 001.	Special Invitee
14	Dr. Virender Singh, IFS, Member Secretary, Karnataka Biodiversity Board, Ground Floor, Vanavikas, 18 th Cross, Malleshwaram, Bengaluru – 560 003.	Member Secretary - Convener

Flora of Karnataka, A Checklist

Volume 1 : Algae, Fungi, Lichens, Bryophytes & Pteridophytes

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Algae of Karnataka

A Checklist

R.K. Gupta & S.K. Das

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Howrah 711 103, West Bengal**

Support by

Karnataka Biodiversity Board

INTRODUCTION

Algae are simple photosynthetic forms that lack embryogenesis. Algae are ubiquitous, a multitude of species ranging from microscopic unicellular to gigantic kelps inhabit the world's oceans, freshwater bodies, soils, rocks and trees and are responsible for most of the global production of organic matter by photosynthesis. They are major carbon-assimilating organisms. Thus they play a fundamental role in the world's ecosystems and a reliable and modern introduction to their kaleidoscopic diversity, systematic and phylogeny is indispensable. Algae are highly diversified group of plant with enormous economic implications not only as primary producers and pollution indicators but also as a source of several natural products like biofertiliser, biofuels, chemicals. In India *ca.* 7284 species (15.33 % of Indian Flora) belonging to 738 genera under 206 families have been recorded so far. In Karnataka state, a total of 1761 taxa belonging to 109 families of the classes Cyanophyceae, Chlorophyceae, Xanthophyceae, Chrysophyceae, Euglenophyceae, Dinophyceae, Bacillariophyceae, Phaeophyceae and Rhodophyceae. Out of these, 100 taxa are endemic to Karnataka and 46 taxa are endemic to India.

Class	Numbers of taxa	Numbers of families	Numbers of taxa endemic to Karnataka	Numbers of taxa endemic to India
Bacillariophyceae	632	37	25	7
Chlorophyceae	505	27	47	11
Chrysophyceae	20	4	1	-
Cyanophyceae	455	15	25	27
Dinophyceae	2	2	-	-
Euglenophyceae	86	2	1	-
Phaeophyceae	25	7	-	-
Rhodophyceae	35	14	1	1
Xanthophyceae	1	1	-	-
Total	1761	109	100	46

Despite the fact that algal documentation is limited to areas where a few algalogists worked in universities and colleges, the classes Bacillariophyceae, Chlorophyceae and Cyanophyceae were recorded with 632, 505 and 455 species respectively. Among the chlorophytes, desmids are dominating, but the filamentous conjugales like *Spirogyra*, *Zygnema*, *Mougeotia*, *Sirogonium*, *Zygnemopsis*, etc., which are dominant in lentic and lotic freshwater systems in India, are scantily recorded from the state. *Spirogyra jogensis* is the only recorded species of the genus by M.O.P. Iyengar in 1958. It shows the least indulgence of subsequent researchers in study of this group.

Class : CYANOPHYCEAE*

Family : CAPSOSIRACEAE

Stauromatonema Frémy

Stauromatonema viride Frémy, Myxophyc. Afr. équat. franc. 390. 1929.

Distribution: Karnataka (Raichur), Jammu & Kashmir.

Habitat: Freshwater.

Family: CHAMAESIPHONACEAE

Chamaesiphon A. Braun & Grunow

Chamaesiphon rostafinskii Hansg., Rodr. Algenfl. Bohmen 2: 123. 1892.

Distribution: Karnataka (Mysuru), Gujarat.

Habitat: Freshwater.

Family: CHROOCOCCACEAE

Aphanocapsa Nägeli

Aphanocapsa banarensis Bharadwaja, Proc. Indian Acad. Sci. 2: 96. 1935.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Mizoram, Nagaland, Punjab, Tripura, West Bengal.

Habitat: Freshwater.

Aphanocapsa biformis A. Braun, Fl. Eur. Alg. 2: 246. 1865.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanocapsa brunnea Nägeli, Gatt. einzell. Alg. 52. 1849.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Assam, Gujarat, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanocapsa dharwadensis Bongale, J. Indian Bot. Soc. 66: 285. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Terrestrial.

Aphanocapsa elachista W. West & G.S. West, J. Linn. Soc., Bot. 30: 276. 1894.

var. **elachista**

Distribution: Karnataka (Mysuru), Assam, Bihar, Delhi, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Nagaland, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

var. **irregularis** J.B. Petersen, Bot. Iceland 2: 265. 1923.

Distribution: Karnataka (Shivamogga), Uttar Pradesh.

Habitat: Freshwater.

*Included here as part of Biodiversity. Taxonomists treat this Class under the Kingdom Monera.

Aphanocapsa grevillei (Hassall) Rabenh., Fl. Eur. Alg.2: 50. 1865.

Coccochloris grevillei Hassall, Hist. Brit. Freshwater Alg.2: 24. 1845.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Chattisgarh, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanocapsa litoralis Hansg., Sitzungber. Königl. Böhm. Ges. Wiss., Math. Naturwiss. CL229. 1892.

Distribution: Karnataka (Udupi, Uttara Kannada), Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Manipur, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater and marine.

Aphanocapsa montana C.E.Cramer in Wartm. & Schenk, Schweiz. Krypto. 134. 1862.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Gujarat, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Aphanocapsa muscicola (Menegh.) Wille, Nyt. Mag. Naturvidensk 56: 39. 1918.

Distribution: Karnataka (Raichur), Bihar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Aphanocapsa pulchra (Kütz.) Rabenh., Fl. Eur. Alg.2: 49. 1865.

Distribution: Karnataka (Mysuru), Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Aphanocapsa rivularis (Carmich.) Rabenh., Fl. Eur. Alg.2: 49. 1865.

Palmella rivularis Carmich., Brit. Fl. 2 (1): 397. 1833.

Distribution: Karnataka (Mysuru)

Habitat: Freshwater.

Aphanocapsa roeseana De Bary, Hedwigia 9: 74. 1870.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Assam, Gujarat, Kerala, Maharashtra, Manipur, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanothece Nägeli

Aphanothece bullosa (Menegh.) Rabenh., Fl. Eur. Alg.2: 65. 1865.

Distribution: Karnataka (Mysuru, Uttara Kannada), Andaman & Nicobar, Assam, Gujarat, Himachal Pradesh, Maharashtra, Manipur, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and marine.

Aphanothece castagnei (Bréb.) Rabenh., Fl. Eur. Alg.2: 65, 1865.

Palmella castagnei Bréb., Tab. Phycol. 1: 9. 1846.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Assam, Gujarat, Kerala, Maharashtra, Manipur, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanothece clathrata W. West & G.S. West, Trans. Roy. Irish Acad. 33: 111. 1906.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Aphanothece microscopica Nägeli, Gatt. einzell. Alg. 59. 1849.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Aphanothece microspora (Menegh.) Rabenh., Krypt -Fl. Sachsen 1: 76. 1863.

Microcystis microspora Menegh., Monogr. nostoch. ital. 80. 1842.

Distribution: Karnataka (Raichur), Gujarat, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Aphanothece naegelii Wartm., Fl. Eur. Alg. 2: 65. 1865.

Distribution: Karnataka (Uttara Kannada, Udupi), Andhra Pradesh, Assam, Bihar, Chattisgarh, Goa, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Aphanothece pallida (Kütz.) Rabenh., Fl. Eur. Alg. 2: 64. 1865.

Palmella pallida Kütz., Phycol. germ. 149, 1845.

Distribution: Karnataka (Raichur), Andhra Pradesh, Bihar, Goa, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Aphanothece stagnina (Spreng.) A. Braun, Fl. Eur. Alg. 2: 66. 1865.

Coccolochloris stagnina Spreng, Mant. Prima Fl. Halensis 14. 1807.

var. **Stagnina**

Distribution: Karnataka (Raichur, Mysuru), Andhra Pradesh, Bihar, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **Minor** Bongale, J. Indian Bot. Soc. 66: 286. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Chroococcus Nägeli

Chroococcus cohaerens (Bréb.) Nägeli, Gatt. einzell. Alg. 46. 1849.

Pleurococcus cohaerens Bréb., Monogr. Nostoch. ital 35. 1842.

Monogr. Nostoch. ital 35. 1842.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Manipur, Nagaland, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial.

Chroococcus giganteus W. West, Trans. Roy. Microscop. Soc. 741. 1892.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Chattisgarh, Jammu & Kashmir, Manipur, Mizoram, Uttar Pradesh.

Habitat: Freshwater.

Chroococcus gomontii Nygaard, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 82: 202. 1926.

var. **gomontii**

Distribution: Karnataka (Dharwad), Uttar Pradesh.

Habitat: Freshwater and terrestrial*

var. **maxima** Bongale, J. Indian Bot. Soc. 66: 283. 1987.

Habitat: Freshwater.

Karnataka (Uttara Kannada); endemic.

Chroococcus hansgirgii Schmidle, Allg. Bot. Z. Syst. 6 (2): 78. 1900.

Distribution: Karnataka (Raichur), Andhra Pradesh, Bihar, Goa, Gujarat, Haryana, Maharashtra, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Chroococcus indicus Zeller, Hedwigia 12: 168. 1873.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Tripura, Uttar Pradesh.

Habitat: Freshwater.

Chroococcus limneticus Lemmerm., Bot. Centralbl. 76: 153. 1898.

Distribution: Karnataka (Mysuru, Raichur), Arunachal Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Manipur, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Chroococcus macrococcus (Kütz.) Rabenh., Krypto. Fl. Sachsen 1: 70. 1863.

Protococcus micrococcus Kütz. Phycol. general. 921, 1843.

Distribution: Karnataka, Gujarat, Jammu & Kashmir, Maharashtra, Odisha, Rajasthan, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Chroococcus minor (Kütz.) Nägeli, Gatt. einzell. Alg. 47. 1849.

Protococcus minor Kütz., Phycol. germ. 144. 1845.

Distribution: Karnataka (Mysuru, Dharwad, Uttara Kannada), Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Kerala, Maharashtra, Manipur, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater, brackish water, marine and terrestrial*

Chroococcus minutus (Kütz.) Nägeli, Gatt. einzell. Alg. 46. 1849.

Protococcus minutus Kütz., Phycol. general. 168. 1843.

Distribution: Karnataka (Mysuru, Uttara Kannada), Andhra Pradesh, Bihar, Chattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and marine.

Chroococcus montanus Hansg., Notarisia 3: 400, 1888.

var. **montanus**

Distribution: Karnataka (Mysuru), Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Mizoram, Nagaland, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

var. **hyalinus** C.B. Rao, Proc. Indian Acad. Sci. 6: 345. 1937.

Distribution: Karnataka (Raichur), Gujarat, Rajasthan, Uttar Pradesh; endemic.

Habitat: Freshwater.

Chroococcus pallidus Nägeli, Gatt. einzell. Alg. 46. 1849.

Distribution: Karnataka (Raichur), Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Chroococcus schizodermaticus W. West, Trans. Roy. Microscop. Soc. 742. 1892.

Habitat: Freshwater and terrestrial*

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Bihar, Gujarat, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Chroococcus tenax (Kirchn.) Hieron., Beitr. Biol. Pflanzen. 5: 483. 1892.

Chroococcus turgidus var. *tenax* Krypt. - Fl. Schlesien Algen Part 1: 2, 262, 1878.

Distribution: Karnataka (Raichur, Mysuru), Arunachal Pradesh, Assam, Bihar, Goa, Gujarat, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Chroococcus turgidus (Kütz.) Nageli, Gatt. einzell. Alg. 46, 1849.

Protococcus turgidus Kütz., Tab. Phycol. 1: 5. 1846.

var. **turgidus**

Distribution: Karnataka (Mysuru, Uttara Kannada), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater, brackish water and terrestrial.

var. **maximus** Nygaard, Vidensk Meddel. Naturhist. Foren. Kjøbenhavn. 82: 201. 1926.

Distribution: Karnataka (Shivamogga), Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Coelosphaerium Nägeli

Coelosphaerium dubium Grunow, Fl. Eur. Alg. 2: 55. 1865.

Distribution: Karnataka (Mysuru), Assam, Bihar, Haryana, Himachal Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater and terrestrial*

Coelosphaerium kuetzingianum Nägeli, Gatt. einzell. Alg. 54. 1849.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Coelosphaerium naegelianum Unger, Beitr. Kaiserl. Akad. Wiss. Wien. Math.-Naturwiss. Cl. 7: 195. 1854.

Woronichinia naegeliana (Unger) Elenkin, Trudy Bot. Inst. Akad. Nauk SSSR, Sporov. Rast. 1: 30. 1933.

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Coelosphaerium pallidum Lemmerm. Hedwigia 37: 154. 1898.

Lemmermaniella pallida (Lemmerm.) Geitler, Nat. Pflanzenfam. 2: 62. 1942.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Dactylococcopsis Hansg.

Dactylococcopsis fascicularis Lemmerm., Bot. Centralbl. 76: 153. 1898.

f. fascicularis

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Jammu & Kashmir.

Habitat: Freshwater.

f. indica Desikachary, Cyanophyta 158. 1959.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu; endemic.

Habitat: Freshwater.

Gloeocapsa Kütz.

Gloeocapsa calcarea Tiden, Minn. Bot. Stud. ser. 2, 1: 29. 1898.

Distribution: Karnataka (Bidar), Bihar, Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Terrestrial.

Gloeocapsa compacta Kütz., Tab. Phycol. 1: 24. 1846.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Chattisgarh, Gujarat, Maharashtra, Manipur, Mizoram, Nagaland, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Gloeocapsa coracina Kütz., Phycol. general. 174. 1843.

Distribution: Karnataka (Raichur, Uttara Kannada), Jammu & Kashmir, Madhya Pradesh.

Habitat: Freshwater, marine and terrestrial*

Gloeocapsa crepidinum (Thur.) Thur., Notes Alg. 1: 1. 1876.

Distribution: Karnataka (Dharwad), Bihar, Jammu & Kashmir, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Terrestrial.

Gloeocapsa decorticans (A. Braun) P.G. Richt., Nyt. Mag. Naturvidensk 62: 186. 1925.

Distribution: Karnataka (Raichur, Mysuru), Bihar, Gujarat, Kerala, Maharashtra, Manipur, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Gloeocapsa dermochroa Nägeli, Sp. Alg. 224. 1849.

Distribution: Karnataka (Uttara Kannada), Tamil Nadu.

Habitat: Marine.

Gloeocapsa gelatinosa Kütz., Phycol. general. 174. 1843.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Gujarat, Jammu & Kashmir, Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater and terrestrial*

Gloeocapsa granosa (Berk.) Kütz., Tab. Phycol. 1: 36. 1849.

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Manipur, Rajasthan, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Gloeocapsa kuetzingiana Nägeli, Gatt. einzell. Alg. 50. 1849.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Assam, Bihar, Gujarat, Maharashtra, Punjab, Uttarakhand, West Bengal.

Habitat: Freshwater and terrestrial*

var. **maior** Bongale, J. Indian Bot. Soc. 66: 283. 1987.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Gloeocapsa luteo-fusca G. Martens, Nyt. Mag. Naturvidensk. 62: 191. 1925.

Distribution: Karnataka (Shivamogga), Assam, Gujarat, West Bengal.

Habitat: Freshwater and terrestrial*

Gloeocapsa magma (Bréb.) Kütz., Tab. Phycol. 1: 17. 1846.

Protococcus magma Bréb, Alg. Falaise 40. 1835.

Distribution: Karnataka (Mysuru), Bihar, Jammu & Kashmir, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Gloeocapsa nigrescens Nägeli, Alg. Sachs. 63, 629, 1857.

var. **nigrescens**

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Kerala, Manipur, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

var. **maxima** Bongale, J. Indian Bot. Soc. 66: 283. 1987.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Gloeocapsa pleurocapsoides Nováček, Prace Morav. Prir. Moravya Slezka, Oddel. Bot. 7: 1. 1929.

Gloeocapsopsis pleurocapsoides (Nováček) Komárek & Anagn., Arch. Hydrobiol., Suppl. 73 (Algol. Stud. 43): 191. 1986.

Distribution: Karnataka (Raichur), Assam, Bihar, Gujarat, Haryana, Jammu & Kashmir, Maharashtra, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Gloeocapsa polydermatica Kütz., Tab. Phycol. 1: 15. 1846.

Gloeocystis polydematica (Kütz.) Hindák, Preslia 50: 8. 1978.

Distribution: Karnataka (Raichur), Andhra Pradesh, Arunachal Pradesh, Gujarat, Himachal Pradesh, Kerala, Nagaland, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Gloeocapsa quaternata Kütz., Tab. Phycol. 1: 15. 1846.

Distribution: Karnataka (Hassan), Jammu & Kashmir, Manipur, Odisha, Sikkim, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Gloeocapsa rupestris Kütz., Tab. Phycol. 1: 17. 1846.

var. **rupestris**

Distribution: Karnataka (Mysuru, Uttara Kannada, Dharwad), Madhya Pradesh, Maharashtra, Odisha, Sikkim, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater, brackish water, marine and terrestrial.

var. **hyalina** Bongale, J. Indian Bot. Soc. 66: 285. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Gloeocapsa sanguinea f. **grandis** Bongale, J. Indian Bot. Soc. 66: 285. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Gloeothece Nägeli

Gloeothece fusco-lutea Nägeli, Gatt. einzell. Alg. 58, 1849.

Distribution: Karnataka (Raichur), Gujarat, Jammu & Kashmir, Tamil Nadu

Habitat: Freshwater and terrestrial.

Gloeothece membranacea (Rabenh.) Bornet, Mém. Soc. Sci. Nat. Cherbourg 28: 175. 1892. *Aphanothece membranacea* Rabenh, Fl. Eur. Alg. 2: 319. 1865.

Distribution: Karnataka (Mysuru, Uttara Kannada), Andhra Pradesh, Gujarat, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and marine.

Gloeothece palea (Kütz.) Rabenh., Fl. Eur. Alg. 2: 60. 1865.

Gloeocapsa palea Kütz, Phycol. general. 173. 1843.

Distribution: Karnataka (Shivamogga), Gujarat, Maharashtra, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Gloeothece rhodochlamys Skuja, Zur Süßwasseralgenflora Burmas 18. 1949.

Distribution: Karnataka (Shivamogga), Bihar, Jammu & Kashmir, Tamil Nadu, Uttar Pradesh.

Habitat: Terrestrial.

Gloeothece rupestris (Lyngb.) Bornet, Mém. Soc. Sci. Nat. Cherbourg 28: 177. 1892.

var. **rupestris**

Distribution: Karnataka (Raichur, Shivamogga), Andhra Pradesh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Punjab, Tamil Nadu, Tripura, Uttar Pradesh.

Habitat: Freshwater, brackish water and marine.

var. **maxima** W. West, J. Roy. Microscop. Soc. 743. 1892.

Distribution: Karnataka (Mysuru), Gujarat, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Gloeothece samoensis Wille, Hedwigia 53: 144. 1913.

var. **samoensis**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Mizoram, Nagaland, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

var. **major** Wille, Rech. Bot. Zool. 6. 1915.

Distribution: Karnataka (Dharwad, Mysuru), Andhra Pradesh, Gujarat, Maharashtra, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Gomphosphaeria Kütz.

Gomphosphaeria aponina Kütz., Alg. Aq. Dulc. Germ. 16: 151. 1836.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Merismopedia Meyen

Merismopedia convoluta Bréb., Sp. Alg. 472. 1849.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Chattisgarh, Jammu & Kashmir, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Merismopedia elegans A. Braun ex Kütz., Sp. Alg. 472. 1849.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Jammu & Kashmir, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Merismopedia glauca (Ehrenb.) Kütz., Phycol. germ. 142. 1845.

Gonium glaucum Ehrenb., Infusionsthierchen 58. 1938.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Merismopedia minima Beck, Ann. K. K. Naturhist. Hofmus. 12: 83, 1897.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Merismopedia punctata Meyen, Archiv. 2: 67, 1839.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Merismopedia tenuissima Lemmerm., Bot. Centralbl. 76; 154. 1898.

Distribution: Karnataka (Bidar), Andhra Pradesh, Delhi, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcystis Kütz.

Microcystis aeruginosa (Kütz.) Kütz., Tab. Phycol. 1: 6. 1846.

Micraloa aeruginosa Kütz. Linnaea 8: 371. 1833.

Distribution: Karnataka (Mysuru, Shivamooga), through out India.

Habitat: Freshwater.

Microcystis elabens (Bréb.) Kütz., Tab. Phycol. 1: 6. 1846.

Micraloa elabens Bréb., Monogr. nostoch. ital. 104, 1842.

Distribution: Karnataka (Mysuru), Assam, Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Nagaland, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Microcystis flos-aquae (Wittr.) Kirchn., Nat. Pflanzenfam. I. (1a): 56. 1898.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Delhi, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcystis litoralis (Hansg.) Forti, Syll. Alg. 5: 89. 1907.

Polycystis litoralis Hansg., Tromser. Mus. Aarsh. 13: 169. 1890.

Distribution: Karnataka (Raichur), Goa, Gujarat, Meghalaya, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcystis litoralis (Hansg.) Forti, Syll. Alg. 5: 89. 1907.

Polycystis litoralis Hansg., Tromser. Mus. Aarsh. 13: 169. 1890.

Distribution: Karnataka (Raichur), Goa, Gujarat, Meghalaya, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcystis ochracea Lemmerm., Kryptogamen flora der Mark Brandenburg 3: 76, 1907.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Microcystis pseudofilamentosa Crow, New Phytol. 22: 64. 1923.

Distribution: Karnataka (Mysuru, Uttara Kannada), Assam, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, West Bengal

Habitat: Freshwater.

Microcystis robusta (H. W. Clark) Nygaard, Dansk Bot. Ark. 4 (10): 8. 1925.

Clathrocystis robusta H. W. Clark, Proc. Biol. Soc. Washington 2: 94. 1909.

Distribution: Karnataka (Mysuru), Assam, Bihar, Chhattisgarh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcystis viridis (A. Braun) Lemmerm., Abh. Naturwiss. Vereins Bremen 17: 342. 1903. *Polycystis viridis* A. Braun, Fl. Eur. Alg. 2: 53. 1865.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and brackish water

Synechococcus Nägeli

Synechococcus aeruginosus Nägeli, Gatt. einzell. Alg. 56. 1849.

Cyanothece aeruginosa (Nägeli) Komárek, Arch. Protistenk. 118: 146. 1976.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Synechococcus cedrorum Sauv., Bull. Soc. Bot. France 39: 115. 1892.

Cyanobacterium cedrorum (Sauv.) Komárek, J. Kopecky & V. Cepák, Crypto. Algol. 20: 220. 1999.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Himachal Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Synechocystis Sauv.

Synechocystis pevalekii Erceg., Acta Bot. Inst. Bot Univ. Zagreb 1: 77. 1925.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Manipur, Mizoram, Nagaland, Punjab, Uttar Pradesh.

Habitat: Freshwater.

Family: CYANIDIACEAE**Chroococidiopsis** Geitler

Chroococidiopsis karnatakensis N.D. Kamat, Hydrobiologia 20: 188. 1962.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Terrestrial.

Chroococidiopsis mysorensis G.L. Tiwari, Hydrobiologia 39: 346. 1972.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Terrestrial.

Chroococidiopsis spinosa N.D. Kamat, Hydrobiologia 20: 190. 1962.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Terrestrial.

Family: DERMOCARPACEAE**Dermocarpa** A. Crouan & H. Crouan

Dermocarpa flahaultii Sauv., Bull. Soc. Bot. France 39: 119. 1892.

Cyanocystis flahaultii (Sauv.) Komárek & Anagn., Preslia 67: 17. 1995.

Distribution: Karnataka (Mysuru), Gujarat, Tamil Nadu.

Habitat: Freshwater.

Dermocarpa leibleiniae (Reinsch) Bomet & Thur., Notes Alg. 2: 73. 1880.

Sphaenosiphon leibleiniae Reinsch, Contr. algol. fungol. 103. 1874.

Distribution: Karnataka (Mysuru), Himachal Pradesh, West Bengal.

Habitat: Freshwater.

Family: ENTOPHYSALIDACEAE**Chlorogloea** Wille

Chlorogloea fritschii A.K. Mitra, Proc. 37th Indian Sci. Congr. (Poona), Part. III. 39. 1950.

Distribution: Karnataka (Mysuru), Uttar Pradesh.

Habitat: Terrestrial.

Chlorogloea microcystoides Geitler, Arch. Protistenk. 51: 359. 1925.

Distribution: Karnataka (Uttara Kannada), Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh.

Habitat: Freshwater and terrestrial*

Johannesbaptistia J. DeToni

Johannesbaptistia pellucida (Dickie) W.R. Taylor & F.E. Drouet, Bull. Torrey Bot. Club 65: 285. 1938.

Distribution: Karnataka (Dharwad), Goa, Jammu & Kashmir, Manipur, Nagaland, Odisha, Rajasthan, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Family: HYELLACEAE**Hydrococcus** Kütz.

Hydrococcus rivularis Kütz, Linnaea 8: 380. 1833.

Distribution: Karnataka (Mysuru, Udupi), Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Tamil Nadu.

Habitat: Freshwater and brackish water.

Xenococcus Thur.

Xenococcus acervatus Setchell & N.L. Gardner, Univ. Calif. Publ. Bot. 6: 459. 1918.

Dermocarpa acervata (Setchell & N.L. Gardner) Pham-Hoáng Hô, Rong biên Vietnam 18. 1969.

Distribution: Karnataka (Mysuru, Uttara Kannada), Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater and marine.

Hyella Bornet & Flahault

Hyella caespitosa Bornet & Flahault, J. Bot. 2: 163. 1888.

Distribution: Karnataka (Mysuru), Bihar, Gujarat, Haryana, Jammu & Kashmir, Maharashtra, Tamil Nadu.

Habitat: Freshwater.

Family: MASTIGOCLADOPSIDACEAE**Mastigocladopsis** M.O.P. Iyengar & Desikachary

Mastigocladopsis jogensis M.O.P. Iyengar & Desikachary, Proc. Indian Acad. Sci., B. 24: 158. 1946.

Distribution: Karnataka (Mysuru), Bihar, Maharashtra, Tripura.

Habitat: Freshwater.

Family: MICROCHAETACEAE**Microchaete** Thur. ex Bornet & Flahault

Microchaete aequalis (Frémy) Desikachary, Cyanophyta 513. 1959.

Frémyella aequalis Frémy, Blumea suppl. 2: 32. 1942.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Manipur, Mizoram, Tamil Nadu.

Habitat: Freshwater.

Microchaete aeruginea Batters, J. Bot. 30: 86. 1892.

Distribution: Karnataka (Mysuru), Tamil Nadu.

Habitat: Freshwater.

Microchaete calothrichoides Hansg., Beih. Bot. Centralbl. 18: 494. 1905.

Distribution: Karnataka, Andhra Pradesh, Maharashtra.

Habitat: Freshwater.

Microchaete loktakensis Brühl & Biswas, Mem. Asiat. Soc. Bengal 8: 256. 1926.

Distribution: Karnataka (Mysuru), Manipur, Uttar Pradesh.

Habitat: Freshwater.

Microchaete tenera Thur. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 5: 84. 1887.

var. **tenera**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Kerala, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. **tenuis** Bharadwaja, Proc. Indian Acad. Sci., B. 2: 102. 1935.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Uttar Pradesh.
Habitat: Freshwater.

Microchaete uberrima N. Carter, Rec. Bot. Surv. India 9: 268. 1926.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Bihar, Chattisgarh, Maharashtra, Tripura, Uttarakhand, Uttar Pradesh.
Habitat: Freshwater.

Microchaete violacea Frémy, Arch. Bot. Mém. 3 (2): 284. 1930.

Distribution: Karnataka (Mysuru), Madhya Pradesh, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Family: NOSTOCHOPSIDACEAE

Nostochopsis H.C. Wood ex Bornet & Flahault

Nostochopsis lobatus H.C. Wood em. Geitler, Proc. Amer. Philos. Soc. 11: 119. 1869.

Distribution: Karnataka (Mysuru, Raichur), Kerala, Madhya Pradesh, Manipur, Nagaland, Tamil Nadu, Uttarakhand, Uttar Pradesh.
Habitat: Freshwater.

Nostochopsis radians Bharadwaja, New Phytol. 33 (1): 6. 1934.

Distribution: Karnataka (Mysuru), Kerala, Uttarakhand.
Habitat: Freshwater.

Family: OSCILLATORIACEAE

Anabaena Bory ex Bornet & Flahault

Anabaena alatospora Gonzalves & N.D.Kamat, Hydrobiologia 13: 236. 1959.

Distribution: Karnataka (Dharwad); endemic.
Habitat: Freshwater.

Anabaena ambigua C.B. Rao, Proc. Indian Acad. Sci., B. 5: 101. 1937.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Goa, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Anabaena anomala F.E. Fritsch, J. Indian Bot. Soc. 28: 146. 1949.

Trichormus anomalus (F.E. Fritsch) Komárek & Anagn., Arch. Hydrobiol., Suppl. 82 (Algol. Studs. 56): 303. 1989.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Anabaena circinalis Rabenh. ex Bornet & Flahault, Ann Sci. Nat. Bot. ser. 7, 7: 230. 1888.

var. **circinalis**

Distribution: Karnataka (Dharwad), Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **crassa** S.L. Ghose, J. Burma Res. Soc. 15: 249. 1926.

Distribution: Karnataka (Dharwad), Assam, Jammu & Kashmir, Uttar Pradesh, West Bengal; endemic.

Habitat: Freshwater.

Anabaena constricta (Szafer) Geitler, Beih. Bot. Centralbl. 41 (2): 284. 1925.

Oscillatoria constricta Szafer, Bull. Int. Acad. Sci. Cracovie, Cl. Sci. Math., ser B, Sci. Nat. 164. 1910.

Komvophoron constrictum (Szafer) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 373. 1988.

Distribution: Karnataka (Mysuru), Assam, Bihar, Chattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena doliolum Bharadwaja, Proc. Indian Acad. Sci., B. 2: 105. 1935.

Trichormus doliolum (Bharadwaja) Komárek & Anagn., Arch Hydrobiol., Suppl. (Algol. Stud. 56)82: 303. 1989.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Anabaena fertilissima C.B.Rao, Proc. Indian Acad. Sci., B. 6: 363. 1937.

Trichormus fertilissimus (C.B.Rao) Komárek & Anagn, Arch. Hydrobiol., Suppl. (Algol. Stud. 56) 82: 303. 1989.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena flos-aquae Bréb. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 228. 1886.

Distribution: Karnataka (Mysuru), Assam, Bihar, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena fuellebornii Schmidle, Bot. Jahrb. 32; 61. 1892.

Distribution: Karnataka (Uttara Kannada), Assam, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena gelatinicola S.L. Ghose, J. Linn. Soc., Bot. 46: 341. 1924.

Trichormus gelatinicola (S.L.Ghose) Komárek & Anagn., Arch. Hydrobiol, Suppl. (Algol. Stud. 56) 82: 303. 1989.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena iyengarii Bharadwaja, Proc. Indian Acad. Sci, B. 2: 105. 1935.

var. **iyengarii**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **unispora** Rama N. Singh, Proc. Indian Acad. Sci., B. 9: 67. 1939.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Jammu & Kashmir, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena khannae Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14 (5): 41. 1949.

Trichormus khannae (Skuja) Komárek & Anagn., Arch. Hydrobiol, Suppl. (Algol. Stud. 56) 82: 304. 1989.

Distribution: Karnataka (Raichur, Uttara Kannada), Andhra Pradesh, Goa, Jammu & Kashmir, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena lapponica Borge, Bot. Not. 101. 1913.

Distribution: Karnataka (Raichur)

Habitat: Freshwater.

Anabaena laxa (Rabenh.) A. Braun, Bull. Soc. Bot. France 32: 120. 1885.

Sphaerozyga laxa Rabenh., Fl. Eur. Alg. 2: 193. 1865.

Distribution: Karnataka (Raichur), Andhra Pradesh, Assam, Bihar, Chattisgarh, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Anabaena mediocris N.L. Gardener, Mem. New York Bot. Gard. 7: 61. 1927.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Anabaena mysorensis Gonzalves & N.D. Kamat, Hydrobiologia 13: 237. 1959.

Distribution: Karnataka (Mysuru), Maharashtra; endemic.

Habitat: Freshwater.

Anabaena orientalis S.C. Dixit, Proc. Indian Acad. Sci., B. 3: 101. 1936.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena oryzae F.E. Fritsch, J. Indian Bot. Soc. 28: 135. 1949.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Chattisgarh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena sphaerica Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 228. 1888.

var. **sphaerica**

Distribution: Karnataka (Raichur), Andaman & Nicobar, Arunachal Pradesh, Assam, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

var. **attenuata** Bharadwaja, Proc. Indian Acad. Sci., B. 2: 103. 1935.

Distribution: Karnataka (Mysuru), Assam, Bihar, Delhi, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena spiroides Kleb., Flora 80: 268. 1895.

var. **spiroides**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Odisha, Tamil Nadu, Tripura, Uttar Pradesh.

Habitat: Freshwater.

var. **contracta** Kleb., Flora 80: 269. 1895.

Distribution: Karnataka (Raichur), Assam.

Habitat: Freshwater.

Anabaena subcylindrica Borge, Algenfl. Takernsees 12. 1921.

Distribution: Karnataka (Mysuru), Bihar.

Habitat: Freshwater.

Anabaena torulosa (Carnich) Lagerh. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 236. 1888.

Belonia torulosa Carnich, Brit. Fl. 2 (1): 379. 1833.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Anabaena unispora N.L. Gardner, Mem. New York Bot. Gard. 7: 59. 1927.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.

Habitat: Freshwater.

Anabaena vaginicola F.E. Fritsch & Rich., Trans. Roy. Soc. South Africa 18 (1): 87. 1929.

Distribution: Karnataka (Dharwad, Raichur), Andhra Pradesh, Assam, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Anabaena variabilis Kütz. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 226. 1886.

Tichormus variabilis (Kütz. ex Bornet & Flahault) Komárek & Anagn, Algal. Stud. 56: 304. 1989.

var. **variabilis**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **ellipsospora** F.E. Fritsch, J. Indian Bot. Soc. 28: 142. 1949.

Distribution: Karnataka (Mysuru), Bihar, Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **kashiensis** (Bharadwaja) F.E.Fritsch, J. Indian Bot. Soc. 28: 155. 1949.

Anabaena kashiensis Bharadwaja, Proc. Indian Acad. Sci., B. 2: 105. 1935.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Anabaena volzii var. **crassa** (C.B. Rao) F.E.Fritsch, J. Indian Bot. Soc. 28: 155. 1949.

f. **crassa**

Distribution: Karnataka (Raichur, Shivamogga), Uttar Pradesh, West Bengal; endemic.

Habitat: Freshwater.

f. **recta** Kisseleva, Trudy Sredne-Aziatsk. Gosud. Univ., 9: 74. 1931.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Arthrospira Stizenb.

Arthrospira jenneri Stizenb. ex Gomont, Hedwigia 1: 32. 1852.

Distribution: Karnataka (Mysuru, Uttara Kannada), Bihar, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and brackish water.

Arthrospira platensis (Nordst.) Gomont, Monogr. Oscill. 247. 1892.

Spirulina jenneri var. *platensis* Nordst. Alg. Aquae Dulc. Exsic. fasc. 14: 679. 1884.

Spirulina platensis (Nordst.) Geitler, Pascher's Süßwasserflora 12: 344. 1925.

var. **platensis**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **tenuis** (C.B.Rao) Desikachary, Cyanophyta 190. 1959.

Spirulina platensis var. *tenuis* C.B.Rao, Proc. Indian Acad. Sci. B, 6: 365. 1937.

Distribution: Karnataka (Mysuru), Assam, Gujarat, Punjab, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Arthrospira spirulinoides S.L. Ghose, J. Linn. Soc. Bot. 56: 338. 1923.

Spirulina spirulinoides (S.L.Ghose) Geitler, Pascher's Süßwasserflora 12: 344. 1925.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh.

Habitat: Freshwater.

Aulosira Kirch. ex Bornet & Flahault

Aulosira aenigmatica Frémy, Blumea Suppl. 2: 37. 1942.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Aulosira fertilissima var. **tenuis** C.B.Rao, Proc. Indian Acad. Sci., B. 6: 353. 1937.

Distribution: Karnataka (Mysuru, Dharwad), Andhra Pradesh, Assam, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal; endemic.

Habitat: Freshwater.

Aulosira implexa Bornet & Flahault, Bull. Soc. Bot. France 32: 121. 1885.

Distribution: Karnataka (Mysuru, Dharwad, Uttara Kannada), Assam, Maharashtra, Punjab, Sikkim.

Habitat: Freshwater.

Aulosira prolifica Bharadwaja, Ann. Bot. 47: 131. 1933.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Aulosira pseudoramosa Bharadwaja, Ann. Bot. 47: 137. 1933.

Distribution: Karnataka (Shivamogga), Assam, Kerala, Madhya Pradesh, Manipur, Odisha, Punjab, Uttar Pradesh, West Bengal; endemic.

Habitat: Freshwater.

Borzia Cohn ex Gomont

Borzia trilocularis Cohn ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 198. 1893.

Distribution: Karnataka (Mysuru), Maharashtra, West Bengal.

Habitat: Freshwater.

Cylindrospermum Kütz. ex Bornet & Flahault

Cylindrospermum gracile Gonzalves & N.D.Kamat, J. Bombay Nat. Hist. Soc. 57: 455. 1960.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Cylindrospermum indicum C.B. Rao, Proc. Indian Acad. Sci., B. 3: 169. 1936.

Distribution: Karnataka (Uttara Kannada), Arunachal Pradesh, Assam, Jammu & Kashmir, Kerala, Madhya Pradesh, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cylindrospermum licheniforme Kütz. ex Bornet & Flahault, Bot. Zeitung 5 (12): 197. 1847.

Distribution: Karnataka (Raichur, Dharwad), Andhra Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cylindrospermum majus Kütz. ex Bornet & Flahault, Kütz., Phycol. general. 212. 1843.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cylindrospermum muscicola Kütz. ex Bornet & Flahault, Phycol. germ 173. 1845.

var. **muscicola**

Distribution: Karnataka (Mysuru, Raichur, Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial.

var. **longispora** S.C. Dixit, Proc. Indian Acad. Sci., B. 3: 100. 1936.

Distribution: Karnataka (Mysuru), Assam, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Cylindrospermum sphaericum B.N.Prasad, J.Indian Bot. Soc. 31: 358. 1952.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater.

Cylindrospermum stagnale (Kütz.) Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 250.1888.

var. **stagnale**

Distribution: Karnataka (Dharwad, Uttara Kannada), Andhra Pradesh, Assam, Bihar, Chattisgarh, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **angustum** G.M. Sm., Bull. Torrey Bot. Club. 43: 481. 1916.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Cylindrospermum trichospermum Frémy, Arch. Bot. Mém. 3 (2): 379. 1930.

Distribution: Karnataka (Dharwad), Maharashtra, Rajasthan.

Habitat: Freshwater.

Cylindrospermum vouki Pevalek, Prirodosl. istr. Hrvatske i Slavon. 8: 39. 1916.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Lyngbya C. Agardh ex Gomont

Lyngbya aerugineo-coerulea (Kütz.) Gomont, Monogr. Oscill. 146. 1892.

Phormidium aerugineo-coeruleum (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 407. 1988.

Distribution: Karnataka (Raichur, Dharwad), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Chattishgarh, Gujarat, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater and terrestrial*

Lyngbya aestuarii Liebm. ex Gomont, Liebm., Bemerkninger og Tillag til den Danske Algeflore Kröyers Tidsskrift 492. 1841.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Chattishgarh, Gujarat, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Lyngbya allorgei Frémy, Arch. Bot. Mém. 3 (2): 189. 1930.

Phormidium allorgei (Frémy) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 407. 1988.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Arunachal Pradesh, Chattishgarh, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater and terrestrial.

Lyngbya atrhospiroides Virieux, Bull. Soc. Hist. Nat. Doubs 27: 39. 1914.

Phormidium arthrospiroides (Virieux) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 407. 1988.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Lyngbya baculum Gomont, J. Bot. 4: 354. 1890.

Phormidium baculum (Gomont) Anagn., Preslia 73: 370. 2001.

Distribution: Karnataka (Uttara Kannada, Shivamogga), Maharashtra, West Bengal.

Habitat: Freshwater and marine

Lyngbya bipunctata Lemmerm., Forschungsber. Biol. Stat. Plön 7: 133. 1899.

Planktolingbya bipunctata (Lemmerm.) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 394. 1988.

Distribution: Karnataka (Mysuru), Gujarat, Maharashtra.

Habitat: Freshwater.

Lyngbya birgei G.M. Sm., Bull. Torrey Bot. Club 43: 482. 1916.

Distribution: Karnataka, (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal Habitat:

Habitat: Freshwater and terrestrial*

Lyngbya borgertii Lernmem., Zool. Jahrb. Abt. Syst. 25: 265. 1907.

Limnothrix borgertii (Lemmerm.) Anagn., Preslia 73: 360. 2001.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Lyngbya calcifera Brühl & Biswas, J. Dept. Sci. Calcutta Univ. 5: 12. 1923.

Porphyrosiphon calciferus (Brühl & Biswas) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 409. 1988.

Distribution: Karnataka (Mysuru), Punjab, West Bengal.

Habitat: Freshwater.

Lyngbya ceylanica Wille, Denkschr. Akad. Wiss. Wien. Math. Naturwiss. Kl. 91: 161. 1914.

Porphyrosiphon ceylanicus (Wille) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 409. 1988.

var. **ceylanica**

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Chattishgarh, Goa, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **major** D.C. Pandey & A.K. Mitra, Nova Hedwigia 9: 331. 1965.

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh; endemic.

Habitat: Freshwater.

Lyngbya confervoides C. Agardh ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 136. 1892.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Arunachal Pradesh, Bihar, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Manipur, Nagaland, Odisha, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Lyngbya contorta Lemmerm., Forschungsber. Biol. Stat. Plön 6: 202. 1898.

Planktolingbya contorta (Lemmerm.) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 394. 1988.

Distribution: Karnataka (Mysuru, Shivamogga), Andhra Pradesh, Assam, Bihar, Chattishgarh, Himachal Pradesh, Jammu & Kashmir, Odisha, Sikkim, Uttar Pradesh.

Habitat: Freshwater.

Lyngbya corticola Brühl & Biswas, J. Dept. Sci. Calcutta Univ. 5: 9. 1923.

Distribution: Karnataka (Shivamogga), Arunachal Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Uttarakhand, West Bengal.

Habitat: Freshwater.

Lyngbya cryptovaginata Schkorb., Russk. Arkh. Protistol. 6 (4): 8. 1927.

Plankothrix cryptovaginata (Schkorb.) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 416. 1988.

Distribution: Karnataka (Raichur), Bihar, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya dendrobia Brühl & Biswas, J. Dept. Sci. Calcutta Univ. 5: 8. 1923.

Porphyrosiphon dendrobius (Brühl & Biswas) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 409. 1988.

var. **dendrobia**

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Gujarat, Madhya Pradesh, Maharashtra, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **skujaii** Desikachary, Cyanophyta 303. 1959.

Distribution: Karnataka (Mysuru), Maharashtra; endemic.

Habitat: Freshwater.

Lyngbya diguetii Gomont, J. Bot. 9: 169. 1895.

Phormidium diguetii (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 408. 1988.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Himachal Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya erebi W. West & G.S. West, Brit. Antarc. Exped. 1. 1911.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Lyngbya gandhii N.D. Kamat, Hydrobiologia 22:296. 1963.

Distribution: Karnataka (Mysuru), Maharashtra; endemic.

Lyngbya gracilis (Menegh.) Rabenh., Fl. Eur. Alg. 2: 145. 1865.

Leibleinia gracilis Menegh., Giom. Bot. Ital. 1, 1(1): 304. 1844.

Phormidium gracile (Menegh. ex Gomont) Anagn., Preslia 73: 370. 2001.

Distribution: Karnataka (Raichur), Jammu & Kashmir, Maharashtra, Meghalaya, Punjab, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Lyngbya hieronymusii Lemmem., Forschungsber. Biol. Stat. Plön 12: 146. 1905.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya kashyapii S.L. Ghose, J. Linn. Soc. Bot. 46: 339. 1924.

Porphyrosiphon kashyapii (S.L. Ghose) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 409. 1988.

Distribution: Karnataka (Mysuru, Raichur), Bihar, Gujarat, Jammu & Kashmir, Punjab, Rajasthan, Sikkim, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya kuetzingii Schmidle, Allg. Bot. Z. Syst. 3: 58: 1897.

Heteroleibleinia kuetzingii (Schmidle) Compère, Bull. Jard. Bot. Natl. Belg. 55: 487. 1985.

Distribution: Karnataka (Raichur, Dharwad), Bihar, Gujarat, Himachal Pradesh, Maharashtra, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Lyngbya lachneri (W. Zimm.) Geitler, Kryptogamen-Flora 1037. 1932.

Oscillatoria lachneri W. Zimm., Z. Bot 20: 18. 1927.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Gujarat, Himachal Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Lyngbya lagerheimii (K. Möbius) Gomont, J. Bot. 4: 354. 1890.

Spirocoleus lagerheimii K. Möbius, Hedwigia 28: 312. 1889.

Leptolyngbya lagerheimii (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 391. 1988.

Distribution: Karnataka (Mysuru), Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya laxespiralis Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14 (5): 53. 1949.

Distribution: Karnataka (Dharwad), Maharashtra, Punjab, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya limnetica Lemmerm., Bot. Centralbl. 76: 154. 1898.

Planktolyngbya limnetica (Lemmerm.) Komárek.-Legn. & Cronberg, Arch. Hydrobiol., Suppl. 95 (Algol. Stud. 67): 23. 1992.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Kerala, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya lutea C. Agardh ex Gomont, J. Bot. 4: 354. 1890.

Porphyrosiphon luteus (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 409. 1988.

Distribution: Karnataka (Mysuru), Bihar, Maharashtra, West Bengal.

Habitat: Freshwater.

Lyngbya major Menegh. ex Gomont, Consp. algol. Eugean 12. 1837.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Lyngbya majuscula Harv. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 131. 1892.

var. **majuscula**

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **chakiaense** C.B. Rao, Proc. Indian Acad. Sci, B. 3: 174. 1936.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra, West Bengal; endemic.

Habitat: Freshwater.

Lyngbya martensiana Menegh. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 145. 1892.

Distribution: Karnataka (Raichur), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Chattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

- Lyngbya mesotricha** Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14 (15): 54. 1949.
Heteroleibleinia mesotricha (Skuja) Anagn & Komárek, Arch. Hydrobiol., Suppl. 80: 434. 1988.
 Distribution: Karnataka (Mysuru), Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Punjab, Sikkim, Uttarakhand, Uttar Pradesh.
 Habitat: Freshwater.
- Lyngbya nigra** C. Agardh ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 145. 1892.
 Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Uttarakhand, Uttar Pradesh
 Habitat: Freshwater.
- Lyngbya nordgardhii** Wille, Nyt Mag. Naturvidensk. 56: 32. 1919.
 Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra, Uttar Pradesh
 Habitat: Freshwater.
- Lyngbya palmarum** (G. Martens) Brühl & Biswas, J. Dept. Sci. Calcutta Univ. 5: 11. 1923.
Scytonema palmarum G. Martens, Proc. Asiat. Soc. Bengal 39: 11. 1870.
 Distribution: Karnataka (Dharwad), Gujarat, Jammu & Kashmir, Maharashtra, Odisha, Punjab, Sikkim, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.
- Lyngbya perelegans** Lemmerm., Abh. Naturwiss. Vereins Bremen 16: 355. 1899.
Leptolyngbya perelegans (Lemmerm.) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 392, 1988.
 Distribution: Karnataka (Raichur), Gujarat, Maharashtra, Manipur, Uttar Pradesh.
 Habitat: Freshwater.
- Lyngbya putealis** Mont. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 143. 1892.
Phormidium puteale (Mont. ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Sulpl. 80: 408. 1988.
 Distribution: Karnataka (Uttara Kannada), Assam, Bihar, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Nagaland, Odisha, Punjab, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.
- Lyngbya rubida** Frémy, Arch. Bot. Mém. 3 (2): 187. 1930.
Phormidium rubidum (Frémy) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 408. 1988.
 Distribution: Karnataka (Dharwad), Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Maharashtra, Odisha, Rajasthan, Sikkim, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater and terrestrial*
- Lyngbya scottii** F.E. Fritsch, Natl. Antarc. Exped. ['Discovery'] Nat. Hist. 6 (art. 3): 29. 1912.
Leptolyngbya scottii (F.E. Fritsch) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 92. 1988.
 Distribution: Karnataka (Dharwad), Chattisgarh, Gujarat, Maharashtra.
 Habitat: Freshwater.
- Lyngbya spiralis** Geitler, Kryptogamen-Flora 1042. 1932.
 Distribution: Karnataka (Raichur), Andhra Pradesh, Arunachal Pradesh, Bihar, Chattisgarh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.
- Lyngbya stagnina** f. **non-granulata** N.D. Kamat, Hydrobiologia 22: 301. 1963.
 Distribution: Karnataka (Mysuru), Maharashtra; endemic.
 Habitat: Freshwater.

Lyngbya subtilis W. West, J. Roy. Microscop. Soc. 741. 1892.
Leptolyngbya subtilis (W. West) Anagn., Preslia 73: 367. 2001.
 Distribution: Karnataka (Mysuru), Kerala, Maharashtra.
 Habitat: Freshwater.

Lyngbya taylori F.E. Drouet & Stickland, Amer. J. Bot 27: 631. 1940.
Phormidium taylori (F.E. Drouet & Stickland) Anagn., Preslia 73: 371. 2001.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Marine.

Lyngbya truncicola S.L. Ghose, J. Linn. Soc. Bot. 46: 339. 1924.

var. **truncicola**

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Assam, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh, West Bengal
 Habitat: Freshwater and terrestrial*

var. **burmense** S.L. Ghose, J. Burma Res. Soc. 15: 247. 1926.
 Distribution: Karnataka (Mysuru), Assam, Meghalaya; endemic.
 Habitat: Freshwater.

Lyngbya versicolor Wartm. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 147. 1892.
Phormidium versicolor Wartm. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 147. 1892.
 Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Maharashtra, Rajasthan, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

Microcoleus Desm. ex Gomont

Microcoleus acutissimus N.L. Gardner, Mem. New York Bot. Gard. 7: 55. 1927.
Trichocoleus acutissimus (N.L. Gardner) Anagn., Preslia 73: 369. 2001.

var. **acutissimus**

f. **acutissimus**

Distribution: Karnataka (Raichur), Assam, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh.
 Habitat: Freshwater.

f. **minor** Bongale, Acta Bot. Indica 15 (1): 113. 1987.
 Distribution: Karnataka (Mysuru), Uttar Pradesh; endemic.
 Habitat: Freshwater.

var. **colorata** Bongale, Acta Bot. Indica 15 (1): 113. 1987.
 Distribution: Karnataka (Mysuru), Maharashtra; endemic.
 Habitat: Freshwater.

Microcoleus brasiliensis Borge, Ark. Bot. 19 (17): 4. 1925.
 Distribution: Karnataka (Uttara Kannada), Gujarat.
 Habitat: Marine.

Microcoleus chthonoplastes Thur. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 353. 1892.

Coleofasciculus chthonoplastes (Thur. ex Gomont) M.A. Siegesm, J.R. Johans., U. Karsten & T. Friedl, J. Phycol. 44: 1572. 2008.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcoleus granulatus Bongale, Acta Bot. Indica 15 (1): 113. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Microcoleus lacustris (Rabenh.) Farl. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 359. 1892.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Delhi, Himachal Pradesh, Jammu & Kashmir, Kerala, Punjab, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcoleus paludosus Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 358. 1892.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcoleus subtorulosus (Bréb.) Gomont ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 360. 1892.

Phormidium subtorulosum Bréb., Tab. Phycol. 1: 35. 1847.

Distribution: Karnataka (Raichur), Jammu & Kashmir, Maharashtra, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Microcoleus vaginatus (Vaucher) Gomont ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 355. 1892.

Oscillatoria vaginata Vaucher, Hist. confer. eau dauce 200. 1803.

Distribution: Karnataka (Mysuru), Assam, Jammu & Kashmir, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nodularia G. Martens ex Bornet & Flahault

Nodularia spumigena G. Martens ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 245. 1888.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Nostoc Vaucher ex Bornet & Flahault

Nostoc calcicola Bréb. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 202. 1888.

Distribution: Karnataka (Raichur, Shivamogga), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc carneum C. Agardh ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 196. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc commune Vaucher ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 203. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc ellipsosporum Rabenh. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 198. 1888.

var. **ellipsosporum**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **violaceum** C.B. Rao, Proc. Indian Acad. Sci., B. 6: 359. 1937.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Nostoc entophyllum Bornet & Flahault, Révis. Nostoc. hét. 190. 1888.

Distribution: Karnataka (Raichur), Andhra Pradesh, Arunachal Pradesh, Goa, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Nostoc gelatinosum Schousboe ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 199. 1888.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Nostoc ghotgewadense G.R. Hegde & K. Somanna, Phytos 30: 49. 1991.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Nostoc hatei S.C. Dixit, Proc. Indian Acad. Sci., B. 3: 101. 1936.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc humifusum Carmich ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 201. 1888.

Distribution: Karnataka (Raichur), Andhra Pradesh, Arunachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc linckia Bornet ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 192. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc maculiforme Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 189. 1888.

Distribution: Karnataka (Raichur), Assam, Jammu & Kashmir, Punjab.

Habitat: Freshwater.

Nostoc microscopicum Carmich ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 210. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Kerala, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Nostoc muscorum C. Agardh ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 210. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc paludosum Kütz. ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 191. 1888.

Distribution: Karnataka (Raichur), Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc passerinianum (De Not.) Bornet ex Bornet & Flahault, Notes Alg. 2: 99. 1880.

Anabaena passeriniana De Not., Erb. Critt. Ital. Hedwigia 5: 107. 1866.

Distribution: Karnataka (Mysuru), Andhra Pradesh.

Habitat: Freshwater.

Nostoc piscinale Kütz. ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 194. 1888.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Assam, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc punctiforme (Kütz.) Har., J. Bot. 5: 31, 1891.

Polycoccus punctiformis Kütz., Natuurk. Verh. Holl. Maatsch. Wetensch. Haarlem ser. 2. 1841.

Distribution: Karnataka (Raichur, Mysuru), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater and terrestrial*

Nostoc rivulare Kütz. ex Bornet & Flahault, Ann. Sci. Nat. Bot ser. 7, 7: 195. 1888.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Arunachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Nostoc sphaericum Vaucher ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 208. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Maharashtra, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nostoc spongiaeforme C. Agardh ex Bornet & Flahault, Syst. Alg. 22. 1824.

var. **spongiaeforme**

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **tenue** C.B.Rao, Proc. Indian Acad. Sci., B. 3: 170. 1936.

Distribution: Karnataka, Andhra Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

var. **varians** C.B.Rao, Proc. Indian Acad. Sci., B. 6: 359. 1937.

Distribution: Karnataka (Mysuru), Uttar Pradesh.

Habitat: Freshwater.

Nostoc verrucosum Vaucher ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 7: 216. 1888.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria Vaucher

Oscillatoria acuminata Gomont, Monogr. Oscill. 227. 1892.

Phormidium acuminatum (Gomont) Anagn. & Komárek, Arch. Hydrobiol. Suppl. 80: 404. 1988.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Assam, Chattishgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Oscillatoria acuta Brühl & Biswas, J. Dept. Sci. Calcutta Univ. 5: 3. 1922.

Phormidium acutum (Brühl & Biswas) Anagn. & Komárek, Arch. Hydrobiol. Suppl. 80: 404. 1988.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria agardhii Gomont, Monogr. Oscill. 205. 1892.

Distribution: Karnataka (Mysuru, Dharwad), Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria amoena (Kütz.) Gomont, Monogr. Oscill. 205. 1892.

Distribution: Karnataka (Mysuru), Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria amphibia C. Agardh ex Gomont, Flora 10: 632. 1827.

Geitlerinema amphibia (C. Agardh) Anagn., Pl. Syst. Evol. 164: 38. 1989.

Distribution: Karnataka (Mysuru), Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria amphigranulata Goor, Recueil. Trav. Bot. Néerl. 15: 255. 1918.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria anguina (Bory) Gomont, Monogr. Oscill. 214. 1892.

Distribution: Karnataka (Shivamogga, Udupi), Andhra Pradesh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater and brackish water.

Oscillatoria angusta Koppe, Arch. Hydrobiol. Planktonk. 14: 641. 1923.

Jaaginema metaphyticum Komárek, Arch. Hydrobiol., Suppl. 80: 396. 1988.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria angustissima W.West & G.S.West, J. Bot. 35: 300, 1897.

Jaaginema angustissima (W.West & G.S.West) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 395, 1988.
Distribution: Karnataka (Mysuru), Andaman & Nicobar, Bihar, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.
Habitat: Freshwater and terrestrial*

Oscillatoria animalis C.Agardh ex Gomont, Flora 10: 632, 1827.

Phormidium animale (C.Agardh ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 404, 1988.
Distribution: Karnataka (Mysuru), Andhra Pradesh, Bihar, Chattishgarh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Oscillatoria annae Goor, Recueil. Trav. Bot. Néerl. 15: 289, 1918.

Distribution: Karnataka (Shivamogga), Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Oscillatoria boryana Bory ex Gomont, Bory, Dict. class. hist. nat 12: 465, 1827.

Phormidium boryanum (Bory ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405, 1988.
Distribution: Karnataka (Mysuru), Himachal Pradesh, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh.
Habitat: Freshwater.

Oscillatoria calcuttensis Biswas, J. Dept. Sci. Calcutta Univ. 7: 5, 1925.

Geitlerinema calcuttense (Biswas) Anagn., Pl. Syst. Evol. 164: 38, 1989.
Distribution: Karnataka (Mysuru), Bihar, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Oscillatoria chalybea G.Martens ex Gomont, Alg.aquaticae, Decas. 12: 4, 1822.

Phormidium chalybeum (G.Martens ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405, 1988.
Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Oscillatoria chlorina Kütz. ex Gomont, Kütz., Phycol. general. 185, 1843.

Phormidium chlorinum (Kütz. ex Gomont) Umezaki & M.Watan, Jap. J. Phycol. 42: 194, 1994.
Distribution: Karnataka (Raichur, Mysuru, Dharwad), Andaman & Nicobar, Assam, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Meghalaya, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
Habitat: Freshwater and terrestrial*

Oscillatoria claricentrosa N.L.Gardner, Mem. New York Bot. Gard. 7: 37, 1927.

Geitlerinema claricentrosurn (N.L.Gardner) Anagn., Pl. Syst. Evol. 164: 39, 1989.
Distribution: Karnataka (Udupi), Kerala, Maharashtra, Uttarakhand, Uttar Pradesh.
Habitat: Freshwater.

Oscillatoria corakiana var. **non-granulata** N.D. Kamat, Hydrobiologia 22: 284, 1963.

Distribution: Karnataka (Shivamogga), Maharashtra; endemic.
Habitat: Freshwater.

Oscillatoria curviceps C.Agardh ex Gomont, C. Agardh, Syst. Alg. 68, 1824.

var. curviceps

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Assam, Bihar, Chattishgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **angusta** S.L.Ghose, J. Burma Res. Soc. 7: 240. 1927.

Distribution: Karnataka (Dharwad, Shivamogga), Gujarat, Himachal Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria deflexa W.West & G.S. West, Brit. Antarc. Exped. 1: 295. 1911.

Geiflerinema deflexum (W.West & G.S.West) Anagn., Pl. Syst. Evol. 164: 39. 1989.

Distribution: Karnataka (Shivamogga), Uttar Pradesh.

Habitat: Freshwater and marine.

Oscillatoria foreau Frémy, BIurnea Suppl. 2, Jubilee Vol, 2. 1942.

Phormidium foreau (Frémy) Umezaki & M.Watan, Jap. J. Phycol. 42: 194. 1994.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Chattishgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria formosa Bory ex Gomont, Bory, Dict. class. hist. nat. 12: 474. 1827. *P*

hormidium formosum (Bory) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405. 1988.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Oscillatoria fremyii DeToni, Note. Nomencl. Alg. 1: 7. 1934.

Distribution: Karnataka (Bidar), Assam, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria geitleriana Elenkin, Monogr. Alg. Cyano. 2: 1288. 1949.

Jaaginema geitleri (Frémy) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 395. 1988.

Oscillatoria geitleri Frémy, Arch. Bot. Mém. 3 (2): 216. 1930.

Distribution: Karnataka (Mysuru), Maharashtra, Tamil Nadu.

Habitat: Freshwater.

Oscillatoria granulosa G.Martens ex Desikachary, Cyanophyta, 242. 1959.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Oscillatoria hamelii Frémy, Myxophyc. Afr. équat. franc. 218. 1929.

Phormidium hamelii (Frémy) Anagn. & Komárek, Arch. Hydrobiol., Suppl 80: 405. 1988.

Distribution: Karnataka (Uttara Kannada), Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttarakhand.

Habitat: Freshwater.

Oscillatoria homogenea Frémy, Arch. Bot. Mém. 3 (2): 215. 1930.

Jaaginema homogeneum (Frémy) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 396. 1988.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Oscillatoria irrigua Kütz. ex Gomont, Monogr. Oscill. 218. 1892.

Oscillaria irrigua Kütz., Phycol. general. 189. 1843.

Phormidiurn irriguum (Kütz. ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405. 1988.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria jasorvensis Vouk, Jugoslav. Akad. Zagreb 14: 133. 1919.

Geitlerinema jasorvense (Vouk) Anagn., Pl. Syst. Evol. 164: 39. 1989.

Distribution: Karnataka (Mysuru), Assam, Bihar, Chattishgarh, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria laete-virens P.Crouan & H.Crouan ex Gomont, Bull. Soc. Bot. France 7: 371. 1860.

Phormidium laetevirens (P.Crouan & H.Crouan ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405. 1988.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Bihar, Chattishgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Oscillatoria limnetica Lemmerm, Ber. Duetsch. Bot. Ges. 18: 310. 1900.

Pseudanabaena limnetica (Lemmerm.) Komárek, Sborn. Jihoéesk Muz. Českých Budějovicich, Přír. Vedy, 14: 162. 1974.

Distribution: Karnataka (Mysuru, Uttara Kannada), Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria limosa C.Agardh ex Gomont, C.Agardh, Disp. Alg.suec.35. 1812.

f. **limosa**

Distribution: Karnataka (Mysuru, Raichur, Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Chattishgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

f. **minus** Bongale, Acta Bot. Indica 15 (1): 110. 1987.

Distribution: Karnataka (Raichur, Uttara Kannada), Gujarat; endemic.

Habitat: Freshwater.

Oscillatoria mougeotii Kütz., Tab. Phycol. 1: 30. 1849.

Planktothrix mougeotii (Kütz. ex Lemmerm.) Suda, M. Watan, A. Mahakah., Yongman., N. Nopartna., Y. Liu & J.G. Day, Int. J. Syst. Evol. Microbial. 52: 1593. 2002.

Distribution: Karnataka (Mysuru), Bihar, Gujarat, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria nigra Vaucher, Hist. conferv. 192. 1803.

Phormidium nigrum (Vaucher ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 405. 1988.

Distribution: Karnataka (Raichur), Andhra Pradesh, Chattishgarh, Maharashtra, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria obscura Brühl & Biswas, J. Dept. Sci. Calcutta Univ 4: 6. 1922.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria okenii f. **maharashtrensis** N.D. Kamat, Bombay Univ. J. 31 (B): 23. 1964.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Oscillatoria ornata Kütz. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 214. 1892.

Phormidium *ornatum* (Kütz ex Gomont) Anagn & Komarek, Arch. Hydrobiol., Suppl. 80: 406. 1988.

var. **ornata**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Gujarat, Haryana, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh

Habitat: Freshwater.

var. **crassa** C.B.Rao, Proc. Indian Acad. Sci., B. 8: 165. 1938.

Oscillatoria crassa (C.B.Rao) Anagno., Preslia 73: 372. 2001.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Maharashtra, Odisha, Uttarakhand; endemic.

Habitat: Freshwater.

Oscillatoria perornata Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14: 47, 1949. *Planktothrix perornata* (Skuja) Anagno. & Komárek, Arch. Hydrobiol. Suppl. 80: 416. 1988.

f. **perornata**

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Jammu & Kashmir, Kerala, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

f. **attenuata** Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14: 47. 1949.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Sikkim, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria princeps Vaucher ex Gomont, Vaucher, Hist. conferv. 190. 1803.

Distribution: Karnataka (Mysuru, Raichur), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattishgarh, Delhi, Gujarat, Haryana, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater and terrestrial*

Oscillatoria proboscidea Gomont, Monogr. Oscill. 209. 1892.

var. **proboscidea**

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **discolorata** Bongale, Acta Bot. Indica 15 (1): 111. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Oscillatoria proteus Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14: 48. 1949.

Phornidium proteus (Skuja) Umezaki & M. Watan., Jap. J. Phycol. 42: 196. 1994.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Assam, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria pseudogeminata G. Schmid, Ber. Deutsch. Bot. Ges. 32: 124. 1914.

Jaaginema pseudogeminatum (G. Schmid) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 396. 1988.

f. **pseudogeminata**

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

f. **longa** N.D. Kamat, Hydrobiologia 22: 288. 1963.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Oscillatoria quadripunctulata var. **unigranulata** Rama N. Singh, Proc. Indian Acad. Sci., B. 9: 68. 1939.

Geitlerinema unigranulatum (Rama N. Singh) Komárek & M.T.P. Azavedo, Arch. Hydrobiol., Suppl. 134 (Algol. Stud. 99): 51. 2000.

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria raciborskii Wolosz., Bull. Int. Acad. Sci. Cracovie ser. B. 6: 686. 1912.

Planktothrichoides raciborskii (Wolosz.) Suda & M. Watan., Int. J. Syst. Evol. Microbiol. 52: 1593. 2002.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra.

Habitat: Freshwater.

Oscillatoria raoi De Toni, Diagn. Alg. nov. 6: 560. 1939.

Distribution: Karnataka (Mysuru), Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria rubescens DC. ex Gomont, Mém. Soc. Phys. Genève 3(2): 37. 1826.

var. **rubescens**

Distribution: Karnataka (Mysuru), Assam, Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Meghalaya, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **kolhapurensis** N.D. Kamat, Hydrobiologia 22: 289. 1963.

Distribution: Karnataka (Raichur), Gujarat, Maharashtra; endemic.

Habitat: Freshwater.

Oscillatoria salina Biswas, J. Dept. Sci. Calcutta Univ. 8: 21. 1926.

Distribution: Karnataka (Mysuru), Gujarat, Kerala, Maharashtra, Manipur, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria sancta Kütz. ex Gomont, Monogr. Oscill. 209. 1892.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Chattishgarh, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria schultzi Lemmerm., Forschungsber. Biol. Stat. Plön 12: 145. 1905.

var. **schultzi**

Distribution: Karnataka (Raichur), Gujarat, Maharashtra, Punjab, West Bengal.

Habitat: Freshwater.

var. **cylindrica** N.D.Kamat, Hydrobiologia 22:289. 1963.

Distribution: Karnataka (Mysuru), Kerala, Maharashtra; endemic.

Habitat: Freshwater.

Oscillatoria simplicissima Gomont, Monogr. Oscill. 219. 1892.

Phormidium simplicissimum (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 406. 1988.

Distribution: Karnataka (Mysuru), Chattishgarh, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oscillatoria splendida Grev. ex Gomont, Fl. Edin. 305. 1824.

Geitlerinema splendidum (Grev.) Anagn., Pl. Syst. Evol. 164: 43. 1989.

var. **splendida**

Distribution: Karnataka (Mysuru), Assam, Bihar, Delhi, Gujarat, Kerala, Maharashtra, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **attenuata** W. West & G.S. West, J. Roy. Microscop. Soc. 1896.

Distribution: Karnataka (Bidar, Dharwad), Maharashtra.

Habitat: Freshwater.

Oscillatoria subbrevis Schmidle, Bot. Jahrb. 30: 243. 1901.

Distribution: Karnataka (Raichur), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater and terrestrial*

Oscillatoria subproboscidea W. West & G.S. West, Brit. Antarc. Exped. 1: 293. 1911.

Phormidium subproboscideum (W. West & G.S. West) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 406. 1988.

Distribution: Karnataka (Uttara Kannada), Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria subuliformis Kütz. ex Gomont, Kütz., Diagn. Algensp. 7. 1863.

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Maharashtra, Meghalaya, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria tanganyikae G.S. West, J. Linn. Soc. Bot. 38: 177. 1907.

Phonnidium tanganyikae (G.S. West) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 406. 1988.

Distribution: Karnataka (Raichur), Arunachal Pradesh, Kerala, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Oscillatoria tenuis C. Agardh ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 220. 1892.

var. **levis** N.L. Gardner, Mem. New York Bot. Gard. 7: 35. 1927.
Oscillatoria levis (N.L.Gardner) Anagn., Preslia 73: 372. 2001.
 Distribution: Karnataka (Mysuru).
 Habitat: Freshwater.

Oscillatoria terebriformis C.Agardh ex Gomont, Flora 10: 634. 1827.
 Distribution: Karnataka (Dharwar), Andhra Pradesh, Andaman & Nicobar, Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand, West Bengal.
 Habitat: Freshwater and terrestrial*

Oscillatoria ulrichii Prat, Studie o Biolith. 97. 1929.
Phormidium ulrichii (Prat) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 406. 1988.
 Distribution: Karnataka (Mysuru), Maharashtra.
 Habitat: Freshwater.

Oscillatoria vizagapatensis C.B. Rao, J. Indian Bot. Soc. 17: 89. 1938.
 Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Meghalaya, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

Oscillatoria willei N.L.Gardner, Mem. New York Bot. Gard. 7: 36. 1927.
Phormidium willei (N.L.Gardner) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 406. 1988.
 Distribution: Karnataka (Mysuru), Andaman & Nicobar, Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Maharashtra, Meghalaya, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

Phormidium Kütz.

Phormidium africanum Lemmerm., Deutsch Zentr. Afr. Exped. 2: 89. 1911.
Leptolyngbya africana (Lemmerm) Anagno. & Komárek, Arch. Hydrobiol., Suppl. 80: 390. 1988.
 Distribution: Karnataka (Uttara Kannada), Bihar, Gujarat, Himachal Pradesh, Maharashtra, Punjab, Uttar Pradesh.
 Habitat: Freshwater.

Phormidium ambiguum Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 178. 1892.

var. **ambiguum**
 Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Bihar, Chattishgarh, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

var. **major** Lemmerm., Kryptogamenflora der Mark Brandenburg 3: 127. 1907.
 Distribution: Karnataka (Dharwad), Andaman & Nicobar, Maharashtra, Uttar Pradesh.
 Habitat: Freshwater.

Phormidiam anomala C.B.Rao, Roc. Indian Acad. Sci,B. 6: 371. 1937.
Lyngbya anomala (C.B.Rao) Umezaki & M. Watan., Jap. J. Phycol. 42: 192. 1994.
 Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada), Arunachal Pradesh, Bihar, Jammu & Kashmir, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater and marine.

Phormidium autumnale (C.Agardh) Trevis. ex Gomont, Ann Sci Nat. Bot. ser. 7, 15: 187. 1892.

Oscillatoria autumnalis C.Agardh, Disp. Alg.suec. 4: 36. 1812.

Distribution: Karnataka (Raichur), Bihar, Jammu & Kashmir, Maharashtra, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Phormidium bohneri Schmidle, Bot. Jahrb. 30: 59. 1901.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Arunachal Pradesh, Chattishgarh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Phormidium cebennense Gomont, Bull. Soc.Bot. France 46: 38. 1899.

Leptolyngbya cebennensis (Gomont) Umezaki & M. Watan., Jap. J. Phycol. 42: 203. 1994.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Haryana, Himachal Pradesh, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phormidium corium (C.Agardh) Kütz. ex Gomont, Ann. Sci. Nat. Bot. ser.7, 15: 263. 1892.

Oscillatoria coriurn C.Agardh, Dip. Alg.suec. 4: 36. 1812.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Punjab, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium favosum (Bory) Gomont, Bull. Soc.Bot. France 38: 249. 1891.

Oscillaria formosa Bory, Dict. class. hist. nat.12: 466. 1827.

Distribution: Karnataka (Uttara Kannada), Assam, Chattishgarh, Uttar Pradesh, West Bengal

Habitat: Freshwater and marine.

Phormidium fragile Gomont, Ann Sci.Nat. Bot. ser. 7, 16: 163. 1892.

Leptolyngbya fragilis (Gomont) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 391. 1988.

Distribution: Karnataka (Mysuru), Chattishgarh, Kerala, Maharashtra, Manipur, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium hormoides Setchell & N.L.Gardner, Univ. Calif. Pub. Bot. 6 (17): 467. 1918.

Distribution: Karnataka (Mysuru); endemic

Habitat: Freshwater.

Phormidium hyalinum Bongale, Phycos 26: 32.1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Phormidium incrustatum (Nägeli) Gomont ex Gomont, Ann. Sci. Nat. Bot. ser.7, 15: 170. 1892.

Hypheothrix incrustata Nägeli, Sp. Alg. 269. 1849.

Distribution: Karnataka (Mysuru), Madhya Pradesh, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var.**maxima** Bongale, Acta Bot. Indica 15 (1): 112. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Phormidium inundatum Kütz. ex Gomont, Sp. Alg. 251. 1849.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Kerala, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh

Habitat: Freshwater and terrestrial*

Phormidium jadinianum Gomont, Bull. Soc. Bot. France 40: 161. 1893.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Haryana, Himachal Pradesh, Punjab, Uttarakhand, West Bengal.

Habitat: Freshwater.

Phormidium laminosum Gomont, J. Bot. 4: 355. 1890.

Leptolyngbya laminosa (Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 392. 1988.

Distribution: Karnataka (Mysuru), Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Maharashtra, Punjab, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Phormidium luridum (Kütz.) Gomont ex Gomont, Ann. Sci. Nat. Bot. ser.7, 15: 330. 1892.

Leptothrix lurida Kütz., Sp. Alg. 264. 1849.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Meghalaya, Nagaland, Tripura, Uttar Pradesh.

Habitat: Freshwater.

Phormidium microtomum Skuja, Nova Acta Regiae Soc. Sci. Upsal. 51. 1949.

Lyngbya microtoma (Skuja) Anagn., Preslia 73:373. 2001.

Distribution: Karnataka (Mysuru, Uttara Kannada), Kerala, West Bengal.

Habitat: Freshwater and marine.

Phormidium molle (Kütz.) Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 163. 1892.

Anabaena mollis Kütz., Sp. Alg. 287. 1849.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium mucosum N.L.Gardner, Mem. New York Bot. Gard. 7: 43. 1927.

Leptolyngbya mucosa (N.L.Gardner) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 392. 1988.

var. **Mucosum**

Distribution: Karnataka (Raichur, Bidar), Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Punjab, Uttar Pradesh.

Habitat: Freshwater.

var. **arvense** C.B.Rao, Proc. Indian Acad. Sci., B. 6: 370. 1937.

Distribution: Karnataka (Mysuru), Chattishgarh, Maharashtra, Punjab, Uttar Pradesh; endemic.

Habitat: Freshwater.

Phormidium pachydermaticum Frémy, Arch. Bot. Mém. 3: 156. 1930.

Distribution: Karnataka (Mysuru), Maharashtra, Rajasthan.

Habitat: Freshwater.

Phormidium papyraceum (C.Agardh) Kütz. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 173. 1892.

Oscillatoria papyracea C.Agardh, Syst. Alg. 61. 1824.

var. papyraceum

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Himachal Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

var. constrictum Bongale, Acta Bot. Indica 15 (1): 112. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Phormidium purpurascens (Kütz.) Gomont, J. Bot. 4: 355. 1890.

Leptothrix purpurascens Kütz., Bot. Zeitung 5(13): 220. 1847.

Leptolyngbya purpurascens (Gomont ex Gomont) Anagn. & Komárek, Arch. Hydrobiol, Suppl. 80: 392, 1988.

Distribution: Karnataka (Mysuru, Raichur), Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium retzii (C. Agardh) Kütz. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 175. 1892.

Oscillatotia retzii C. Agardh, Disp. Alg. succ. 4: 36. 1812.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Assam, Bihar, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Odisha, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium retzii f. **fasciculata** Gomont, Kryptogamen-Flora 14: 1012. 1932.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Phormidium rubroterricola N.L. Gardner, Mem. New York Bot. Gard 7: 43. 1927.

Lyngbya rubroterricola (N.L. Gardner) Senna, Taxon 32: 467. 1983.

Distribution: Karnataka (Mysuru), Maharashtra, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Phormidium stagninum C.B. Rao, J. Indian Bot. Soc. 17: 93. 1938.

Distribution: Karnataka (Mysuru), Chattishgarh, Jammu & Kashmir, Kerala, Maharashtra, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium subincrustatum F.E. Fritsch & Rich, Trans. Roy. Soc. South Africa 18: 82. 1929.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Assam, Gujarat, Himachal Pradesh, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phormidium tenue (Menegh.) Gomont, Monogr. Oscill. 169. 1892.

Anabaena tenuis Menegh., Consp. algol. Euan. 8. 1837.

Distribution: Karnataka (Mysuru, Uttara Kannada), Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phormidium truncicola S.L. Ghose, J. Linn. Soc., Bot. 46: 338. 1924.

Distribution: Karnataka (Raichur), Kerala, Punjab, Uttar Pradesh.

Habitat: Freshwater.

Phormidium uncinatum (C.Agardh) Gomont ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 184. 1892.

Oscillatoria uncinata C.Agardh, Flora 10 (40): 631. 1827.

Distribution: Karnataka (Raichur), Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Mizoram, Nagaland, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Polychlamydom W.West & G.S.West

Polychlamydom varium S.L.Ghose, J.Burma Res. Soc. 17(3): 238. 1927.

var. **constricta** Bongale, Phycos 26: 33. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

var. **hyalina** Bongale, Phycos 26: 33. 1987.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Porphyrosiphon Kütz.

Porphyrosiphon notarisii (Menegh.) Kütz. ex Gomont, Kütz., Tab. Phycol. 2: 7. 1849.

Scytonema notarisii Menegh., Sp. Alg. 307. 1849.

Distribution: Karnataka (Dharwad), Kerala, Madhya Pradesh, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Pseudanabaena Lauterborn

Pseudanabaena frigida (F.E.Fritsch) Anagn., Preslia 73: 360. 2001.

Phormidium frigidum F.E.Fritsch, Natl. Antarc. Exped. Nat. Hist. 6 (art. 3): 31. 1912.

Distribution: Karnataka (Mysuru), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Raphidiopsis F.E.Fritsch & Rich.

Raphidiopsis curvata F.E. Fritsch & Rich., Trans. Roy. Soc. South Africa 18: 91. 1929.

Distribution: Karnataka (Mysuru), Himachal Pradesh, Jammu & Kashmir, Uttar Pradesh.

Habitat: Freshwater.

Raphidiopsis indica Rama N.Singh, J.Indian Bot. Soc. 21: 239. 1942.

Distribution: Karnataka (Mysuru), Bihar, Jammu & Kashmir, Maharashtra, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Raphidiopsis mediterranea Skuja, Hedwigia 77: 23. 1937.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Schizothrix Kütz.

Schizothrix heufleri Grünow ex Gomont, Ann. Sci. Nat. Bot ser. 7, 15: 325. 1892.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Schizothrix lacustris A.Braun ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 301. 1892.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Assam, Jammu & Kashmir, Maharashtra, West Bengal.

Habitat: Freshwater.

Schizothrix mexicana Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 304. 1892.

Distribution: Karnataka (Mysuru), Uttar Pradesh.

Habitat: Freshwater.

Schizothrix vaginata (Nägeli) Gomont, Ann. Sci. Nat. Bot. ser. 7, 15: 302. 1892.

Inactis vaginata Nägeli, Sl. Alg. 273. 1849.

Distribution: Karnataka (Mysuru), Kerala, Rajasthan

Habitat: Freshwater.

Symploca Kütz. ex Gomont

Symploca cartilaginea (Mont.) Gomont, Monogr. Oscill. 113. 1892.

Symphyothrix cartilaginea Mont., Ann. Sci. Nat. Bot. ser. 4, 14: 168. 1861.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Symploca muscorum (C.Agardh) Gomont, J. Bot. 4: 354. 1890.

Oscillatoria muscorum C.Agardh, Syst. Alg. 65. 1824.

Distribution: Karnataka (Dharwad), Jammu & Kashmir, Maharashtra, Manipur, Nagaland, West Bengal.

Habitat: Freshwater.

Spirulina Turpin & N.L.Gardner

Spirulina gigantea Schmidle, Engler's Bot. Jahrb. 32: 59. 1902.

Distribution: Karnataka (Mysuru), Assam, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Odisha, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Spirulina gomontii Gutw., Bull. Int. Acad. Sci. Cracovis, Cl. Sci. Math. 613. 1902.

Distribution: Karnataka (Dharwad)

Habitat: Freshwater.

Spirulina laxissima G.S.West, J. Linn. Soc. Bot. 38: 78. 1907.

f. **laxissima**

Distribution: Karnataka (Dharwad), Chattishgarh, Gujarat, Jammu & Kashmir, Madhya Pradesh, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

f. **major** Desikachary, Cyanophyta 196. 1959.

Distribution: Karnataka (Dharwad), Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Tamil Nadu, West Bengal; endemic.

Habitat: Freshwater.

Spirulina major Kütz. ex Gomont, Phycol. general. 183. 1843.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Spirulina meneghiniana Zanardini ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 250. 1892.

Distribution: Karnataka (Mysuru, Raichur), Andaman & Nicobar, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Spirulina nordstedtii Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 252. 1893.

Distribution: Karnataka (Udupi), Maharashtra, Rajasthan.

Habitat: Freshwater.

Spirulina princeps W. West & G.S. West, Trans. Linn. Soc. London, Bot. ser. 2, 6: 205. 1902.

Distribution: Karnataka (Mysuru, Raichur, Uttara Kannada), Assam, Bihar, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Spirulina subsalsa Oerst. ex Gomont, Naturhist. Tidsskr. 17. 1842.

Distribution: Karnataka (Mysuru, Raichur, Dharwar), Andhra Pradesh, Andaman & Nicobar, Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Trichodesmium Ehrenb

Trichodesmium lacustre Kleb, Forschungsber. Biol. Stat., Plön 3: 13. 1895.

Distribution: Karnataka (Mysuru), Bihar, Jammu & Kashmir.

Habitat: Freshwater.

Family: PLEUROCAPSACEAE

Myxosarcina Printz

Myxosarcina burmensis Skuja, Zur Süßwasseralgenflora Burmas 21. 1949.

Cyanosarcina burmensis (Skuja) Kováčik, Arch. Hydrobiol., Suppl. 80: 177. 1988.

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Maharashtra, Manipur, Nagaland, Rajasthan, Tripura, Uttar Pradesh.

Habitat: Freshwater.

Myxosarcina spectabilis Geitler, Arch. Hydrobiol. Planktonk. 12 (4): 624. 1933.

Cyanosarcina spectabilis (Geitler) Kováčik, Arch. Hydrobiol., Suppl. 80: 177. 1988.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Chattishgarh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: RIVULARIACEAE

Calothrix C.Agardh ex Bornet & Flahault

Calothrix atricha Frémy, Arch. Bot. Mém. 3 (2): 261. 1930.

Distribution: Karnataka (Raichur, Uttara Kannada).

Habitat: Freshwater.

Calothrix brevissima G.S.West, J. Linn. Soc., Bot. 38: 180. 1907.

var. **brevissima**

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Bihar, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

var. **moniliforme** S.L.Ghose, J.Burma Res. Soc. 17: 242. 1927.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Maharashtra, West Bengal; endemic.

Habitat: Freshwater and terrestrial*

Calothrix castellii var. **somastipurens** C.S.Rao, Proc. Indian Acad. Sci., B. 9: 145. 1939.

Distribution: Karnataka (Mysuru), Bihar, Maharashtra, Punjab, Uttar Pradesh

Habitat: Freshwater.

Calothrix clavata G.S.West, Mém. Soc. Neuchâtel. Sci. Nat. 5: 1019. 1914.

Distribution: Karnataka (Raichur), Kerala, Maharashtra, Tamil Nadu, Tripura, Uttar Pradesh

Habitat: Freshwater.

Calothrix crustacea Thur. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 3: 359. 1886.

Distribution: Karnataka (Mysuru, Raichur)

Habitat: Freshwater.

Calothrix elenkinii Kossinsk., Bot. Mater. 3: 11. 1924.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Assam, Chattisgarh, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Calothrix javanica De Wilde, Ann. Jard. Bot. Buitenzorg, Suppl. 1: 41. 1897.

var. **javanica**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chattisgarh, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh.

Habitat: Freshwater.

var. **fertilissima** G.L.Tiwari, Hydrobiologia 39: 346. 1972.

Distribution: Karnataka (Mysuru), Madhya Pradesh; endemic.

Habitat: Freshwater.

Calothrix marchica Lemmerm., Abh. Naturwiss. Vereins Bremen 23 (1): 248. 1914.

var. marchica

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Chattisgarh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. crassa C.B.Rao, Proc. Indian Acad. Sci., 8.6: 349. 1937.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Himachal Pradesh, Maharashtra, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

var. intermedia C.B.Rao, Proc. Indian Acad. Sci., B. 6: 350. 1937.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Assam, Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Calothrix membranacea Schmidle, Bot. Jahrb. 30: 61. 1901.

Distribution: Karnataka (Raichur, Dharwad), Andhra Pradesh, Assam, Delhi, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Calothrix parietina Thur. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 6, 1: 381. 1875.

Distribution: Karnataka (Mysuru), Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Calothrix santapau Gonzalves & N.D.Kamat, J. Bombay Nat. Hist. Soc. 57: 454. 1960.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Calothrix scytonemicola Tilden, Minn. Alg. Myxophyc. 1: 265. 1910.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Calothrix wembaerensis Hieron. & Schmidle, Nat. Pflanzenfam. I, 1a: 87. 1898.

Distribution: Karnataka (Mysuru), Assam, Maharashtra, Manipur, Mizoram, Rajasthan, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Dichothrix Zanardini ex Bornet & Flahault**Dichothrix fusca** F.E.Fritsch, Ann. S. African Mus. 9: 581. 1918.

Distribution: Karnataka (Mysuru), Madhya Pradesh.

Habitat: Freshwater.

Rivularia (Roth) C.Agardh ex Bornet & Flahault**Rivularia aquatica** De Wilde, Ann. Jardin Buitenzorg. Supp. 1: 40. 1897.

Distribution: Karnataka (Mysuru, Dharwad), Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Rivularia beccariana (De Not.) Bornet & Flahault, Mém Soc. Natl. Sci. Nat. Cherbourg 25: 206. 1885.

Euactis beccariana De Not., Hedwigia 5: 107. 1866.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Madhya Pradesh, Manipur, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Rivularia bullata (Poir.) Berk ex Bornet & Flahault, Glean. Brit. Alg. 8.1833.

Ulva bullata Poir., Encycl. Meth. Bot. 8: 175. 1808.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Rivularia hansgirgi Schmidle, Allg. Bot. Z. Syst. 6: 34. 1900.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Maharashtra, Odisha.

Habitat: Freshwater.

Gloeotrichia J.Agardh ex Bornet & Flahault

Gloeotrichia echinulata (Sm.) P.G. Richt., Forschungsber. Biol. Stat. Plön 2: 31. 1894.

Confeva echinulata Sm., Engl. Bot. t.1378. 1804.

var. echinulata

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

var. berhampurensis C.B.Rao, Proc. Indian Acad. Sci., B. 8: 161. 1938.

Distribution: Karnataka (Mysuru), Kerala, Odisha.

Habitat: Freshwater.

Gloeotrichia ghosei Rama N.Singh, Proc. Indian Acad. Sci., B. 9: 64. 1939.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Kerala, Madhya Pradesh, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Gloeotrichia indica Schmidle, Allg. Bot. Z. Syst. 35. 1900.

Distribution: Karnataka (Dharwad), Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Uttar Pradesh.

Habitat: Freshwater.

Gloeotrichia pilgeri Schmidle, Hedwigia 40: 54. 1901.

Distribution: Karnataka (Mysuru), Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Gloeotrichia raciborskii Wolosz., Bull. Int. Acad. Sci. Cracovie, Cl. Sci. Math ser. B 6: 687. 1912.

var. raciborskii

Distribution: Karnataka (Mysuru), Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. conica S.C. Dixit, Proc. Indian Acad. Sci., B. 3: 97. 1936.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

var. longispora C.S.Rao, Proc. Indian Acad. Sci., B. 9: 146. 1939.

Distribution: Karnataka (Mysuru, Raichur), Bihar, Uttar Pradesh; endemic.

Habitat: Freshwater.

Family: SCYTONEMATACEAE**Plectonema** Thur. ex Gomont

Plectonema dangeardii Frémy, Arch. Bot. Mém. 3(2): 175. 1930.

Leptolyngbya dangeardii (Fay) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 391. 1988.

Distribution: Karnataka (Mysuru), Kerala.

Habitat: Freshwater.

Plectonema golenkinianum Gomont, Bull. Soc. Bot. France 46: 35. 1899.

Pseudophormidium golenkinianum (Gomont) Anagn., Preslia 73: 370. 2001.

Distribution: Karnataka (Mysuru), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Plectonema nostocorum Bornet ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 102. 1892.

Leptolyngbya nostocorum (Bornet ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 392. 1988.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Plectonema notatum Schmidle, Allg. Bot. Z. Syst. 7: 84. 1901.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Bihar, Himachal Pradesh, Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Plectonema puteale (Kirchn.) Hansg., Bot. Centralbl. 22: 18. 1885.

Distribution: Karnataka (Mysuru), Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Plectonema terebrans Bornet & Flahault ex Gomont, Bull. Soc. Bot. France 36: 163. 1889.

Leptolyngbya terebrans (Bornet & Flahault ex Gomont) Anagn. & Komárek, Arch. Hydrobiol., Suppl. 80: 393. 1988.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Maharashtra, Tamil Nadu.

Habitat: Freshwater.

Plectonema wollei Farl. ex Gomont, Ann. Sci. Nat. Bot. ser. 7, 16: 98. 1892.

Distribution: Karnataka (Mysuru), Assam, Jammu & Kashmir, Tamil Nadu.

Habitat: Freshwater.

Camptylonemopsis Desikachary

Camptylonemopsis lahorensis (S.L.Ghose) Desikachary, Proc. Indian Acad. Sci., B. 18: 49. 1948.

Camptylonema lahorensis S.L.Ghose, New Phytol. 19: 35. 1920.

Distribution: Karnataka (Dharwad), Punjab; endemic.

Habitat: Freshwater.

Camptylonemopsis minor Desikachary, Proc. Indian Acad. Sci., B. 18: 47. 1948.

Distribution: Karnataka (Shivamogga), Tamil Nadu.

Habitat: Freshwater.

Scytonema C.Agardh ex Bornet & Flahault

Scytonema bewsii F.E.Fritsch & Rich, Trans. Roy. Soc. South Africa 11: 364. 1924.

Distribution: Karnataka (Shivamogga), Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Scytonema bohneri Schmidle, Bot. Jahrb. 30: 60. 1901.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater and terrestrial*

Scytonema cincinnatum (Kütz.) Thur. ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 6, 1: 380. 1875.

Lyngbya cincinnata Kütz., Phycol. general. 226. 1843.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Kerala, Meghalaya, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Scytonema dilatatum Bharadwaja, Rev. Algol. 7: 161. 1934.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.

Habitat: Freshwater.

Scytonema guyanense var. **minus** N.L.Gardner, Mem. New York Bot. Gard. 7: 79. 1927.

Distribution: Karnataka (Dharwad), Uttar Pradesh

Habitat: Freshwater.

Scytonema hofmannii C.Agardh ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 5: 97. 1888.

var. **hofmannii**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Jammu & Kashmir, Kerala, Maharashtra, Meghalaya, Odisha, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **crassa** Bharadwaja, Rev. Algol. 7: 167. 1934.

Distribution: Karnataka (Shivamogga), Assam; endemic.

Habitat: Freshwater.

Scytonema iyengaraii Bharadwaja, Rev. Algol. 7: 159. 1934.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Himachal Pradesh, Odisha, Uttarakhand, West Bengal; endemic.

Habitat: Freshwater.

Scytonema millei Bornet ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 5: 93. 1888.

Distribution: Karnataka (Dharwad), Himachal Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Scytonema myochrous (Dillwyn) C. Agardh ex Bornet & Flahault, Disp. Alg.suc. 38.1812.

Conferva myochrous Dillwyn, Brit. Conferv. 19. 1809.

Distribution: Karnataka (Dharwad), Madhya Pradesh, Maharashtra, Rajasthan, Sikkim, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Scytonema pascheri Bharadwaja, Rev. Algol. 7: 158. 1934.

Distribution: Karnataka (Mysuru), Bihar, Delhi, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

Scytonema pseudopunctatum Skuja, Nova Acta Regiae Soc. Sci. Upsal. ser. 4, 14(5): 38. 1949.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Scytonema saleyeriense Weber Bosse, Siboga-Exped. Monogr. 59: 31. 1913.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Scytonema schmidtii Gomont, Fl. koh Chang 124. 1901.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Gujarat, Maharashtra, Punjab, Tamil Nadu, Tripura, Uttar Pradesh.

Habitat: Freshwater.

Scytonema simplex Bharadwaja, Rev. Algal. 7: 157. 1934.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Bihar, Gujarat, Kerala, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Scytonema stuposum (Kütz.) Bornet ex Bornet & Flahault, Ann. Sci. Nat. Bot. ser. 7, 5: 92. 1888.

Calothrix stuposus Kütz., Sp. Alg. 312, 1849.

Distribution: Karnataka (Dharwad, Shivamogga), Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Punjab, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Tolypothrix Kütz. ex Bornet & Flahault

Tolypothrix arenophila W. West & G. S. West, J. Bot. 35: 267. 1897.

Distribution: Karnataka (Mysuru), Goa, Madhya Pradesh.

Habitat: Freshwater.

Tolypothrix bouteillei (Bréb. & Desm.) Forti, Syll. Alg. 5: 552. 1907.

Sirosiphon bouteillei Bréb. & Desm. Pl. Cryptog. France. ser. II, 140. 1854.

Distribution: Karnataka (Raichur), Madhya Pradesh, Maharashtra.

Habitat: Freshwater.

Tolypothrix campylonemoides S. L. Ghose, J. Linn. Soc., Bot. 46: 344. 1924.

Distribution: Karnataka (Raichur), Andhra Pradesh, Odisha, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Tolypothrix distorta Kütz. ex Bornet & Flahault, Phycol. general. 228. 1843.

var. **distorta**

Distribution: Karnataka (Raichur), Andhra Pradesh, Assam, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan, Tamil Nadu, Uttar Pradesh.

var. **penicillata** (C. Agardh) Lemmerm., Kryptogamenflora der Mark Brandenburg 3: 218. 1910.

Scytonema penicillatum C. Agardh, Syn. Alg. Scand. 116. 1817.

Distribution: Karnataka (Raichur), Gujarat, Maharashtra.

Habitat: Freshwater.

Tolypothrix limbata Thur., Revis. Nostoc. hét. 124. 1887.

Distribution: Karnataka (Raichur), Andhra Pradesh, Tamil Nadu.

Habitat: Freshwater.

Tolypothrix tenuis (Kütz.) Johs. Schmidt, Bot. Tidsskr. 22: 383. 1899.

f. **tenuis**

Distribution: Karnataka (Dharwad), Andhra Pradesh, Arunachal Pradesh, Delhi, Gujarat, Madhya Pradesh, Maharashtra, Odisha, Tripura, West Bengal.

Habitat: Freshwater.

f. **terrestris** J.B.Petersen, Bot. Iceland 2: 306. 1923.

Distribution: Karnataka (Mysuru)

Habitat: Freshwater.

Family: STIGONEMATACEAE

Fischerella (Bornet & Flahault) Gomont

Fischerella reptans f. **bevurensis** M.V.Sriniv., Phykos 2: 47. 1963.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Haplosiphon Nägeli

Haplosiphon baronii W.West & G.S.West, Trans. Linn. Soc. London Bot. 5: 85. 1895.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Haplosiphon flagelliformis (Schmidle) Forti, Syll. Alg. 5: 567. 1907.

Distribution: Karnataka (Mysuru), Gujarat, Maharashtra, Tamil Nadu, Uttar Pradesh

Habitat: Freshwater.

Haplosiphon fontinalis Bornet, Bull. Soc. Bot. France 36: 156. 1889.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Haplosiphon hibernicus W.West & G.S.West, Trans. Roy. Microscop. Soc. London 5: 163. 1896.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Bihar, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Haplosiphon intricatus W.West & G.S.West, J.Linn. Soc. Bot. 30: 271. 1894.

Distribution: Karnataka, Andaman & Nicobar, Andhra Pradesh, Delhi, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Punjab, Tamil Nadu.

Habitat: Freshwater and terrestrial*

Haplosiphon luteolus W.West & G.S.West, J. Bot. 35: 241. 1897.

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Bihar, Kerala, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Haplosiphon stuhlmanii Hieron, Pflanzenw. Öst-Afrikas C: 10, 1895.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Hapalosiphon welwitschii W. West & G.S. West, J. Bot. 35: 242. 1897.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Stigonema C.Agardh ex Bornet & Flahault

Stigonema aerugineum Tilden, Minn. Alg. Myxophyc. 245. 1910.

Distribution: Karnataka (Mysuru), Assam, Jammu & Kashmir.

Habitat: Freshwater.

Stigonema dendroideum Frémy, Myxophyc. Afr. équat. franc. 405. 1929.

Distribution: Karnataka (Mysuru), Bihar, Maharashtra, Meghalaya, Tripura.

Habitat: Freshwater.

Stigonema mesentericum Geitler, in Pascher's Süßwasserflora 184. 1925.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Westiellopsis Janet

Westiellopsis prolifica Janet, Ann. Bot. 5: 167. 1942.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Manipur, Mizoram, Nagaland, Odisha, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Class: CHLOROPHYCEAE

Family: CAULERPACEAE

Bryopsis J.V.Lamour.

Bryopsis plumosa (Huds.) C.Agardh, Spec. Alg. 448. 1823.

Ulva plumosa Huds., Fl. angl. 571. 1778.

Distribution: Karnataka, Andhra Pradesh, Goa, Gujarat, Kerala, Lakshadweep, Tamil Nadu.

Habitat: Marine*

Caulerpa J.V.Lamour.

Caulerpa peltata J.V. Lamour, Nouv. Bull. Sci. Soc. Philom. Paris 1: 332. 1809.

Distribution: Karnataka, Andaman & Nicobar, Goa, Gujarat, Kerala, Lakshadweep, Maharashtra, Tamil Nadu.

Habitat: Marine*

Caulerpa racemosa (Forssk.) J.Agardh, Acta Univ. Lund. 9 (8): 35. 1873.

Fucus racemosus Forssk., Fl. aegypt.–arab. 191. 1775.

Distribution: Karnataka, Andaman & Nicobar, Andhra Pradesh, Goa, Gujarat, Kerala, Lakshadweep, Maharashtra, Tamil Nadu.

Habitat: Marine*

Caulerpa sertularioides (S.G.Gmel.) M.Howe, Bull. Torrey Bot. Club 32: 576. 1905.

Fucus sertularioides S.G.Gmel., Hist. fuc. 151. 1768.

Distribution: Karnataka, Andaman & Nicobar, Andhra Pradesh, Gujarat, Kerala, Lakshadweep, Maharashtra, Tamil Nadu.

Habitat: Marine*

Family: CHARACEAE

Chara L.

Chara braunii C.C.Gmel., Fl. bad. 646. 1826.

var. **braunii**

Distribution: Karnataka (Mysuru), Bihar, Jammu & Kashmir, Jharkhand, Maharashtra, Manipur, Odisha, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal

Habitat: Freshwater.

var. **kurzii** Zaneveld, Blumea 4(1): 144. 1940.

Distribution: Karnataka (Shivamogga), Bihar.

Habitat: Freshwater.

Chara fibrosa f. **erythrogyna** (Griff.) R.D. Wood, Taxon 11: 13. 1962.

Chara erythrogyna Griff., Not. Pl. Asiat. 2: 278. 1849.

Distribution: Karnataka (Shivamogga), Bihar, Tamil Nadu.

Habitat: Freshwater.

Chara flaccida A.Braun, Hooker's J. Bot. Kew Gard. Misc. 1: 296. 1849.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Nitella C.Agardh

Nitella acuminata A.Braun, Hooker's J. Bot. Kew Gard. Misc. 1: 292. 1849.

Distribution: Karnataka (Mysuru), Bihar, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Nitella furcata (Roxb. ex Bruzelius) C.Agardh, Syst. Alg. 124. 1824.

Chara furcata Roxb. ex Bruzelius, Observ. gen. Chara. 22. 1824.

subsp. **furcata** f. **furcata**

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

subsp. **flagellifera** f. **patula** (J. Groves & G.O. Allen) R.D. Wood in R.D. Wood & Imahori, Characeae 521. 1965.

Nitella patula J. Groves & G.O. Allen, J. Bot. 65: 338. 1927

Distribution: Karnataka (Shivamogga), Kerala, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Nitella hyalina (DC.) C.Agardh, Syst. Alg. 126. 1824.

Chara hyalina DC. Fl. Franc. 6: 247. 1805.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Bihar, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nitella mucronata (A.Braun) Miq., Herm. Hall, Fl. Belg. Septentr. 2: 428. 1840.

Chara mucronata A.Braun, Ann. Sci. Nat. Bot. 2: 35. 1834.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nitella oligospira A.Braun, Fragm. monogr. Charac. 5: 67. 1882.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Maharashtra, Meghalaya, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Family: CHAETOPHORACEAE

Chaetophora Schrank

Chaetophora attenuata Hazen, Mem. Torrey Bot. Club 11: 213. 1902.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Jharkhand, Delhi, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Fritschiella M.O.P.Iyengar

Fritschiella tuberosa M.O.P.Iyengar, New Phytol. 31: 329. 1932.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal

Habitat: Terrestrial.

Family: CHLAMYDOMONADACEAE

Chlamydomonas Ehrenb.

Chlamydomonas cylindrocystiformis M.O.P.Iyengar, Volvocales 284. 1981.

Distribution: Karnataka (Mysuru), Tamil Nadu; endemic.

Habitat: Freshwater.

Chlamydomonas globosa J.Snow, U.S. Fish. Commiss. Bull. 1902: 389. 1903.

Distribution: Karnataka (Raichur), Andaman & Nicobar, Andhra Pradesh, Gujarat, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Family: CHLOROCOCCACEAE

Chlorococcum Menegh.

Chlorococcum humicola (Nägeli) Rabenh., Fl. Eur. Alg. 58. 1868.

Distribution: Karnataka (Raichur, Dharwad), Andaman & Nicobar, Bihar, Jammu & Kashmir, Maharashtra, Meghalaya, Delhi, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: COELASTRACEAE**Coelastrum** Nägeli

Coelastrum cambricum W.Archer, Quart. J.Microscop. Sci. 8: 65. 1868.

var. **cambricum**

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Meghalaya, Odisha, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

var. **intermedium** (Bohlin) G.S. West, J.Linn. Soc., Bot. 38: 136. 1907.

Coelastrum pulchrum var. *intermedium* Bohlin, Bih. Kongl. Svenska Vetensk.-Akad.Handl. 23(7): 35. 1897.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Kerala, Maharashtra, Manipur, Delhi, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: DESMIDIACEAE**Actinotaenium** (Nägeli) Teiling

Actinotaenium crassiusculum (de Bary) Teiling, Bot. Not. 1954: 398. 1954.

Penium crassiusculum de Bary, Unters. conjugaten 73. 1858.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Arthrodesmus Ehrenb. ex Ralfs

Arthrodesmus convergens Ehrenb., Infusionsthierchen 152. 1838.

f. **convergens**

Distribution: Karnataka (Dharwad), Andhra Pradesh, Andaman & Nicobar, Assam, Gujarat, Jharkhand, Madhya Pradesh, Manipur, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

f. **curta** W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 134. 1892.

Distribution: Karnataka (Shivamogga), Madhya Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Arthrodesmus gibberulus Joshua, J. Bot. 23: 34. 1885.

Distribution: Karnataka (Uttara Kannada, Mysuru).

Habitat: Freshwater.

Arthrodesmus subulatus Kütz., Sp. Alg. 176. 1849.

Distribution: Karnataka (Mysuru, Uttara Kannada), Tamil Nadu.

Habitat: Freshwater.

Bambusina Kütz.

Bambusina brebissonii var. **gracilescens** Wolle, Desmids U.S. 25. 1884.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium Nitzsch ex Ralfs

Closterium abruptum W. West, J. Roy. Microscop. Soc. London 8: 719. 1892.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium acerosum Ehrenb. ex Ralfs, Brit. Desmid. 164. 1848.

f. **acerosum**

Distribution: Karnataka (Mysuru, Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Assam, Bihar, Delhi, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Punjab, Sikkim, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

f. **rectum** A.M. Scott & Prescott, Hydrobiologia 17(1-2): 10. 1961.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium aciculare T. West, Trans. Roy. Microscop. Soc. London 8: 153. 1860.

Distribution: Karnataka (Shivamogga), Gujarat, Maharashtra.

Habitat: Freshwater.

Closterium angustatum Kütz., Phycol. germ. 132. 1845.

Distribution: Karnataka (Shivamogga), Goa.

Habitat: Freshwater.

Closterium cynthia De Not., Desmid. Ital. 65. 1867.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Goa, Kerala, Maharashtra, Sikkim, West Bengal.

Habitat: Freshwater.

Closterium diana Ehrenb. ex Ralfs, Brit. Desmid. 168. 1848.

var. **diana**

Distribution: Karnataka (Shivamogga, Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Goa, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Sikkim, Tamil Nadu, Uttarakhand, West Bengal.

Habitat: Freshwater.

var. **minus** (Schröd.) Willi Krieg., Krypt.-Fl. Sachsen 183. 1933.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

var. **pseudodiana** (J. Roy) Willi Krieg., Krypt. Fl. Sachsen 297. 1935.

Closterium pseudodiana J. Roy, Naturalist 10: 132. 1890.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Goa.

Habitat: Freshwater.

Closterium ehrenbergii Menegh. ex Ralfs, Brit. Desmid. 166. 1848.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Chattisgarh, Delhi, Goa, Gujarat, Jammu & Kashmir, Madhya Pradesh, Meghalaya, Maharashtra, Punjab, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Closterium gracile Bréb. ex Ralfs, Brit. Desmid. 221. 1848.

var. **gracile**

f. **gracile**

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Goa, Gujarat, Madhya Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

f. **tenuis** (Lemmerm.) Kossinsk., Conju. 2: 140. 1960.

Closterium limneticum var. *tenuis* Lemmerm., Abh. Naturwiss. Vereins Bremen 16(2): 28. 1899.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **intermedium** Irénée-Marie., Nat. Carpatica 78: 115. 1951.

Distribution: Karnataka (Hassan), Goa, Maharashtra.

Habitat: Freshwater.

Closterium idiosporum W. West & G.S. West, J. Bot. 38: 290. 1900.

Distribution: Karnataka (Shivamogga), Goa, Himachal Pradesh, Maharashtra.

Habitat: Freshwater.

Closterium incurvum Bréb., Mém. Soc. Sci. Nat. Math. Cherbourg 4: 150. 1856.

Distribution: Karnataka (Hassan), Andaman & Nicobar, Maharashtra.

Habitat: Freshwater.

Closterium infractum Messik., Viertel Jahrsschr. Naturf. Ges. Zürich 74: 149. 1929.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium intermedium Ralfs, Brit. Desmid. 171. 1848.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Meghalaya, Uttar Pradesh, West Bengal

Habitat: Freshwater.

Closterium jenneri Ralfs, Brit. Desmid. 167. 1848.

Distribution: Karnataka (Mysuru), Maharashtra

Habitat: Freshwater.

Closterium juncidum Ralfs, Brit. Desmid. 172. 1848.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Closterium kuetzingii Bréb., Mém. Soc. Sci. Nat. Math. Cherbourg 4: 156. 1856.

var. **kuetzingii**

Distribution: Karnataka (Shivamogga, Mysuru, Mysore, Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **vittatum** Nordst., Bot. Not. 1887: 163. 1887.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Madhya Pradesh.

Habitat: Freshwater.

Closterium leibleinii Kütz. ex Ralfs, Brit. Desmid. 167. 1848.

var. **leibleinii**f. **leibleinii**

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Andaman & Nicobar, Delhi, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Manipur, Meghalaya, Maharashtra, Rajasthan, West Bengal.

Habitat: Freshwater.

f. **intermedium** (J.Roy & Bisset) G.S.West, J. Bot. 37: 16. 1899.

Penium libellula var. *intermedium* J. Roy & Bisset, Ann. Scott. Nat.Hist. 4: 252. 1893.

Distribution: Karnataka (Hassan), Andhra Pradesh, Andaman & Nicobar, Assam, Goa, Gujarat, Madhya Pradesh, Sikkim, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **interruptum** (W.West & G.S.West) Willi Krieg., Rabenh., Krypt. –Fl. Sachsen 334. 1934.

Penium libellula var. *interruptum* W.West & G.S.West, J.Roy. Microscop. Soc. London 31: 479. 1897.

Distribution: Karnataka (Uttara Kannada), Uttar Pradesh.

Habitat: Freshwater.

Closterium lineatum var. **costatum** Hastings, Freshwater Alg.U.S. 25. 1887.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium londaensis Bharati & Gonzalves, J. Karnataka Univ. 7: 178. 1962.

Distribution: Karnataka (Hassan); endemic.

Habitat: Freshwater.

Closterium lunula (O.F.Müll.) Nitzsch ex Ralfs, Brit. Desmid. 163. 1848.

var. **lunula**

Vibris lunula O.F.Müll., Naturforscher (Leipzig) 20: 142. 1784.

Distribution: Karnataka (Mysuru)

Habitat: Freshwater.

var. **biconvexum** Schmidle, Oesterr. Bot. Z. 45: 309. 1895.

Distribution: Karnataka (Shivamogga), Jammu & Kashmir, Uttar Pradesh.

Habitat: Freshwater.

var. **intermedium** Gutw., Rozpr. Spraw. Posiedzeń Wydz. Mat.-Przyr. Akad. Umiejtn. Krakow 33: 344. 1896.

Distribution: Karnataka (Shivamogga), Tamil Nadu.

Habitat: Freshwater.

var. **massartii** (De Wild.) Willi Krieg., Krypt.-Fl. Sachsen 304. 1937.

Closterium massartii De Wild., J. Bot. 20: 801. 1882.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Uttar Pradesh

Habitat: Freshwater.

Closterium macilentum var. **substriatum** (Grönblad) Willi Krieg., Rabenh., Krypt.-Fl. Sachsen 389. 1933.

Pinium macilentum Grönblad, Acta Soc. Fauna Fl. Fenn. 55(3): 15. 1924.

Distribution: Karnataka (Shivamogga)

Habitat: Freshwater.

Closterium moniliferum (Bory) Ehrenb., Infusionsthierchen 91. 1838.

Lunulina monilifera Bory, Encycl. Biol. 2: 501. 1824.

Distribution: Karnataka (Mysuru, Mysuru), Andhra Pradesh, Andaman & Nicobar, Bihar, Chattisgarh, Gujarat, Jammu & Kashmir, Madhya Pradesh, Manipur, Maharashtra, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Closterium nematodes Joshua, J. Linn. Soc. London, Bot. 5: 652. 1886.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Goa, Madhya Pradesh.

Habitat: Freshwater.

Closterium parvulum Nägeli, Gatt. einzell. Alg. 106. 1849.

Distribution: Karnataka (Mysuru, Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Assam, Bihar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Manipur, Meghalaya, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Closterium pleurodermatum W. West & G. S. West, J. Roy. Microscop. Soc. London 15: 481. 1897.

Distribution: Karnataka (Shivamogga), Goa, Uttar Pradesh.

Habitat: Freshwater.

Closterium porrectum Nordst., Desmid. Brasil. 203. 1870.

var. **porrectum**

Distribution: Karnataka (Mysuru), Madhya Pradesh, Uttar Pradesh.

Habitat: Freshwater.

var. **angustatum** W. West & G. S. West, Monogr. Brit. Desmid. 1: 116. 1904.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium pralongum Bréb., Mém. Soc. Sci. Nat. Math. Cherbourg 4: 152. 1856.

Distribution: Karnataka (Hassan), Goa, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Closterium pritchardianum W. Archer., Quart. J. Microscop. Sci. 2: 250. 1862.

Distribution: Karnataka (Hassan), Andhra Pradesh, Andaman & Nicobar, Madhya Pradesh, Goa.

Habitat: Freshwater.

Closterium ralfsii var. **hybridum** Rabenh., Krypt.-Fl. Sachsen. 174. 1863.

Distribution: Karnataka (Mysuru, Uttara Kannada), Goa, Gujarat, Uttar Pradesh.

Habitat: Freshwater.

Closterium rectimarginatum A.M.Scott & Prescott, Hydrobiologia 17(1-2): 13. 1961.

Distribution: Karnataka (Shivamogga), Gujarat, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Closterium rostratum Ehrenb. ex Ralfs, Brit. Desmid. 175. 1848.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Jharkhand, Madhya Pradesh, Manipur, Meghalaya, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Closterium setaceum Ehrenb. ex Ralfs, Brit. Desmid. 176. 1848.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Closterium siliqua W. West & G.S. West, J. Roy. Microscop. Soc. London 15: 480. 1897.

Distribution: Karnataka (Shivamogga, Mysuru), Goa.

Habitat: Freshwater.

Closterium spetsbergense f. **longius** V.I. Poljansky, J. Jap. Bot. 41(9): 282. 1966.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium subtruncatum W. West & G.S. West, J. Roy. Microscop. Soc. London 15: 482. 1892.

Distribution: Karnataka (Shivamogga), Goa.

Habitat: Freshwater.

Closterium tumidulum F. Gay, Monogr. Conjug. 339. 1884.

Distribution: Karnataka (Bangalooru, Mysuru), Andhra Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Closterium tumidum L.N. Johnson, Bull. Torrey Bot. Club 22(7): 291. 1895.

Distribution: Karnataka (Hassan), Andhra Pradesh, Andaman & Nicobar, Goa, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra Punjab, Uttar Pradesh.

Habitat: Freshwater.

Closterium turgidum var. **borgei** Deflandre, Rev. Algol. 2: 915. 1925.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Closterium ulna G.W. Focke, Phycol. Stud. 68. 1847.

Distribution: Karnataka (Uttara Kannada), Goa, Jammu & Kashmir, West Bengal.

Habitat: Freshwater.

Closterium venus Kütz., Phycol. Germ. 130. 1845.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Delhi, Goa, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Manipur, Maharashtra, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cosmarium Corda ex Ralfs

Cosmarium angulosum Bréb., Mém. Soc. Imp. Sci. Nat. Cherbourg 4: 127. 1856.

Distribution: Karnataka (Mysuru), Maharashtra.

Habitat: Freshwater.

Cosmarium askenasyi f. **latum** A.M. Scott & Prescott, Hydrobiologia 17: 16. 1961.

Distribution: Karnataka (Shivamogga), Uttar Pradesh.

Habitat: Freshwater.

Cosmarium auriculatum Reinsch, Chlorophyceae 83. 1875.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Assam, Andhra Pradesh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, New Delhi, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cosmarium bengalense W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25 (5): 56. 1892.

Distribution: Karnataka (Dharwad), Jharkhand, Madhya Pradesh, Maharashtra.

Habitat: Freshwater.

Cosmarium binum Nordst., Wittr. & Nordst., Alg. aquaedulc. exs. 383. 1880.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal.

Habitat: Freshwater.

Cosmarium bioculatum Bréb. ex Ralfs, Brit. Desmid. 95. 1848.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Gujarat, Jharkhand, Madhya Pradesh, Meghalaya, Uttar Pradesh.

Habitat: Freshwater.

Cosmarium bipunctatum var. **spinuliferum** G.R. Hegde, Phycos 25: 108. 1986.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Cosmarium bituberculatum F.E. Fritsch & Rich, Ann. Bot. (Oxford) 21: 428. 1907.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Cosmarium blyttii Wille in Forh. Vidensk.-Selsk. Kristiania 1880 (11): 25. 1880.

f. **blyttii**

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Chattisgarh, Jammu & Kashmir, Uttar Pradesh.

Habitat: Freshwater.

f. **australiacum** Schmidle, Flora 82: 308. 1896.

Distribution: Karnataka (Hassan), Gujarat.

Habitat: Freshwater.

Cosmarium circulare var. **messikomeri** Willi Krieg. & Gerloff, Gatt. Cosmarium 102. 1962.

Distribution: Karnataka (Hassan), Andaman & Nicobar, Manipur, Maharashtra.

Habitat: Freshwater.

Cosmarium conspersum var. **latum** (Bréb.) W. West & G.S. West, Monogr. Brit. Desmid. 4: 15. 1912.

Cosmarium latum Bréb., Mém. Soc. Imp. Sci. Nat. Cherbourg 4: 128. 1856.

Distribution: Karnataka (Shivamogga), Madhya Pradesh.

Habitat: Freshwater.

Cosmarium contractum O. Kirchn., Alg. Schles. 147. 1878.

var. **contractum**

Distribution: Karnataka (Shivamogga), Chhattisgarh, Gujarat, Jammu & Kashmir, Maharashtra, Meghalaya, Uttarakhand.

Habitat: Freshwater.

var. **abbreviatum** Brühl & Biswas, Mem. Asiat. Soc. Bengal 8(5): 288. 1926.

Distribution: Karnataka (Mysuru), Gujarat, Kerala, Manipur, Meghalaya, Maharashtra, Odisha; endemic.

Habitat: Freshwater.

var. **ellipsoideum** (Elfving) West & G.S. West, Trans. Roy. Irish Acad. 32: 40. 1902.

Cosmarium ellipsoideum Elfving, Acta Soc. Fauna Fl. Fenn. 2: 16. 1881.

Distribution: Karnataka (Shivamogga), Chhattisgarh, Gujarat, Jammu & Kashmir, Jharkhand, Maharashtra, West Bengal.

Habitat: Freshwater.

Cosmarium crassangulatum var. **trilerrucosum** f. **granulatum** G.R. Hegde, Phykos 25: 109. 1986.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Cosmarium cucurbitinum (Bisset) Lütkenmüller, Verh. K. Zool. Bot. Ges. Wien 60: 487. 1910.

Penium cucurbitinum Bisset, J. Royal Microsc. Soc., ser. 2, 4: 197. pl. 5, fig. 7. 1884.

Actinotaenium cucurbitinum (Bisset) Teiling, Bot. Notis. 4: 399, fig. 36. 1954.

var. **longum** A.M. Scott & Grönblad, Acta Soc. Sci. Fenn. 2(8): 16. 1957.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **truncatum** Willi Krieg., Arch. Hydrobiol. 11: 140. 1932.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium cuneatum Joshua, J. Bot. 20: 301. 1882.

var. **cuneatum**

Distribution: Karnataka (Uttara Kannada), Madhya Pradesh, West Bengal.

Habitat: Freshwater.

var. **ornatum** G.R. Hegde, Phykos 25: 109. 1986.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Cosmarium decoratum West & G.S.West, Trans. Linn. Soc. London, Bot. 5: 61. 1895.
Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Chattisgarh, Kerala, Sikkim.
Habitat: Freshwater.

Cosmarium depressum (Nägeli) P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8 (2): 38. 1871.
Euastrum depressum Nägeli, Gatt. einz. Alg. 114. 1849.

var. **depressum**

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Jharkhand, Maharashtra, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. **apertum** (W.B.Turner) Hirano, Mem. Coll. Sci. Kyoto Imp. Univ. 19(2): 66. 1948.
Cosmarium apertum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 54. 1892.
Distribution: Karnataka (Dharwad), Gujarat, West Bengal.
Habitat: Freshwater.

Cosmarium dharwarensense Bharati & Gonzalves, J. Karnataka Univ. 7: 174. 1962.
Distribution: Karnataka (Dharwad); endemic.
Habitat: Freshwater.

Cosmarium difficile Lütkem., Verh. K.K. Zool.-Bot. Ges. Wien 42: 551. 1893.
Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

Cosmarium emarginatum Bharati & G.R.Hegde, Phykos 21: 144. 1982.
Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

Cosmarium excavatum f. **duplo-maius** Wille, Öfvers. Kongl. Vetensk.-Akad. Förh. 5: 18. 1879.
Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

Cosmarium freemanii var. **verrucosum** A.M. Scott & Prescott, Hydrobiologia 17(1-2): 58. 1961.
Distribution: Karnataka (Shivamogga), West Bengal.
Habitat: Freshwater.

Cosmarium galeritum Nordst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 21: 209. 1870.

var. **galeritum**

Distribution: Karnataka (Shivamogga, Belagavi), Gujarat.
Habitat: Freshwater.

var. **westii** Willi Krieg & Gerloff, Gatt. Cosmarium 144. 1965.
Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

Cosmarium granatum Bréb. ex Ralfs, Brit. Desmid. 96. 1848.
Distribution: Karnataka (Mysuru, Belagavi, Dharwad, Uttara Kannada), Andhra Pradesh, Gujarat, Jharkhand, Madhya Pradesh, Manipur, Meghalaya, Maharashtra, Punjab, Uttarakhand, Uttar Pradesh, West Bengal
Habitat: Freshwater.

Cosmarium isthmocymatium Skuja, Nova Acta Regiae Soc. Sci. Upsal. 14: 125. 1949.

Distribution: Karnataka (Mysuru), Andhra Pradesh.

Habitat: Freshwater.

Cosmarium ligoniforme var. **borgei** f. **undulatum** G.R.Hegde, Phykos 25: 109. 1986.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Cosmarium lundellii var. **ellipticum** West & G.S.West, Monogr. Brit. Desmid. 2: 138. 1905.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Andaman & Nicobar, Gujarat, Kerala, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cosmarium maculatiforme var. **major** Gutw., Bull. Acad. Sci. Cracovie, Cl. Sci. Math. Nat. 9: 587. 1902.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium margaritatum (P.Lundell) J.Roy & Bisset, J. Bot. 24: 194. 1886.

Cosmarium latum var. *margaritatum* P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8(2): 16. 1871.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Assam, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Cosmarium medioscrobiculatum var. **egarnulatum** Gutw., Bull. Acad. Sci. Cracovie, Cl. Sci. Math. Nat. 9: 587. 1902.

Distribution: Karnataka (Uttara Kannada), Jharkhand.

Habitat: Freshwater.

Cosmarium moniliforme var. **indentatum** A.M.Scott & Grönblad, Acta Soc. Sci. Fenn. 2(8): 19. 1957.

Distribution: Karnataka (Shivamogga), Jammu & Kashmir.

Habitat: Freshwater.

Cosmarium monomazum P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8(2): 32. 1871.

Distribution: Karnataka (Shivamogga), Gujarat.

Habitat: Freshwater.

Cosmarium multituberculatum var. **africanum** Bourr., Rev. Algol 2: 189. 1964.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium norimbergense var. **depressum** (West & G.S.West) Willi Krieg. & Gerloff, Gatt. Cosmarium 292. 1969.

Cosmarium norimbergense f. *depressa* West & G.S.West, J.Linn. Soc. London Bot. 33: 119. 1897.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Andaman & Nicobar, Jammu & Kashmir, Kerala, Madhya Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Cosmarium nymannianum Grunow, Fl. Eur. Alg. 166. 1868.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium obsoletum (Hantzsch ex Ralfs) Reinsch, Abh. Naturhist. Ges. Nürnberg 3(2): 40. 1867.
Arthrodesmus obsoletulus Hantzsch ex Ralfs, Brit. Desmid. 76. 1848.

var. **obsoletum**

Distribution: Karnataka (Bagalkot, Mysuru), Andaman & Nicobar, Jharkhand, Kerala, Madhya Pradesh, Manipur, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. **sitvense** Gutw., Bull. Acad. Sci. Cracovie, Cl. Sci. Math. Nat. 1902: 594. 1902.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Chattisgarh, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Cosmarium obtusatum (Schmidle) Schmidle, Bot. Jaarb. 26: 38. 1898.

Cosmarium undulatum var. *obtusatum* Schmidle, Ber. Deutsch. Bot. Ges. 11: 550. 1894.

Distribution: Karnataka (Bagalkot, Dharwad), Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra.
Habitat: Freshwater.

Cosmarium paucigranulatum Borge, Ark. Bot. 18(10): 10. 1923.

Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

Cosmarium phaseolus Bréb. ex Ralfs, Brit. Desmid. 106. 1848.

var. **phaseolus**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jammu & Kashmir, Madhya Pradesh.
Habitat: Freshwater.

var. **amphalum** (Scharrsch) Racib., Notarisia 13: 660. 1889.

Cosmarium amphalum Scharrsch., Magyar Növényt. Lapok 4: 102. 1880.

Distribution: Karnataka (Shivamogga)
Habitat: Freshwater.

Cosmarium pleurotaeniforme var. **simplex** G.R.Hegde, Phykos 25: 110. 1986.

Distribution: Karnataka (Shivamogga); endemic.
Habitat: Freshwater.

Cosmarium polymorphum var. **gronbladii** Kurt Först., Amazônia 2: 209. 1969.

Distribution: Karnataka (Uttara Kannada), West Bengal, Sikkim.
Habitat: Freshwater.

Cosmarium pseudobroomei Wolle, Bull. Torrey Bot. Club 11(2): 16. 1884.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Andaman & Nicobar, Jharkhand, Madhya Pradesh, Meghalaya, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Cosmarium pseudogranatum A.M.Scott & Prescott, Rec. Amer. Austral Sci. Exped. Arnhemland 3: 49. 1958.

var. **pseudogranatum**

Distribution: Karnataka (Shivamogga).
Habitat: Freshwater.

var. **rotundatum** (Willi Krieg.) Messik., Naturforscher (Leipzig) 80: 15. 1935.
Cosmarium granatum var. *rotundatum* Willi Krieg., Arch. Hydrobiol. 11: 154. 1932.
 Distribution: Karnataka (Dharwad), Andaman & Nicobar.
 Habitat: Freshwater.

Cosmarium pseudohehexagonoides Brühl & Biswas, Mem. Asiat. Soc. Bengal 8 (5): 289. 1926.
 Distribution: Karnataka (Uttara Kannada), Jharkhand, Maharashtra, Manipur.
 Habitat: Freshwater.

Cosmarium punctulatum Bréb., Mém. Soc. Imp. Sci. Nat. Cherbourg 4: 129. 1856.
 Distribution: Karnataka (Mysuru), Andaman & Nicobar, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra.
 Habitat: Freshwater.

Cosmarium pyramidatum Bréb. ex Ralfs, Brit. Desmid. 94. 1848.
 Distribution: Karnataka (Mysuru), Andhra Pradesh, Andaman & Nicobar, Chattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal.
 Habitat: Freshwater.

Cosmarium regnellii var. **chondrophorum** Skuja, Nova Acta Regiae Soc. Sci. Upsal. 16 (3): 15. 1956.
 Distribution: Karnataka (Uttara Kannada), Gujarat, Jammu & Kashmir.
 Habitat: Freshwater.

Cosmarium regnesii Reinsch, Abh. Senckenberg. Naturf. Ges. 6: 116. 1866.
 Distribution: Karnataka (Mysuru), Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Manipur.
 Habitat: Freshwater.

Cosmarium reniforme (Ralfs) W.Archer, J. Bot. 14: 92. 1874.
Cosmarium margaritifera var. *reniforme* Ralfs, Brit. Desmid. 100. 1848.
 Distribution: Karnataka (Shivamogga, Dharwad), Andhra Pradesh, Andaman & Nicobar, Bihar, Gujarat, Jammu & Kashmir, Jharkhand, Maharashtra, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

Cosmarium retusiforme (Wille) Gutw., Botz. Zentralbl. 43: 69. 1890.
Cosmarium hammeri f. *retusiforme* Wille, Christianias Phys. Aarbog 11: 45. 1880.
 Distribution: Karnataka (Mysuru, Uttara Kannada), Gujarat, Jammu & Kashmir, Uttar Pradesh.
 Habitat: Freshwater.

Cosmarium scabrum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 65. 1892.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater

Cosmarium sexangulare var. **minus** J.Roy & Bisset, J. Bot. 24: 195. 1886.
 Distribution: Karnataka (Shivamogga), Andhra Pradesh, Andaman & Nicobar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Uttar Pradesh.
 Habitat: Freshwater.

Cosmarium speciosum P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8: 34. 1871.
 Distribution: Karnataka (Mysuru), Andaman & Nicobar, Meghalaya, Maharashtra, Rajasthan, Sikkim, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

Cosmarium spinuliferum West & G.S.West, J. Linn. Soc. London Bot. 33: 118. 1897.

var. **major** U.D.Bongale, Phykos 25: 79. 1986.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

var. **rectangular** U.D.Bongale, Phykos 25: 80. 1986.

Distribution: Karnataka (Uttara Kannada, Mysuru); endemic.

Habitat: Freshwater.

var. **subcirculare** U.D. Bongale, Phykos 25: 81. 1986.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Cosmarium striolatum var. **nordstedtii** (K.Möbius) Willi Krieg., Arch. Hydrobiol. 11: 135. 1932.

Pleurotaeniopsis tessellata var. *nordstedtii* K.Möbius, Flora 3: 435. 1892.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium subexcavatum West & G.S.West, J. Bot. 38: 293. 1900.

Distribution: Karnataka (Mysuru), Andhra Pradesh.

Habitat: Freshwater.

Cosmarium subimpressulum Borge, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 19: 27. 1894.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Gujarat, Jammu & Kashmir, Jharkhand, Maharashtra.

Habitat: Freshwater.

Cosmarium subspeciosum Nordst., Öfvers. Kongl. Vetensk.-Akad. Förh. 32 (6): 22. 1875.

Distribution: Karnataka (Mysuru), Gujarat, Madhya Pradesh, Maharashtra, West Bengal.

Habitat: Freshwater.

Cosmarium subtumidum var. **circulare** Borge, Bot. Not. 1892: 57. 1892.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium taxichondrum P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8(2): 39. 1871.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Cosmarium tetraphthalmum var. **crassiverrucosum** Kurt Först., Rev. Algol. 2: 151. 1965.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Cosmarium tjibenongense f. **minor** G.S.West, Trans. Linn. Soc. London, Bot. 5: 247. 1896.

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

Cosmarium trachypleurum P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8(2): 27. 1871.

var. **trachypleurum**

Distribution: Karnataka (Shivamogga), Madhya Pradesh.

Habitat: Freshwater.

var. **nordstedtii** Gutw., Bull. Acad. Sci. Cracovie, Cl. Sci. Math. Nat. 9: 580.

Distribution: Karnataka (Shivamogga), Maharashtra.

Habitat: Freshwater.

Cosmarium trachypolum West & G.S. West, Trans. Linn. Soc. London, Bot. 5: 248. 1896.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium tumidum f. **inflata** Schmidle, Flora 78: 49. 1894.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium vexatum var. **aethiopicum** Kurt Först., Rev. Algol. 7 (3): 224. 1964.

Distribution: Karnataka (Uttara Kannada), Bihar, Jammu & Kashmir, Jharkhand.

Habitat: Freshwater.

Cosmarium viride (Corda) Joshua, J. Bot. 23: 34. 1885.

Colpopelta viridis Corda, Alman. Carlsbad. 1835: 170. 1835.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Manipur.

Habitat: Freshwater.

Cosmarium westii C. Bernard, Protococc. desmid. 91. 1908.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cosmarium zonatum var. **latum** A.M. Scott & Grönblad, Acta Soc. Sci. Fenn. 2(8): 56. 1957.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Desmidium C. Agardh ex Ralfs

Desmidium aptogonum Bréb., Alg. Falaise 65. 1835.

var. **aptogonum**

Distribution: Karnataka (Mysuru, Mysuru), Jammu & Kashmir, Jharkhand, Manipur, Maharashtra, West Bengal.

Habitat: Freshwater.

var. **tetragonum** West & G.S. West, Ann. Roy Bot. Gard. Calcutta 6: 199. 1907.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Desmidium baileyi f. **tetragonum** Nordst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 21: 220. 1870.

Distribution: Karnataka (Belagavi), Jharkhand, Madhya Pradesh, Sikkim, Uttar Pradesh.

Habitat: Freshwater.

Desmidium bengalicum W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 147. 1892.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, West Bengal.

Habitat: Freshwater.

Desmidium grevillei (Ralfs) de Bary, Unters. Conjugaten 76. 1858.

Didymoprium grevillei Ralfs, Brit. Desmid. 57. 1848.

Distribution: Karnataka (Shivamogga), West Bengal.

Habitat: Freshwater.

Desmidium pseudostreptonema West & G.S.West, Trans. Linn. Soc. London, Bot. 6: 193. 1902.

Distribution: Karnataka (Mysuru, Mysuru), Andhra Pradesh, Maharashtra.

Habitat: Freshwater.

Desmidium quadratum Nordst., Acta Univ. Lund. 9: 49. 1873.

Distribution: Karnataka (Mysuru), Tamil Nadu.

Habitat: Freshwater.

Desmidium suboccidentale A.M.Scott & Prescott, Hydrobiologia 17(1-2): 125. 1961.

Distribution: Karnataka (Belagavi), Madhya Pradesh.

Habitat: Freshwater.

Desmidium swartzii C.Agardh ex Ralfs, Brit. Desmid. 61. 1848.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Bihar, Delhi, Madhya Pradesh, Manipur, Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Docidium Bréb. ex Ralfs

Docidium baculum Bréb., Alg.Falaise. 59. 1835.

Distribution: Karnataka (Mysuru), Goa, Jammu & Kashmir, Manipur.

Habitat: Freshwater.

Euastrum Ehrenb. ex Ralfs

Euastrum acanthophorum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 82. 1892.

Distribution: Karnataka (Uttara Kannada), West Bengal.

Habitat: Freshwater

Euastrum ansatum Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1831: 82. 1832.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Assam, Kerala, West Bengal.

Habitat: Freshwater.

Euastrum bombayense Brandham, Brit. Phycol. Bull. 3: 192. 1967.

var. **bombayense**

Distribution: Karnataka (Mysuru, Mysuru), Andhra Pradesh.

Habitat: Freshwater.

var. **gokakense** U.D. Bongale & V.S.Kaulapur, Persp. Phycol. 75. 1990.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Euastrum dubium Nägeli, Gatt. einzell. Alg.122. 1849.

Distribution: Karnataka (Mysuru), Maharashtra, Manipur, Meghalaya, Odisha, West Bengal.

Habitat: Freshwater.

Euastrum insulare (Wittr.) J.Roy, Scott. Naturalist (Edinburgh) 1: 70: 1877.

Euastrum binale var. *insulare* Wittr., Nova Acta Regiae Soc. Sci. Upsal. 7: 14.1869.

f. **insulare**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra.

Habitat: Freshwater.

f. **dubia** Saxena & V.Venkat., Phykos 7: 171. 1968.

Distribution: Karnataka (Mysuru), Jammu & Kashmir; endemic.

Habitat: Freshwater.

Euastrum levatum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 80. 1892.

Distribution: Karnataka (Mysuru), West Bengal.

Habitat: Freshwater.

Euastrum londaens Bharati & Gonzalves, J. Karnataka Univ. 7: 176. 1962.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Euastrum platycerum Reinsch, Chlorophyceae 85. 1874.

Distribution: Karnataka (Uttara Kannada, Mysuru), Madhya Pradesh.

Habitat: Freshwater.

Euastrum pseudoquintenum Bharati & Gonzalves, J. Karnataka Univ. 7: 177. 1962.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Euastrum radiatum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 83. 1892.

Distribution: Karnataka (Mysuru), West Bengal.

Habitat: Freshwater.

Euastrum serratum Joshua, J. Linn. Soc. London, Bot. 21: 639. 1886.

Distribution: Karnataka (Uttara Kannada), Madhya Pradesh.

Habitat: Freshwater.

Euastrum spinulosum Delponte, Mem. Reale Accad. Sci. Torino 28: 97. 1876.var. **spinulosum**

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Chattisgarh, Gujarat, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, Uttarakhand, West Bengal.

Habitat: Freshwater.

var. **inermius** (Nordst.) C.Bernard, Protococc. desmid. 126. 1908.

Euastrum spinulosum subsp. *inermius* Nordst., Bot. Not. 1882: 96. 1882.

Distribution: Karnataka (Mysuru, Mysuru), Andaman & Nicobar, Andhra Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, West Bengal.

Habitat: Freshwater.

Euastrum substellatum Nordst., Acta Univ. Lund. 4: 8. 1880.

Distribution: Karnataka (Mysuru), Madhya Pradesh, Maharashtra, West Bengal.

Habitat: Freshwater.

Euastrum verrucosum Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1833: 247. 1834.

var. verrucosum

Distribution: Karnataka (Mysuru), Delhi, Himachal Pradesh, Jharkhand, Uttar Pradesh.
Habitat: Freshwater.

var. vallesiacum Viret, Bull. Soc. Bot. Genève 1(2): 259. 1909.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Jammu & Kashmir, Uttar Pradesh.
Habitat: Freshwater.

Hyalotheca Ehrenb. ex Ralfs**Hyalotheca mucosa** Ralfs, Brit. Desmid. 53. 1848.

Distribution: Karnataka (Mysuru).
Habitat: Freshwater.

Micrasterias C.Agardh ex Ralfs**Micrasterias crux-melitensis** Menegh. ex Ralfs, Brit. Desmid. 73. 1848.

Distribution: Karnataka (Mysuru), Manipur.
Habitat: Freshwater.

Micrasterias euasteriellopsis Bharati, Rev. Algol. 8: 43. 1965.

Distribution: Karnataka (Uttara Kannada); endemic.
Habitat: Freshwater.

Micrasterias foliacea Bailey ex Ralfs, Brit. Desmid. 210. 1848.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Andhra Pradesh, Assam, Delhi, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Micrasterias lux Joshua, J. Linn. Soc. London, Bot. 21: 636. 1886.

Distribution: Karnataka (Uttara Kannada), Jammu & Kashmir, Madhya Pradesh.
Habitat: Freshwater.

Micrasterias pinnatifida Kütz. ex Ralfs, Brit. Desmid. 77. 1848.

Distribution: Karnataka (Mysuru, Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Delhi, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Manipur, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Micrasterias zeylanica F.E.Fritsch, Proc. Roy. Soc. London 79B: 246. 1907.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Kerala, West Bengal.
Habitat: Freshwater.

Onychonema G.C.Wall.**Onychonema laeve** Nordst., Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 21: 206. 1870.**var. laeve**

Distribution: Karnataka (Mysuru), Maharashtra.
Habitat: Freshwater.

var. latum West & G.S. West, Trans. Linn. Soc. London, Bot. 5: 232. 1896.

Distribution: Karnataka (Mysuru), Jharkhand, Madhya Pradesh, Sikkim, West Bengal.
Habitat: Freshwater.

Penium Bréb. ex Ralfs

Penium margaritaceum (Ehrenb.) Bréb., Brit. Desmid. 149. 1848.

Closterium margaritaceum Ehrenb., Organ. Infusionsthierchen 95. 1838.

Distribution: Karnataka (Shivamogga, Mysuru, Mysuru), Goa, Jammu & Kashmir, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Pleurotaenium Nägeli

Pleurotaenium australianum (Borgert) A.M.Scott & al., Acta Bot. Fenn. 69. 34. 1965.

Closterium australianum Borgert, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 17(2): 9. 1891.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Pleurotaenium baculoides (J.Roy & Bisset) Playfair, Proc. Linn. Soc. New South Wales 32: 162. 1907.

Docidium baculoides J.Roy & Bisset, J. Bot. 24: 241. 1886.

Distribution: Karnataka (Hassan), Goa, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Pleurotaenium coroniferum (Borgert) Willi Krieg., Rabenh., Krypt.-Fl. Sachsen 25. 1938.

var. **coroniferum**

Docidium coroniferum Borgert, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 7(2): 8. 1837.

Distribution: Karnataka (Shivamogga), West Bengal.

Habitat: Freshwater.

var. **multinodosum** A.M.Scott & Prescott, Hydrobiologia 17(1-2): 15. 1961.

Distribution: Karnataka (Shivamogga), Goa.

Habitat: Freshwater.

Pleurotaenium cylindricum var. **stuhlmannii** (Hieron.) Willi Krieg., Rabenh., Krypt.-Fl. Sachsen 1: 420. 1937.

Docidium cylindricum Hieron., Engl., Nat. Pflanzenfam. 52. 1842.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Andhra Pradesh, Goa, Madhya Pradesh.

Habitat: Freshwater.

Pleurotaenium ehrenbergii (Bréb. ex Ralfs) de Bary, Unters. conjugaten 75. 1858.

Docidium ehrenbergii Ralfs, Brit.Desmid. 157. 1848.

var. **ehrenbergii**

Distribution: Karnataka (Mysuru, Mysuru, Belagavi, Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Goa, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **elongatum** West, J.Linn. Soc. London, Bot. 29: 284. 1892.

Distribution: Karnataka (Shivamogga, Hassan), Goa.

Habitat: Freshwater.

var. **undulatum** Schaarschm., Magyar. Desm. 278. 1882.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Andaman & Nicobar, Goa, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Pleurotaenium eugeneum (W.B.Turner) West & G.S. West, Monogr. Brit. Desmid. 1: 202. 1904.

Docidium eugeneum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 30. 1892.

f. **eugeneum**

Distribution: Karnataka (Shivamogga), Goa, Maharashtra, West Bengal.

Habitat: Freshwater.

f. **constrictum** A.M.Scott & Prescott, Hydrobiologia 17(1-2): 15. 1961.

Distribution: Karnataka (Shivamogga), Goa.

Habitat: Freshwater.

Pleurotaenium indicum (Grunow) P. Lundell, Nova Acta Regiae Soc. Sci. Upsal. 3: 90. 1871.

Docidium indicum Grunow, Desm. Ins. 13. 1869.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Pleurotaenium karnatakense Bharati & Gonzalves, J. Karnataka Univ. 7: 175. 1962.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Pleurotaenium kayei Rabenh., Fl. Eur. Alg. 144. 1868.

Distribution: Karnataka (Shivamogga), Goa, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Pleurotaenium minutum var. **bourellyi** Grönblad & al., Acta Bot. Fenn. 58: 50. 1958.

Distribution: Karnataka (Shivamogga), Kerala, Madhya Pradesh.

Habitat: Freshwater.

Pleurotaenium ovatum Nordst., Öfvers. Kongl. Vetensk.-Akad. Förh. 3: 18. 1877.

var. **ovatum**

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Andhra Pradesh, Goa, Jammu & Kashmir, Madhya Pradesh, Maharashtra, West Bengal.

Habitat: Freshwater.

var. **inermis** M.Möbius, Flora 3: 12. 1892.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Goa, Madhya Pradesh.

Habitat: Freshwater.

Pleurotaenium pygmaeum Bharati & Gonzalves, J. Karnataka Univ. 7: 179. 1962.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Pleurotaenium subcoronulatum (W.B.Turner) West & G.S. West, J. Bot. 33: 66. 1895.

Docidium subcoronulatum W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 29. 1892.

Distribution: Karnataka (Shivamogga, Mysuru), Goa, Maharashtra, West Bengal.

Habitat: Freshwater.

Pleurotaenium trabecula (Ehrenb.) Nägeli, Gatt. einzell. Alg. 104. 1849.

Closterium trabecula Ehrenb., Infusionsthierchen 62. 1830.

var. **trabecula**

f. **trabecula**

Distribution: Karnataka (Mysuru, Mysuru), Goa, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

f. **clavata** (Kütz.) West & G.S. West, Bot. Trans. Yorkshire. Naturalists Union 5: 58. 1901.

Docidium clavatum Kütz., Ralfs, Brit. Desmid. 156. 1848.

Distribution: Karnataka (Hassan), Goa.

Habitat: Freshwater.

f. **maximum** (Reinsch) J. Roll, Desmid. 66. 1927.

Docidium maximum Reinsch., Spec. gener. Alg. 140. 1867.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Goa, Madhya Pradesh.

Habitat: Freshwater.

var. **rectum** (Delponte) West & G.S. West, Monogr. Brit. Desmid. 1: 212. 1904.

Pleurotaenium rectum Delponte, Spec. Desmid. subalp. 129. 1877.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Delhi, Maharashtra.

Habitat: Freshwater.

var. **robustum** Hust., Arch. Hydrobiol. Planktonk. 6: 324. 1911.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.

Habitat: Freshwater.

Pleurotaenium trochiscum West & G.S. West, J. Bot. 33: 64. 1895.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Pleurotaenium truncatum (Bréb.) Nägeli, Gatt. einzell. Alg. 104. 1849.

Closterium truncatum Bréb., Cheval micros. 272. 1839.

Distribution: Karnataka (Hassan), Andaman & Nicobar, Sikkim, West Bengal.

Habitat: Freshwater.

Pleurotaenium verrucosum (Ralfs) H.C. Wood, Smithsonian Contr. Knowl. 19: 121. 1873

var. **bulbosum** Willi Krieg., Rabenh., Krypt.-Fl. Sachsen 59. 1938.

Distribution: Karnataka (Uttara Kannada), Goa.

Habitat: Freshwater.

var. **validum** A.M. Scott & Grönblad, Acta Soc. Sci. Fenn. 2(8): 58. 1957.

Distribution: Karnataka (Shivamogga), Goa.

Habitat: Freshwater.

Spondylosium Bréb. ex Kütz.

Spondylosium planum (Wolle) West & G.S. West, J. Linn. Soc. London, Bot. 40: 430. 1912.

Sphaerosoma pulchrum var. *planum* Wolle, Desmids U.S. 29. 1884.

Distribution: Karnataka (Mysuru), Gujarat, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal.

Habitat: Freshwater.

Spondylosium pseudomoniliferum Bharati & Gonzalves, J. Karnataka Univ. 7: 178. 1962.

Distribution: Karnataka (Shivamogga, Mysuru); endemic.

Habitat: Freshwater.

Staurastrum Meyen ex Ralfs

Staurastrum arachne Ralfs, Brit. Desmid. 136. 1848.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum bieneanum Rabenh., Alg. Sachsen exs. 1410. 1856.

Distribution: Karnataka (Shivamogga), Andaman & Nicobar, Andhra Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Staurastrum bifidum Bréb. ex Ralfs, Brit. Desmid. 215. 1848.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Madhya Pradesh.

Habitat: Freshwater.

Staurastrum columbetoides West & G.S. West, J. Roy. Microscop. Soc. London 13: 65. 1894.

Distribution: Karnataka (Mysuru, Mysuru), Tamil Nadu.

Habitat: Freshwater.

Staurastrum corniculatum var. **spinigerum** West, J. Linn. Soc. London, Bot. 29: 171. 1892.

Distribution: Karnataka (Mysuru), Tamil Nadu.

Habitat: Freshwater.

Staurastrum coroniferum W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 114. 1892.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum dejectus (Bréb.) Teiling, Svensk Bot. Tidskr. 6: 275. 1912.

Xanthidium dejectus Bréb., Mém. Soc. Imp. Sci. Nat. Cherbourg 4: 140. 1856.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Staurastrum dickiei var. **circulare** W.B. Turner, J. Roy. Microscop. Soc. London 5: 742. 1885.

Distribution: Karnataka (Shivamogga), Maharashtra.

Habitat: Freshwater.

Staurastrum dilatatum Ehrenb. ex Ralfs, Brit. Desmid. 133. 1848.

Distribution: Karnataka (Mysuru), Gujarat, Madhya Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Staurastrum forficulatum var. **minus** (F.E. Fritsch & Rich) Grönblad & A.M.Scott., Acta Bot. Fenn. 58: 52. 1958.

Xanthidium forficulatum F.E.Fritsch & Rich, Trans. Roy. Soc.South Africa 25(2): 179. 1937.

Distribution: Karnataka (Mysuru), Madhya Pradesh.

Habitat: Freshwater.

Staurastrum gonzalvesianum Bharati & G.R.Hegde, Phykos 21: 144. 1982.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Staurastrum gracile Ralfs, Brit. Desmid. 136. 1848.

Distribution: Karnataka (Mysuru), Jharkhand, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Staurastrum hexacerum (Ehrenb.) Wittr., Bih. Kongl. Svenska Vetensk.-Akad. Handl. 1: 51. 1872.

Desmidium hexaceros Ehrenb., Organ. Infusionsthierchen. 293. 1834.

var. **hexacerum**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Jharkhand, Madhya Pradesh, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

var. **pentagona** Willi Krieger., Arch. Hydrobiol. 11: 217. 1932.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum indentatum West & G.S.West, Trans. Linn. Soc. London, Bot. 5: 36. 1895.

Distribution: Karnataka (Uttara Kannada), Madhya Pradesh.

Habitat: Freshwater.

Staurastrum laeve Ralfs, Brit. Desmid. 131. 1848.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Staurastrum leptocladum var. **cornutum** Wille, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 8: 53. 1884.

Distribution: Karnataka (Mysuru), Madhya Pradesh.

Habitat: Freshwater.

Staurastrum manfeldtii Delponte, Mem. Reale Accad. Sci. Torino 30: 64. 1878.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum megacanthum P.Lundell, Nova Acta Regiae Soc. Sci. Upsal. 8: 61. 1871.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Staurastrum orbiculare Meneghini ex Ralfs, Brit. Desmid. 125, pl. 21, fig. 5. 1848.

var. **depressum** J.Roy & Bisset, J. Bot. 10: 237. 1886.

Distribution: Karnataka (Uttara Kannada), Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur.

Habitat: Freshwater.

var. **ralfsii** West & G.S. West, J. Linn. Soc. London, Bot 40: 156. 1912.

Distribution: Karnataka (Shivamogga), Maharashtra.

Habitat: Freshwater.

Staurastrum pachyrhynchum Nordst., Öfvers. Kongl. Vetensk.-Akad. Förh. 6: 32. 1875.

Distribution: Karnataka (Mysuru, Mysuru), Andaman & Nicobar, Himachal Pradesh, Jharkhand, Madhya Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Staurastrum prescottii Bharati & G.R.Hegde, Phykos 21: 145. 1982.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Staurastrum pseudounicorne Bharati & G.R.Hegde, Phykos 21: 146. 1982.

Distribution: Karnataka (Shivamogga, Mysuru); endemic.

Habitat: Freshwater.

Staurastrum pyramidatum West & G.S. West, J. Linn. Soc. London, Bot. 29: 179. 1892.

Distribution: Karnataka (Hassan).

Habitat: Freshwater.

Staurastrum retusum W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5):104. 1892.

Distribution: Karnataka (Mysuru), Gujarat.

Habitat: Freshwater.

Staurastrum sexangulare var. **intermedium** W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 117. 1892.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum subarmigeram J. Roy & Bisset, J. Bot. 10: 245. 1886.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum sunderbundense W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 124. 1892.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Staurastrum tohopekaligense Wolle, Bull. Torrey Bot. Club 12: 128. 1885.

Distribution: Karnataka (Mysuru), Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Staurastrum unicorne W.B. Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 107. 1892.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Assam, Jharkhand, West Bengal.

Habitat: Freshwater.

Triploceras Bailey

Triploceras gracile Bailey, Smithsonian Contr. Knowl. 2(8): 38. 1851.

var. **undulatum**

f. **undulatum**

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Sikkim, West Bengal.

Habitat: Freshwater.

f. **curvatum** A.M.Scott & Prescott, Hydrobiologia 17(1-2): 20. 1961.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **undulatum** A.M.Scott & Prescott, Hydrobiologia 17: 21. 1961.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Madhya Pradesh.

Habitat: Freshwater.

Xanthidium Ehrenb. ex Ralfs

Xanthidium acanthophorum var. **raciborskii** Gutw., Bull. Acad. Sci. Cracovie, Cl. Sci. Math. Nat. 1902: 585.1902.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Madhya Pradesh, West Bengal.

Habitat: Freshwater.

Xanthidium antilopaeum var. **hebridarum** West & G.S.West, Trans. Roy. Soc. Edinburgh 41(3): 500. 1905.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Madhya Pradesh, Maharashtra.

Habitat: Freshwater.

Xanthidium croasdalium G.R.Hegde, Curr. Sci. 55: 413. 1886.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Xanthidium hastiferum f. **plana** W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 100. 1892.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Xanthidium lepidum West & G.S.West, Trans. Roy. Irish Acad. 32: 29. 1902.

Distribution: Karnataka (Shivamogga), West Bengal.

Habitat: Freshwater.

Xanthidium perissacanthum var. **minus** A.M.Scott & Prescott, Hydrobiologia 17(1-2): 83. 1961.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Xanthidium raneegungense W.B.Turner, Bih.Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 102. 1892.

Distribution: Karnataka (Mysuru), Manipur.

Habitat: Freshwater.

Xanthidium riethalliense Bharati & G.R.Hegde, Phykos 21: 145. 1982.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Family: DICTYOSPHAERIACEAE

Dimorphococcus A. Braun

Dimorphococcus lunatus A.Braun, Alg.unicell. cog. 44. 1855.

Distribution: Karnataka (Mysuru), Assam, Andhra Pradesh, Gujarat, Kerala, Manipur, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: GONATOZYGACEAE**Gonatozygon** Bary

Gonatozygon aculeatum Hastings, Amer. Monthly Microscop. J. 12: 78. 1892.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Goa, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Gonatozygon brebissonii de Bary, Unters. conjugaten 77. 1858.

Distribution: Karnataka (Shivamogga), Gujarat, Madhya Pradesh.

Habitat: Freshwater.

Gonatozygon kinahani (W.Archer) Rabenh., Fl. Eur. Alg. 156. 1868.

Leptocystinema kinahani W.Archer., Proc. Nat. Hist. Soc. Wisconsin 5: 243. 1858.

Distribution: Karnataka (Mysuru), Maharashtra, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Gonatozygon monotaenium de Bary, Alg. Sachsen exs. 539. 1856.

Distribution: Karnataka (Shivamogga, Mysuru), Andhra Pradesh, Bihar, Goa, Gujarat, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Gonatozygon pilosum Wolle, Bull. Torrey Bot. Club. 5: 27. 1882.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Maharashtra.

Habitat: Freshwater.

Family: HYDRODICTYACEAE**Eremosphaera** De Bary

Eremosphaera gigas (W. Archer) Fott, Chlorophyceae 6: 27. 1972.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Gujarat, Jammu & Kashmir, Maharashtra, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Pediastrum Meyen

Pediastrum araneosum var. **rugulosum** (G.S. West) G.M. Sm., Bull. Torrey Bot. Club 43: 476. 1916.

Pediastrum boryanum var. *rugulosum* G.S. West, J. Linn Soc., Bot. 38: 132. 1907.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Kerala, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Pediastrum boryanum (Turpin) Menegh., Linnaea 14: 210. 1840.

Hierella boryana Turpin, Mém. Mus. Natl. Hist. Nat. 16: 319. 1828.

Distribution: Karnataka (Mysore, Dharwad), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Pediastrum duplex F.I.F. Meyen, Nova Acta Phys.- Med. Acad. Caes. Leop.- Carol. Nat. Curr. 14(2): 772. 1829.

var. duplex

Distribution: Karnataka (Mysuru), Gujarat, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. clathratum (A. Braun) Lagerh., Öfvers. Kongl. Vetensk. - Akad. Förh. 39(2): 56. 1882.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Odisha, Kerala, Madhya Pradesh, Tamil Nadu, West Bengal.
Habitat: Freshwater.

var. coronatum Racib., Pamiétn. Akad. Umiejctn. Krakowie, Wydz. Mat. - Przyr. 20: 24. 1889.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Kerala, Manipur, West Bengal.
Habitat: Freshwater.

var. gracillimum West & G.S. West, Trans. Linn. Soc., London Bot. 5: 52. 1895.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Bihar, Gujarat, Odisha, Kerala, Madhya Pradesh, Delhi, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. reticulatum Lagerh., Öfvers. Kongl. Vetensk. - Akad. Förh. 39(2): 56. 1882.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Gujarat, Odisha, Kerala, Maharashtra, Tamil Nadu, West Bengal.
Habitat: Freshwater.

Pediastrum muticum Kütz., Sp. Alg. 193. 1849.**var. muticum**

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Uttarakhand.
Habitat: Freshwater.

var. longicorne Racib., Pamiétn. Akad. Umiejctn. Krakowie, Wydz. Mat. - Przyr. 20: 12. 1889.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.
Habitat: Freshwater.

Pediastrum simplex var. **duodenarium** (Bailey) Rabenh., Fl. Eur. Alg. 3: 72. 1868.

Monoactinus duodenarius Bailey, Smithsonian Contr. Knowl. 7(3): 14. 1855.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Bihar, Gujarat, Maharashtra, Manipur, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

Pediastrum tetras (Ehrenb.) Ralfs, Ann. Mag. Nat. Hist. 14: 469. 1844.

Micrasterias tetras Ehrenb., Infusionsthierchen 155. 1838.

var. tetras

Distribution: Karnataka (Uttara Kannada, Dharwad), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.
Habitat: Freshwater.

var. excisum (Rabenh.) Hansg., Prodr. Algenfl. Böhmen 112. 1886.

Pediastrum ehrenbergii var. *excisum* Rabenh., Fl. Eur. Alg. 78. 1868.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Kerala, Madhya Pradesh, Gujarat, Odisha, Uttar Pradesh.
Habitat: Freshwater.

Tetraedron Kütz.

Tetraedron bifurcatum f. **submammillata** (West & G.S. West) Philipose, Chlorococcales 149. 1967.

Tetraedron bifurcatum f. *mammillata* West & G.S. West, Ann. Roy Bot. Gard. Calcutta 6: 231. 1907.

Distribution: Karnataka (Uttara Kannada), Kerala.

Habitat: Freshwater.

Tetraedron caudatum (Corda) Hansg., Hedwigia 27(5-6): 131. 1888.

Astericium caudatum Corda, Alm. Carlsbad . 56. 1839.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Tetraedron gracile (Reinsch) Hansg., Hedwigia 28(1): 19. 1889.

Polyedrium gracile Reinsch, Notarisia 3(11): 502. 1888.

Distribution: Karnataka (Kodagu), Andaman & Nicobar, Assam, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Odisha, West Bengal.

Habitat: Freshwater.

Tetraedron pusillum (G.C. Wall.) West & G.S. West, J. Bot. 35: 237. 1897.

Micrasterias pusilla G.C. Wall., Ann. Mag. Nat. Hist. 5: 281. 1860.

Distribution: Karnataka (Uttara Kannada), Assam, Gujarat.

Habitat: Freshwater.

Tetraedron regulare (Nägeli) Kütz., Phycol. general. 129. 1845.

Polyedrium tetraedricum Nägeli, Gatt. einzell. Alg. 84. 1849.

var. **regulare**

Distribution: Karnataka (Kodagu), Andaman & Nicobar, Assam, Andhra Pradesh, Gujarat, Kerala, Maharashtra, Delhi, Odisha, Tamil Nadu, West Bengal.

Habitat: Freshwater.

var. **torsum** (W.B. Turner) Brunth., Pascher Süßwasserflora 5: 150. 1915.

Polyedrium tetraedricum f. *torsum* W.B. Turner, Bih. Kongl. Svenska Vetensk. - Akad. Handl. 25(5): 158. 1892.

Distribution: Karnataka (Mysuru), Maharashtra, Odisha, Tamil Nadu, West Bengal.

Habitat: Freshwater.

Tetraedron trigonum (Nägeli) Hansg., Hedwigia 27(5-6): 130. 1888.

Polyedrium trigonum Nägeli, Gatt. einzell. Alg. 84. 1849.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Assam, Andhra Pradesh, Gujarat, Kerala, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: MESOTAENIACEAE

Cylindrocystis Menegh. ex De Bary

Cylindrocystis brebissonii Menegh., Monogr. nostoch. ital. 89. 1842.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Madhya Pradesh, Sikkim, Tamil Nadu, Uttarakhand, West Bengal.

Habitat: Freshwater.

Cylindrocystis crassa de Bary, Unters. conjugaten 37. 1858.

Distribution: Karnataka (Mysuru), Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Sikkim, Tamil Nadu.

Habitat: Freshwater.

Cylindrocystis ovalis W.B.Turner, Bih. Kongl. Svenska Vetensk.-Acad. Handl. 25(5): 16. 1892.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Netrium (Nägeli) Itzigs. & Rothe

Netrium digitus (Ehrenb.) Itzigs. & Rothe, Alg.Sachsen exs. 508. 1856.

Closterium digitus Ehrenb., Organ. Infusionsthierchen 68. 1832.

var. **digitus**

Distribution: Karnataka (Shivamogga, Mysuru, Uttara Kannada), Andaman & Nicobar, Assam, Goa, Jammu & Kashmir, Jharkhand, Kerala, Madhya Pradesh, Meghalaya, Rajasthan, Sikkim, Tamil Nadu, West Bengal.

Habitat: Freshwater.

var. **lamellosum** (Bréb.) Grönblad, Acta Soc. Fanna Fl. Fenn. 47: 13. 1920.

Closterium lamellosum Bréb., Alg.falaise. 70. 1835.

Distribution: Karnataka (Shivamogga), Goa, Jharkhand, Kerala, Maharashtra

Habitat: Freshwater.

Family:MOUGEOTIACEAE

Mougeotia C.Agardh

Mougeotia bangalorensis M.O.P.Iyengar, Rev. Algol. 6: 266. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Mougeotia banneergattense M.O.P.Iyengar, Rev. Algol. 6: 265. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Mougeotia jogensis M.O.P.Iyengar, Rev. Algol. 6: 268. 1932.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Mougeotia trapaeziformis M.O.P.Iyengar, Rev. Algol. 6: 266. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Zygonium Kütz.

Zygonium ericetorum Kütz., Phycol. general. 446. 1843.

Distribution: Karnataka (Mysuru), Himachal Pradesh, Kerala, Tamil Nadu.

Habitat: Freshwater.

Zygonium talguppense M.O.P.Iyengar, Rev. Algol. 6: 263. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Family: OEDOGONIACEAE

Bulbochaete C.Agardh

Bulbochaete affinis f. **longa** Gonzalves & Sonnad, J. Univ. Bombay 25: 11. 1957.

Distribution: Karnataka (Dharwad), West Bengal; endemic.

Habitat: Freshwater.

Bulbochaete alabamensis var. **belgaumense** Gonzalves & Sonnad, J. Univ. Bombay 25: 5. 1957.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Bulbochaete angulosa f. **picta** Hirn, Acta Soc. Sci. Fenn. 27: 337. 1900.

Distribution: Karnataka (Belagavi)

Habitat: Freshwater.

Bulbochaete basispora Wittr. & Lund., Nova Acta Regiae Soc. Sci. Upsal. 9: 50. 1874.

Distribution: Karnataka (Belagavi), Uttar Pradesh.

Habitat: Freshwater.

Bulbochaete crassiuscula Nordst., Öfvers. Kongl. Vetensk.-Akad. Förh. 34: 30. 1877.

Distribution: Karnataka (Dharwad, Mysuru)

Habitat: Freshwater.

Bulbochaete denticulata Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 54. 1874.

Distribution: Karnataka (Belagavi)

Habitat: Freshwater.

Bulbochaete diamesandria Nordst. & Hirn, Acta Soc. Sci. Fenn. 27: 323. 1900.

Distribution: Karnataka (Belagavi), Maharashtra, West Bengal.

Habitat: Freshwater.

Bulbochaete elatior E.G.Pringsh., Jahrb. Wiss. Bot. 1: 73. 1858.

Distribution: Karnataka (Uttara Kannada), Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Bulbochaete gigantea E.G.Pringsh., Jahrb. Wiss. Bot. 1: 71. 1858.

Distribution: Karnataka (Belagavi), Jammu & Kashmir, Meghalaya, Uttarakhand.

Habitat: Freshwater.

Bulbochaete insignis E.G.Pringsh., Jahrb. Wiss. Bot. 1: 73. 1858.

f. **insignis**

Distribution: Karnataka (Belagavi), West Bengal.

Habitat: Freshwater.

f. **robusta** Gonzalves & Sonnad, J. Univ. Bombay 25: 12. 1957.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Bulbochaete macrandria S.H. Ley, Bot. Bull. Acad. Sin. 3: 106. 1949.

Distribution: Karnataka (Belagavi), Jharkhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Bulbochaete minor A Braun, Sp. Alg. 422. 1849.

Distribution: Freshwater – Karnataka (Dharwad).

Habitat: Freshwater.

Bulbochaete minuta West & G.S. West, Trans. Linn. Soc. London, Bot. 6: 126. 1902.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Bulbochaete mirabilis Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 137. 1870.

Distribution: Karnataka (Uttara Kannada)

Habitat: Freshwater.

Bulbochaete monile var. **crassa** Gonzalves & Sonnad, J. Univ. Bombay 25: 2. 1957.

Distribution: Karnataka (Belagavi), Uttar Pradesh; endemic.

Habitat: Freshwater.

Bulbochaete nigerica Gauth.-Liévre, Bull. Soc. Hist. Nat. Afrique Noire. 45: 105. 1954.

Distribution: Karnataka (Belagavi), Jharkhand, Maharashtra, Uttar Pradesh, West Bengal

Habitat: Freshwater.

Bulbochaete nordstedtii Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 44. 1874.

Distribution: Karnataka (Belagavi), West Bengal.

Habitat: Freshwater.

Bulbochaete praereticulata var. **globosa** Gonzalves & Sonnad, J. Univ. Bombay 25: 7. 1957.

Distribution: Karnataka (Belagavi), West Bengal; endemic.

Habitat: Freshwater.

Bulbochaete punctulata f. **indica** Gonzalves & Sonnad, J. Univ. Bombay 25: 6. 1957.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Bulbochaete pygmaea E.G. Pringsh., Jahrb. Wiss. Bot. 1: 74. 1858.

Distribution: Karnataka (Belagavi), West Bengal.

Habitat: Freshwater.

Bulbochaete rectangularis Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 142. 1870.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Bulbochaete sessilis var. **punctata** Gonzalves & Sonnad, J. Univ. Bombay 25: 4. 1957.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Bulbochaete valida f. **punctata** Gonzalves & Sonnad, J. Univ. Bombay 25: 8. 1957.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Bulbochaete varians var. **subsimplax** (Wittr.) Hirn., Acta Soc. Sci. Fenn. 27: 357. 1900.

Distribution: Karnataka (Belagavi), Kerala, Maharashtra, Uttarakhand, West Bengal.

Habitat: Freshwater.

Oedocladium E.Stahl

Oedocladium operculatum L.H.Tiffany, Brittonia 2: 165. 1936.

Distribution: Karnataka (Dharwad), Maharashtra, Uttarakhand.

Habitat: Terrestrial.

Oedogonium Link ex Hirn

Oedogonium abbreviatum (Hirn) L.H.Tiffany, Ohio J. Sci. 34: 325. 1934.

Oedogonium pringsheimii var. *abbreviatum* Hirn, Acta Soc. Sci. Fenn. 27: 173. 1900.

Distribution: Karnataka (Belagavi), Andhra Pradesh, Gujarat, Maharashtra.

Habitat: Freshwater.

Oedogonium alternans Wittr. & Lund., Nova Acta Regiae Soc. Sci. Upsal. 9: 20. 1874.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Oedogonium ambiceps (C.C. Jao) L.H.Tiffany, North Amer. Fl. 11: 79. 1937.

Oedogonium platygynum var. *ambiceps* C.C. Jao, Rhodora 36: 208. 1934.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium amplum Magh. & N.Wille, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 8: 40. 1884.

Distribution: Karnataka (Belagavi), Andhra Pradesh, Jharkhand.

Habitat: Freshwater.

Oedogonium arcyosporum Nordst. & Hirn, Acta Soc. Sci. Fenn. 27: 104. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium areolatum var. *elongatum* Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 717. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium armigerum Hirn, Acta Soc. Sci. Fenn. 27: 203. 1900.

Distribution: Karnataka (Belagavi), Gujarat.

Habitat: Freshwater.

Oedogonium aster Wittr., Bot. Not. 1872: 4. 1872.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium bharatense Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 719. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium brevicingulatum var. *robustum* Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 716. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium calvum Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 37. 1874.

Distribution: Karnataka (Belagavi), Assam, Uttar Pradesh.

Habitat: Freshwater.

Oedogonium cardiacum var. **carbonicum** Wittr., Alg. aquae dulc. exs. 504. 1883.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium carolinianum L.H. Tiffany, Ohio J. Sci. 34: 324. 1934.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium concatenatum (Hassall) Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 25. 1874.

Vesiculifera concatenata Hassall, Hist. Brit. freshwater Alg. 201. 1845.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.

Habitat: Freshwater.

Oedogonium confertum Hirn, Acta Soc. Sci. Fenn. 27: 272. 1900.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium costatosporum C.C. Jao, Pap. Michigan Acad. Sci. 19: 88. 1934.

var. **costatosporum**

Distribution: Karnataka (Dharwad), Andhra Pradesh, Maharashtra

Habitat: Freshwater.

var. **longisporum** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 718. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium crassum (Hassall) Wittr., Bih. Kongl. Svenska Vetensk.-Akad. Handl. 1: 20. 1872.

Vesiculifera crassa Hassall, Ann. Mag. Nat. Hist. 10: 389. 1842.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium crispum (Hassall) Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 10. 1874.

Vesiculifera vernalis Hassall, Ann. Mag. Nat. Hist. 11: 434. 1843.

var. **crispum**

Distribution: Karnataka (Belagavi, Uttara Kannada), Himachal Pradesh, Punjab.

Habitat: Freshwater.

var. **gracilescens** Wittr., Alg. aquae dulc. exs. 509. 1883.

Distribution: Karnataka (Belagavi), Andaman & Nicobar, Andhra Pradesh.

Habitat: Freshwater.

var. **hawaiense** Nordst., Minerva Peruana 7: 20. 1878.

Distribution: Karnataka (Belagavi), Andhra Pradesh, Maharashtra, West Bengal

Habitat: Freshwater.

var. **uruguayense** Mag. & N. Wille, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 8: 39. 1884.

Distribution: Karnataka (Belagavi), Andaman Gujarat, Uttarakhand.

Habitat: Freshwater.

Oedogonium cyathigerum Wittr., Öfvers Kongl. Vetensk.-Akad. Förh. 27: 131. 1870.

Distribution: Karnataka (Dharwad)

Habitat: Freshwater.

Oedogonium decipiens Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 126. 1870.

var. **decipiens**

Distribution: Karnataka (Dharwad), West Bengal.

Habitat: Freshwater.

var. **bernardense** (F.Bates) Hirn, Acta. Soc. Sci. Fenn. 27: 268. 1900.

Oedogonium bernardense F.Bates, Fl. Leicest. 313. 1886.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

var. **dissimile** (Hirn) L.H. Tiffany, North Amer. Fl. 11: 68. 1937.

Oedogonium decipiens f. *dissimile* Hirn, Acta Soc. Sci. Fenn. 27: 267. 1900.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Oedogonium dictyosporum Wittr., Nova. Acta Regiae Soc. Sci. Upsal. 9: 13. 1874.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Oedogonium diversum (Hirn) L.H. Tiffany, Ohio J. Sci. 34: 324. 1934.

Oedogonium capilliforme var. *australe* f. *diversum* Hirn, Acta Soc. Sci. Fenn. 27: 110. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium elegans var. **americanum** C.C. Jao, Rhodora 36: 204. 1934.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium eminens (Hirn) L.H. Tiffany, Ohio J. Sci. 34: 326. 1934.

Oedogonium monile var. *eminens* Hirn, Acta Soc. Sci. Fenn. 27: 231. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater

Oedogonium epiphyticum Transeau & L.H. Tiffany, Ohio J. Sci. 34: 325. 1934.

Distribution: Karnataka (Belagavi), Uttarakhand.

Habitat: Freshwater.

Oedogonium excavatum var. **minus** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 718. 1961.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Oedogonium exmonile L.H. Tiffany, Ohio J. Sci. 34: 326. 1934.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium exspirale L.H. Tiffany, Ohio J. Sci. 24: 184. 1924.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium fennicum (L.H.Tiffany) L.H.Tiffany, Ohio J. Sci. 34: 324. 1934.
Oedogonium intermedium var. *fennicum* L.H.Tiffany, Ohio J. Sci. 29: 74. 1929.
 Distribution: Karnataka (Mysuru), Maharashtra.
 Habitat: Freshwater.

Oedogonium flexuosum Hirn, Acta Soc. Sci. Fenn. 27: 313. 1900.
 Distribution: Karnataka (Dharwad), Maharashtra.
 Habitat: Freshwater.

Oedogonium foveolatum Wittr., Bot. Not. 1878: 133. 1878.
 Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Maharashtra.
 Habitat: Freshwater.

Oedogonium fragile Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 120. 1870.
 var. **fragile**
 Distribution: Karnataka (Belagavi), Maharashtra, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.
 Habitat: Freshwater.

var. **abyssinicum** Hirn, Acta Soc. Sci. Fenn. 27: 97. 1900.
 Distribution: Karnataka (Belagavi), Maharashtra, Uttar Pradesh.
 Habitat: Freshwater.

Oedogonium franklinianum Wittr., Alg. aquae dulc. exs. 309. 1880.
 Distribution: Karnataka (Belagavi), Maharashtra.
 Habitat: Freshwater.

Oedogonium glabrum Hallas, Bot. Tidsskr. 26: 408. 1905.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium globosum Nordst., Minneskr. Fys. Sällsk. Lund 7: 20. 1878.
 Distribution: Karnataka (Belagavi), Andaman & Nicobar, Arunachal Pradesh, Gujarat, Maharashtra, Uttarakhand, West Bengal.
 Habitat: Freshwater.

Oedogonium gracillimum Wittr. & Lund., Nova Acta Regiae Soc. Sci. Upsal. 9: 15. 1874.
 Distribution: Karnataka (Belagavi), Punjab.
 Habitat: Freshwater.

Oedogonium hallasiae L.H.Tiffany, Ohio J. Sci. 34: 325. 1934.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium hirnii Gutw., Rozpr. Spraw. Posiedzen Wydz. Mat.-Przyr. Akad. Umiejtn 33: 34. 1896.
 Distribution: Karnataka (Mysuru), Andhra Pradesh, Maharashtra, Punjab, Uttarakhand, Uttar Pradesh.
 Habitat: Freshwater and terrestrial.

Oedogonium hispidum Nordst., Öfvers. Kongl. Vetensk.-Akad Förh. 27: 128. 1870.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium illinoisense var. **indicum** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 721. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium implexum Hirn, Acta Soc. Sci. Fenn. 27: 283. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium inclusum Hirn, Acta Soc. Sci. Fenn. 11: 21. 1895.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Oedogonium inconspicuum Hirn, Acta Soc. Sci. Fauna Fl. Fenn. 11: 23. 1895.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium indicum Hirn, Acta Soc. Sci. Fenn. 27: 269. 1900.

Distribution: Karnataka (Belagavi), Gujarat, Maharashtra.

Habitat: Freshwater.

Oedogonium kirchneri var. **maius** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 120. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium kurzii G.Zeller, J. Asiat. Soc. Bengal 42: 189. 1873.

Distribution: Karnataka (Belagavi), Uttarakhand,

Habitat: Freshwater.

Oedogonium laetevirens var. **amplum** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 722. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium lageniforme Hirn, Acta Soc. Sci. Fenn. 27: 291. 1900.

var. **lageniforme**

Distribution: Karnataka (Uttara Kannada), Kerala, Uttar Pradesh.

Habitat: Freshwater.

var. **ellipsoideum** (C.C.Jao) Morzińska, Süßwasserflora 14: 134. 1985.

Oedogonium ellipsoideum C.C. Jao, Sin. Contr. 8: 305. 1937.

Distribution: Karnataka (Belagavi), Maharashtra, West Bengal.

Habitat: Freshwater.

Oedogonium landsboroughi (Hassall) Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 35. 1874.

Vesiculifera landsboroughi Hassall, Ann. Mag. Nat. Hist. 10: 389. 1842.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Oedogonium leiopleurum Nordst. & Hirn, Acta Soc. Sci. Fenn. 27: 126. 1900.

Distribution: Karnataka (Dharwad), Maharashtra, Uttarakhand.

Habitat: Freshwater.

Oedogonium majus (Hansg.) L.H.Tiffany, Ohio J. Sci. 34: 324. 1934.

Oedogonium grande var. *majus* Hansg., Arch. NaturschutzLandschaftsf. 5: 45. 1886.

Distribution: Karnataka (Belagavi), West Bengal.

Habitat: Freshwater.

Oedogonium martinicense Hirn, Acta Soc. Sci. Fenn. 27: 134. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium mitratum Hirn, Acta Soc. Fauna Fl. Fenn. 11: 22. 1895.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Oedogonium monile Berk. & Harv., Hooker's, J. Bot. Kew Gard. Misc. 2: 342. 1860.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium mysorensense Gonzalves, Oedogoniales 219. 1981.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Oedogonium nobile Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 14. 1874.

var. **nobile**

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

var. **minus** Hirn, Acta Soc. Sci. Fenn. 27: 190. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium obesum (Wittr.) Hirn, Acta Soc. Sci. Fenn. 27: 166. 1900.

Oedogonium pyrulum var. *obesum* Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 33: 44. 1876.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium oblongellum O.Kirchn. ex Hirn, Acta Soc. Sci. Fenn. 27: 182. 1900.

Distribution: Karnataka (Belagavi), Maharashtra, Punjab.

Habitat: Freshwater.

Oedogonium oboviforme Wittr., Bot. Not. 1878: 140. 1878.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium obruncatum Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 41. 1874.

Distribution: Karnataka (Belagavi), Maharashtra, Pondicherry.

Habitat: Freshwater.

Oedogonium oelandicum Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 17. 1874.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium paludosum (Hassall) Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 124. 1870.
Vesiculifera paludosa Hassall, Hist. Brit. freshwater Alg. 199. 1845.
 Distribution: Karnataka (Mysuru).
 Habitat: Freshwater.

Oedogonium patulum L.H. Tiffany, Ohio J. Sci. 34: 324. 1934.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium paucostriatum L.H. Tiffany, Ohio J. Sci. 34: 325. 1934.
 Distribution: Karnataka (Belagavi), Maharashtra.
 Habitat: Freshwater.

Oedogonium perspicuum Hirn, Acta Soc. Sci. Fenn. 27: 273. 1900.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium pithophorae Wittr., Bot. Not. 1878: 141. 1878.
 Distribution: Karnataka (Belagavi), Uttarakhand.
 Habitat: Freshwater.

Oedogonium pratense Transeau, Amer. J. Bot. 1: 297. 1914.
 Distribution: Karnataka (Belagavi), Jharkhand, Maharashtra.
 Habitat: Freshwater.

Oedogonium pringsheimii C.E. Cramer, Hedwigia 2: 17. 1859.

var. **pringsheimii**
 Distribution: Karnataka (Dharwad), Andhra Pradesh, Maharashtra.
 Habitat: Freshwater.

var. **nordstedtii** Wittr., Alg. aquae dulc. exs. 8. 1877.
 Distribution: Karnataka (Dharwad), Andhra Pradesh, Maharashtra, West Bengal.
 Habitat: Freshwater.

Oedogonium pseudacrosporium Wittr. ex Hirn, Acta Soc. Sci. Fenn. 27: 193. 1900.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Oedogonium pseudoboscii Hirn, Acta Soc. Fauna Fl. Fenn. 11: 21. 1895.
 Distribution: Karnataka (Belagavi).
 Habitat: Freshwater.

Oedogonium pseudospirale Nygaard, Trans. Roy. Soc. South Africa 20: 136. 1932.
 Distribution: Karnataka (Belagavi), Andhra Pradesh, Gujarat, Maharashtra.
 Habitat: Freshwater.

Oedogonium punctatostriatum de Bary, Abh. Senckenberg. Naturf. Ges. 1: 47. 1854.
 Distribution: Karnataka (Belagavi), Uttar Pradesh.
 Habitat: Freshwater.

Oedogonium pusillum O.Kirchn., Cohn Krypt.-Fl. Schlesien 2: 59. 1878.

var. **pusillum**

Distribution: Karnataka (Belagavi), Andhra Pradesh, Kerala, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

var. **minus** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 723. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium pyrulum Wittr., Bot. Not. 1872: 2. 1872.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium richterianum Lemmerm., Forschungsber. Biol. Stat. Plön 3: 26. 1895.

Distribution: Karnataka (Belagavi), Maharashtra, Uttarakhand.

Habitat: Freshwater.

Oedogonium rugulosum Nordst., Öfvers. Kongl. Vetensk.-Akad. Förh. 34: 28. 1877.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Gujarat, Maharashtra.

Habitat: Freshwater.

Oedogonium rupestre Hirn, Acta Soc. Sci. Fenn. 27: 168. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium santurcense L.H. Tiffany, Brittonia 2: 168. 1936.

Distribution: Karnataka (Belagavi), Maharashtra, Uttarakhand.

Habitat: Freshwater.

Oedogonium selandiaae Hallas, Bot. Tidsskr. 26: 496. 1905.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium senegalense (Nordst.) L.H. Tiffany, Ohio J. Sci. 34: 326. 1934.

Oedogonium longicolle var. *senegalense* Nordst., Acta Univ. Lund. 16: 13. 1880.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium sexangulare A. Cleve, Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 131. 1870.

Distribution: Karnataka (Belagavi), Maharashtra, West Bengal.

Habitat: Freshwater.

Oedogonium simplex Hirn, Acta Soc. Sci. Fenn. 27: 158. 1900.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh.

Habitat: Freshwater.

Oedogonium spinosum Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 718. 1961.

Distribution: Karnataka (Belagavi); endemic.

Habitat: Freshwater.

Oedogonium spirale Hirn, Acta Soc. Sci. Fenn. 27: 201. 1900.

var. **spirale**

Distribution: Karnataka (Belagavi), Andhra Pradesh, Gujarat, Kerala.

Habitat: Freshwater.

var. **majus** Rama N. Singh, Proc. Indian Acad. Sci. 8B: 380. 1938.

Distribution: Karnataka (Belagavi), Uttar Pradesh; endemic.

Habitat: Freshwater.

Oedogonium stellatum Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 27: 129. 1870.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium subareolatum L.H. Tiffany, Brittonia 2: 168. 1936.

Distribution: Karnataka (Belagavi), Andaman & Nicobar, Maharashtra.

Habitat: Freshwater.

Oedogonium subrectum Hirn, Acta Soc. Sci. Fenn. 27: 141. 1900.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium suecicum Wittr., Bot. Not. 1872: 5. 1872.

Distribution: Karnataka (Belagavi).

Habitat: Freshwater.

Oedogonium tapeinosporum Wittr., Nova Acta Regiae Soc. Sci. Upsal. 9: 36. 1874.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Assam, Jammu & Kashmir, Maharashtra, Uttarakhand.

Habitat: Freshwater.

Oedogonium undulatum (Bréb.) Al-Braun, Abh. Senckenberg. Naturf. Ges. 1: 94. 1854.

Conferva undulata Bréb., Kütz., Sp. Alg. 375. 1849.

f. **undulatum**

Distribution: Karnataka (Belagavi), Manipur, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

f. **senegalense** (Nordst.) Hirn, Acta Soc. Sci. Fenn. 27: 261. 1900.

Oedogonium undulatum var. *senegalense* Nordst., Acta Univ. Lund 16: 13. 1880.

Distribution: Karnataka (Dharwad), Andhra Pradesh.

Habitat: Freshwater.

Oedogonium varians Wittr & Lund., Nova Acta Regiae Soc. Sci. Upsal. 9: 11. 1874.

Distribution: Karnataka (Belagavi), Andaman & Nicobar, Gujarat, Kerala, Maharashtra, Rajasthan.

Habitat: Freshwater.

Oedogonium vaucherii (L.L. Clerc) Algin, Abh. Königl. Akad. Wiss. Berlin 1855: 40. 1855.

Prolifera vaucherii L.L. Clerc, Mem. Mus. Hist. Nat. 3: 474. 1817.

var. **vaucherii**

Distribution: Karnataka (Belagavi), Andhra Pradesh, Gujarat, Maharashtra.

Habitat: Freshwater.

var. **parvum** Gonzalves & Sonnad, J. Bombay Nat. Hist. Soc. 58: 716. 1961.

Distribution: Karnataka (Haveri), Uttarakhand.

Habitat: Freshwater.

Oedogonium virceburgense Hirn, Öfvers. Finska Vetensk. Soc. Förh. 38. 8. 1896.

Distribution: Karnataka (Belagavi), Maharashtra.

Habitat: Freshwater.

Oedogonium welwitschii West & G.S.West, J. Bot. 35: 5. 1897.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Maharashtra, Rajasthan, West Bengal.

Habitat: Freshwater.

Oedogonium wolleanum Wittr., Bot. Not. 1878: 137. 1878.

Distribution: Karnataka (Belagavi), Assam, Jharkhand, Maharashtra.

Habitat: Freshwater.

Oedogonium wyliei L.H. Tiffany, Trans. Amer. Microscop. Soc. 45: 90. 1926.

Distribution: Karnataka (Belagavi, Uttara Kannada), Gujarat, Maharashtra.

Habitat: Freshwater.

Family: OOCYSTACEAE

Chlorella M. Beijerinck

Chlorella vulgaris Beij., Bot. Zeitung (Berlin) 48: 758. 1890.

Distribution: Karnataka (Mysuru), Himachal Pradesh, Jammu & Kashmir, Maharashtra, New Delhi, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Nephrocytium Nägeli

Nephrocytium lunatum West, J. Roy. Microscop. Soc. London 12: 736. 1892.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Gujarat, Uttarakhand, West Bengal.

Habitat: Freshwater.

Oocystis Nägeli ex A. Braun

Oocystis borgei J. Snow, U.S. Fish. Commiss. Bull. 22: 379. 1903.

Distribution: Karnataka (Raichur), Andaman & Nicobar, Andhra Pradesh, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Delhi, Odisha, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Oocystis eballocoystiformis M.O.P. Iyengar, Ann. Bot. (Oxford) 46(1-2): 224. 1932.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Uttar Pradesh.

Habitat: Freshwater.

Family: PALMELLACEAE

Sphaerocystis Chodat

Sphaerocystis schroeteri Chodat, Bull. Herb. Boissier 5: 292. 1897.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Gloeocystis Nägeli

Gloeocystis vesiculosa Nägeli, Gatt. Einzell. Alg. 66. 1849.

Distribution: Karnataka (Raichur), Maharashtra.

Habitat: Freshwater.

Family: SCENEDESMACEAE

Crucigenia Morren

Crucigenia apiculata (Lemmerm.) Schmidle, Allg. Bot. Z. Syst. 6: 234. 1900.

Staurogenia apiculata Lemmerm., Bot. Zentralbl. 76: 151. 1898.

Distribution: Karnataka (Mysuru), Assam, Odisha, Uttarakhand.

Habitat: Freshwater.

Crucigenia crucifera (Wolle) Collins, Tufts Coll. Stud., Sci. Ser. 2(3): 170. 1909.

Staurogenia crucifera Wolle, Bull. Torrey Bot. Club 6: 140. 1877.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Uttarakhand, West Bengal.

Habitat: Freshwater.

Crucigenia quadrata Morren, Ann. Sci. Nat. (Oporto) 20: 415. 1830.

Distribution: Karnataka (Mysuru), Assam, Himachal Pradesh, Jammu & Kashmir, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Desmodesmus (R.Chodat) S.S.An & al.

Desmodesmus acutus C.C.Jao & al., Acta Hydrobiol. Sin. 6: 15. 1976.

Distribution: Karnataka (Mysuru), Meghalaya.

Habitat: Freshwater.

Scenedesmus Meyen

Scenedesmus abundans (Kirchn.) Chodat, Matér. Levé Géobot. Suisse 4(2): 77. 1913.

Scenedesmus caudatus f. *abundans* Kirchn., F.Cohn Kryptogamenfl. Schlesien 2(1): 98. 1878.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir.

Habitat: Freshwater.

Scenedesmus acutiformis Schröd., Forschungsber Biol. Stat. Plön 5: 191. 1897.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh.

Habitat: Freshwater.

Scenedesmus arcuatus (Lemmerm.) Lemmerm., Forschungsber Biol. Stat. Plön 7: 112. 1899.

Scenedesmus bijugatus var. *arcuatus* Lemmerm., Bot. Zentralbl. 76: 159. 1898.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Jammu & Kashmir, Jharkhand, Kerala, Delhi, Odisha, Uttar Pradesh.

Habitat: Freshwater.

Scenedesmus armatus (Chodat) G.M.Sm., Trans. Wisconsin Acad. Sci. 18 (2): 460. 1916.

Scenedesmus hystrix var. *armatus* Chodat, Matér. Levé Géobot. Suisse 1 (3): 215. 1902.

var. **armatus**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, New Delhi, Orissa, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

var. **boglariensis** Hortob., Magyar Biol. Kutatóint Munkái 15: 108. 1943.

Distribution: Karnataka (Mysuru), Jammu & Kashmir.

Habitat: Freshwater.

Scenedesmus bijugatus Kütz., Syn. Diatom. 607. 1833.

var. **bijugatus**

f. **parvus** (G.M. Sm.) Philipose, Chlorococcales 256. 1967.

Scenedesmus bijuga var. *alternans* f. *parvus* G.M. Sm., Trans. Wisconsin Acad. Sci. 18 (2): 448. 1916.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Jammu & Kashmir, Maharashtra, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **alternans** (Reinsch) Hansg., Prodr. Algenfl. Böhmen 114. 1886.

Scenedesmus alternans Reinsch, Abh. Senckenberg Naturf. Ges. 6: 135. 1866.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Manipur, Orissa, Uttar Pradesh.

Habitat: Freshwater.

var. **bicellularis** (Chodat) Philipose, Chlorococcales 253. 1967.

Scenedesmus bicellularis Chodat, Schweiz. Z. Hydrol. 3 (3-4): 173. 1926.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Madhya Pradesh, Orissa, Uttar Pradesh.

Habitat: Freshwater.

var. **flexuosus** Lemmerm., Forschungsber. Biol. Stat. Plön 6: 191. 1898.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Orissa, Uttar Pradesh.

Habitat: Freshwater.

Scenedesmus denticulatus var. **lunatus** West & G.S. West, Trans. Linn. Soc., London Bot. 5: 82. 1895.

Distribution: Karnataka (Mysuru), Andhra Pradesh, Kerala, Madhya Pradesh.

Habitat: Freshwater.

Scenedesmus dimorphus (Turpin) Kütz., Linnaea 8: 608. 1833.

Achnanthes dimorpha Turpin, Dict. sci. nat. pl. bot. 309. 1820.

Distribution: Karnataka (Mysuru, Mysuru), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Scenedesmus hystrix Lagerh., Öfvers. Kongl. Vetensk.-Akad. Förh. 39 (2): 62. 1882.

Distribution: Karnataka (Mysuru), Assam.

Habitat: Freshwater.

Scenedesmus obliquus (Turpin) Kütz., Linnaea 8: 609. 1833.

Achnanthes obliqua Turpin, Dict. Sci. Nat. Pl. Bot. 307. 1820.

Distribution: Karnataka (Mysuru, Dharwad), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Scenedesmus perforatus Lemmerm., Forschungsber Biol. Stat. Plön 10: 104. 1903.

var. **perforatus**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Kerala, Orissa.

Habitat: Freshwater.

var. **major** (W.B.Turner) Philipose, Chlorococcales 282. 1967.

Scenedesmus quadricauda f. *major* W.B.Turner, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 25 (5): 161. 1892.

Distribution: Karnataka (Mysuru), Assam, Jammu & Kashmir, West Bengal.

Habitat: Freshwater.

Scenedesmus platydiscus (G.M.Sm.) Chodat, Schweiz. Z. Hydrol. 3(3-4): 175. 1926.

Scenedesmus arcuatus var. *platydisca* G.M. Sm., Trans. Wisconsin Acad. Sci. 18(2): 451. 1916.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Kerala, Odisha, West Bengal.

Habitat: Freshwater.

Scenedesmus quadricauda (Turpin) Bréb., Mém. Soc. Imp. Sci. Nat. Cherbourg 4: 66. 1856.

Achnanthes quadricauda Turpin, Dic. Sci. Nat. Pl. Bot. 196. 1820.

var. **quadricauda**

Distribution: Karnataka (Dharwad, Mysuru), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **quadripina** (Chodat) G.M.Sm., Trans. Wisconsin Acad. Sci. 18(2): 479. 1916.

Scenedesmus quadripina Chodat, Matér. Levé Géobot. Suisse 4 (2): 58. 1913.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

var. **westii** G.M. Sm., Trans. Wisconsin Acad. Sci. 18 (2): 480. 1916.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Kerala, New Delhi, Orissa, Uttar Pradesh.

Habitat: Freshwater.

Tetrallantos Teiling

Tetrallantos lagerheimii Teiling, Svensk Bot. Tidskr. 10: 62. 1916.

Distribution: Karnataka (Kodagu), Andaman & Nicobar, Gujarat, Kerala, Maharashtra, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: SELENASTRACEAE

Ankistrodesmus Corda

Ankistrodesmus bibraianus (Reinsch) Korshikov, Vizna Pris. 85. 1953.

Selenastrum gracile Reinsch, Algenfl. mittl. Franken 65. 1867.

Distribution: Karnataka (Mysuru), Assam, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Ankistrodesmus falcatus (Corda) Ralfs, Brit. desmid. 180. 1848.

Micrasterias falcata Corda, Alm. Carlsbad. 206. 1835.

var. **falcatus**

Distribution: Karnataka (Mysuru), Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Orissa, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **radiatus** (Chodat) Lemmerm., Arch. Hydrobiol. Planktonk 4: 175. 1908.

Raphidium polymorphum var. *radiatum* Chodat, Matér. Levé Géobot. Suisse 1 (3): 198. 1902.

Distribution: Karnataka (Mysuru), Jammu & Kashmir, Orissa.

Habitat: Freshwater.

Ankistrodesmus gracilis (Reinsch) Korshikov, Vizna. pris. 85. 1953.

Selenastrum bibraianum Reinsch, Algenfl. mittl. Franken 64. 1867.

Distribution: Karnataka (Mysuru, Kodagu), Assam, Himachal Pradesh, Jammu & Kashmir, Meghalaya, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Ankistrodesmus spiralis (W.B. Turner) Lemmerm., Arch. Hydrobiol. Planktonk 4: 176. 1908.

Raphidium spirale W.B. Turner, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 25 (5): 156. 1892.

var. **spiralis**

Distribution: Karnataka (Mysuru), Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Orissa, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **fasciculatus** G.M. Sm., Trans. Wisconsin Acad. Sci. 20: 336. 1922.

Distribution: Karnataka (Kodagu), Andaman & Nicobar, Assam, Jammu & Kashmir, Kerala, Madhya Pradesh, Odisha, West Bengal.

Habitat: Freshwater.

Kirchneriella Schmidle

Kirchneriella lunaris (Kirchn.) Moebius, Abh. Senckenberg. Naturf. Ges. 18: 331. 1894.

Raphidium convolutum var. *lunare* Kirchn., Alg. Krypt. Sch. 2 (1). 114. 1878.

Distribution: Karnataka (Dharwad, Uttara Kannada, Raichur), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Kirchneriella obesa (W. West) Schmidle, Ber. Naturf. Ges. Freiburg 7: 16. 1893.

Selenastrum obesum W. West, J. Roy. Microscop. Soc. London 12: 734. 1892.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Gujarat, Jammu & Kashmir, Kerala, Maharashtra, Orissa, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: SPONDYLOMORACEAE

Pyrobotrys Arnoldi

Pyrobotrys stellata (Korshikov) Korshikov, Volvoc. Vizna. Prisno. Vod. 4: 157. 1938.

Distribution: Karnataka (Mysuru), Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Family: TRENTEPOHLIACEAE

Cephaleuros Kunze

Cephaleuros parasiticus G. Karst., Ann. Jard. Bot. Buitenzorg 10: 32. 1891.

Distribution: Karnataka (Mysuru).

Habitat: Parasitic.

Family: ULVACEAE**Enteromorpha Link**

Enteromorpha clathrata (Roth) Grev., Alg. Brit. 181. 1830.

Conferva clathrata Roth, Catal. bot. 3: 175. 1806.

Distribution: Karnataka (Uttara Kannada), Goa, Gujarat, Kerala, Lakshadweep, Maharashtra, Tamil Nadu.

Habitat: Marine.

Enteromorpha flexuosa (Wulfen) J. Agardh, Till Alg. syst. 126. 1883.

Ulva flexuosa Wulfen, Arch. Bot. (Leipzig) 3: 1. 1803.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Goa, Gujarat, Kerala, Lakshadweep, Maharashtra, Tamil Nadu.

Habitat: Marine.

Enteromorpha intestinalis (L.) Nees, Horae phys. berol. 2: 40. 1820.

Ulva intestinalis L., Sp. Pl. 1163. 1753.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Goa, Gujarat, Kerala, Lakshadweep, Maharashtra, Odisha, Pondy cherry, Tamil Nadu, Uttarakhand, West Bengal

Habitat: Freshwater, brackish water and marine.

Ulva L.

Ulva fasciata Delile, Descr. Egypte, Hist. nat. 297. 1813.

Distribution: Karnataka (Uttara Kannada), Andaman & Nicobar, Andhra Pradesh, Goa, Gujarat, Kerala, Lakshadweep, Tamil Nadu.

Habitat: Freshwater, brackish water and marine.

Pithophora Wittr.

Pithophora oedogonia (Mont.) Wittr., Öfvers. Kongl. Vetensk.-Akad. Förh. 33(6): 55. 1877.

Conferva oedogonia Mont., Ann. Sci. Nat. Bot. 10: 56. 1850.

Distribution: Karnataka (Mysuru), Andaman & Nicobar, Bihar, Gujarat, Jharkhand, Maharashtra, Odisha, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Marine.

Family: VALONIACEAE**Ernodesmis Børgesen**

Ernodesmis verticillata (Kütz.) Børgesen, Bot. Tidsskr. 32: 259. 1912.

Valonia verticillata Kütz., Bot. Zeitung (Berlin) 5: 165. 1847.

Distribution: Karnataka, Kerala, Maharashtra.

Habitat: Marine*

Family: VAUCHERACEAE**Vaucheria DC.**

Vaucheria madhuensis R.J. Patel, Geophytology 10: 275. 1980.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Terrestrial.

Family: VOLVOCEAE**Pandorina** Bory de Saint-Vincent

Pandorina morum (O.F.Müll.) Bory, Encycl. Meth. 600. 1824.

Volvox morum O.F.Müll., Verm. terresInfus. 68. 1773.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Eudorina Ehrenb.

Eudorina elegans Ehrenb., Ber. Königl. Bot. Gart. Bot. Mus., Berlin 1831: 78. 1833.

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Maharashtra, Delhi, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Eudorina indica M.O.P. Iyengar, J. Linn. Soc. London, Bot. 49: 339. 1933.

Distribution: Karnataka (Mysuru), Tamil Nadu, Uttarakhand, Uttar Pradesh; endemic.

Habitat: Freshwater

Volvox L.

Volvox africanus f. **minor** M.O.P. Iyengar, J. Linn. Soc. London, Bot. 49: 371. 1933.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Volvox globator Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1831: 77. 1832.

Distribution: Karnataka (Mysuru), Gujarat, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Family: ZYGNEMACEAE**Debarya** (Wittr.) Transeau

Debarya jogensis M.O.P. Iyengar, Rev. Algol. 6: 269. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Spirogyra Link

Spirogyra jogensis M.O.P. Iyengar, J. Indian Bot. Soc. 37(3): 387. 1958.

Distribution: Karnataka (Mysuru), Jharkhand; endemic.

Habitat: Freshwater.

Zygnemopsis (Skuja) Transeau

Zygnemopsis hesaragattense M.O.P. Iyengar, Rev. Algol. 6: 259. 1932.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Zygnemopsis jogensis M.O.P. Iyengar, Rev. Algal. 6: 256. 1932.
Distribution: Karnataka (Mysuru), Jammu & Kashmir; endemic.
Habitat: Freshwater.

Zygnemopsis mysorensis M.O.P. Iyengar, Rev. Algal. 6: 257. 1932.
Distribution: Karnataka (Mysuru); endemic.
Habitat: Freshwater.

Zygnemopsis saravatiensis M.O.P. Iyengar, Rev. Algal. 6: 258. 1932.
Distribution: Karnataka (Mysuru); endemic.
Habitat: Freshwater.

Class: BACILLARIOPHYCEAE

Family: ACHNANTHACEAE

Achnanthes Bory

Achnanthes affinis Grunow, Kongal. Svenska Vet. -Akad. Handl. 17(2): 20. 1880.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater, terrestrial*.

Achnanthes biasolettiana Grunow, Kongal. Svenska Vet.- Akad. Handl. 17 (2): 22.1880.

f. **biasolettiana**
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

f. **minuta** Grunow, Kongal. Svenska Vet. -Akad. Handl. 27 (3). 189. 1895.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Achnanthes boyei Østrup, Bot. Iceland 2: 41.1918.
Distribution: Karnataka().
Habitat: Terrestrial*.

Achnanthes brevipes C. Agardh, Syst. Alg.: 1. 1824.
Distribution: Karnataka (Uttara Kannada).
Habitat: Marine.

Achnanthes citronella (A. Mann) Hust., Arch. Hydrobiol. suppl. 15: 197. 1937.
Cocconeis citronella A. Mann, U.S. Natl. Mus. Bull., 100, 6: 61. 1925.
Distribution: Karnataka (Uttara Kannada).
Habitat: Marine.

Achnanthes compacta A. Mann, U.S. Natl. Mus. Bull. 100, 6: 10. 1925.
Distribution: Karnataka (Uttara Kannada).
Habitat: Marine.

Achnanthes crenulata Grunow, Kongal. Svenska Vet. -Akad. Handl. 17(2): 20.1880.
var. **crenulata**
Distribution: Karnataka (Shivamogga, Uttara Kannada).
Habitat: Freshwater.

var. **elliptica** H.P.Gandhi, J. Roy. Micr. Soc. 79 (1): 86. 1960.
Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic.
Habitat: Freshwater.

var. **linearis** H.P.Gandhi, J. Roy. Micr. Soc. 79 (1): 85. 1960.
Distribution: Karnataka (Shivamogga, Uttara Kannada); Endemic.
Habitat: Freshwater.

Achnanthes elata (Leud.-Fort.) H.P. Gandhi, J. Roy. Micr. Soc., Ser. 3, 79 (1): 82. 1960.
Navicula elata Leud.-Fort., Cat. Diat. Ceylon 27. 1879.

var. **elata**
Distribution: Karnataka (Shivamogga, Uttara Kannada).
Habitat: Freshwater.

var. **curvula** H.P.Gandhi, J.Roy. Micr. Soc. Ser. 79 (1): 84. 1960.
Distribution: Karnataka (Shivamogga, Uttara Kannada).
Habitat: Freshwater.

Achnanthes exigua Grunow, Syn. Diat. Belgique 27. 1880.

var. **exigua**
Distribution: Karnataka (Uttara Kannada, Udupi), Maharashtra, West Bengal, Gujarat.
Habitat: Freshwater.

var. **heterovalvata** Krasske, Bot. Arch. 3. 193. 1923.
Distribution: Karnataka (Uttara Kannada), Maharashtra.
Habitat: Freshwater.

Achnanthes exilis Kütz., Linnaea 8(5) : 577. 1833.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Achnanthes fasciata H.P. Gandhi, Nova Hedwigia 31: 757. 1970.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Achnanthes hungarica (Grunow) Grunow, Kongal. Svenska Vet.-Akad. Handl. 17 (2): 20. 1880.
Achnanthidium hungaricum Grunow, Verh. K.K. Zool. Bot. Ges. Wien 13: 146. 1863.
Distribution: Karnataka (Uttara Kannada), Maharashtra.
Habitat: Freshwater.

Achnanthes hyperborea (Grunow) Grunow, Denkschr. Kongal. Akad. Wiss. [Wien], Math. - Nat. Cl. 48: 102. 1884.
Achnanthes taeniata var. *hyperborea* Grunow, Kongal. Svenska Vet. -Acad. Handl. 17(2): 22. 1880.
Distribution: Karnataka.
Habitat: Terrestrial*

Achnanthes inflata (Kütz.). Grunow, Alg.Novara 7. 1868.
Stauroneis inflata Kütz., Bacillarien 105. 1844.

var. **inflata**
Distribution: Karnataka (Uttara Kannada), Meghalaya, Maharashtra, Odisha, Tamil Nadu .
Habitat: Freshwater.

var. **gibba** H.P.Gandhi, J.Roy. Micr. Soc. 79 (1): 81. 1960.
Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic.
Habitat: Freshwater.

var. **javanica** H.P.Gandhi, Nova Hedwigia 11 (1-4): 95. 1966.
Distribution: Karnataka (Uttara Kannada); endemic.
Habitat: Freshwater.

Achnanthes jogensis H.P. Gandhi, Nova Hedwigia 11 (1-4): 96. 1966.
Distribution: Karnataka (Uttara Kannada); endemic.
Habitat: Freshwater.

Achnanthes lanceolata (Bréb. ex Kütz.). Grunow, Syn. Diat. Belgique 27. 1880.
Achnanthidium lanceolatum Bréb. ex Kütz., Bot. Zeitung 4 : 247. 1846.

var. **lanceolata**
Distribution: Karnataka (Uttara Kannada), Maharashtra, Himachal Pradesh.
Habitat: Freshwater.

var. **capitata** O.F. Müll., Bot. Jahrb. 43: 8. 1909.
Distribution: Karnataka (Uttara Kannada)
Habitat: Freshwater.

var. **dubia** Grunow, Syn. Diat. Belgique 17. 1880.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

var. **elegans** Cleve-Euler, K.Svenska Vet.-Akad. Handl., ser. 3, 11 (2): 59. 1932.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

var. **laterirostrata** H.P.Gandhi, Nova Hedwigia 11 (1-4): 99. 1966.
Distribution: Karnataka (Uttara Kannada); endemic.
Habitat: Freshwater.

var. **rhomboidea** H.P.Gandhi, Nova Hedwigia 11 (1-4): 100. 1966.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

var. **rostrata** Schulz, Bot. Arch. Königsb. 13: 192. 1926.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Achnanthes linearis Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 23. 1880.

var. **linearis**
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

var. **pusilla** (Grunow) Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 27 (3): 189. 1895.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Achnanthes microcephala (Kütz.) Grunow, Kongal. Svenska Vet.-Akad. Handl. 17 (2): 22. 1880.
Achnanthidium microcephalum Kütz., Bacillarien 75. 1844.
 Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada).
 Habitat: Freshwater and terrestrial*

Achnanthes minutissima Kütz., Alg. Aq. Dulc. Germ. 8: 4. 1834.

var. **minutissima**

Distribution: Karnataka (Uttara Kannada), Tamil Nadu, Gujarat.
 Habitat: Freshwater.

var. **cryptocephala** Grunow, Syn. Diat. Belgique: pl. 27, fig. 41-44. 1880.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

var. **genuina** Cleve-Euler, Diat. Schw. Finn., ser. 4, 4 (5): 76. 1953.

Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Achnanthes submontana H.P. Gandhi, Nova Hedwigia 31: 758. 1970.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Achnanthes trigibba Hust., Beih. Nova Hedwigia 31: 759. 1970.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Family: AMPHIPLEURACEAE

Frustulia Rabenh.

Frustulia jogensis H.P. Gandhi, Nova Hedwigia 31: 765. 1970.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Frustulia rhombiodes (Ehrenb.) De Toni, Syll. Alg. 2: 277. 1891.

Navicula rhomboides Ehrenb., Abh. K. Akad. Wiss. Berlin 1841: 419. 1841.
 Distribution: Karnataka (Bidar).
 Habitat: Freshwater.

Frustulia saxonica Rabenh. Süsw. - Diat. 50. 1853.

Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

Frustulia saxonica var. **typica** Cleve-Euler, K. Svenska Vet.-Akad. Handl., ser. 4, 3 (3): 8. 1952.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Frustulia vulgaris (Thwaites) De Toni, Syll. Alg. 2: 280. 1891.

Schizonema vulgare Thwaites, Ann. Mag. Nat. Hist. ser. 2, 1 (3): 170. 1848.

var. **vulgaris**

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

var. **capitata** Krasske, Bot. Arch. 3: 196. 1923.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **subcapitata** H.P.Gandhi, Hydrobiologia 14 (2): 103. 1959.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Family: ANOMOEONEIDACEAE

Anomoeoneis Pfitz.

Anomoeoneis brachysira var. **lanceolata** Cleve-Euler, Diat. Schw. Finn., ser. 4, 4 (5): 82. 1953.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Anomoeoneis exilis (Kütz.) Cleve, Kongal. Svenska Vet. - Akad. Handl. 27 (3): 8. 1895. *Navicula exilis* Kütz., Bacillarien 95. 1844.f. **exilis**

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

f. **lanceolata** (Mayer) Hust., Krypt.-Fl. 7 (2): 752. 1959.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Anomoeoneis sculpta (Ehrenb). Cleve, Kongal. Svenska Vet. - Akad. Handl. 27 (3): 6. 1895.

Navicula sculpta Ehrenb., Atlas Diat. 16. 1854.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Anomoeoneis serians (Bréb.) Cleve, K. Svenska Vet. - Akad. Handl., ser. 4, 27 (3): 7. 1895.

Frustulia serians Bréb., Consid. Diat.: 18. 1838.

var. **serians**

Distribution: Karnataka (Tumakuru).

Habitat: Marine.

var. **brachysira** (Bréb.) Hust., Pascher Süsw.-Fl. 10, 2: 164. 1930.

Navicula aponina var. *brachysira* Kütz., Sp. Alg. 69. 1849.

Distribution: Karnataka (Uttara Kannada)

Habitat: Freshwater.

var. **modesta** Cleve-Euler, Soc. Sci. Fenn., Comment. Biol. 4 (14): 70. 1875.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Anomoeoneis sphaerophora E. Pfitzer, Bot. Abh. (Bonn.) 1 (2): 77. 1871.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Rajasthan.

Habitat: Freshwater.

Anomoeoneis styriaca (Grunow) Hust., Pascher Süsw. –Fl. 10, 2: 265. 1930.

Navicula styriaca Grunow., Syn. Diat. Belg. Pl. 17: 7, 8. 1880.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater and terrestrial.

Family: AULACODISCACEAE

Aulacodiscus Ehrenb.

Aulacodiscus orientalis Grev., Trans. Micr. Soc. London, ser. 2, 12: 12. 1864.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Family: BACILLARIACEAE

Bacillaria J.F.Gmelin

Bacillaria paradoxa J.F.Gmelin, Syst. Nat. 1:390. 1791.

Distribution: Karnataka (Karnataka coast), Tamil Nadu, Arabian Sea, West Bengal.

Habitat: Freshwater, brackish water and marine.

Nitzschia Hassall

Nitzschia accommodata Hust., Explor. Parc. Natl. Albert, Mission H. Damas 8: 139. 1949.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia acicularis (Kütz.) W.Sm., Syn. Brit. Diat. I: 43. 1853.

Synedra acicularis Kütz., Bacillarien: 63. 1844.

Distribution: Karnataka (Tumakuru), West Bengal.

Habitat: Freshwater.

Nitzschia acuta Cleve, Bih. K. Svenska Vet. Akad. Handl. 5 (8): 13. 1878.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Nitzschia adapta Hust., Explor. Parc. Natl. Albert, Mission H. Damas 8: 135. 1949.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia amphibia Grunow, Verh. K. Zool. - Bot. Ges. Wien 12: 574. 1862.

var. **amphibia**

Distribution: Karnataka (Dharwad, Uttara Kannada, Shivamogga), Gujarat, Meghalaya, Rajasthan, Odisha, West Bengal.

Habitat: Freshwater.

var. **acutiuscula** Grunow, Kongal. Svenska Vet. - Akad. Handl. 17 (2): 98. 1880.
Distribution: Karnataka (Dharwad, Gandhi 1966), Gujarat.
Habitat: Freshwater.

var. **genuina** A. Mayer, Krypt. Forsch. 1: 210. 1919.
Distribution: Karnataka (Dharwad).
Habitat: Freshwater.

Nitzschia amphioxoides Hust., Explor. Parc. Natl. Albert, Mission H. Damas 8: 140. 1949.
Distribution: Karnataka.
Habitat: Terrestrial*

Nitzschia confinis Hust., Explor. Proc. Natl. Albert, Mission H. Dams 8: 145. 1949.
Distribution: Karnataka.
Habitat: Terrestrial.

Nitzschia deserta Hust., Explor. Parc. Natl. Albert, Mission H. Dams 8: 139. 1949.
Distribution: Karnataka (Raichur)
Habitat: Terrestrial*

Nitzschia dubia W. Sm., Syn. Brit. Diat. 1: 41. 1853.
Distribution: Karnataka.
Habitat: Terrestrial*

Nitzschia filiformis (W. Sm.) Hust., Explor. Proc. Natl. Albert, Mission H. Damas 8: 141. 1949.
Homoeocladia filiformis W. Sm., Syn. Brit. Diat. 80. 1856.
Distribution: Karnataka (Dharwad), Rajasthan.
Habitat: Freshwater.

Nitzschia frigida Grunow, Kongal. Svenska Vet. - Akad. Handl. 17 (2): 94. 1880.
Distribution: Karnataka (coastal areas).
Habitat: Marine.

Nitzschia frustulum (Kütz.) Grunow, Kongal. Svenska Vet. - Akad. Handl. 17 (2): 98. 1880.
Synedra frustulum Kütz., Bacillarien 63. 1844.
Distribution: Karnataka (Uttara Kannada), Rajasthan.
Habitat: Freshwater.

Nitzschia gracilis Hantzsch, Alg. Sachs. 946. 1860.
Distribution: Karnataka (Dharwad, Uttara Kannada, Mysuru).
Habitat: Freshwater.

Nitzschia graciloides H.P.Gandhi, Nova Hedwigia 31: 785. 1970.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Nitzschia ignorata Krasske, Bot. Arch. 27: 355. 1929.
Distribution: Karnataka (Shivamogga, Uttara Kannada).
Habitat: Freshwater.

Nitzschia intermedia Hantzsch ex Cleve & Grunow, Kongal. Svenska Vet. - Akad. Handl. 17 (2): 95. 1880.
Distribution: Karnataka (Mysuru), Tripura.
Habitat: Freshwater.

Nitzschia jugata H.P.Gandhi, J. Indian Bot. Soc. 35 (4): 330. 1955.

Distribution: Karnataka (Dharwad), Rajasthan..

Habitat: Freshwater.

Nitzschia levidensis (W.Sm.) Grunow, Syn. Diat. Belg. 107. 1881.

Tryblionella levidensis W.Sm., Syn. Brit. Diat. 89. 1856.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia linearis W. Sm., Syn. Brit. Diat. I: 39. 1853.

Distribution: Karnataka (Uttara Kannada, Mysuru), West Bengal, Rajasthan.

Habitat: Freshwater.

Nitzschia longissima (Bréb.) Grunow, Verh. K. Zool.-Bot. Ges. Wien 12: 581. 1862.

Ceratoneis longissima Bréb. ex Kütz., Sp. Alg.: 891. 1849.

Distribution: Karnataka (Uttara Kannada), Tamil Nadu, Odisha, Arabian Sea, Andhra Pradesh.

Habitat: Brackish water and marine.

Nitzschia lorenziana var. **subtilis** Grunow, Kongal. Svenska Vet. - Akad. Handl. 17 (2): 102. 1890.

Distribution: Karnataka (Dharwad, Uttara Kannada).

Habitat: Freshwater.

Nitzschia microcephala Grunow, Kongal. Svenska Vet. - Akad. Handle. 17 (2): 96. 1880.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia obtusa W.Sm., Syn. Brit. Diat. 1: 39. 1953.

var. **obtusa**

Distribution: Karnataka (Mysuru), Odisha, Andhra Pradesh.

Habitat: Brackish water.

var. **scalpelliformis** Grunow, Syn. Diat. Belg. 117. 1881.

f. **scalpelliformis**

Distribution: Freshwater – Karnataka (Dharwad, Uttara Kannada), Gujarat.

Habitat: Freshwater.

f. **parva** Hust., Atlas pl. 336: 25. 1921.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia palea (Kütz.) W.Sm., Syn. Brit. Diat. 2: 89. 1856.

Distribution: Karnataka (Dharwad, Uttara Kannada), Gujarat, Odisha, West Bengal, Maharashtra, Andhra Pradesh, Tamil Nadu, Rajasthan.

Habitat: Freshwater, brackish water and terrestrial*

Nitzschia perminuta (Grunow) Perag., La Cat. Gén. des Diat. 2: 435. 1845.

Nitzschia frustula var. *perminuta* Grunow, Syn. Diat. Belg. pl. 68: 31. 1881.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia pseudofonticola Hust., Abh. Naturw. Ver. Bremen 32. 209. 1942.

Distribution: Karnataka (Uttara Kannada), Tamil Nadu, Maharashtra.

Habitat: Freshwater.

Nitzschia pseudogracilis H.P.Gandhi, J. Indian Bot. Sci. 38 (3): 326. 1959.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Nitzschia pungens Grunow, Diat. 6: 307. 1882.

Distribution: Karnataka (Karnataka coast).

Habitat: Marine.

Nitzschia recta Hantzsch ex Rabenh., Alg.Eur. 1283. 1862.

Distribution: Karnataka (Uttara Kannada, Tumakuru), Tamil Nadu.

Habitat: Freshwater.

Nitzschia sigmoidea (Nitzsch) W.Sm., Syn. Brit. Diat. 1: 38. 1853.

Bacillaria sigmoidea Nitzsch, Neue Schr. Naturf. Ges. Halle 3: 104. 1816.

Distribution: Karnataka (Uttara Kannada, Udupi), Tripura, Arunachal Pradesh, Nagaland, Odisha, Bay of Bengal.

Habitat: Freshwater and marine.

Nitzschia sociabilis Hust., Abh. Naturw. Ver. Bremen 34: 354. 1957.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia spectabilis (Ehrenb.) Ralfs, Hist. Inf. Ed. 4: 782. 1861.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Nitzschia spiculoides Hust., Explor. Parc. Natl. Albert, Mission H. Damas 8: 151. 1949.

Distribution: Karnataka.

Habitat: Freshwater.

Nitzschia stagnorum Rabenh., Alg.Sachs (exsicc) 625. 1857.

Distribution: Karnataka, Tripura, West Bengal

Habitat: Freshwater and terrestrial*

Nitzschia subacicularis Hust., Atlas pl. 348: 76. 1922.

Distribution: Karnataka (Mysuru, Uttara Kannada).

Habitat: Freshwater.

Nitzschia subcommunis Hust., Explor. Parc Natl. Albert, Mission H. Damas 8: 146. 1949.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia sublinearis Hust., Atlas. Diat. 334. 1921.

Distribution: Karnataka (Dharwad, Uttara Kannada), Rajasthan.

Habitat: Freshwater.

Nitzschia subrostrata Hust., Int. Rev. Hydrobiol. Hydrogr. 42: 137. 1942.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Nitzschia subtilis (Kütz.) Grunow, K.Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 95. 1880.

Synedra subtilis (Kütz.) Kütz., Bacillarien: 64. 1844.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Nitzschia tarda Hust., Explor. Parc. Natl. Albert, Mission H. Damas 8: 138. 1949.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia taylorii Alakananda, P.B. Hamilton & Karthick, Phytotaxa 54: 15. 2012.

Distribution: Karnataka (Bengaluru), endemic.

Habitat: Freshwater.

Nitzschia thermalis var. **minor** Hilse, Abh. Schles. Ges. Vaterl. Cult., Abt. Naturw. Med. 1862 (2): 67. 1863.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater and terrestrial.

Nitzschia tryblionella var. **victoriae** (Grunow) Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 69. 1880.

Tryblionella victoriae Grunow, Verh. K. Zool.-Bot. Ges. Wien 12: 553. 1862.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Nitzschia umbilicata Hust., Eplorx. Parc. Natl. Albert. Mission H. Damas 8: 129. 1949.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia vivax W. Sm., Syn. Brit. Diat. 1: 41. 1853.

Distribution: Karnataka.

Habitat: Terrestrial*

Nitzschia williamsii Alakananda, P.B. Hamilton & Karthick, Phytotaxa 54: 19. 2012.

Distribution: Karnataka (Bengaluru), endemic.

Habitat: Freshwater.

Nitzschia woltereckii Hust., Int. Rev. Hydrobiol. Hydrogr. 42: 139. 1942.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Hantzschia Grunow

Hantzschia amphioxys (Ehrenb.) Grunow, Month. Micr. J. 18: 174. 1877.

Eunotia amphioxys Ehrenb., Ber. Königl. Akad. Wiss. Berlin 1841. 204. 1841.

var. **amphioxys**

f. **amphioxys**

Distribution: Karnataka (Uttara Kannada), West Bengal, Rajasthan.

Habitat: Freshwater and brackish water.

f. **capitata** O.F.Müll., Bot. Jahrb. 43: 34. 1909.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **densestriata** Lauby, Bull. Serv. Carte Géol. France 20: 215. 1910.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater and terrestrial.

var. **mugadensis** H.P.Gandhi, Ceylon J. Sci. (Biol. Sci.) 2 (1): 108. 1959.
 Distribution: Karnataka (Dharwad); endemic.
 Habitat: Freshwater.

Hantzschia distinctepunctata Hust., Atlas pl. 329: 21. 1921.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Hantzschia dubravicensis Grunow, Syn. Diat. Belg. pl. 107: 7. 1882.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Hantzschia elongata (Hantzsch) Grunow, Month. Micr. J. 18: 174. 1877.
Nitzschia vivax var. *elongata* Hantzsch, Hedwigia 2 (6): 35. 1860.
 Distribution: Karnataka, Rajasthan.
 Habitat: Freshwater and terrestrial*

Hantzschia linearis var. **capitata** H.P. Gandhi, Ceylon J. Sci. (Biol. Sci.). 2 (1): 109. 1959.
 Distribution: Karnataka (Dharwad); endemic.
 Habitat: Freshwater.

Hantzschia recta H.P. Gandhi, Ceylon J. Sci. (Biol. Sci.). 2 (1): 111. 1959.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Hantzschia virgata (Roper) Grunow, Month. Micr. J. 18: 1874. 1877.
Nitzschia virgata Roper, Quart. J. Micr. Sci. 6: 23. 1858.

var. **virgata**
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

var. **rostrata** H.P. Gandhi, Ceylon J. Sci. (Biol. Sci.). 2 (1): 110. 1959.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Hantzschia voigtii H.P. Gandhi, Ceylon J. Sci. (Biol. Sci.). 2 (1): 110. 1959.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Cylindrotheca Rabenh.

Cylindrotheca closterium (Ehrenb.) Reimann & Lewin, J. Roy. Micr. Soc., ser. 3, 83: 289. 1964.
Ceratoneis closterium Ehrenb., Ber Königl. Akad. Wiss. Berlin 1839: 257. 1839.
 Distribution: Karnataka (Dakshina Kannada), Odisha.
 Habitat: Brackish water and marine.

Cylindrotheca gracilis (Bréb.) Grunow, Syn. Diat. Belg. Expl. Pl. 80: 2. 1882.
Ceratoneis gracilis Bréb. ex Kütz., Sp. Alg. 89. 1849.
 Distribution: Karnataka (Udupi).
 Habitat: Freshwater.

Family: BIDDULPHIACEAE**Biddulphia** S.F. Gray

Biddulphia aurita (Lyngb.) Bréb., *Consid. Diat.*: 12. 1838.

Diatoma auritum Lyngbye, *Tent.* 182. 1819.

Distribution: Karnataka (Uttara Kannada), Arabian Sea.

Habitat: Marine.

Biddulphia longicuris Grev., *Quart. J. Microscop. Sci.* 7: 163. 1859.

Distribution: Karnataka (Uttara Kannada), West Bengal, Arabian Sea.

Habitat: Brackish water and marine.

Biddulphia mobiliensis (Bailey) Grunow, *Syn. Diat. Belg.* 101. 1882.

Zygoceros mobiliensis Bailey, *Smithson. Contrib. Knowl.* 2 (8): 40. 1851.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Odisha, Arabian Sea, Bay of Bengal, Kerala.

Habitat: Brackish water and marine.

Biddulphia pulchella S.F.Gray, *Nat. Arr. Brit.* 1: 294. 1821.

Distribution: Karnataka (Karnataka coast), Arabian Sea, Odisha.

Habitat: Brackish water and marine.

Biddulphia rhombus (Ehrenb.) W.Sm., *Syn. Brit. Diat. II*: 49. 1856.

Zygoceros rhombus Ehrenb., *Ber. K. Akad. Wiss. Berlin* 1839: 156. 1839.

Distribution: Karnataka (Dakshina Kannada), Bay of Bengal, Arabian Sea.

Habitat: Marine.

Biddulphia sinensis Grev., *Trans. Micr. Soc. London*, ser. 2, 14: 81. 1866.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Odisha, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Family: CATENULACEAE**Amphora** Ehrenb. ex Kütz.

Amphora capensis A.W.F.Schmidt, *Atlas*: pl. 25, figs. 49, 50. 1875.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Amphora castellata Giffen, *Hydrobiologia* 21: 216. 1963.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Amphora coffaeiformis (C.Agardh) Kütz., *Bacillarien*: 108. 1844.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Freshwater and marine.

Amphora costata W.Sm., *Syn. Brit. Diat. I*: 20. 1853.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Amphora gibba A.W.F.Schmidt, *Atlas*, pl. 39: 32. 1876.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Amphora laevis Greg., Trans. Roy. Soc. Edinburgh 21: 514. 1857.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Amphora marina W.Sm., Ann. Mag. Nat. Hist. ser. 2, 19: 7. 1857.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Amphora ovalis (Kütz.) Kütz., Bacillarien 107. 1844.

Frustulia ovalis Kütz., Linnaea 8(5): 539. 1833.

var. **ovalis**

f. **ovalis**

Distribution: Karnataka (Uttara Kannada, Mysuru, Tumakuru, Udupi), Meghalaya, Odisha, Tamil Nadu, Rajasthan.

Habitat: Freshwater, brackish water and marine.

f. **gracilis** (Her.) Hust., Pascher Süßw. –Fl. 10, 2: 342. 1930.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **affinis** (Kütz.) Pero, Nuova Notarisia 4: 271. 1893.

Amphora affinis Kütz., Bacillarien: 107. 1844.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **pediculus** (Kütz.) Pero, Nuova Notarisia 4: 271. 1893.

Cymbella pediculus Kütz., Bacillarien: 80. 1844.

Distribution: Karnataka (Uttara Kannada), Rajasthan.

Habitat: Freshwater.

Amphora veneta Kütz., Bacillarien 108. 1844.

Distribution: Karnataka (Dharwad, Uttara Kannada), Maharashtra, Himachal Pradesh, Gujarat.

Habitat: Freshwater and terrestrial.

Family: CHAETOCEROTACEAE

Chaetoceros Ehrenb.

Chaetoceros affinis Lauder, Trans. Micr. Soc., London 12: 78. 1864.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Odisha, Tamil Nadu.

Habitat: Brackish water and marine.

Chaetoceros bacteriastroides G.Karst., Wissenschaftliche Ergebnisse der Deutschen Tiefsee-Expedition auf dem Dampfer Valdivia: 390. 1907.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Chaetoceros brevis F.Schütt, Berichte der Deutsche Botanisch Gesellschaft 13: 38. 1895.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Chaetoceros coarctatus Lauder, Trans. Micr. Soc. London, ser. 2, 12: 79. 1864.

Distribution: Karnataka (Uttara Kannada), Tamil Nadu, Arabian Sea.

Habitat: Brackish water and marine.

Chaetoceros compressus Lauder, Trans. Micr. Soc. London, ser. 2, 12: 78. 1864.

Distribution: Karnataka (Dakshina Kannada), Odisha, Arabian Sea.

Habitat: Brackish water and marine.

Chaetoceros costatus Pavill., Bull. Soc. Bot. France 58: 24. 1911.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Chaetoceros curvisetus Cleve, Bih. K. Svenska Vet.-Akad. Handl. 22 (5): 29. 1896.

Distribution: Karnataka (Uttara Kannada, Dakshina Kannada), Odisha, Tamil Nadu.

Habitat: Brackish water and marine.

Chaetoceros decipiens Cleve, Bih. K. Svenska Vet. –Akad. Handl. 1 (13): 11. 1873.

Distribution: Karnataka (Dakshina Kannada), Odisha, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Chaetoceros eibenii Grun., Syn. des Diat. Belg. Pl. 82: 9, 10. 1844.

Distribution: Karnataka (Uttara Kannada), Odisha, Arabian Sea.

Habitat: Brackish water and marine.

Chaetoceros lacinosus F.Schütt, Berichte der Deutsche Botanisch Gesellschaft 13: 38. 1895.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Chaetoceros lorenzianus Grunow, Verh. K. Zool. - Bot. Ges. Wien. 13: 157. 1863.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada, Uttara Kannada), Odisha, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Chaetoceros mitra (Bailey) Cleve, Bih. K. Svenska Vet. –Akad. Handl. 22 (4): 8. 1896.

Dicladia mitra Bailey, Amer. J. Sc. & Arts, ser. 2, 22: 4. 1856.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Chaetoceros paradoxus Cleve, Bih. K. Svenska Vet. –Akad. Handl. 1 (11): 10. 1896.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Chaetoceros simplex Ostenf., Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening 1901: 137. 1902.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Chaetoceros socialis Lauder, Trans. Micr. Soc. London, ser. 2, 12: 77. 1864.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Chaetoceros subtilis Cleve, Bih. K. Svenska Vet. –Akad. Handl. 22 (5): 30. 1896.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Chaetoceros tenuissimus Meunier, Microplankton de la mer Flamande: 49. 1913.
Distribution: Karnataka (Dakshina Kannada).
Habitat: Marine.

Chaetoceros wighami Brightw., Quart. J. Micr. Soc. 4: 108. 1856.
Distribution: Karnataka (Dakshina Kannada), Bay of Bengal, Arabian Sea.
Habitat: Marine.

Bacteriastrum Shadbolt

Bacteriastrum furcatum Shadbolt, Trans. Micr. Soc. London, ser. 2, 2: 14. 1854.
Distribution: Karnataka (Dakshina Kannada), Odisha.
Habitat: Brackish water and marine.

Bacteriastrum hyalinum Lauder, Trans. Micr. Soc. London, ser. 2, 12: 8. 1864.
Distribution: Karnataka (Dakshina Kannada), Odisha, Tamil Nadu, Arabian Sea.
Habitat: Brackish water and marine.

Bacterosira Gran

Bacterosira fragilis (Gran) Gran, Nyt Mag. Naturv. 38: 114. 1900.
Distribution: Karnataka (Dakshina Kannada), Arabian Sea.
Habitat: Marine.

Family: COCCONEIDACEAE

Cocconeis Ehrenb.

Cocconeis hustedtii Krasske, Bot. Arch. 3: 193. 1923.
Distribution: Karnataka (Uttara Kannada).
Habitat: Freshwater.

Cocconeis littoralis R.Subrahm., Proc. Indian Acad. Sci. Sect. B., 24: 171. 1946.
Distribution: Karnataka (Karnataka coast), Arabian Sea; endemic.
Habitat: Marine.

Cocconeis pediculus Ehrenb., Infusionsthierchen: 194. 1838.
Distribution: Karnataka (Mysuru), Mizoram, Odisha.
Habitat: Freshwater, Brackish water.

Cocconeis placentula Ehrenb., Infusionsthierchen 194. 1838.

var. **placentula**

Distribution: Karnataka (Uttara Kannada, Mysuru, Tumakuru), Maharashtra, Himachal Pradesh, West Bengal, Tamil Nadu.
Habitat: Freshwater and marine.

var. **euglypta** (Ehrenb.) Cleve, Kongal Svenska Vet.- Akad. Handl. 27 (3): 170. 1895.

Cocconeis euglypta Ehrenb., Ber Königl. Akad. Wiss. Berlin 1853: 266. 1853.

Distribution: Karnataka (Dharwad, Uttara Kannada, Tumakuru, Shivamogga), Rajasthan, Maharashtra.
Habitat: Freshwater and marine.

var. **lineata** (Ehrenb.) Cleve, K. Sveska Vet. –Akad. Handl., ser. 4, 27 (3): 169. 1895.

Cocconeis lineata Ehrenb., Ber Königl. Akad. Wiss. Berlin 1845: 305. 1845.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Cocconeis quarnerensis (Grunow) Grunow, Jahresber. Komm. Unt. Deutsch. Meere Kiel 2: 93. 1874.

Rhaphoneis quarnerensis Grunow, Verh. K. Zool. Bot. Ges. Wien 12: 381. 1862.

Distribution: Karnataka

Habitat: Terrestrial*

Cocconeis scutellum Ehrenb., Ber Königl. Akad. Wiss. Berlin 1835: 173. 1836.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Brackish water and marine.

Family: CORETHRACEAE

Corethron Castrac.

Corethron hystrix Hensen, Ber. Kommiss. Wiss. Untersuch. Deutsch. Meere Kiel 5: 89. 1887.

Distribution: Karnataka (Karnataka coast), Odisha, Arabian Sea.

Habitat: Brackish water and marine.

Family: COSCINODISCACEAE

Coscinodiscus Ehrenb.

Coscinodiscus asteromphalus Ehrenb., Ber Königl. Akad. Wiss. Berlin 1844: 77. 1844.

Distribution: Karnataka (Uttara Kannada), Arabian Sea.

Habitat: Marine.

Coscinodiscus concinnus W.Sm., Syn. Brit. Diat. 2: 85. 1856.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Coscinodiscus radiatus Ehrenb., Ber Königl. Akad. Wiss. Berlin 1839: 155. 1839.

Distribution: Karnataka (Uttara Kannada, Dakshina Kannada), Maharashtra, Tamil Nadu, West Bengal, Bay of Bengal, Arabian Sea, Kerala.

Habitat: Freshwater, brackish water and marine.

Coscinodiscus rothii (Ehrenb.) Grunow, Naturw. Beitr. Kenntn. Kaukasusländer: 125. 1878.

Distribution: Karnataka (Karnataka coast).

Habitat: Marine.

Coscinodiscus subtilis Ehrenb., Ber Königl. Akad. Wiss. Berlin 1841: 412. 1841.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Family: CYMBELLACEAE

Cymbella C. Agardh

Cymbella affinis Kütz., Bacillarien 80. 1844.

Distribution: Karnataka (Shivamogga), Odisha, West Bengal, Himachal Pradesh.

Habitat: Freshwater.

Cymbella amhiccephala Nägeli ex Kütz., Sp. Alg. 890. 1849.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Nagaland.

Habitat: Freshwater.

Cymbella aspera (Ehrehb.) H. Peragallo, Diat. Hist. Nat. 237. 1889.

Cocconema asperum Ehrenb., Ber. Königl. Akad. Wiss. Berlin 1839: 31. 1839.

Distribution: Karnataka (Shivamogga, Uttara Kannada, Mysuru), Rajasthan, West Bengal, Tamil Nadu.

Habitat: Freshwater and marine..

Cymbella austriaca var. **subrhomboidea** (Østr.) Cleve-Euler, K. Svenska Vet. –Akad. Handl., ser. 3, 11 (2): 105. 1932.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella bengalensis Grunow, Atlas pl. 9: 12, 13. 1875.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella cistula (Hemprich & Ehrenb.) Kirchn., Alg. Schles. 189. 1878.

Bacillaria cistula Ehrenb., Symb. Phys. 4 (Anim. Evertibr.) 2: 10. 1828.

Distribution: Karnataka (Uttara Kannada, Udupi), Odisha.

Habitat: Freshwater and marine.

Cymbella cuspidata Kütz., Bacillarien 79. 1844.

Distribution: Karnataka (Tumakuru), West Bengal.

Habitat: Freshwater.

Cymbella cymbiformis C. Agardh, Consp. Diat. 10. 1830.

var. **cymbiformis**

Distribution: Karnataka (Shivamogga, Mysuru, Tumakuru), West Bengal, Tamil Nadu.

Habitat: Freshwater.

var. **jimboi** (Pantocsek) Cleve-Euler, Diat. Schw. Finn., ser. 4, 5 (4): 148. 1955.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

var. **multipunctata** Cleve-Euler, Diat. Schw. Finn., ser. 4, 5 (4): 148. 1955.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

var. **neroi** (Pantocsek) Cleve-Euler, Diat. Schw. Finn., ser. 4, 5 (4): 148. 1955.

Distribution: Karnataka (Dharwad)

Habitat: Freshwater.

var. **unipuncta** Cleve-Euler, Diat. Schw. Finn., ser. 4, 5 (4): 149. 1955.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Cymbella ehrenbergii Kütz., Bacillarien 79. 1844.

Distribution: Karnataka (Tumakuru), Arunachal Pradesh, Nagaland, Odisha, Himachal Pradesh.

Habitat: Freshwater.

Cymbella gracilis Kütz., Bacillarien 79. 1844.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella helvetica Kütz., Bacillarien 79. 1844.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella japonica Reichelt, Rev. Gen. Pl. 3 (3): 391. 1898.

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

Cymbella javanica Hust., Arch. Hydrobiol. Suppl. 15: 424. 1938.

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

Cymbella kerkevarensis Cleve-Euler, Diat. Schw. Finn., ser. 4, 5 (4): 152. 1955.

Distribution: Karnataka (Shivamogga); Maharashtra.

Habitat: Freshwater.

Cymbella kolbei Hust., Hydrobiologia 2: 46. 1949.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Cymbella lanceolata (C. Agardh) C. Agardh, Consp. Crit. Diat.: 9. 1830.

Frustulia lanceolata C. Agardh., Flora 10: 626. 1827.

Distribution: Karnataka (Tumakuru, Shivamogga), Meghalaya, West Bengal.

Habitat: Freshwater.

Cymbella minuta Hilse, Alg. Europ.: 1261. 1862.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Cymbella muelleri Hust., Arch. Hydrobiol. Suppl. 15: 425. 1938.

Distribution: Karnataka (Tumakuru).

Habitat: Freshwater.

Cymbella pusilla Grunow, Atlas, pl. 9: 37. 1875.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella radiosa Héríb., Diat. Foss. Auvergne 2: 15. 1903.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Cymbella rivularis H.P. Gandhi, J. Indian Bot. Soc. 38 (2): 324. 1959.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Cymbella sagarensis H.P. Gandhi, J. Indian Bot. Soc. 38 (2): 322. 1959.

Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic..

Habitat: Freshwater.

Cymbella sagarensis f. **gracilis** H.P.Gandhi, J. Indian Bot. Soc. 38 (2): 323. 1959.

Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic.

Habitat: Freshwater.

Cymbella spicula Hust., Arch. Hydrobiol. Suppl. 15: 422. 1938.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Cymbella subaequalis Grunow, Syn. Diat. Belg.: 61. 1885.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Cymbella tumida (Bréb. ex Kütz.) Van Heurck, Syn. Diat. Belg. Pl. 2: 10. 1880.

Cocconema tumidum Bréb. ex Kütz., Sp. Alg.: 60. 1849.

Distribution: Karnataka (Mysuru, Tumakuru, Shivamogga), Meghalaya, Tripura, Arunachal Pradesh, Nagaland, Odisha, Himachal Pradesh, West Bengal, Tamil Nadu.

Habitat: Freshwater

Cymbella turgida W.Greg., Quart. J. Micr. Sci. 4: 5. 1856.

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada); Maharashtra, Uttar Pradesh, Himachal Pradesh, West Bengal, Tamil Nadu, Rajasthan.

Habitat: Freshwater.

Cymbella turgidula Grunow, Atlas pl. 9: 23-26. 1875.

Distribution: Karnataka (Mysuru, Tumakuru), Odisha.

Habitat: Freshwater.

Cymbella ventricosa Kütz., Bacillarien 80. 1844.

var. **ventricosa**

Distribution: Karnataka (Shivamogga, Uttara Kannada), Himachal Pradesh, Tamil Nadu, Rajasthan, Maharashtra.

Habitat: Freshwater and terrestrial*

var. **genuina** Cleve-Euler, Kongal. Svenska Vet. -Akad. Handl. 11(2): 114. 1932.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

var. **minuta** (Hilse) Cleve–Euler, Kongal. Svenska Vet. -Akad. Hand. 5 (4): 125. 1955.

Cymbella minuta Hilse, Alg.europ. 1261. 1862.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Cymbella yarrensii (A.Schmidt) Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 26 (2): 162. 1894.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Gomphocymbella O.F. Müll.

Gomphocymbella ancyli (A. Cleve) Hust., Die Süßwasser –Flora Mitteleuropas 10 (2): 366. 1930.

Cymbella ancyli A.Cleve, Atlas pl. 236: 29, 30. 1902.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Family: DIPLONEIDACEAE**Diploneis** Ehrenb. ex Cleve

Diplones crabro (Ehrenb.) Ehrenb., Monatsber. K. Akad. Wiss. Berlin 1856: 428. 1856.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Diploneis elliptica (Kütz.) A.Cleve, Kongal. Svenska Vet. -Akad. Handl. 26 (2): 92. 1894.

Navicula elliptica Kütz., Bacillarien 98. 1844.

var. **elliptica**

Distribution: Karnataka (Shivamogga, Uttara Kannada, Mysuru, Udupi), Tripura.

Habitat: Freshwater.

var. **ladogensis** A.Cleve, Acta Soc. Fauna & Flora Fenn. 8 (2): 43. 1891.

Distribution: Karnataka (Shivamogga)

Habitat: Freshwater.

Diploneis pseudovalis Hust., Pascher Süsww. -Fl. 10: 2. 1930.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Gujarat

Habitat: Freshwater.

Diploneis puella (Schumann) A.Cleve, Kongal. Svenska Vet. -Akad. Handl. 26 (2): 92. 1894.

Navicula puella Schumann, Schr. Kongal. Phys. Dkon. Ges. Königsberg 8: 56. 1867.

Distribution: Karnataka (Dharwad, Karnataka coast), Arabian Sea.

Habitat: Freshwater and marine.

Diploneis splendida A.Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 26 (2): 87. 1894.

Navicula splendida Gregory, Trans. Micr. Soc. London, ser. 2, 4: 44. 1856.

Distribution: Karnataka (Karnataka coast).

Habitat: Marine.

Diploneis smithii var. **pumilla** Hust., Kryptogamen-Flora von Deutschland, Österreich und der Schweiz 7: 650. 1937.

Navicula ovalis var. *pumila* Grunow, Beitr. Paläont. Österr.-Ung. 2: 150. 1882.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Diploneis subovalis A.Cleve, Kongal. Svenska Vet. - Akad. Handl. 26 (2): 96. 1894.

var. **subovalis**

Distribution: Karnataka (Dharwad, Uttara Kannada), Nagaland, Maharashtra,

Habitat: Freshwater.

var. **jogensis** H.P. Gandhi, Nova Hedigia 11 (1-4): 121. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Diploneis subsmithii H.P. Gandhi, Nova Hedwigia 11 (1-4): 122. 1966

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Diploneis weisflogii (A. Schmidt) A.Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 26 (2): 91.1894.
Navicula weisflogii A.Schmidt, Atlas pl. 12: 31, 32. 1875.
 Distribution: Karnataka (Uttara Kannada), Odisha, Bay of Bengal, Arabian Sea.
 Habitat: Brackish water and marine.

Family: EUNOTIACEAE

Eunotia Ehrenb.

Eunotia alpina (Nägeli ex Kütz.) Hustedt, Atlas. Diat. 291. 1913.
Synedra alpina Nägeli ex Kütz., Sp. Alg. 43. 1849.
 Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

Eunotia ambigua H.P.Gandhi, Nova Hedwigia 11 (1-4): 124. 1966.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Eunotia arcus Ehrenb., Ber. Königl. Akad. Wiss. Berlin 1837. 45. 1837.
 Distribution: – Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater and terrestrial*

Eunotia cholnockyi H.P.Gandhi, Nova Hedwigia 11 (1-4): 124. 1966.

var. **cholnockyi**
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

var. **ventricosa** H.P. Gnadhi, Nova Hedwigia 11 (1-4): 125. 1966.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Eunotia diodon Ehrenb., Ber Königl. Akad. Wiss. Berlin 1837: 45. 1837.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Terrestrial*

Eunotia grunowii f. **uplandica** Cleve-Euler, Bot. Not. 1939: 437. 1939.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Eunotia jogensis H.P.Gandhi, Nova Hedwigia 11 (1-4): 126. 1966.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Eunotia laevis Ehrenb., Ber. K. Akad. Wiss. Berlin 1847: 304. 1847.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Eunotia lunaris (Ehrenb.) Grunow, Month. Micr. J. 18: 170. 1877.
Synedra lunaris Ehrenb., Abh. Königl. Akad. Wiss. Berlin Phys. 1831: 87. 1832.

var. **lunaris**
 Distribution: Karnataka (Uttara Kannada), Maharashtra, Rajasthan.
 Habitat: Freshwater and terrestrial*

var. **subarcuata** (Nägeli ex Kütz.) Grunow, Syn. Diat. Belg. expl. Pl. 35: 2. 1881.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Eunotia major var. **indica** (Grunow) Cleve-Euler, Kungl. Svenska Vete. Akad. Handl. 4(1): 120. 1953.

Eunotia indica Grunow, Beitr. Kenntn. Verbr. Alg. 2: 5. 1865.

Distribution: Karnataka (Dharwad), Maharashtra.

Habitat: Freshwater.

Eunotia minor Grunow, Syn. Diat. Belg. Atlas pl. 33: 20, 21. 1881.

Himantidium minus Kütz., Bacillarien: 39. 1844.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Eunotia montana H.P.Gandhi, Nova Hedwigia 31: 761. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia nehruui H.P.Gandhi, Nova Hedwigia 11 (1-4): 127. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia nodulosa F. Meister, Kies. Asien 35. 1932.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia patrickii H.P.Gandhi, Nova Hedwigia 11 (1-4): 128. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia pectinalis (Kütz.) Rabenh., Fl Eur. Alg. 1: 73. 1864.

Himantidium pectinale Kütz., Bacillarien 39. 1844.

var. **pectinalis**

f. **pectinalis**

Distribution: Karnataka (Mysuru, Uttara Kannada), West Bengal.

Habitat: Freshwater.

f. **cruta** Grunow, Syn. Diat. Belg. 33. 1881.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

f. **minor** (Kütz.) A.Berg., Bot. Not. 1939: 429. 1939.

Himantidium minus Kütz., Bacillarien 39. 1844.

Distribution: Karnataka (Uttara Kannada), West Bengal.

Habitat: Freshwater.

var. **gibbulosus** G.S.Venkat., Proc. Indian Acad. Sci. Sect. B, 10: 309. 1939.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Maharashtra.

Habitat: Freshwater.

var. **neglecta** H.P.Gandhi, Ceylon J. Sci., Biol. Sci. 1: 47. 1957.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Maharashtra; endemic.

Habitat: Freshwater.

Eunotia polydentula var. **perpusilla** (Grunow) Hust., Arch. Hydrobiol. Suppl. 15: 440. 1938.

Distribution: Karnataka (Uttara Kannada).

Habitat: Terrestrial*

Eunotia porcelloides H.P.Gandhi, Nova Hedwigia 31: 761. 1970.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Eunotia praerupta Ehrenb., Ber. Kongal. Akad. Wiss. Berlin 1841: 204. 1841.

var. **praerupta**

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

var. **bidens** Gronow, Kongal. Svenska Vet. Akad. Handl. 17 (2): 109. 1880.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Eunotia rivularis H.P.Gandhi, Nova Hedwigia 31: 762. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia ruth-patrickiae H.P.Gandhi, Nova Hedwigia 31: 763. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia saravathense H.P.Gandhi, Nova Hedwigia 31: 763. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia subgibba H.P.Gandhi, Nova Hedwigia 11 (1-4): 129. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia sublunaris H.P.Gandhi, Nova Hedwigia 31: 764. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Eunotia veneris (Kütz.) Á Berg., Bot. Not. 1939: 446. 1939.

Himantidium veneris Kütz., Bacillarien 40. 1844.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Family: FRAGILARIACEAE

Asterionella Hassall

Asterionella formosa Hassall, Diatomaceae water suppl. Inhabitants London. 10. 1855.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Asterionella glacialis Castrac., Challenger Exped., Bot. 2: 50. 1886.

Distribution: Karnataka (Uttara Kannada), Tamil Nadu, Odisha.

Habitat: Brackish water and marine.

Asterionella japonica Cleve, Atl. Plankt. Org. 282. 1900.

Distribution: Karnataka (Karnataka coast), Andhra Pradesh, Odisha, West Bengal.

Habitat: Brackish water and marine.

Asterionellopsis Round

Asterionellopsis glacialis (Castrac.) Round, Diatoms: 664. 1990.

Asterionella glacialis Castracane, Challenger Exped., Bot. 2: 50. 1886.

Distribution: Karnataka (Dakshina Kannada), Odisha.

Habitat: Brackish water and marine.

Ceratoneis Ehrenb.

Ceratoneis jogensis H.P.Gandhi, Nova Hedwigia 11 (1-4). 104. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Staurosira Ehrenb.

Staurosira construens Ehrenb., Ber. K. Akad. Wiss. Berlin 1841: 208. 1841.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Fragilaria Lyngbye

Fragilaria capucina Desma., Pl. Crypt. France 10: 453. 1825.

Distribution: Karnataka (Uttara Kannada, Mysuru, Shivamogga, Udupi), Arunachal Pradesh, West Bengal, Himachal Pradesh.

Habitat: Freshwater.

Fragilaria construens (Ehrenb.) Grunow, Verh. K. Zool.-Bot. Ges. Wien 12: 371. 1861.

Staurosira construens Ehrenb., Ber. K. Akad. Wiss. Berlin 1841: 208. 1841.

var. **construens**

Distribution: Karnataka (Tumakuru)

Habitat: Freshwater.

var. **triundulata** H.Rieshelt, Danm. Geol. unders. Raekke 9: 57. 1899.

Distribution: Karnataka (Uttara Kanada).

Habitat: Terrestrial*

Fragilaria crotonensis Kitton, Hardwicke's Science-Gossip 5: 110. 1869.

Distribution: Karnataka (Mysuru, Tumakuru), Odisha.

Habitat: Freshwater and brackish water.

Fragilaria intermedia (Grunow) Grunow, Syn. Diat. Belg. pl. 65: 9-11. 1881.

Distribution: Karnataka (Uttara Kannada), Maharashtra, West Bengal, Tamil Nadu, Rajasthan.

Habitat: Freshwater and marine.

Fragilaria miniscula (Grunow) Williams & Round, Diat. Res. 2: 269. 1987.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Fragilaria oceanica Cleve, Bih. Kongal. Svenska Vet.- Akad. Handl. 1(13): 22. 1873.

Distribution: Karnataka (Karnataka coast), Arabian Sea, Odisha, Kerala.

Habitat: Brackish water and marine.

Fragilaria pinnata Ehrenb., Ber. K. Akad. Wiss. Berlin 1841: 143. 1841.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Fragilaria rumpens (Kütz.) G.W.F. Carison, Wiss. Ergeb. Schwed Südpolar - Exped. 4 (14): 29. 1913.

Synedra rumpens Kütz., Bacillarien 69. 1844.

var. **rumpens**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **familiaris** (Kütz.) Cleve-Euler, K. Svenska Vet.-Akad. Handl., ser. 3, 11 (2): 24. 1932.

Synedra familiaris Kütz., Bacillarien: 68. 1844.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

var. **fragilarioides** (Grunow) Cleve-Euler, Kungl. Svenska Vetensk.-Ademien Handl. 4(1): 42. 1953.

Synedra rumpens var. *fragilarioides* Grunow, Syn. Diat. Belg. 60. 1881.

Distribution: Karnataka (Dharwad, Uttara Kannada).

Habitat: Freshwater.

var. **meneghiniana** (Grunow.) H.P. Gandhi, Nova Hedwigia 11 (1-4): 131. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Fragilaria striatula Schousb., Mém. Soc. Natl. Sc. Nat. Cherbourg 28: 222. 1892.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Fragilaria ungeriana Grunow, Verh. K. Zool.-Bot. Ges. Wien 13: 142. 1863.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Fragilaria virescens Ralfs, Ann. Mag. Nat. Hist. 12: 110. 1843.

Distribution: Karnataka (Tumakuru), Sikkim, Arunachal Pradesh, Odisha.

Habitat: Freshwater.

Synedra Ehrenb.

Synedra acus Kütz., Bacillarien: 68. 1844.

var. **acus**

Distribution: Karnataka (Uttara Kannada, Mysuru, Shivamogga, Udupi), West Bengal, Rajasthan.

Habitat: Freshwater.

var. **genuina** Mayer, Ber. Naturw. Ver. Regensburg 14: 51. 1913.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Synedra formosa Hantzsch, Beitr. Kenntn. Verbr. Alg. 1: 19. 1863.

Distribution: Karnataka (Karnataka coast), Arabian Sea.

Habitat: Marine.

Synedra hennedyana W.Greg, Trans. Roy. Soc. Edinburgh 21: 532. 1857.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Synedra jogensis H.P.Gandhi, Nova Hedwigia 11 (1-4): 166. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Synedra pulchella var. **minuta** Hustedt, Atlas, pl. 300: 34. 1913.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Synedra tabulata (C.Agardh) Kütz., Bacillarien 68. 1844.

Diatoma tabulata C.Agardh, Consp. Crit. Diat. 50. 1832.

var. **tabulata**

Distribution: Karnataka (Shivamogga), Odisha.

Habitat: Freshwater.

var. **acuminata** (Grunow) Hust, Kryptogamen - Fl. 219. 1932.

Synedra affinis var. *acuminata* Grunow, Syn. Diat. Belg. 51. 1881.

Distribution: Karnataka (Uttara Kannada).

Habitat: Terrestrial*

Synedra ulna (Nitzsch) Ehrenb., Abh. Kongal. Akad. Wiss. Berlin 1831. 87. 1832.

Bacillaria ulna Nitzsch, Neue Sch. Naturf. Ges. Halle 3: 99. 1816.

var. **ulna**

Distribution: Karnataka (Shivamogga, Dharwad, Bidar, Uttara Kannada, Mysuru, Tumakuru, Udupi), West Bengal, Himachal Pradesh, Tamil Nadu, Gujarat, Tripura, Maharashtra, Odisha Rajasthan.

Habitat: Freshwater and brackish water.

var. **amphirhynchus** (Ehrenb.) Grunow, Verh. Kongal. Zool.-Bot. Ges. Wien 12: 397. 1862.

Synedra amphirhynchus Ehrenb., Abh. Kongal. Akad. Wiss. Berlin 1841: 425. 1843.

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada), Meghalaya, Sikkim, Tripura, Arunachal Pradesh, Nagaland, Maharashtra, Rajasthan, Odisha.

Habitat: Freshwater.

var. **danica** (Kütz.) Grunow, Syn. Diat. Belgique 151. 1885.

Synedra danica Kütz., Bacillarien 66. 1844.

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada), Odisha, Maharashtra, Rajasthan.

Habitat: Freshwater and brackish water.

var. **oxyrhynchus** (Kütz.) O'Meara, Proc. Roy. Irish Acad., ser. 2, 2: 306. 1875.

Synedra oxyrhynchus Kütz., Bacillarien: 66. 1844.

Distribution: Karnataka (Uttara Kannada), Tripura, Arunachal Pradesh, Nagaland, Odisha.

Habitat: Freshwater.

var. **subaequalis** (Grunow) Van Heurck, Syn. Diat. Belg.: 151. 1885.
Synedra aequalis Grunow, Syn. Diat. Belg. pl. 38: 13. 1881.
 Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

Centronella M.Voigt

Centronella reichelti M.Voigt, Zool. Anz. 24: 194. 1901.
 Distribution: Karnataka (Udupi).
 Habitat: Freshwater.

Tabellaria Ehrenb. ex Kütz.

Tabellaria fenestrata (Lyngbye) Kütz., Bacillarien: 127. 1844.
 Distribution: Karnataka (Udupi), Meghalaya, Arunachal Pradesh, Odisha.
 Habitat: Freshwater and brackish water.

Tabellaria flocculosa (Roth) Kütz., Bacillarien: 127. 1844.
Conferva flocculosa Roth, Cat. Bot. 1: 192. 1797.
 Distribution: Karnataka (Tumakuru, Shivamogga), West Bengal.
 Habitat: Freshwater.

Family: GOMPHONEMATACEAE

Gomphonema Ehrenb.

Gomphonema abbreviatum (C.Agardh) Kütz., Linnaea 8 (5): 572. 1833.
Licmophora abbreviata C.Agardh, Consp. Crit. Diat. 42. 1831.
 Distribution: Karnataka (Shivamogga), Odisha.
 Habitat: Freshwater.

Gomphonema acuminatum var. **directa** Cleve-Euler, Kongal. Svenska. Vet. - Akad. Handl. 11 (2): 94. 1932.
 Distribution: Karnataka (Shivamogga).
 Habitat: Freshwater.

Gomphonema affine Kütz., Bacillarien: 86. 1844.
 Distribution: Karnataka (Mysuru).
 Habitat: Freshwater.

Gomphonema angustum C.Agardh, Consp. Crit. Diat.: 33. 1830.
 Distribution: Karnataka (Mysuru).
 Habitat: Freshwater.

Gomphonema augur Ehrenb., Berg. Königl. Akad. Wiss. Berlin 1840: 211. 1840.
 Distribution: Karnataka (Dharwad, Uttara Kannada).
 Habitat: Freshwater.

Gomphonema augur var. **genuinum** Mayer, Ber. Naturw. Ver. Reg. 14: 230. 1913.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Gomphonema clavatoides H.P.Gandhi, J. Bombay Nat. Hist. Soc. 57: 112.1960.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Gomphonema clevei Fricke, Atlas Diato. 234. 1902.

f. **clevei**

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

f. **acuta** H.P. Gandhi, Nova Hedwigia 11 (1-4): 132. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **bipunctata** H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 326. 1959.

Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic.

Habitat: Freshwater.

var. **javanica** Hust., Arch. Hydrobiol. Suppl. 15: 441. 1938.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **undulata** H.P.Gandhi, Nova Hedwigia 11 (1-4): 134. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema constrictum Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1830: 63. 1830.

Distribution: Karnataka (Tumakuru), West Bengal.

Habitat: Freshwater.

Gomphonema dharwarensis H.P.Gandhi, J. Indian Bot. Soc. 35: 206. 1956.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Gomphonema difformum Karthick & Kociolek, Nova Hedwigia 93 (1-2): 223. 2011.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema diminutum Kartick & Kociolek, Nova Hedwigia 93 (1-2): 227. 2011.

Distribution: Karnataka (Uttara Kannada); endemic.

Habitat: Freshwater.

Gomphonema gandhii Karthick & Kociolek, Nova Hedwigia 93 (1-2): 219. 2011.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema gracile Ehrenb., Infusionsthierchen 217.1838.

var. **gracile**

Distribution: Karnataka (Dharwad, Uttara Kannada, Mysuru, Tumakuru, Shivamogga), Maharashtra, Meghalaya, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

var. **auritum** (A. Braun) Van Heurck, Syn. Diat. Belg.: 125. 1885.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema hebridense Greg., Quart. J. Micr. Soc. 2: 99. 1854.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Freshwater.

Gomphonema herculeanum Ehrenb., Ber. K. Akad. Wiss. Berlin 1845: 78. 1845.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Gomphonema intricatum Kütz., Bacillarien 87. 1844.

var. **intricatum**

Distribution: Karnataka (Tumakuru), Maharashtra.

Habitat: Freshwater.

var. **pusillum** A. Mayer, Kryptogam. Forschungen 1 (4): 206. 1919.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **vibrio** (Ehrenb). Cleve, Kongal. Svenska Vet. - Akad. Handl. 26(2): 182. 1894.

Gomphonema vibrio Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 416. 1843.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Gomphonema lacus-rankala var. **gracilis** H.P. Gandhi, J. Bombay Nat. Hist. Soc. 55 (3): 500. 1958.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Gomphonema lanceolatum Kütz., Bacillarien 87. 1844.

var. **lanceolatum**

f. **lanceolatum**

Distribution: Karnataka (Uttara Kannada, Shivamogga), Gujarat, Maharashtra, Odisha, Rajasthan, Tamil Nadu, West Bengal.

Habitat: Freshwater and brackish water.

f. **turris** Hust., Arch. Hydrobiol. Suppl. 14: 166. 1935.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **affine** (Kütz.) Cleve-Euler, Die Diatomeen von Schweden und Finnland 5 (4): 185. 1955.

Gomphonema affine Kütz., Bacillarien: 86. 1844.

Distribution: Karnataka (Uttara Kannada), Gujarat.

Habitat: Freshwater.

var. **insigne** (Greg.) Cleve, Kongal Svenska Vet. - Akad. Handl. 26 (2): 183. 1894.

Gomphohema insigne Greg., Quart. J. Micr. Soc. 3: 37. 1855.

Distribution: Karnataka (Uttara Kannada), Rajasthan.

Habitat: Freshwater.

Gomphonema minutum (C.Agardh) C. Agardh, Consp. Crit. Diat.: 34. 1831.

Licmophora minuta C.Agardh, Flora 10: 629. 1827.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Gomphonema montanum var. **acuminata** (Perag. & Héribaud) A. Mayer, Denks Konigich Balerischen Bot. Gess. Reg. 17: 113. 1928.

Gomphonema subdavatum var. *acuminata* Perag. & Héribaud, Diat. Auv. 55. 1893.

Distribution: Karnataka (Dharwad), West Bengal, Gujarat.

Habitat: Freshwater.

Gomphonema olivaceum (Hornem.) Bréb., Consid. Diat.: 14. 1838.

Ulva olivacea Hornemann, Fl. Dan. 8 (24): 5. 1810.

var. **olivaceum**

Distribution: Karnataka (Mysuru), Arunachal Pradesh, Nagaland, Odisha, West Bengal, Himachal Pradesh, Tamil Nadu, Rajasthan, Maharashtra.

Habitat: Freshwater.

var. **balticum** (Cleve) Grunow, Syn. Diat. 43. 1880.

Gomphonema balticum Cleve, Öfvers. Kongal. Svenska Vet. - Akad. Förh. 25: 231. 1868.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Gomphonema parvulum (Kütz.) Kütz., Sp. Alg. 65. 1849.

Sphenella purvula Kütz., Bacillarien 83. 1844.

var. **parvulum**

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada); West Bengal, Gujarat, Arunachal Pradesh, Rajasthan, Maharashtra.

Habitat: Freshwater.

var. **genuinum** A. Mayer, Krypt. Forsch. 1: 206. 1919.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

var. **lagenula** (Kütz.) Freng., Bol. Acad. Nac. Cienc. Córdoba 27: 68. 1923.

Gomphonema lagenula Kütz., Bacillarien: 85. 1844.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **micropus** (Kütz.) Cleve, Kongal. Svenska Vet. - Akad. Handl. 26 (2): 180. 1894.

Gomphonema micropus Kütz., Bacillarien 84. 1844.

Distribution: Karnataka (Uttara Kannada), Odisha, West Bengal, Gujarat.

Habitat: Freshwater.

var. **subellipticum** Cleve, Kongal. Svenska Vet. - Akad. Handl. 26(2): 180. 1894.

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada), Gujarat, Maharashtra.

Habitat: Freshwater.

Gomphonema saravathense H.P.Gandhi, Nova Hedwigia 31: 766. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema sarcophagus Greg., Quart. J.Micr. Soc. 4: 13. 1856.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Gomphonema sphaerophorum Ehrenb., Ber. Königl. Akad. Wiss. Berlin 1845: 78. 1845.

f. **sphaerophorum**

Distribution: Karnataka (Shivamogga, Uttara Kannada), Odisha, Maharashtra.

Habitat: Freshwater.

f. **jogensis** H.P. Gandhi, Nova Hedwigia 11 (1-4): 136. 1966.

Distribution: Freshwater – Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema subapicatum F.E.Fritsch & Rich, Trnas. Roy. Soc. South. Africa. 18: 109. 1929.

Distribution: Karnataka (Dharwad, Uttara Kannada), Gujarat, Maharashtra.

Habitat: Freshwater.

Gomphonema submalayense H.P.Gandhi, Nova Hedwigia 31: 767. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema subtile Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1841: 416. 1841.

var. **subtile**

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

var. **malayensis** Hust., Internat. Rev. Hydrobiol. & Hydrogr. 42: 119. 1942.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema subventricosum Hust., Arch. Hydrobiol. Suppl. 15: 440. 1938.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Gomphonema tropicale J.J.Brunn, Atlas.Diat. 216. 1899.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Gomphonema truncatum Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1831: 88. 1832.

Distribution: Karnataka (Tumakuru, Udupi).

Habitat: Freshwater.

Gomphonema vastum var. **elongata** Skvortzow, Philippine J. Sci. 61: 51. 1936.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Family: HEMIAULACEAE

Climacodium Grunow

Climacodium frauenfeldianum Grunow, Alg.Novara 102. 1868.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Arabian Sea.

Habitat: Marine.

Cerataulina H. Perag. & F. Schütt

Cerataulina pelagica (Cleve) Hendey, Discovery Reports 16: 279. 1937.
Zygoceros pelagicum Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 26 (2): 59. 1894.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Eucampia Ehrenb.

Eucampia cornuta (Cleve) Grunow, Syn. Diat. Belg. exel. Pl. 95: 5. 1882.
Mölleria cornuta Cleve, Bih. K. Svenska Vet.-Akad. Handl. 1 (11): 7. 1873.
 Distribution: Karnataka (Dakshina Kannada), Arabian Sea.
 Habitat: Marine.

Eucampia zordiacus Ehrenb., Ber. K. Akad. Wiss. Berlin 1839: 156. 1839.
 Distribution: Karnataka (Dakshina Kannada), Tamil Nadu, Odisha, Bay of Bengal, Arabian Sea.
 Habitat: Brackish water and marine.

Hemiaulus Heib.

Hemiaulus hauckii Grunow, Syn. Diat. Belg. pl. 103: 10. 1882.
 Distribution: Karnataka (Dakshina Kannada), Arabian Sea
 Habitat: Marine.

Hemiaulus sinensis Grev., Syll. Alg.: 853. 1894.
 Distribution: Karnataka (Dakshina Kannada), Tamil Nadu, Arabian Sea.
 Habitat: Brackish water and marine.

Family: HEMIDISCACEAE**Actinocyclus** Ehrenb.

Actinocyclus ehrenbergii Schumann, Schr. K. Phys.-Ökon. Ges. Königsberg 8: 66. 1867.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Azpeitia Perag.

Azpeitia nodulifera (A.Schmidt) G.A.Fryxell & P.A.Sims, Syst. Bot. Mono.: 19. 1986.
Coscinodiscus nodulifer A.Schmidt, Atlas pl. 59: 20. 1878.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Marine.

Family: LAUDERIACEAE**Lauderia** Cleve

Lauderia annulata Cleve, Bih. Kongal. Svenska Vet.-Akad. Handl. 1 (11): 8. 1873.
 Distribution: Karnataka (Karnataka coast), Odisha, Arabian Sea.
 Habitat: Brackish water and marine.

Family: LEPTOCYLINDRACEAE**Leptocylindrus** Cleve

Leptocylindrus danicus Cleve, Pel. Diat. 54. 1889.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Odisha, Tamil Nadu, Arabian Sea.

Habitat: Brackish water and marine.

Leptocylindrus minimus Gran, Cons. Perm. Int. Explor. Mer, Bull. Plankt. 1912: 72. 1915.

Distribution: Karnataka (Dakshina Kannada), Arabian Sea, Andhra Pradesh

Habitat: Brackish water and marine.

Family: LICMOPHORACEAE**Licmophora** C.Agardh

Licmophora abbreviata C.Agardh, Consp. Crit. Diat. 42. 1831.

Distribution: Karnataka (Uttara Kannada), Odisha, Arabian Sea.

Habitat: Brackish water and marine.

Family: LITHODESMIACEAE**Ditylum** J.W.Bailey

Ditylum brightwellii Grunow, Syn. Diat. Belgique 196. 1885.

Distribution: Karnataka (Karnataka coast, Dakshina Kannada), Odisha, Tamil Nadu, Bay of Bengal, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Family: MASTOGLOIACEAE**Mastogloia** Thwaites ex W. Sm.

Mastogloia angulata F.W.Lewis, Proc. Acad. Nat. Sci. Philad. 1861: 65. 1861.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Mastogloia lineata Cleve & Grove, Diatomiste 1: 59. 1891.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Mastogloia ovata Grunow, Verh. K. Zool.-Bot. Ges. Wien 10: 578. 1860.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Mastogloia smithii var. **lacustris** Grunow, Naturw. Beitr. Kenntn. Kaukasusländer 111. 1878.

Distribution: Karnataka (Dharwad), Nagaland.

Habitat: Freshwater.

Family: MELOSIRACEAE

Melosira C.Agardh

Melosira distans var. **lirata** f. **lacustris** Bethge, Bacillaria 2: 58. 1979.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Melosira granulata (Ehrenb.) Ralfs, Hist. Infus. 4: 820. 1861.

Gaillonella granulata Ehrenb., Ber. Kongal. Akad. Wiss. Berlin 1841: 363. 1841.

var. **granulata**

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada, Tumakuru), West Bengal, Tamil Nadu, Rajasthan, Tripura, Arunachal Pradesh, Nagaland, Maharashtra

Habitat: Freshwater and Brackish water.

var. **angustissima** O.Müll., Hedwigia 38: 315: 1900.

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada), Bay of Bengal

Habitat: Freshwater and Brackish water.

var. **muzzanensis** Bethge, Bacillaria 2: 59. 1979.

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada), Arunachal Pradesh, Maharashtra.

Habitat: Freshwater.

var. **typica** Cleve-Euler, Kungl. Svenska Vet.-Acard. Handl. 2 (1): 16. 1951.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Melosira juergensi C.Agardh, Syst. 9. 1824.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Melosira moniliformis (O.F.Müll.) C.Agardh, Syst. 8. 1824.

Conferva moniliformis O.F.Müll., K. Svenska Vet. Acad. Nya Handl. 4: 83. 1783.

Distribution: Karnataka (Dakshina Kannada, Uttara Kannada), Andhra Pradesh.

Habitat: Brackish water.

Melosira nummuloides C.Agardh, Syst. 8. 1824.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Melosira striata O.F.Müll., Bot. Jahrb. 34: 292. 1904.

Distribution: Karnataka (Karnataka coast).

Habitat: Marine.

Melosira varians C.Agardh, Aufzählung einiger in den österreichischen Ländern gefundenen neuen Gattungen und Arten von Algen, nebst ihrer Diagnostik und beigefügten Bemerkungen 10 (40): 628. 1827.

Distribution: Karnataka (Mysuru), Himachal Pradesh, Meghalaya, West Bengal, Uttar Pradesh, Rajasthan

Habitat: Freshwater.

Family: NAVICULACEAE

Caloneis Cleve

Caloneis bacillum (Grunow) Cleve, Diat. 2 (18). 99. 1894.
Stauroneis bacillum Grunow, Verh. K. Zool.-Bot. Ges. Wien 13: 155. 1863.
 Distribution: Karnataka (Dharwad, Uttara Kannada), Rajasthan, West Bengal.
 Habitat: Freshwater.

Caloneis crassa (Greg.) Ron. Ross, J. Mar. Biol. Ass. U.K. 66: 607. 1986.
 Distribution: Karnataka (Uttara Kannada), Odisha.
 Habitat: Brackish water and marine.

Caloneis pulchra var. **interrupta** H.P.Gandhi, Ceylon J. Sci. (Bio. Sci.) 2 (1): 101. 1959.
 Distribution: Karnataka (Dharwad, Uttara Kannada).
 Habitat: Freshwater.

Caloneis silicula (Ehrenb.) Cleve, Kongal. Svenska Vet. -Akad. Handl. 26 (2): 51. 1894.
Navicula silicula Ehrenb. Ber. Königl. Akad. Wiss. Berlin 1841: 144. 1841.

var. **silicula**

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada); Tamil Nadu, Rajasthan.
 Habitat: Freshwater.

var. **gibberula** (Kütz.) Cleve, K. Svenska Vet. -Akad. Handl., ser. 4, 26 (2): 51. 1894.
Navicula gibberula Kütz., Bacillarien: 101. 1844.
 Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

var. **minuta** (Grunow) Cleve, K. Svenska Vet. -Akad. Handl., ser. 4, 26 (2): 52. 1894.
Navicula ventricosa f. *minuta* Grunow, Syn. Diat. Belg. Pl. 12: 26. 1880.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Meuniera P.C. Silva

Meuniera membranacea (Cleve) P.C.Silva, Ident. Marine Diatoms Dinoflagellates: 271. 1996.
Navicula membranacea Cleve, Treat. Phytoplankton Atlantic: 24. 1897.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Navicula Bory

Navicula abstrusa Hust., Abh. Naturw. Ver. Bremen 31: 621. 1939.
 Distribution: Karnataka
 Habitat: Terrestrial*

Navicula accommoda Hust., Arch. Hydrobiol. 43: 446. 1950.
 Distribution: Karnataka
 Habitat: Terrestrial*

Navicula affinis Ehrenb., Abh. Königl. Akad. Wissh. Berlin 1841: 417. 1843.
 Distribution: Karnataka
 Habitat: Terrestrial*

Navicula amphiceropsis Lange-Bert & Rumrich, Iconogr. Diatomol. 9: 153. 2000.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Navicula anglica Ralfs, Hist. Inf. Ed. 4: 900. 1861.

Distribution: Karnataka (Uttara Kannada), Uttar Pradesh.

Habitat: Freshwater.

Navicula angulata E.J. Quekett, Treat. Microscope: 438. 1848.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Navicula angusta Grunow, Verh. K. Zool.-Bot. Ges. Wien 10: 528. 1860.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Navicula bacillum Ehrenb., Abh. K. Acad. Wiss. Berlin, Physik. Kl. 1838: 130. 1839.

var. **bacillum**

Distribution: Karnataka (Uttara Kannada), West Bengal.

Habitat: Freshwater.

var. **capitata** H.P. Gandhi, Nova Hedwigia 31: 769. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **jogensis** H.P. Gandhi, Nova Hedwigia 11 (1-4): 139. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula bryophila J.B. Petersen, Bot. Iceland 2: 388. 1928.

Distribution: Karnataka (Shivamogga)

Habitat: Freshwater.

Navicula cari Ehrenb., Ber. K. Acad. Wiss. Berlin 1836: 83. 1836.

var. **cari**

Distribution: Karnataka (Uttara Kannada), Rajasthan.

Habitat: Freshwater.

var. **angusta** Van Heurck, K. Svenska Vet.-Akad. Handl., ser. 4, 27 (3): 17. 1895.

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

Navicula charlatii M. Parag.

var. **jogensis** H.P. Gandhi, Nova Hedwigia 31: 770. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **lanceolata** H.P. Gandhi, Nova Hedwigia 31: 770. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula cincta (Ehrenb.) Ralfs, Hist. Inf. Ed. 4: 901. 1861.
Pinnularia cincta Ehrenb., Ber. K. Akad. Wiss. Berlin 1846: 170. 1846.
 Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater and brackish water.

Navicula cinctaeformis Hust., Arch. Hydrobiol. Suppl. 15: 265. 1937.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Navicula cocconeiformis Greg. ex Grev., Ann. Mag. Nat. Hist. ser. 2, 15: 256. 1855.

var. **cocconeiformis**
 Distribution: Karnataka (Shivamogga), Maharashtra.
 Habitat: Freshwater.

var. **oblonga** H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 316. 1959.
 Distribution: Karnataka (Shivamogga); endemic.
 Habitat: Freshwater.

Navicula confervacea (Kütz.) Grunow in Van Heurck, Syn. Diatom. Belg. Atlas pl. 14, fig. 36. 1880

f. **rostrata** Krasske, Arch. Hydrobiol. 44: 650. 1951.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

f. **biceps** Arnott, Pascher Süss.-Flora, ed. 2, 10: 277. 1930.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

f. **parallela** (J.B.Petersen) Hust., Pascher Süss.-Flora, ed. 2, 10: 277. 1930.
 Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Navicula crucicula (W.Sm.) Donkin, Brit. Diat. 44. 1871.
Stauroneis crucicula W.Sm, Syn. Brit. Diat. 1: 60: 1853.
 Distribution: Karnataka (Tumakuru).
 Habitat: Freshwater and terrestrial*

Navicula cryptocephala Kütz., Bacillarien 95. 1844.

var. **cryptocephala**
 Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada, Mysuru), Maharashtra, Rajasthan.
 Habitat: Freshwater, terrestrial.

var. **subsalina** Hust., Süssw. Fl. 10: 295 .1930.
 Distribution: Karnataka (Dharwad), Maharashtra.
 Habitat: Freshwater.

Navicula cryptocephaloides Hust., Arch. Hydrobiol. Suppl. 15: 261. 1937.
 Distribution: Karnataka (Shivamogga, Uttara Kannada), Arunachal Pradesh, Nagaland.
 Habitat: Freshwater.

Navicula cuspidata (Kütz.) Kütz., Bacillarien 94. 1844.

Frustulia cuspidata Kütz., Linnaea 8 : 549. 1833.

var. **cuspidata**

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada, Tumakuru), West Bengal, Odisha, Maharashtra.

Habitat: Freshwater, brackish water, marine and terrestrial.

var. **ambigua** (Ehrenb). Cleve, Kongal Svenska Vet.-Akad. Handl. 26 (2): 110. 1894.

Navicula ambigua Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 417. 1843.

Distribution: Karnataka (Dharwad, Uttara Kannada), Meghalaya, Maharashtra, Rajasthan, Odisha, Himachal Pradesh.

Habitat: Freshwater.

var. **conspicua** G.S.Venkat, Proc. Indian Acad. Sci. Sect. B, 10: 325. 1939.

Distribution: Karnataka (Dharwad), Maharashtra; endemic.

Habitat: Freshwater.

Navicula decussis Østrup, Dansek Diat.: 77. 1910.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula dicephala Ehrenb., Ber. K. Acad. Wiss. Berlin 1837: 45. 1837.

var. **dicephala**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **sphaerophora** Cleve-Euler, Diat. Schw. Finn., ser. 4, 4 (5): 95. 1953.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Arunachal Pradesh.

Habitat: Freshwater.

Navicula digitulus Hust., Int. Rev. Hydrobiol. Hydrogr. 43: 162. 1943.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula dissipata Hust., Int. Rev. Hydrobiol. Hydrogr. 43: 162. 1943.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula distans (W.Sm.) Ralfs, Hist. Inf. Ed. 4: 907. 1861.

Pinnularia distans W.Sm., Syn. Brit. Diat. 1: 56. 1853.

Distribution: Karnataka (Uttara Kannada)

Habitat: Marine.

Navicula elata H.P.Gandhi, Nova Hedwigia 31: 774. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula feuerborni Hust., Int. Rev. Hydrobiol. Hydrogr. 43: 162. 1943.

var. **feuerborni**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **rostrata** H.P.Gandhi, Nova Hedwigia 31: 774. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula fluens Hust., Schmidt's Atlas Diat. 370. 1930.

Distribution: Karnataka (Uttara Kannada), Rajasthan.

Habitat: Freshwater.

Navicula fulva Ehrenb., Ber. Königl. Akad. Wiss. Berlin 1837: 105. 1837.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Navicula gottlandica Grunow, Syn. Diat. Belg. pl. 8: 8. 1880.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater and terrestrial.

Navicula gracilis Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1830: 64. 1830.

Distribution: Karnataka (Uttara Kannada, Tumakuru), Odisha.

Habitat: Freshwater.

Navicula halophila (Grunow) Cleve, Syn. Navic. Diat. 109. 1894.

Navicula cuspidata var. *halophila* Grunow, Syn. Diat. Belg. 100. 1885.

Distribution: Karnataka (Tumakuru).

Habitat: Freshwater and terrestrial*

Navicula inflata H.P.Gandhi, Nova Hedwigia 31: 775. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula jogensis H.P.Gandhi, Nova Hedwigia 11 (1-4): 142. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula lanceolata (C. Agardh) Kütz., Bacillarien 94. 1844.

Frustulia lanceolata C. Agardh, Flora 10: 626. 1827.

var. **lanceolata**

Distribution: Karnataka (Karnataka coast), Meghalaya, Odisha.

Habitat: Freshwater, brackish water and marine.

var. **tenella** Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 27 (3): 22. 1895.

Distribution: Karnataka

Habitat: Terrestrial*

Navicula laterostrata Hust., Int. Rev. Hydrobiol. u. Hydrogr. 13: 357. 1925.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula minuta Skvort., Phillipine J. Sc. 61: 276. 1936.

Distribution: Karnataka (Udupi), Maharashtra.

Habitat: Freshwater

Navicula monilifera Cleve, K. Svenska Vet. Akad. Handl., ser. 4, 27 (3): 43. 1895.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Navicula mugadensis H.P.Gandhi, Ceylon J. Sci. (Biol. Sci.) 2 (1): 107. 1959.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Navicula mutica Kütz., Bacillarien 93. 1844.

var. **mutica**

f. **mutica**

Distribution: Karnataka (Uttara Kannada, Udupi), Maharashtra, Tamil Nadu.

Habitat: Freshwater and terrestrial.

f. **intermedia** Hust., Krypt. –Fl. Deutschl. 7 (3): 585. 1966.

Navicula lagerheimii var. *intermedia* Hust., Atlas pl. 370: 22. 1930.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **cohnii** (Hilse) Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 41. 1880.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula oppugnata Hust., Arch. Hydrobiol. 40: 925. 1945.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula palpebralis Bréb. ex W. Sm., Syn. Brit. Diat. 1. 50. 1853.

Distribution: Karnataka.

Habitat: Terrestrial*

Navicula peregrina (Ehrenb.) Kütz., Bacillarien: 97. 1844.

Pinnularia peregrina Ehrenb., Abh. K. Acad. Wiss. Berlin, Physik. Kl. 1841: 421. 1843.

Distribution: Karnataka (Uttara Kannada).

Habitat: Marine.

Navicula pratabgarhensis H.P.Gandhi, J. Indian Bot. Soc. 35 (4): 320. 1955.

Distribution: Karnataka (Shivamogga), Rajasthan.

Habitat: Freshwater.

Navicula pseudocuspidata var. **rostrata** H.P.Gandhi, J. Indian Bot. Soc. 35: 200. 1956.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Navicula pupula Kütz., Bacillarien 93. 1844.

var. **pupula**

Distribution: Karnataka (Shivamogga, Uttara Kannada, Tumakuru), Arunachal Pradesh, Maharashtra, Odisha

Habitat: Freshwater.

var. **elliptica** Hust., Abh. Naturwiss. Vereins Bremen 20: 291. 1911.

Distribution: Karnataka (Uttara Kannada), Rajasthan.

Habitat: Freshwater.

var. **rectangularis** (Greg.) Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 45. 1880.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Navicula pusilla var. **lanceolata** (Grunow) O'Meara, Proc. Roy. Irish Acad., ser. 2, 2: 382. 1875.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula radiosa Kütz., Bacillarien 91. 1844.

var. **radiosa**

Distribution: Karnataka (Uttara Kannada, Tumakuru, Shivamogga, Udupi), Meghalaya, Odisha, West Bengal, Rajasthan.

Habitat: Freshwater.

var. **tenella** (Bréb ex Kütz.) Cleve & J.D. Möller, Syn. Diat. Belg. 84. 1885.

Navicula tenella Bréb. ex Kütz., Sp. Alg. 74. 1849.

Distribution: Karnataka (Shivamogga), Rajasthan.

Habitat: Freshwater.

Navicula ramosissimoides H.P.Gandhi, Nova Hedwigia 31: 777. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula reimeri H.P.Gandhi, Nova Hedwigia 31: 778. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula reinhardtii (Grunow) Grunow, Syn. Diat. Belg. expl. Pl. 7: 5. 1880.

Distribution: Karnataka (Tumakuru).

Habitat: Freshwater.

Navicula rhomboides Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 419. 1843.

Distribution: Karnataka (Bidar).

Habitat: Freshwater and terrestrial*

Navicula rhynchocephala Kütz., Bacillarien: 145. 1844.

var. **rhynchocephala**

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

var. **amphiceros** (Kütz.) Grunow, Kongal Svenska vet. -Akad. Handl. 17 (2): 33. 1880.

Navicula amphiceros Kütz., Bacillarien 95. 1844.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Navicula rostellata Kütz., Bacillarien: 95. 1844.

Distribution: Karnataka (Shivamogga, Tumakuru), Maharashtra.

Habitat: Freshwater.

Navicula salinarum Grun., Kongal Svenska vet. -Akad. Handl. 17 (2): 33. 1880.

var. **salinarum**

Distribution: Karnataka (Tumakuru), Maharashtra, Odisha.

Habitat: Freshwater and brackish water.

var. **intermedia** (Grunow) Cleve, Kongal Svenska Vet. -Akad. Handl. 27 (3): 19. 1895.

Navicula cryptocephala var. *intermedia* Grunow, Syn. Diat. Belgique 8. 1880.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Navicula subbengalensis H.P.Gandhi, Nova Hedwigia 31: 779. 1970.

Distribution: Karnataka (Uttara Kannada).

Navicula subdopaliformis H.P.Gandhi, Nova Hedwigia 31: 780. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula subdigma H.P.Gandhi, Nova Hedwigia 31: 781. 1970.

Distribution: Karnataka (Uttara Kannada)

Habitat: Freshwater.

Navicula subinflata Grunow, Vega - Exped. Vet. Iaktt. 3: 470. 1883.

Distribution: Karnataka

Habitat: Terrestrial*

Navicula thienemannioides H.P.Gandhi, Nova Hedwigia 31: 782. 1970.

Distribution: Karnataka (Uttara Kannada)

Habitat: Freshwater.

Navicula tuscula Ehrenb., Ber. Bekanntm. Verh. Königl. Preuss. Akad. Wiss. Berlin 1840: 215. 1840.

Pinnularia tuscula Ehrenb., Mikrogeologie Atlas pl. 6: 13. 1840.

Distribution: Karnataka (Tumakuru), Maharashtra.

Habitat: Freshwater.

Navicula variostriata Krasske, Bot. Arch. 3: 197. 1923.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula variostriata var. **jogensis** H.P.Gandhi, Nova Hedwigia 31: 783. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula venezuelensis Hust., Ergeb. Deutsch. Limnol. Venezuela Exped. 1: 115. 1956.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Navicula ventralis Krasske, Bot. Arch. 3: 200. 1923.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Navicula viridula var. **capitata** A.Mayer, Süsw. -Fl. 10: 297. 1930.

Distribution: Karnataka (Dharwad), West Bengal.

Habitat: Freshwater.

Navicula vulpina Kütz., Bacillarien: 92. 1844.
 Distribution: Karnataka (Tumakuru).
 Habitat: Freshwater.

Family: NEIDIACEAE

Neidium Pfitz.

Neidium affine (Ehrenb.) Pfitzer, Bot. Abh. 1 (2): 39. 1871.
Navicula affinis Ehrenb., Abh. K. Acad. Wiss. Berlin, Physik. Kl. 1841: 417. 1843.

var. **affine**
 Distribution: Karnataka (Udupi).
 Habitat: Freshwater.

var. **longiceps** (Gregory) Cleve, Kongal. Suveska Vet. - Akad. Hand. 26(2): 68. 1894.
Navicula longiceps Gregory, Quart. J. Micr. Sci. 4: 8. 1856.
 Distribution: Karnataka (Shivamogga), Maharashtra.
 Habitat: Freshwater and terrestrial.

Neidium bisulcatum (Lagerst.). Cleve, Kongal. Svenska Vet. - Akad. Handl. 26 (2): 68. 1894.
Navicula bisulcata Lagerst., Bih. Kongal. Svenska Vet. - Akad. Handl. 1 (14): 31. 1873.

f. **bisulcatum**
 Distribution: Karnataka (Dharwad, Uttara Kannada), Rajasthan
 Habitat: Freshwater.

f. **undulata** (O.F.Müll.) Hust., Süsw. - Fl. 2: 242. 1930.
Neidium bisulcatum var. *undulatum* O.Müll, Forschber. Biol. Stat. Plön 6: 62. 1898.
 Distribution: Karnataka (Dharwad, Uttara Kannada), Maharashtra, Rajasthan.
 Habitat: Freshwater.

Neidium capitellata H.P.Gandhi, J.Indian Bot. Soc. 38 (3): 313. 1959.
 Distribution: Karnataka (Shivamogga).
 Habitat: Freshwater.

Neidium dubium var. **peisone** (Grunow) A.Mayer, Krypt. Forsch. 1: 200. 1919.
 Distribution: Freshwater – Karnataka (Dharwad).
 Habitat: Freshwater.

Neidium gracile Hust., Arch. Hydrobiol. Suppl., 15: 406. 1938.
 Distribution: Karnataka (Shivamogga, Uttara Kannada)
 Habitat: Freshwater.

Neidium grandis H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 313. 1959.
 Distribution: Karnataka (Shivamogga, Uttara Kannada).
 Habitat: Freshwater.

Neidium hustedtii H.P.Gandhi, Ceylon J. Sci. (Biol. Sci). 2 (1): 103. 1959.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Neidium iridis (Ehrenb). Cleve, Kongal. Svenska Vet. -Akad. Handl. 26(2): 69: 1894.
Navicula iridis Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 418. 1843.

var. **iridis**

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

var. **firma** (Kütz.) A.Mayer, Ber. Naturw. Ver. Regensburg 14: 114. 1913.

Navicula firma Kütz., Bacillarien 92. 1844.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

var. **indica** H.P.Gandhi, Ceylon J. Sci. (Bio. Sci.) 2 (1): 102. 1959.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Neidium jogensis H.P.Gandhi, Nova Hedwigia 31: 784. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Family: PHAEODACTYLACEAE

Phaeodactylum Bohlin

Phaeodactylum tricornutum Bohlin, Öfvers. K. Svenska Vet.-Akad. Förh. 54: 520. 1898.

Distribution: Karnataka (Dakshina Kannada)

Habitat: Marine.

Family: PINNULARIACEAE

Pinnularia Ehrenb.

Pinnularia acrosphaeria Rabenh., Süssw. - Diat. 45. 1853.

f. **acrosphaeria**

Distribution: Karnataka (Shivamogga, Uttara Kannada, Mysuru, Tumakuru), Tamil Nadu, Maharashtra.

Habitat: Freshwater.

f. **minor** Cleve, Kongal Svenska vet. - Akad. Handl. 27 (3): 86. 1895.

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada).

Habitat: Freshwater and terrestrial.

f. **undulata** (Cleve) Hust., Süssw. - F1. 10: 330. 1930.

Pinnularia acrosphaeria var. *undulata* Cleve, Kongal Svenska Vet. - Akad. Handl. 27 (3): 86. 1895.

Distribution: Karnataka (Dharwad, Shivamogga).

Habitat: Freshwater and terrestrial.

Pinnularia aestuarii Cleve, Kongl. Svenska Vetensk. Akad. Handl. 27(3): 93. pl.1, fig.16. 1895

var. **interrupta** (Hust.) Cleve-Euler, Soc. Sc. Fenn., Comment. Biol. 4 (14): 44. 1934.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

var. **lata** H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 851. 1957.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia angustefasciata H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 852. 1957.

Distribution: Karnataka (Dharwad, Shivamogga).

Habitat: Freshwater and terrestrial.

Pinnularia biceps Greg., Quart. J. Micr. Sc. 4: 8. 1856.

Distribution: Karnataka (Tumakuru, Shivamogga, Udupi), Sikkim, Odisha.

Habitat: Freshwater.

Pinnularia borealis Ehrenb., Abhandl. Königl. Akademie Wissenc. Berlin 1841:420 (132); pl. 1/2, fig. 6. 1843.

var. **lonavlensis** H.P.Gandhi, Hydrobiologia 20: 143. 1962.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **scalaris** (Ehrenb.). Rabenh., Fl Eur. Alg. 1: 216. 1864.

Stauroptera scalaris Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 423. 1843.

Distribution: Terrestrial* – Karnataka.

Habitat: Freshwater.

var. **undata** Manguin, Alg. Guad.: 80. 1952.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia brebissonii (Kütz) Rabenh, Algas Diatom. Complect., Figs. Gen. Omni. Xylograph. Impress. 222. 1864.

var. **producta** Cleve-Euler, K. Svenska Vet.-Akad. Handl., ser. 3, 11 (2): 77. 1932.

f. **producta**

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

f. **biundulata** (O.Müll.) Cleve-Euler, K. Svenska Vet.-Akad. Handl., ser. 4, 5 (4): 54. 1955.

Pinnularia microstauron var. *biundulata* O.Müll, ForschBer. Biol. Stat. Plön. 6: 72. 1898.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia brevistriata Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 71. 1880.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Pinnularia cardinaliculus Cleve, Kongl. Svenska Vet. - Akad. Handl. 27 (3): 79. 1895.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Pinnularia cardinalis (Ehrenb.) W.Sm., Syn. Brit. Diat. 1: 55. 1853.

Navicula cardinalis Ehrenb., Ber. Königl. Akad. Wissh. Berlin 1840: 213. 1840.

Distribution: Karnataka,

Habitat: Terrestrial*

Pinnularia congolensis V.Zanon, Comment. Pontif. Acad. Sc. 2: 545. 1938.

Distribution: Karnataka (Uttara Kannada)

Habitat: Freshwater.

Pinnularia conica H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 847. 1957.

Distribution: Karnataka (Dharwad), Maharashtra.

Habitat: Freshwater and terrestrial.

Pinnularia divergens W.Sm., Syn. Brit. Diat. 1: 57. 1853.

var. **divergens**

Distribution: Karnataka (Uttara Kannada, Mysuru).

Habitat: Freshwater.

var. **americana** Meister, Ber. Schweiz. Bot. Ges. 47: 263. 1937.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia divergentissimoides H.P.Gandhi, Nova Hedwigia 31: 786. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia dubiosa H.P.Gandhi, Nova Hedwigia 11 (1-4): 151. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia eburnea V. Zanon, Comment. Pontif. Acad. Sc. 5: 49. 1941.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia esox Ehrenb. 1843

var. **capitata** H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 849. 1957.

Distribution: Karnataka (Dharwad), Maharashtra; endemic.

Habitat: Freshwater and terrestrial.

var. **fasciata** H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 849. 1957.

Distribution: Karnataka (Dharwad)

Habitat: Terrestrial.

Pinnularia gibba (Ehrenb). Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 315. 1843.

Navicula gibba Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1830. 64. 1830.

var. **gibba**

f. **gibba**

Distribution: Karnataka (Uttara Kannada, Mysuru, Shivamogga, Udupi), Himachal Pradesh, Manipur, Odisha.

Habitat: Freshwater.

f. **subundulata** Mayer, Süsw. -Fl. 2: 327. 1930.

Distribution: Karnataka, Rajasthan.

Habitat: Freshwater and terrestrial*

var. **sancta** Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 73. 1880.

Distribution: Karnataka.

Habitat: Terrestrial*

Pinnularia graciloides Hust., Arch. Hydrobiol. Suppl. 15: 293. 1937.

var. **graciloides**

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

var. **africana** Cholnoky, Österr. Bot. Z. 103: 86. 1956.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **jogensis** H.P.Gandhi, Nova Hedwigia 11 (1-4): 154. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia interrupta W.Sm., Syn. Brit. Diat. 1: 59. 1853.

Distribution: Karnataka (Shivamogga, Uttara Kannada), Arunachal Pradesh.

Habitat: Freshwater.

Pinnularia isostauron (Ehrenb.) Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 27 (3): 93. 1895.

Stauroptera isostauron Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1841: 423. 1843.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia isostauron var. **conifera** Cleve-Euler, K. Svenska Vet.-Akad. Handl., ser. 4, 5 (4): 59. 1955.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia karnatika H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 846. 1957.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia lata (Bréb.) W.Sm., Syn. Brit. Diat. 1: 55. 1853.

Frustulia lata Bréb., Consid. Diat. 18. 1838.

var. **lata**

Distribution: Karnataka (Uttara Kannada, Udupi).

Habitat: Freshwater and terrestrial*

var. **media** V.Zanon, Comment. Pontif. Acad. Sc. 2: 643. 1938.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **thuringiaca** A.Mayer, Beitr. Diatomfl. Bayerns: 40. 1917.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia legumen var. **florentina** (Grunow) Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 27 (3): 99. 1895.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia major (Kütz.) Rabenh., Süsw. -Diat.: 42. 1853.

Frustulia major Kütz., Linnaea 8 (5): 547. 1898.

Distribution: Karnataka (Mysuru, Tumakuru, Shivamogga).

Habitat: Freshwater.

Pinnularia mesolepta (Ehrenh.) W.Sm., Syn. Brit. Diat. 1: 58. 1853.
Navicula mesolepta Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 419. 1843.
 Distribution: Karnataka.
 Habitat: Terrestrial*

Pinnularia microstauron (Ehrenb.) Cleve, Acta Soc. Fauna et Flora Fenn. 8 (2): 28. 1891.
Stauroptera microstauron Ehrenb., Abh. K. Acad. Wiss. Berlin, Physik. Kl. 1841: 423. 1843.

var. **microstauron**

Distribution: Karnataka (Uttara Kannada), Tripura, Odisha, Rajasthan.
 Habitat: Freshwater and Brackish water.

var. **ambigua** Meister, Kiesel Alg. Schweiz.: 162. 1912.

Distribution: Karnataka (Dharwad, Uttara Kannada).
 Habitat: Freshwater and terrestrial.

var. **biundulata** O.Müll., ForschBer. Biol. Stat. Plön 6: 72. 1898.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Pinnularia mysorensis H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 320. 1959.

Distribution: Karnataka (Shivamogga); endemic.
 Habitat: Freshwater.

Pinnularia neglecta var. **interrupta** H.P.Gandhi, J. Bombay Nat. Hist. Soc. 54: 850. 1957.

Distribution: Karnataka (Dharwad).
 Habitat: Terrestrial.

Pinnularia nobilis (Ehrenb.) Ehrenb., Ber. K. Acad. Wiss. Berlin 1845: 61. 1845.

Navicula nobilis Ehrenb., Ber. K. Acad. Wiss. Berlin 1840: 214. 1840.
 Distribution: Karnataka (Tumakuru, Udupi), Odisha.
 Habitat: Freshwater and brackish water.

Pinnularia paucicostis H.P.Gandhi, Nova Hedwigia 11 (1-4): 156. 1966.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Pinnularia peregrina Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 421. 1843.

Distribution: Karnataka.
 Habitat: Terrestrial*

Pinnularia sagittata H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 319. 1959.

Distribution: Karnataka (Shivamogga); endemic.
 Habitat: Freshwater.

Pinnularia sahyadrensis H.P.Gandhi, Nova Hedwigia 11 (1-4): 157. 1966.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Pinnularia schweinfurthi H.P.Gandhi, Nova Hedwigia 31: 788. 1970.

Distribution: Karnataka (Uttara Kannada).
 Habitat: Freshwater.

Pinnularia stauroptera var. **minuta** f. **medioconstricta** Cleve-Euler, Diat. Schw. Finn., ser. 4, 4 (5): 82. 1953.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia stomatophora var. **gibbosa** f. **jogensis** H.P.Gandhi, Nova Hedwigia 31: 788. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia stomatophoroides var. **ornata** f. **erlangensis** A. Mayer, Denkschr. Bayer. Bot. Ges. Regensburg 21: 157. 1939.

Distribution: Karnataka (Dharwad).

Habitat: Terrestrial.

Pinnularia subcapitata Greg., Quart. J. Micr. Sc. 4: 9. 1856.

var. **subcapitata**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **hilseana** O.F. Müll., ForschBer. Biol. Stat. Plön 6: 76. 1898.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia subgracilloides H.P.Gandhi, Nova Hedwigia 31: 789. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia subsimilis H.P.Gandhi, Nova Hedwigia 31: 789. 1970.

Distribution: Karnataka (Uttara Kannada), Arunachal Pradesh.

Habitat: Freshwater.

Pinnularia tabellaria Ehrenb., Abh. Königl. Akad. Wissh. Berlin 1841: 422. 1843.

Distribution: Karnataka.

Habitat: Terrestrial*

Pinnularia viridis (Nitzsch) Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 315. 1843.

Bacillaria viridis Nitzsch, Neue Schr. Naturf. Ges. Halle 3: 97. 1816.

var. **viridis**

Distribution: Karnataka (Bidar, Uttara Kannada), Himachal Pradesh, Meghalaya, Odisha, West Bengal.

Habitat: Freshwater.

var. **curviraphe** H.P.Gandhi, J.Roy. Micr. Soc. 79 (1): 86. 1960.

Distribution: Karnataka (Shivamogga, Uttara Kannada); endemic.

Habitat: Freshwater.

var. **intermedia** Cleve, Acta Soc. Fauna et Flora Fenn. 8 (2): 22. 1891.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Pinnularia viridula (Kütz.) Rabenh., Süßw. - Diat. 43. 1853.

Frustulia viridula Kütz., Linnaea 8 (5): 551. 1833.

Distribution: Karnataka.

Habitat: Terrestrial*

Diatomella Grev.

Diatomella balfauriana Grev., Ann. Mag. Nat. Hist., ser. 2, 15: 259. 1855.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Family: PLEUROSIGMATACEAE**Gyrosigma** Hassall

Gyrosigma acuminatum (Kütz.) Rabenh. Süsw. -Diat. 47. 1853.

Frustulia acuminata Kütz., Linnaea 8 (5) : 555. 1833.

Distribution: Karnataka (Mysuru, Dakshina Kannada, Tumakuru, Shivamogga),

Maharashtra, Odisha, Tripura, Bay of Bengal.

Habitat: Freshwater, brackish water and marine.

Gyrosigma attenuatum (Kütz.) Rabenh. Süsw. -Diat. 47. 1853.

Frustulia attenuata Kütz., Linnaea 8 (5) : 555. 1833.

Distribution: Karnataka (Mysuru, Tumakuru), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Gyrosigma balticum (Ehrenb.) Rabenh. Süsw. -Diat. 47. 1853.

Navicula baltica Ehrenb., Abh. Königl. Akad. Wiss. Berlin, Phys. Kl. 1833: 258. 1834.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Odisha, Tamil Nadu, Arabian Sea.

Habitat: Brackish water and marine.

Gyrosigma kutzingii (Grunow.) Cleve, K. Svenska Vet.-Akad. Handl., ser. 4, 26 (2): 115. 1894.

Pleurosigma kutzingii Grunow, Verh. K. Zool. -Bot. Ges. Wien 10: 561. 1860.

Distribution: Karnataka (Tumakuru, Shivamogga, Udupi), Maharashtra.

Habitat: Freshwater.

Gyrosigma nodiferum (Grunow.) Reimer, Monogr. Acad. Nat. Sc. Philad. 13: 320. 1966.

Pleurosigma nodiferum Grunow., K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 59. 1880.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Gyrosigma spencerii (Bailey ex Quekett) Griffith & Henfrey, Micro. Dict. 303. 1856.

Navicula spenceri Bailey ex Quekett, Treat. Microscope 440. 1848.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Pleurosigma W. Sm.

Pleurosigma aestuarii (Bréb. ex Kütz.) W. Sm., Syn. Brit. Diat. 1: 65. 1853.

Navicula aestuarii Bréb. ex Kütz., Sp. Alg. 890. 1849.

Distribution: Karnataka (Uttara Kannada), Odisha, Maharashtra, Arabian Sea.

Habitat: Freshwater, brackish water and marine.

Pleurosigma directum Grunow, Kongal. Svenska Vet. Akad. Handl. 17 (2): 53. 1880.

Distribution: Karnataka (Karnataka coast), Kerala, Odisha, Tamil Nadu.

Habitat: Brackish water and marine.

Pleurosigma falx A. Mann, U.S. Natl. Mus. Bull. 100, 6: 134. 1925.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Pleurosigma formosum W.Sm., Ann. Mag. Nat. Hist., ser. 2, 9: 5. 1852.

Distribution: Karnataka (Uttara Kannada), Odisha.

Habitat: Brackish water and marine.

Pleurosigma hippocampus W.Sm., Ann. Mag. Nat. Hist. Ser. 2, 9: 10. 1852.

Distribution: Karnataka.

Habitat: Terrestrial*

Pleurosigma normanii Ralfs, Hist. Inf. Ed. 4: 919. 1861.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Odisha, Tamil Nadu, Bay of Bengal, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Family: RHIZOLENIACEAE

Rhizolenia Brightwell

Rhizolenia alata T.Bright, Quart. J. Micr. Sci. 6: 95. 1858.

Distribution: Karnataka (Karnataka coast), Tamil Nadu, Odisha, Arabian Sea

Habitat: Brackish water and marine.

Rhizolenia faeroensis Ostenf., Bot. Faeröes: 568. 1903.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Rhizolenia robusta G.Norman ex. J. Ralfs, Hist. Infus. 866. 1861.

Distribution: Karnataka (Karnataka coast), Tamil Nadu, Arabian Sea, Kerala.

Habitat: Brackish water and marine.

Rhizolenia setigera T.Bright, Quart. J. Micr. Sci. 6: 95. 1858.

Distribution: Karnataka (Karnataka coast), Odisha, Arabian Sea.

Habitat: Brackish water and marine.

Rhizolenia stolterfothii H.Perag., Bull. Soc. Hist. Nat. Toulouse 22: 82. 1888.

Distribution: Karnataka (Karnataka coast), Odisha, Arabian Sea, Andhra Pradesh.

Habitat: Brackish water and marine.

Rhizolenia striata Grev, Trans. Bot. Soc. Edinburgh 8: 234. 1865.

Distribution: Karnataka (Karnataka coast), Freshwater (Shivamogga)

Habitat: Freshwater and Marine

Urosolenia Round & R.M. Crawford

Urosolenia curvata B.Karthick & Kociolek, Phytotaxa 22: 32. 2011.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Urosolenia extensa B.Karthick & Kociolek, Phytotaxa 22: 34. 2011.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Dactyliosolen Castrac.

Dactyliosolen phuketensis (Sundström) Hasle, Ident. marine diatoms dinoflagellates: 167. 1996.
Rhizosolenia phuketensis Sundström, Bot. Not. 133: 579. 1980.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Guinardia H. Perag.

Guinardia cf. cylindrus (Cleve) Hasle, Ident. marine diatoms dinoflagellates: 161. 1996.
Rhizosolenia cylindrus Cleve, Treat. Phytoplankton Atlantic: 24. 1897.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Guinardia striata (Stolterf.) Hasle, Ident. marine diatoms dinoflagellates: 163. 1996.
Eucampia striata Stolterfoth, J. Roy. Microscop. Soc. London 2: 836. 1879.
 Distribution: Karnataka (Dakshina Kannada).
 Habitat: Marine.

Family: RHOPALODIACEAE**Epithemia** Kütz.

Epithemia adnata (Kütz.) Bréb., Consid. diatom.: 16. 1838.
Frustulia adnata Kütz., Alg. Aq. Dulc. Germ. 5: 3. 1833.
 Distribution: Karnataka (Mysuru).
 Habitat: Freshwater.

Epithemia sorex Kütz., Bacillarien: 33. 1844.

var. **sorex**
 Distribution: Karnataka (Uttara Kannada, Mysuru), Himachal Pradesh.
 Habitat: Freshwater.

var. **genuina** Cleve-Euler, Diat. Schw. Finn., ser. 4, 3 (3): 32. 1952.
 Distribution: Karnataka (Dharwad).
 Habitat: Freshwater.

Epithemia zebra (Ehrenb.) Kütz., Bacillarien 34. 1844.
Navicula zebra Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1833: 262. 1834.

var. **zebra**
 Distribution: Karnataka (Uttara Kannada), Maharashtra.
 Habitat: Freshwater.

var. **saxonica** (Kütz.) Grun, Verh. K. Zool.-Bot. Ges. Wien 12: 328. 1862.
Epithemia saxonica Kütz., Bacillarien: 35. 1844.
 Distribution: Karnataka (Uttara Kannada)
 Habitat: Freshwater.

Rhopalodia O.F. Müll.

Rhopalodia gibba (Ehrenb.) O.F.Müll., Bot. Jahrb. 22: 65. 1895.
Navicula gibba Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1830: 64. 1830.

var. **gibba**

Distribution: Karnataka (Uttara Kannada, Mysuru, Udupi), Himachal Pradesh, Maharashtra, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **genuina** (Grun) A. Mayer, Ber. Naturw. Ver. Regensburg 14: 279. 1913.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

var. **ventricosa** (Kütz.) A. Mayer, Ber. Naturw. Ver. Regensburg 14. 279. 1913.

Epithemia ventricosa Kütz., Bacillarien 35. 1844.

Distribution: Karnataka (Dharwad, Uttara Kannada), Maharashtra, Rajasthan.

Habitat: Freshwater.

Rhopalodia gibberula (Ehrenb.) O.F.Müll., Wiss. Meeresuntersuch. Kiel 4: 97. 1899.

Eunotia gibberula Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1841: 414. 1843.

Distribution: Karnataka (Uttara Kannada, Tumakuru).

Habitat: Freshwater.

Rhopalodia musculus (Kütz.) O.F.Müll., Wiss. Meeresuntersuch. Kiel 4: 98. 1899.

Eunotia musculus Kütz., Bacillarien: 33. 1844.

Habitat: Freshwater.

Family: SKELETONEMATACEAE

Skeletonema Greville

Skeletonema costatum (Greville) Cleve, Bih. Kongal. Svenska Vet.-Akad. Handl. 1 (11): 7. 1873.

Melosiria costata Greville, Trans. Micr. Soc. London 14: 77. 1866.

Distribution: Karnataka (Uttara Kannada, Karnataka coast), Arabian Sea (Kerala), Bay of Bengal (Andhra Pradesh, Odisha, Tamil Nadu).

Habitat: Brackish water and marine.

Skeletonema tropicum Cleve, Kongal. Svenska Vet.-Akad. Handl. 34 (1): 22. 1900.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Schizostauron Grunow

Schizostauron brasiliense Zimmerm., Brotéria Bot. 16: 86. 1918.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Family: STAURONEIDACEAE**Stauroneis** Ehrenb.

Stauroneis acuta W.Sm., Syn. Brit. Diat. 1. 59. 1953.

Distribution: Karnataka (Dharwad), Maharashtra.

Habitat: Freshwater.

Stauroneis alpina Hust., Int. Rev. Hydrobiol. Hydrogr. 43: 154. 1943.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Stauroneis anceps Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1841: 422. 1843.

f. **anceps**

Distribution: Karnataka (Dharwad, Bidar, Uttara Kannada, Tumakuru, Shivamogga), Himachal Pradesh, Maharashtra, Odisha, Tamil Nadu.

Habitat: Freshwater and terrestrial*

f. **indica** H.P.Gandhi, Ceylon, J. Sci. (Biol. Sci.) 2 (1): 104. 1959.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

f. **linearis** (Ehrenb.) Hust, Pascher Süsww.-Fl. Ed. 2, 10: 256. 1930.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **hustedtii** H.P.Gandhi, Nova Hedwigia 31: 792. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **hyalina** Perag. & J. Brun., Diat. Auvergne: 78. 1893.

f. **hyalina**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

f. **capitata** H.P.Gandhi, Nova Hedwigia 31: 793. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

var. **leiostrauron** Cleve, Bih. Kongal. Svenska Vet.-Akad. Handl. 21: 12. 1895.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Stauroneis kriegeri R.M.Patrick, Farlowia 2: 175. 1945.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Stauroneis legumen Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1847: 444. 1849.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Stauroneis obtusa Lagerst, Vih. K. Svenska Vet.-Akad. Handl. 1 (14): 36. 1873.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Stauroneis phoenicentron (Nitzsch) Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1841: 311. 1843.

Bacillaria phoenicentron Nitzsch, Neue Schr. Naturf. Ges. Halle 3: 92. 1816.

f. **phoenicentron**

Distribution: Karnataka (Shivamogga, Dharwad, Uttara Kannada, Udupi), Maharashtra, Odisha.

Habitat: Freshwater.

f. **producta** H.P.Gandhi, J. Indian Bot. Soc. 37: 252. 1958

Distribution: Karnataka (Shivamogga, Uttara Kannada), Maharashtra.

endemic.

Habitat: Freshwater.

Stauroneis tenuis H.P.Gandhi, Nova Hedwigia 31: 794. 1970.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Family: STEPHANODISCACEAE

Cyclotella Bréb.

Cyclotella atomus Hust., Arch. Hydrobiol. Suppl. 15: 143. 1937.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Cyclotella catenata (Brun) A.Bachm., Phytoplankton 130. 1911.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

Cyclotella glomerata H.Bachm., Phytopl. Vierw. 131. 1911.

Distribution: Karnataka (Uttara Kannada, Shivamogga, Dharwad).

Habitat: Freshwater.

Cyclotella kuetzingiana Thwaites, Ann. Mag. Nat. Hist. ser. 2, 1 (3): 169. 1848.

Distribution: Karnataka (Uttara Kannada, Tumakuru, Shivamogga)

Habitat: Freshwater and marine.

Cyclotella meneghiniana Kütz., Bacillarien 50. 1844.

var. **meneghiniana**

f. **meneghiniana**

Distribution: Karnataka (Dharwad, Uttara Kannada, Mysuru, Tumakuru, Karnataka coast), Andhra Pradesh, Gujarat, Himachal Pradesh, Kerala, Mizoram, Maharashtra, Nagaland, Odisha, Rajasthan, Uttar Pradesh, Tamil Nadu, Tripura, West Bengal.

Habitat: Freshwater, brackish water and marine.

f. **binotata** Grun, K. Svenska Vet.-Akad. Handl., ser. 4, 2 (1): 49. 1951.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

var. **genuina** P.Bachmann, Kungl. Svenska Vetensk. Handl. 2 (1): 43. 1951.

f. **genuina**

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

f. **binotata** Grun, Syn. Diat. Belg. pl. 94: 20. 1882.

Distribution: Karnataka (Dharwad), Maharashtra.

Habitat: Freshwater, Terrestrial

Cyclotella stelligera Cleve & Grunow, Syn. Diat. Belgique 94. 1882.

Distribution: Karnataka (Dharwad, Shivamogga, Uttara Kannada), Arunachal Pradesh, Maharashtra.

Habitat: Freshwater.

Family: STRIATELLACEAE

Grammatophora Ehrenb.

Grammatophora undulata Ehrenb., Ber. Königl. Akad. Wiss. Berlin 180. 162. 1840.

Distribution: Karnataka (Karnataka coast), Odisha.

Habitat: Freshwater, brackish water and marine.

Family: SURIRELLACEAE

Cymatopleura W.Sm.

Cymatopleura solea var. **subconstricta** f. **minor** O.F.Müll., Bot. Jahrb. 34: 23. 1904.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Stenopterobia Bréb. ex Van Heurck

Stenopterobia intermedia (Lewis) Van Heurck, Florida State Geol. Surv., Ann. Rep. 23: 90.1933.

Surirella intermeida Lewis., Proc. Acad. Nat. Sci. Philad. 15: 339. 1862.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Surirella Turpin

Surirella apiculata W.Sm., Syn. Brit. Diat. 2: 88. 1856.

Distribution: Karnataka (Uttara Kannada), Maharashtra.

Habitat: Freshwater.

Surirella biseriata Bréb., Alg. Falaise: 53. 1835.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella capronii Bréb., J. Quekett Micr. Club 2: 38. 1870.

var. **capronii**

Distribution: Karnataka (Uttara Kannada), Uttar Pradesh.

Habitat: Freshwater.

var. **obtusa** Hust., Arch. Hydrobiol. 18: 170. 1927.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella capronioides H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 328. 1959.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Surirella celebesiana Hust., Internat. Rev. Hydrobiol. & Hydrogr. 42. 161. 1942.

Distribution: Karnataka (Shivamogga, Uttara Kannada).

Habitat: Freshwater.

Surirella ceylonica Skvort, Ann. R. Bot. Gard. Peradeniya 11: 259. 1930.

f. **ceylonica**

Distribution: Karnataka (Uttara Kannada, Shivamogga).

Habitat: Freshwater.

f. **minor** H.P.Gandhi, Nova Hedwigia 11: 163. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella elegans Ehrenb., Abh. K. Akad. Wiss. Berlin, Physik. Kl. 1841: 424. 1843.

Distribution: Karnataka (Udupi).

Habitat: Freshwater.

Surirella horrida f. **minor** H.P.Gandhi, J. Indian Bot. Soc. 38 (3): 328. 1959.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Surirella leyana A.J.Bramb. & P.B.Ham., Diat. Res. 21: 29. 2006.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella linearis W.Sm., Syn. Brit. Diat. 1: 31. 1853.

var. **linearis**

Distribution: Karnataka (Shivamogga, Uttara Kannada), Tamil Nadu.

Habitat: Freshwater.

var. **constricta** Grun, Verh. K. Zool.-Bot. Ges. Wien 12: 455. 1862.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella pinnigera A.J.Bramb & P.B.Ham, Diat. Res. 21: 31. 2006.

Distribution: Karnataka (Shivamogga).

Habitat: Freshwater.

Surirella robusta (Ehrenb.) Ehrenb., Ber. K. Akad. Wiss. Berlin 1842: 337. 1842.

var. **robusta**

Distribution: Freshwater – Karnataka (Uttara Kannada, Mysuru, Tumakuru), Tamil Nadu.

Habitat: Freshwater.

var. **splendida** (Ehrenb.) Van Heurck, Syn. Diat. 221. 1885.

Navicula splendida Ehrenb., Abh. Königl. Akad. Wiss. Berlin. 1831. 123. 1832.

Distribution: Karnataka (Bongale 1985).

Habitat: Terrestrial.

Surirella shyamaii H.P.Gandhi, Nova Hedwigia 11 (1-4): 164. 1966.

f. **shyamaii**

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

f. **constricta** H.P.Gandhi, Nova Hedwigia 11 (1-4): 165. 1966.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella splendida (Ehrenb.) Kütz., Bacillarien 62. 1844.

Navicula splendida Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1831: 35. 1832.

Distribution: Karnataka (Dharwad, Uttara Kannada), Tamil Nadu

Habitat: Freshwater.

Surirella subsalsa W.Sm., Syn. Brit. Diat. 1: 34. 1853.

f. **subsalsa**

Distribution: Karnataka (Uttara Kannada, Shivamogga), Maharashtra.

Habitat: Freshwater.

f. **major** H.P.Gandhi, J. Indian Bot. Soc. 37: 263. 1958.

Distribution: Karnataka (Shivamogga); endemic.

Habitat: Freshwater.

Surirella tenera Greg., Quart. J. Micr. Sc. 4: 11. 1856.

var. **tenera**

Distribution: Karnataka (Uttara Kannada, Shivamogga, Dharwad, Mysuru), Arunachal Pradesh, Maharashtra, Tamil Nadu.

Habitat: Freshwater.

var. **nervosa** A.Schmidt, Atlas Diat. 23. 1875.

Distribution: Karnataka (Uttara Kannada, Shivamogga).

Habitat: Freshwater.

Surirella tenuissima Hust., Atlas Diat. pl. 299: 15. 1913.

Distribution: Karnataka (Uttara Kannada).

Habitat: Freshwater.

Surirella turgida W.Sm., Syn. Brit. Diat. 1: 31. 1853.

Distribution: Karnataka (Mysuru).

Habitat: Freshwater.

Family: THALASSIONEMATACEAE

Thalassionema Grunow ex Mereschk.

Thalassionema nitzschoides (Grunow) Mereschk., Bot. Zap. (Scr. Bot. Horti. Univ. Imp. Petrop.) 19: 78. 1902.

Distribution: Karnataka (Uttara Kannada, Karnataka coast, Dakshina Kannada), Andhra Pradesh, Kerala, Odisha, Tamil Nadu.

Habitat: Brackish water and marine.

Thalassiothrix Cleve & Grunow

Thalassiothrix elongata Grunow, Syn. Diat. Belg. pl. 37: 9. 1881.

Distribution: Karnataka (Karnataka coast).

Habitat: Marine.

Thalassiothrix longissima Cleve & Grunow, K. Svenska Vet.-Akad. Handl., ser. 4, 17 (2): 108. 1880.

Distribution: Karnataka (Uttara Kannada, Karnataka coast).

Habitat: Marine.

Family: THALASSIOSIRACEAE**Thalassiosira** Cleve

Thalassiosira pseudonana Hasle & Heimdal, Beih. Nova Hedwigia 31: 565. 1970.

Distribution: Karnataka (Dakshina Kannada).

Habitat: Marine.

Thalassiosira subtilis (Ostenfeld) Gran, Nyt. Mag. Naturv. 38: 117. 1900.

Podosira subtilis Ostenfeld, Iagtt. Overflad. Temp. Salthold. Og Plankton: 55. 1899.

Distribution: Karnataka (Karnataka coast), Kerala, Odisha, Tamil Nadu, West Bengal.

Habitat: Brackish water and marine.

Class: CHRYSOPHYCEAE**Family: MALLOMONADACEAE****Mallomonas** Perty

Mallomonas bangladeshica (E.Takah. & T.Hayak.) Asmund & Kristiansen, Opera Bot. 85: 23. 1986.

Mallomonopsis peronoides var. *bangladeshica* E.Takah. & T.Hayak., Phycos 18: 131. 1979.

Distribution: Karnataka (Mandya), Odisha, Uttar Pradesh.

Habitat: Freshwater.

Mallomonas costata Dürschm., Nordic J. Bot. 4: 128. 1984.

Distribution: Karnataka (Mysuru), Bihar, Odisha, Tamil Nadu.

Habitat: Freshwater.

Mallomonas cyathellata Wujek & Asmund, Phycologia 18: 115. 1979.

Distribution: Karnataka (Mysuru, Mysuru), Bihar.

Habitat: Freshwater.

Mallomonas cyathellata var. **chilensis** Dürschm., Arch. Hydrobiol. Suppl. 63: 138. 1982.

Distribution: Karnataka (Mysuru, Mandya), Bihar, Haryana, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Mallomonas guttata Wujek, Brenesia 22: 310. 1984.

Distribution: Karnataka (Mysuru), Bihar, Odisha, Uttar Pradesh.

Habitat: Freshwater.

Mallomonas mangofera

var. **foveata** (Dürschm.) Kristiansen, Chryso. Hapto. Alg. 82. 2007.

Mallomonas mangofera f. *foveata* Dürschm., Pl. Syst. Evol. 143: 182. 1983.

Distribution: Karnataka (Mandya), Bihar, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **reticulata** (Cronberg) Kristiansen, Chryso. Hapto. Alg. 82. 2007.

Mallomonas mangofera f. *reticulata* Cronberg, Beih. Nova Hedwigia 95: 212. 1989.

Distribution: Karnataka (Mandya), Bihar.

Habitat: Freshwater.

Mallomonas matvienkoae (Matvienko) Asmund & Kristiansen, Opera Bot. 85: 17. 1986.

Mallomonopsis elliptica Matvienko, Trudy Inst. Bot. Kharkov 4: 41. 1941.

var. **matvienkoae**

Distribution: Karnataka (Mysuru), Bihar, Odisha.

Habitat: Freshwater.

var. **siveri** Wujek & L.C.Saha, Nova Hedwigia Beih. 112: 374. 1996.

Distribution: Karnataka (Mysuru); endemic.

Habitat: Freshwater.

Mallomonas morrisonensis Croome & P.A.Tyler, Brit. Phycol. J. 18: 383. 1983.

Distribution: Karnataka (Mysuru), Bihar, Odisha.

Habitat: Freshwater.

Mallomonas peronoides (K.Harris) Momeu & L.S.Péterfi, Contr. Bot. Cluj-Napoca 19: 17. 1979.

Mallomonopsis peroneides K.Harris, J. Gen. Microbiol. 42: 179. 1966.

Distribution: Karnataka (Mysuru, Mysuru, Mandya), Bihar, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Mallomonas pseudocratis Dürschm., Nova Hedwigia 38: 718. 1983.

Distribution: Karnataka (Mysuru), Bihar, Odisha, Uttar Pradesh.

Habitat: Freshwater.

Mallomonas rasilis Dürschm., Nordic J. Bot. 3: 424. 1983.

Distribution: Karnataka (Shivamogga), Bihar.

Habitat: Freshwater.

Family: PARAPHYSOMONADACEAE

Paraphysomonas De Saed.

Paraphysomonas vestita (A. Stokes) De Saed., Ann. Protistol. 2: 178. 1930.

Physomonas vestita A. Stokes, Amer. J. Sci. 29(3): 313. 1885.

Distribution: Karnataka (Mysuru, Uttara Kannada), Bihar, Delhi, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater and brackish water.

Family: PRYMNESIACEAE

Chrysochromulina Lackey

Chrysochromulina parva Lackey, Llyodia 2: 137. 1939.

Distribution: Karnataka (Shivamogga), Haryana.

Habitat: Freshwater.

Family: SYNURACEAE**Synura** Ehrenb.

Synura curtispina (J.B.Petersen & J.B.Hansen) Asmund, *Hydrobiologia* 31(3-4): 497. 1968.

Synura spinosa f. *curtispina* J.B.Petersen & J.B.Hansen, *Biol. Meddel. Kongel. Danske Vidensk. Selsk.* 23(2): 22.1956.

Distribution: Karnataka (Mysuru, Mandya, Kodagu), Andhra Pradesh, Bihar, Haryana, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Spiniferomonas E. Takah.

Spiniferomonas alata E.Takah., *Bot. Mag. (Tokyo)* 86: 79. 1973.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Bihar, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Spiniferomonas enigmata K.H.Nicholls, *Pl. Syst. Evol.* 148: 107. 1984.

Distribution: Karnataka (Mysuru), Bihar.

Habitat: Freshwater.

Spiniferomonas septispina K.H.Nicholls, *Pl. Syst. Evol.* 148: 104. 1984.

Distribution: Karnataka (Mysuru), Bihar, Odisha, Uttar Pradesh.

Habitat: Freshwater.

Spiniferomonas trioralis E.Takah., *Bot. Mag. (Tokyo)* 86: 78. 1973.

Distribution: Karnataka (Mysuru, Mandya), Andhra Pradesh, Bihar, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Class: DINOPHYCEAE**Family: DINOTRICHACEAE****Gymnodinium** F. Stein

Gymnodinium breve C.C.Davis, *Bot. Gaz.* 109 (3): 358. 1948.

Distribution: Karnataka, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Marine*

Family: PERIDINIACEAE**Peridinium** Ehrenb.

Peridinium divaricatum Meunier, *Mém. Mus. Royal Hist. Nat. Belg.* 28: 48. 1919.

Distribution: Karnataka, Goa, Tamil Nadu.

Habitat: Marine*

Class: EUGLENOPHYCEAE**Family: EUGLENACEAE****Euglena Ehrenb.**

Euglena acus (O.F.Müll.) Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1830: 39. 1830.

Vibrio acus O.F.Müll., Anim. Infus. 59. 1786.

var. acus

Distribution: Karnataka (Dharwad), Andaman & Nicobar, Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. rigida E.Hübner, Progr. ReAlg. Stralsund 9. 1886.

Distribution: Karnataka (Dharwad), Maharashtra, Meghalaya.

Habitat: Freshwater.

Euglena convoluta Korsh, Arch. Protistenk. 95: 23. 1941.

Distribution: Karnataka (Dharwad), Maharashtra, Rajasthan

Habitat: Freshwater.

Euglena ehrenbergii G.A.Klebs, Untersuch. Bot. Inst. Tübingen 1(2): 304. 1883.

Distribution: Karnataka (Dharwad), Gujarat, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Euglena elastica Prescott, Farlowia 1(3): 365. 1944.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Jharkhand, Maharashtra, Odisha, Uttarakhand, West Bengal.

Habitat: Freshwater.

Euglena elongata Schew., Verh. Naturhist.-Med. Vereins Heidelberg. 4(5): 550. 1891.

Distribution: Karnataka (Dharwad), Jharkhand, Punjab.

Habitat: Freshwater.

Euglena gaumei P.Allorge & M. Lefèvre, Bull. Soc. Bot. France 72: 123. 1925.

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Euglena gracilis G.A.Klebs, Untersuch. Bot. Inst. Tübingen 1(2): 303. 1883.

Distribution: Karnataka (Dharwad, Bijapur), Arunachal Pradesh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Odisha, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Euglena limnophila Lemmerm., Beih. Bot. Centralbl. 76: 152. 1898.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Jharkhand, Kerala, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Euglena minuta Prescott, Farlowia 1(3): 365. 1944.

Distribution: Karnataka (Shivamogga), Jharkhand, Maharashtra.

Habitat: Freshwater.

Euglena obtusa F.Schmitz, Jahrb. Wiss. Bot. 15: 24. 1884.

Distribution: Karnataka (Shivamogga), Andhra Pradesh

Habitat: Freshwater.

Euglena oxyuris Schmarda, KI. Beitr. Nat. Infus. 17. 1846.

var. **oxyuris**

Distribution: Karnataka (Dharwad), Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Maharashtra, Meghalaya, Odisha, Rajasthan, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **minor** Deflandre, Bull. Soc. Bot. France 71(4): 119. 1924.

Distribution: Karnataka (Dharwad), Jharkhand, Meghalaya, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

Euglena polymorpha P.A.Dang., Botaniste 8: 175. 1901.

Distribution: Karnataka (Bijapur, Dharwad), Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Jharkhand, Maharashtra, Meghalaya, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Euglena proxima P.A.Dang., Botaniste 8: 154. 1901.

Distribution: Karnataka (Dharwad), Chattisgarh, Delhi, Himachal Pradesh, Jharkhand, Maharashtra, Meghalaya, Odisha, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Euglena sanguinea Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1830: 71. 1830.

Distribution: Karnataka (Dharwad), Himachal Pradesh, Jharkhand, Maharashtra, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Euglena spirogyra Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1830: 72. 1830.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Bihar, Gujarat, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Meghalaya, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Euglena tripteris (Dujard.) G.A.Klebs, Untersuch. Bot. Inst. Tübingen 1: 306. 1883.

Phacus tripteris Dujard., Hist. nat. Zoophyt. 338. 1841.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Euglena velata G.A.Klebs, Untersuch. Bot. Inst. Tübingen 1(2): 301. 1883.

Distribution: Karnataka (Shivamogga), Uttar Pradesh

Habitat: Freshwater.

Lepocinclis Perty

Lepocinclis acuta Prescott, Hydrobiologia 2: 89. 1949.

Distribution: Karnataka (Dharwad), Himachal Pradesh, Jammu & Kashmir, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Lepocinclis fusiformis (H.J.Carter) Lemmerm., Ber. Deutsch. Bot. Ges. 19: 89. 1901.

Euglena fusiformis H.J. Carter, Ann. Mag. Nat. Hist. 3: 17. 1859.

var. fusiformis

Distribution: Karnataka (Dharwad), Gujarat, Kerala, Maharashtra, Odisha, Tamil Nadu.

Habitat: Freshwater.

var. amphirhynchus Nygaard, Kongel. Danske Vidensk. Selsk. Skr. 7(1): 167. 1950.

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

Lepocinclis glabra Drezep., Kosmos (Lvov) 50: 237. 1925.

Distribution: Karnataka (Bijapur), Uttar Pradesh.

Habitat: Freshwater.

Lepocinclis ovum (Ehrenb.) Lemmerm., Ber. Deutsch. Bot. Ges. 19: 88. 1901.

Euglena ovum Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1840: 200. 1840.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Lepocinclis playfairiana (Deflandre) Deflandre, Ann. Protist. 3: 227. 1932.

Crumenula playfairiana Deflandre, Arch. Protist. 2: 16. 1929.

var. playfairiana

Distribution: Karnataka (Dharwad, Bijapur), Uttar Pradesh.

Habitat: Freshwater.

var. minor Philipose, Proc. Indian Acad. Sci. 93B: 514. 1984.

Distribution: Karnataka (Shivamogga), Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Lepocinclis sphagnophila Lemmerm., Ark. Bot. 2(2): 124. 1904.

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Phacus Deflandre

Phacus acuminatus (A. Stokes) Hub.-Pest., Die Binnengew. 4: 192. 1955.

Phacus acuminata A. Stokes, Amer. Monthly Microscop. J. 6: 183. 1885.

Distribution: Karnataka (Dharwad), Gujarat, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus anacoelus A. Stokes, Amer. Naturalist 19: 19. 1885.

var. anacoelus

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

var. undulata (Skvort) Skvort, Ber. Deutsch. Bot. Ges. 46: 109. 1928.

Phacus orbicularis var. *undulata* Skvortsov, Zhurn. Mikrobiol. 4: 65. 1917.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Phacus anomalus var. **pullus-gallinae** Nygaard, Kongel. Danske. Vidensk. Selsk. Skr. 7(1): 168. 1950.

Distribution: Karnataka (Shivamogga), Maharashtra.

Habitat: Freshwater.

Phacus atraktoides Pochm., Arch. Protistenk. 95: 219. 1942.

Distribution: Karnataka (Shivamogga), Andhra Pradesh, Himachal Pradesh.

Habitat: Freshwater.

Phacus bharatii Hosmani, Phykos 15: 29. 1976.

Distribution: Karnataka (Dharwad); endemic.

Habitat: Freshwater.

Phacus brachykentron Pochm., Arch. Protistenk. 95: 145. 1942.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Himachal Pradesh, Kerala, Maharashtra, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

Phacus caudatus K.Hübner, Progr. ReAlg. Stralsund 5. 1886.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus chloroplasets Prescott, Farlowia 1: 367. 1944.

Distribution: Karnataka (Dharwad), Jammu & Kashmir.

Habitat: Freshwater.

Phacus circumflexus Pochm., Arch. Protistenk. 95: 206. 1942.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phacus curvicauda Svirenko, Arch. Hydrobiol. Planktonk. 10: 333. 1915.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Phacus cylindrus Pochm., Arch. Protistenk. 95: 131. 1942.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Phacus ephippion Pochm., Arch. Protistenk. 95: 208. 1942.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Kerala, Maharashtra, Odisha, Rajasthan, Uttar Pradesh.

Habitat: Freshwater.

Phacus helicoides Pochm., Arch. Protistenk. 95: 212. 1942.

Distribution: Karnataka (Dharwad, Bijapur), Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phacus indicus Skvort, J. Asiat. Soc. Shanghai 53: 191. 1922.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Uttar Pradesh.

Habitat: Freshwater.

Phacus lemmermannii Svirenko, Arch. Hydrobiol. Planktonk. 10: 334. 1915.

Distribution: Karnataka (Dharwad), Gujarat.

Habitat: Freshwater.

Phacus longicauda (Ehrenh.) Dujard., Hist. nat. Zoophyt. 337. 1841.

Euglena longicauda Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1830: 83. 1830.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

Phacus meson Pochm., Arch. Protistenk. 95: 195. 1942.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Himachal Pradesh, Kerala, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phacus nordstedtii Lemmerm., Ark. Bot. 2(2): 124. 1904.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Phacus onyx Pochm., Arch. Protistenk. 95: 192. 1942.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Phacus orbicularis K. Hübner, Progr. ReAlg. Stralsund 5. 1886.

var. **orbicularis**

Distribution: Karnataka (Dharwad), Andhra Pradesh, Bihar, Himachal Pradesh, Jharkhand, Kerala, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **caudata** Skvort, Ber. Dentsch. Bot. Ges. 46: 112. 1928.

Distribution: Karnataka (Dharwad, Bijapur), Himachal Pradesh.

Habitat: Freshwater.

var. **zmudae** Zumst., Jahrb. Wiss. Bot. 34: 151. 1900.

Distribution: Karnataka (Dharwad), Uttar Pradesh.

Habitat: Freshwater.

Phacus pleuronectes (O.F.Müll.) Nitzsch ex Dujard., Hist. nat. Zoophyt. 336. 1841.

Cercaria pleuronectes O.F.Müll., Verm. terr. Fluv. 1(1): 70. 1773.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Bihar, Chattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus pseudoswirenko Prescott, Farlowia 1: 368. 1944.

Distribution: Karnataka (Dharwad), Jharkhand.

Habitat: Freshwater.

Phacus pyrum (Ehrenb.) F.Stein, Quart. J. Microscop. Sci. 11: 99. 1871.

Euglena pyrum Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1832: 72. 1932.

Distribution: Karnataka (Dharwad, Bijapur), Andhra Pradesh, Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus segretii var. **ovum** Prescott, Farlowia 1: 369. 1944.

Distribution: Karnataka (Bijapur), Maharashtra, Rajasthan.

Habitat: Freshwater.

Phacus suecicus Lemmerm., Arch. Hydrobiol. 5: 299. 1910.

Distribution: Karnataka (Bijapur), Bihar, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Rajasthan, Tamil Nadu.

Habitat: Freshwater.

Phacus swirenkoi Skvort, Ber. Deutsch. Bot. Ges. 46: 114. 1928.

Distribution: Karnataka (Uttara Kannada), Maharashtra, Rajasthan.

Habitat: Freshwater.

Phacus tortus (Lemmerm.) Skvort, Bot. Gaz. (London) 85: 93. 1928.

Phacus longicauda var. *torta* Lemmerm., Kryptogamenflora 3: 511. 1910.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus triqueter (Ehrenb.) Dujard., Hist. nat. Zoophyt. 164. 1852.

Euglena triquetra Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1834: 249. 1834.

Distribution: Karnataka (Uttara Kannada), Gujarat, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Odisha, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

Phacus undulatus (Skvort) Pochm., Arch. Protistenk. 95: 191. 1942.

Phacus orbicularis var. *undulata* Skvort, Zhurn. Mikrobiol. 4: 65. 1917.

Distribution: Karnataka (Uttara Kannada), Andhra Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Strombomonas Deflandre

Strombomonas rangoonensis (Skvort) Fott & Komárek, Preslia 32: 136. 1960.

Trachelomonas rangoonensis Skvortsov, Arch. Protistenk. 90: 82. 1937.

Distribution: Karnataka (Dharwad).

Habitat: Freshwater.

Trachelomonas Ehrenb.

Trachelomonas abrupta Svirenko, Arch. Hydrobiol. 9: 638. 1914.

Distribution: Karnataka (Dharwad, Bijapur), Odisha, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas armata (Ehrenb.) F.Stein, Organ. Infus. 3(i): 154. 1878.

Chaetotyphla armata Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1834: 287. 1834.

var. armata

Distribution: Karnataka (Dharwad), Himachal Pradesh, Jharkhand, Maharashtra, Odisha, Uttarakhand, Uttar Pradesh.

Habitat: Freshwater.

var. longispina Playfair, Proc. Linn. Soc. New South Wales 40: 25. 1915.

Distribution: Karnataka (Bijapur), Maharashtra.

Habitat: Freshwater.

Trachelomonas bulla F.Stein, Organ. Infus. 3(1): 41. 1878.

Distribution: Karnataka (Dharwad, Bijapur), Himachal Pradesh, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas caudata (Ehrenb.) F.Stein, Organ. Infus. 3(1): 13. 1878.

Chaetoglana caudata Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1840: 199. 1840.

Distribution: Karnataka (Bijapur), Rajasthan, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas charkowiensis Svirenko, Trudy Obshch. Isp. Prir. Imp. Khaàkovsk. Univ. 46: 82. 1913.

Distribution: Karnataka (Dharwad), Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas girardiana (Playfair) Playfair, Proc. Linn. Soc. New South Wales 46: 134. 1921.

Trachelomonas urceolata var. *girardiana* Playfair, Proc. Linn. Soc. New South Wales 39: 32. 1915.

Distribution: Karnataka (Dharwad), Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas hexangulata Svirenko, Arch. Hydrobiol. 9: 646. 1914.

var. hexangulata

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

var. repanda Prescott, Farlowia 1: 370. 1944.

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

Trachelomonas hispida (Perty) F. Stein, Org. Infus. 3 (1): 20. 1878.

Chonemonas hispida Perty, Mitt. Naturf. Ges. Bern. 1849: 29. 1849.

var. hispida

Distribution: Karnataka (Bijapur), Himachal Pradesh, Jharkhand, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

var. coronata Lemmerm., Pascher, Süßwasserflora 2: 150. 1913.

Distribution: Karnataka (Dharwad), Maharashtra, Uttar Pradesh

Habitat: Freshwater.

Trachelomonas horrida T.C.Palmer, Proc. Acad. Nat. Sci. Philadelphia 57: 674. 1905.

Distribution: Karnataka (Dharwad, Bijapur), Jharkhand

Habitat: Freshwater.

Trachelomonas lacustris Drezep., Kosmos (Lvov) 50: 217. 1925.

Distribution: Karnataka (Bijapur), Maharashtra.

Habitat: Freshwater.

Trachelomonas niklewskii Drezep., Kosmos (Lvov) 50: 219. 1925.

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

Trachelomonas playfairi Deflandre, Bull. Soc. Bot. France 71: 1125. 1924.

Distribution: Karnataka (Bijapur), Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas robusta Svirenko emend. Deflandre, Arch. Hydrobiol. 9: 636. 1914.

Distribution: Karnataka (Dharwad), Maharashtra.

Habitat: Freshwater.

Trachelomonas similis A. Stokes, Proc. Amer. Philos. Soc. 28: 76. 1890.

Distribution: Karnataka (Bijapur), Jharkhand, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas superba Svirenko, Arch. Hydrobiol. 9: 642. 1914.

var. **superba**

Distribution: Karnataka (Dharwad), Bihar, Maharashtra, Tamil Nadu, Uttar Pradesh.

Habitat: Freshwater.

var. **duplex** Deflandre, Rev. Gén. Bot. 38: 658. 1926.

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

var. **spinosa** Prescott, Farlowia 1: 370. 1944.

Distribution: Karnataka (Bijapur).

Habitat: Freshwater.

var. **swirenkiana** Deflandre, Rev. Gén. Bot. 38: 657. 1927.

Distribution: Karnataka (Dharwad, Bijapur), Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas varians Skvort, Ber. Deutsch. Bot. Ges. 44: 611. 1927.

Distribution: Karnataka (Bijapur), Jharkhand, Maharashtra, Uttar Pradesh.

Habitat: Freshwater.

Trachelomonas volvocina (Ehrenb.) Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1833: 315. 1833.

Microglena volvocina Ehrenb., Abh. Königl. Akad. Wiss. Berlin 1831: 64. 1831.

var. **volvocina**

Distribution: Karnataka (Dharwad, Bijapur), Arunachal Pradesh, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Maharashtra, Meghalaya, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

var. **derephora** W. Conrad, Ann. Biol. Lacustre 8: 201. 1916.

Distribution: Karnataka (Bijapur), Andhra Pradesh, Arunachal Pradesh, Jharkhand, Maharashtra.

Habitat: Freshwater.

var. **punctata** Playfair, Proc. Linn. Soc. New South Wales 40: 9. 1915.

Distribution: Karnataka (Uttara Kannada), Gujarat, Maharashtra, Meghalaya, Uttar Pradesh.

Habitat: Freshwater.

Family: PERANEMACEAE

Astasia Dujard.

Astasia klebsii Lemmerm., Kryptogamenflora 3(1): 540. 1910.

Distribution: Karnataka (Dharwad), Andhra Pradesh, Gujarat, Uttar Pradesh

Habitat: Freshwater.

Class: PHAEOPHYCEAE

Family: ACINETOSPORACEAE

Giffordia Batters

Giffordia mitchelliae (Harvey) G.Hamel, Bot. Not. 1939: 66. 1939.

Ectocarpus mitchelliae Harvey, Smithsonian Contr. Knowl. 3(4): 142. 1852.

Distribution: Karnataka.

Habitat: Marine*

Hincksia J.E. Gray

Hincksia mitchelliae (Harvey) P.C.Silva & al., Smithsonian Contr. Mar. Sci. 27: 73. 1987.

Ectocarpus mitchelliae Harvey, Smithsonian Contr. Knowl. 3(4): 142. 1852.

Distribution: Karnataka.

Habitat: Marine*

Family: CHORDARIACEAE

Hamelella Børgesen

Hamelella dermonematis (Børgesen) K.Srinivas. Bull. Bot. Surv. India 7: 242. 1965.

Ectocarpus dermonematis Børgesen, J.Indian Bot. Soc. 16: 18. 1937.

Distribution: Karnataka.

Habitat: Marine*

Family: DICTYOTACEAE

Dictyota J.V. Lamour.

Dictyota bartayresiana J.V.Lamour., J. Bot. (Desvaux) 2: 43. 1809.

Distribution: Karnataka

Habitat: Marine*

Dictyota dichotoma (Hud.) J.V.Lamour., J. Bot. (Desvaux) 2: 42. 1809.

Ulva dichotoma Hud., Fl. Angl. 476. 1762.

Distribution: Karnataka.

Habitat: Marine*

Dictyota dumosa Børgesen, Biol. Medd. Kongel. Danske Vidensk. Selsk. 12 (2): 37. 1935.

Distribution: Karnataka.

Habitat: Marine*

Dictyota fasciola (Roth) J.V. Lamour., J. Bot. (Desvaux) 2: 43. 1809.

Fucus fasciola Roth, Catal. bot. 146. 1797.

Distribution: Karnataka.

Habitat: Marine*

Dictyota maxima Zanardini, Mém. Reale Ist. Veneto Sci., Lett. Arti. 17: 132. 1872.

Distribution: Karnataka.

Habitat: Marine*

Dilophus J. Agardh

Dilophus fasciola (Roth) M.A. Howe, Mem. Torrey Bot. Club 15: 72. 1914.

Fucus fasciola Roth Catal. bot. 146. 1797.

Distribution: Karnataka

Habitat: Marine*

Lobophora J. Agardh

Lobophora variegata (J.V. Lamour.) Womersl ex E.C. Oliveira, Algas. Marinh. Bent. Brasil. 217. 1977.

Dictyota variegata J.V. Lamour., J. Bot. (Desvaux) 2: 40. 1809.

Distribution: Karnataka.

Habitat: Marine*

Padina Adanson

Padina gymnospora (Kütz.) Sonder, Abh. Naturw. Ver. Hamburg 5(2): 47. 1871.

Zonaria gymnospora Kütz., Tab. phycol. 9: 29. 1859.

Distribution: Karnataka.

Habitat: Marine*

Padina tetrastromatica Hauck, Hedwigia 25: 43. 1887.

Distribution: Karnataka

Habitat: Marine*

Spatoglossum Kütz.

Spatoglossum asperum J. Agardh, Anal. Cont. 29 (9): 36. 1894.

Distribution: Karnataka.

Habitat: Marine*

Stoechospermum Kütz.

Stoechospermum marginatum (C. Agardh) Kütz., Phycol. general. 339. 1843.

Zonaria marginata C. Agardh, Syst. Alg. 266. 1824.

Distribution: Karnataka.

Habitat: Marine*

Family: RALFSIACEAE**Ralfsia** Berkeley

Ralfsia ceylanica Harvey ex Barton, J.Linn. Soc., Bot. 35: 477. 1903.

Distribution: Karnataka.

Habitat: Marine*

Family: SARGASSACEAE**Sargassum** C. Agardh

Sargassum cinereum J. Agardh, Sp. Alg. 305. 1848.

Distribution: Karnataka.

Habitat: Marine*

Sargassum ilicifolium (Turner) C. Agardh, Sp. Alg. 11. 1820.

Fucus ilicifolius Turner, Fuci. 1: 113. 1807.

Distribution: Karnataka

Habitat: Marine*

Sargassum tenerrimum J. Agardh, Sp. Alg. 305. 1848.

Distribution: Karnataka.

Habitat: Marine*

Sargassum myriocystum J. Agardh, Sp. Alg. 314. 1848.

Distribution: Karnataka.

Habitat: Marine*.

Sargassum wightii Grev ex J. Agardh, Sp. Alg. 329. 1848.

Distribution: Karnataka.

Habitat: Marine*

Sargassum cinereum J. Agardh, Sp. Alg. 305. 1848.

Distribution: Karnataka.

Habitat: Marine*

Turbinaria J.V. Lamour.

Turbinaria ornate (Turner) J. Agardh, Sp. Alg. 266. 1848.

Fucus turbinatus var. *ornata* Turner, Fuci. 1: 50. 1807.

Distribution: Karnataka.

Habitat: Marine*

Family: SCYTOSIPHONACEAE**Colpomenia** (Endlicher) Derbès & Solier

Colpomenia sinuosa (Mertens ex Roth) Derbès & Solier, Suppl. Cata. Pl. Natur. Mars. 95. 1851.

Ulva sinuosa Mertens ex Roth, Catal. Bot. 3: 327. 1806.

Distribution: Karnataka.

Habitat: Marine*

Family: SPHACELARIACEAE**Sphacelaria** Lyngbye**Sphacelaria rigidula** Kütz., Phycol. general. 292. 1843.

Distribution: Karnataka.

Habitat: Marine*

Sphacelaria furcigera Kütz., Tab. phycol. 5: 27. 1855.

Distribution: Karnataka.

Habitat: Marine*

Class: RHODOPHYCEAE**Family: ACROCHAETIACEAE****Acrochaetium** Nägeli**Acrochaetium godwardense** R.J.Patel, Rev. Algal. Ser. 2, 10: 33. 1970.

Distribution: Karnataka.

Habitat: Marine*

Family: BANGIACEAE**Bangia** Lyngbye**Bangia atropurpurea** (Mertens ex Roth) C.Agardh, Syst. Alg. 76. 1824.*Conferva atropurpurea* Mertens ex Roth, Catal. bot. 3: 208. 1806.

Distribution: Karnataka.

Habitat: Marine*

Bangia virescens Foslie, Troms Mus. Aarsh. 13: 62. 1890.

Distribution: Karnataka.

Habitat: Marine*

Porphyra C. Agardh**Porphyra vietnamensis** T.Tanaka & Pham-Hoáng Ho, Mem. Fac. Fish. Kagoshima Univ. 11: 34. 1962.

Distribution: Karnataka.

Habitat: Marine*

Family BATRACHOSPERMACEAE**Kumanoa** Entwisle**Kumanoa dasyphylla** (Skuja ex M.S.Balacr. & Chaugule) Ganesan & J.A.West, Algae 28(1): 49. 2013.*Batrachospermum dasyphyllum* Skuja ex M.S.Balacr. & Chaugule in Desikachary & V.N.R.Rao, Taxon. Algae 230. 1980

Distribution: Karnataka (Shivamogga); endemic

Habitat: Freshwater.

Kumanoa iyengarrii (Skuja ex M.S.Balacr. & Chaugule) Ganesan & J.A.West, Algae 28(1): 49. 2013.*Batrachospermum iyengarrii* Skuja ex M.S.Balacr. & Chaugule in Desikachary, T.V. & V.N. R. Rao, Taxon. Algae 232. 1980

Distribution: Karnataka (Belgavi), Andhra Pradesh; endemic.

Habitat: Freshwater

Kumanoa zeylanica (Skuja ex M.S.Balacr. & Chaugule) Ganesan & J.A.West, *Algae* 28(1): 49. 2013.
Batrachospermum zeylanicum Skuja ex M.S.Balacr. & Chaugule in Desikachary & V.N.R. Rao, *Taxon.*
Algae 235. 1980
 Distribution: Karnataka (Shivamogga); Sri Lanka.
 Habitat: Freshwater.

Sirodotia Kylin

Sirodotia cirrhosa Skuja ex M.S.Balacr. & B.B.Chaugule in Desikachary & V.N.R.Rao *Taxon.* *Algae* 242, 244, f.17-21. 1980.
 Distribution: Karnataka (Uttara Kannada), Assam; Myanmar.
 Habitat: Freshwater.

Sirodotia huillensis (Welw. ex West & G.S.West) Skuja, *Arch. Protistenkunde* 74: 304, pl.8, f. 1-20. 1931; M.S.Balacr. & Chaugule in Desikachary & V.N.R.Rao *Taxon.* *Algae* 242, 244, f. 17-21. 1980.
 Distribution: Karnataka (Belagavi), Goa, Maharashtra; China, South Africa.
 Habitat: Freshwater.

Family: CERAMIACEAE

Centroceras Kütz.

Centroceras clavulatum (C.Agardh) Mont., *Expl. Sci. Alg. Pend., Bot.* 140. 1846.
Ceramium clavulatum C.Agardh, *Syn. Plant.* 1: 2. 1822.
 Distribution: Karnataka.
 Habitat: Marine*

Ceramium Roth

Ceramium cimbricum H.E.Petersen, *Kongel. Danske Vid. Sel. Skr.* 7: 378. 1924.
 Distribution: Karnataka.
 Habitat: Marine*

Ceramium fastigiatum Roth, *Tent. Fl. Germ.* 3: 463. 1800.
 Distribution: Karnataka.
 Habitat: Marine*

Family: CHAMPIACEAE

Champia Desvaux

Champia parvula (C.Agardh) Harvey, *Smithsonian Contr. Knowl.* 5(5): 76. 1853.
Chondria parvula C.Agardh, *Syst.* 207. 1824.
 Distribution: Karnataka.
 Habitat: Marine*

Family: CORALLINACEAE

Amphiroa J.V. Lamour.

Amphiroa fragillima J.V.Lamour., *Ann. Sci. Nat. Bot.* 18: 124. 1842.
 Distribution: Karnataka.
 Habitat: Marine*

Cheilosporum (Decaisne) Zanardini

Cheilosporum spectabile Harvey ex Grunow, J. Mus. Godeffroy (Hamburg) 3: 41. 1873.

Distribution: Marine* – Karnataka.

Habitat: Freshwater.

Jania J.V. Lamour.

Jania adhaerens J.V.Lamour., Hist. Polyp. Corall. Vulg. Zoop. 270. 1816.

Distribution: Karnataka.

Habitat: Marine*

Family: CYSTOCLONIACEAE

Hypnea J.V. Lamour.

Hypnea cervicornis J.Agardh, Sp. Alg. 451. 1851.

Distribution: Karnataka.

Habitat: Marine*

Hypnea musciformis (Wulfen) J.V.Lamour., Ann. Mus. Hist. Nat. (Paris) 20: 131. 1813. *Fucus musciformis* Wulfen, Coll. Bot. 154. 1791.

Distribution: Karnataka.

Habitat: Marine*

Hypnea pannosa J.Agardh, Öfvers. Kongal. Vet. -Akad. Förh. 4: 14. 1847.

Distribution: Karnataka.

Habitat: Marine*

Hypnea valentiae (D.Turner) Mont. Hist. Nat. Can. 161. 1841.

Fucus valentiae D.Turner Fuci. 2: 17. 1808.

Distribution: Karnataka.

Habitat: Marine*

Family: DELESSERIACEAE

Caloglossa (Harvey) G. Martens

Caloglossa leprieurii (Mont.) G.Martens, Flora 52: 234. 1869.

Delesseria leprieurii Mont., Ann. Sci. Nat. Bot., Ser.2. 13: 196. 1840.

Distribution: Karnataka.

Habitat: Marine*

Taenioma J. Agardh

Taenioma nanum (Kütz.) G.F.Papenfuss, J. South Afr. Bot. 17: 179. 1952.

Polysiphonia nana Kütz., Tab. Phycol. 13: 10. 1863.

Distribution: Karnataka.

Habitat: Marine*

Family: GELIDIACEAE**Gelidium** J.V. Lamour.**Gelidium micropterum** Kütz., Tab. Phycol. 18: 21. 1868.

Distribution: Karnataka.

Habitat: Marine*

Gelidium pusillum (Stackhouse) Le Jolis, Mém. Soc. Imp. Sci. Nat. Cherbourg 10: 139. 1863.*Fucus pusillus* Stackhouse, Ner. Brit. 16. 1795.

Distribution: Karnataka.

Habitat: Marine*

Family: GELIDIELLACEAE**Gelidiella** Feldmann & G. Hamel.**Gelidiella acerosa** (Forssk.) Feldmann & G.Hamel., Rev. Gén. Bot. 46: 533. 1934.*Fucus acerosus* Forssk., Fl. Aegypti. arab. 190. 1775.

Distribution: Karnataka.

Habitat: Marine*

Family: GRACILARIACEAE**Gracilaria** Greville**Gracilaria corticata** (J.Agardh) J.Agardh, Sp. Alg. 602. 1852.*Rhodomenia corticata* J.Agardh, Linnaea 15(1): 14. 1841.

Distribution: Karnataka.

Habitat: Marine*

Gracilaria edulis (S.G.Gmelin) P.C.Silva, Univ. Calif. Publ. Bot. 25: 293. 1952.*Fucus edulis* S.G.Gmelin, Hist. fuc. 113. 1768.

Distribution: Karnataka.

Habitat: Marine*

Gracilaria foliifera (Forssk.) Børgesen, Dansk. Bot. Ark. 8 (2): 7. 1932.*Fucus foliifera* Forssk., Fl. Aegypt. Arab. 191. 1775.

Distribution: Karnataka.

Habitat: Marine*

Gracilariopsis E. Y. Dawson**Gracilariopsis lemaneiformis** (Bory) E.Y.Dawson & al., Beih. Nova Hedwigia 13: 59. 1964.*Gigartina lemaneiformis* Bory, Voy. Coquille 151. 1828.

Distribution: Karnataka.

Habitat: Marine*

Family: HALYMENIACEAE**Grateloupia** C. Agardh**Grateloupia filicina** (J.V.Lamour.) C.Agardh, Sp. Alg. 223. 1822.*Delesseria filicina* J.V.Lamour., Ann. Mus. Hist. Nat. (Paris) 20: 125. 1813.

Distribution: Karnataka.

Habitat: Marine*

Grateloupia lithophila Børgesen, J. Indian Bot. Soc. 17: 215. 1938.

Distribution: Karnataka.

Habitat: Marine*

Family: LOMENTARIACEAE

Gelidiopsis F. Schmitz

Gelidiopsis variabilis (Greville ex J.Agardh) F.Schmitz, Bot. Jahrb. 21: 148. 1895.

Gelidium variabilis Greville ex J.Agardh, Sp. Alg.2 (2): 468. 1851.

Distribution: Karnataka.

Habitat: Marine*

Family: RHODOMELACEAE

Acanthophora J.V. Lamour.

Acanthophora spicifera (M.Vahl) Børgesen, Bot. Tidsskr. 30: 201. 1910.

Fucus spicifera M.Vahl, Skr. Nat. -Selsk. 5(2): 44. 1802.

Distribution: Karnataka.

Habitat: Marine*

Bryocladia F. Schmitz

Bryocladia thwaitesii (Harvey ex J.Agardh) DeToni, Syll. Alg.968. 1903.

Polysiphonia thwaitesii Harvey ex J.Agardh, Sp. Alg.955. 1863.

Distribution: Karnataka.

Habitat: Marine*

Chondria C. Agardh

Chondria armata (Kütz.) Okamura, Icon. Jap. Alg.1: 69. 1907.

Lophura armata Kütz., Tab Phycol. 16: 2. 1866.

Distribution: Karnataka.

Habitat: Marine*

Laurencia J.V. Lamour.

Laurencia papillosa (C.Agardh) Grev, Alg.Brit. 52. 1830.

Chondria papillosa C.Agardh, Sp. Alg.1: 344. 1822.

Distribution: Karnataka.

Habitat: Marine*

Polysiphonia Greville

Polysiphonia atlantica Kapraun & J.N.Norris, Smithsonian Contr. Mar. Sci. 12: 226. 1982.

Distribution: Karnataka.

Habitat: Marine*

Polysiphonia macrocarpa (C.Agardh) Spreng., Syst. Veg. 4(1): 350. 1827.

Hutchinsia macrocarpa C.Agardh, Syst Alg.157. 1824.

Distribution: Karnataka.

Habitat: Marine*

Family: RHODYMENIACEAE**Rhodymenia** Greville**Rhodymenia australis** Sonder, Bot. Zeit. 3: 56. 1845.

Distribution: Karnataka.

Habitat: Marine*

Rhodymenia sonderi P.C.Silva & al., Univ. Calif. Publ. Bot. 79: 370. 1996.

Distribution: Karnataka.

Habitat: Marine*

Class: XANTHOPHYCEAE**Family: HETEROCAPSACEAE****Botryococcus** Kütz.**Botryococcus braunii** Kütz., Sp. Alg. 892. 1849.

Distribution: Karnataka (Shivamogga, Dharwad), Andaman & Nicobar, Gujarat, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal.

Habitat: Freshwater.

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* No specific locality was given by the authors in the records from terrestrial and marine habitats.

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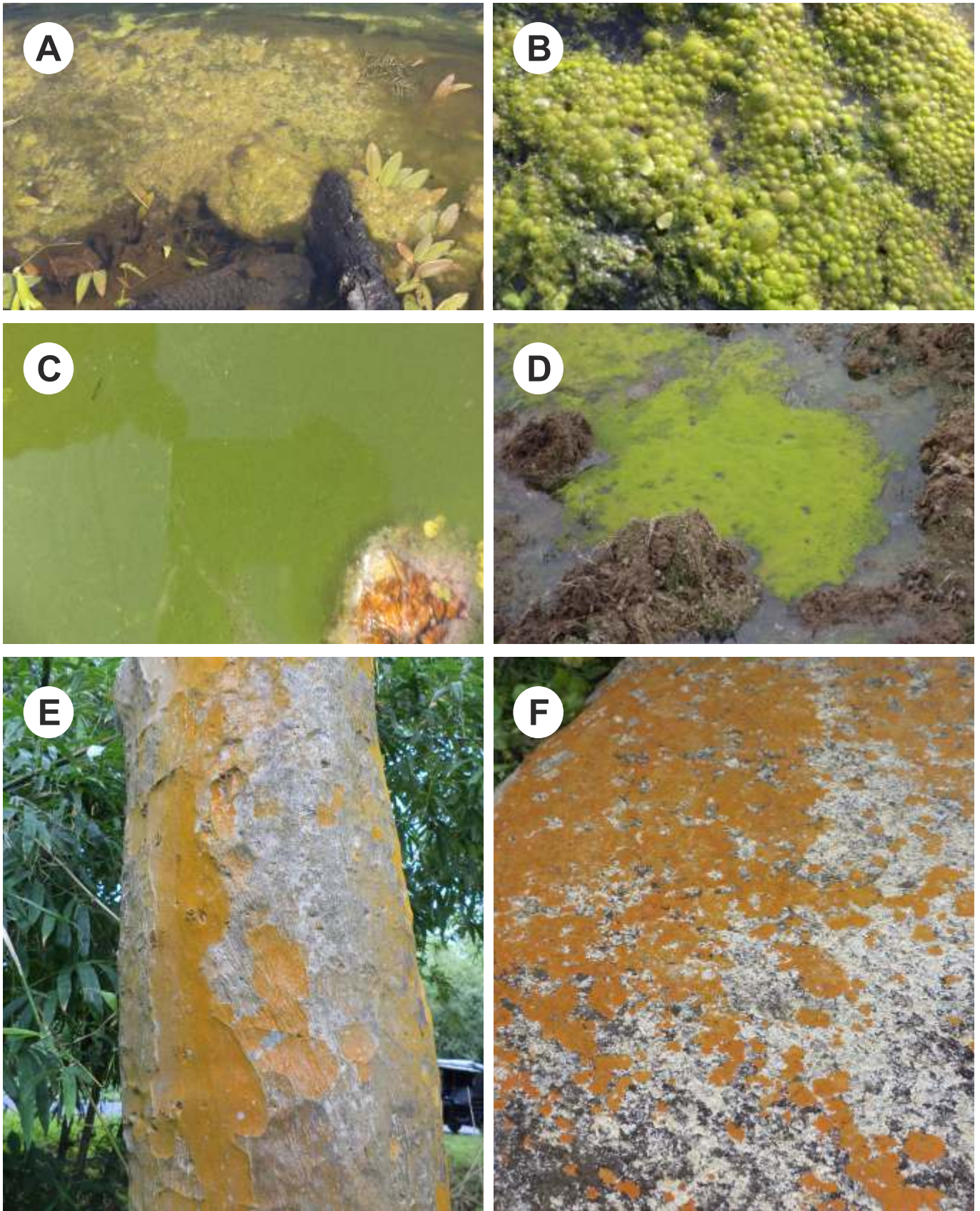


Plate 1: A & B. Floating Mat; C. Planktonic; D. Epipelagic; E & F. Epilithic.

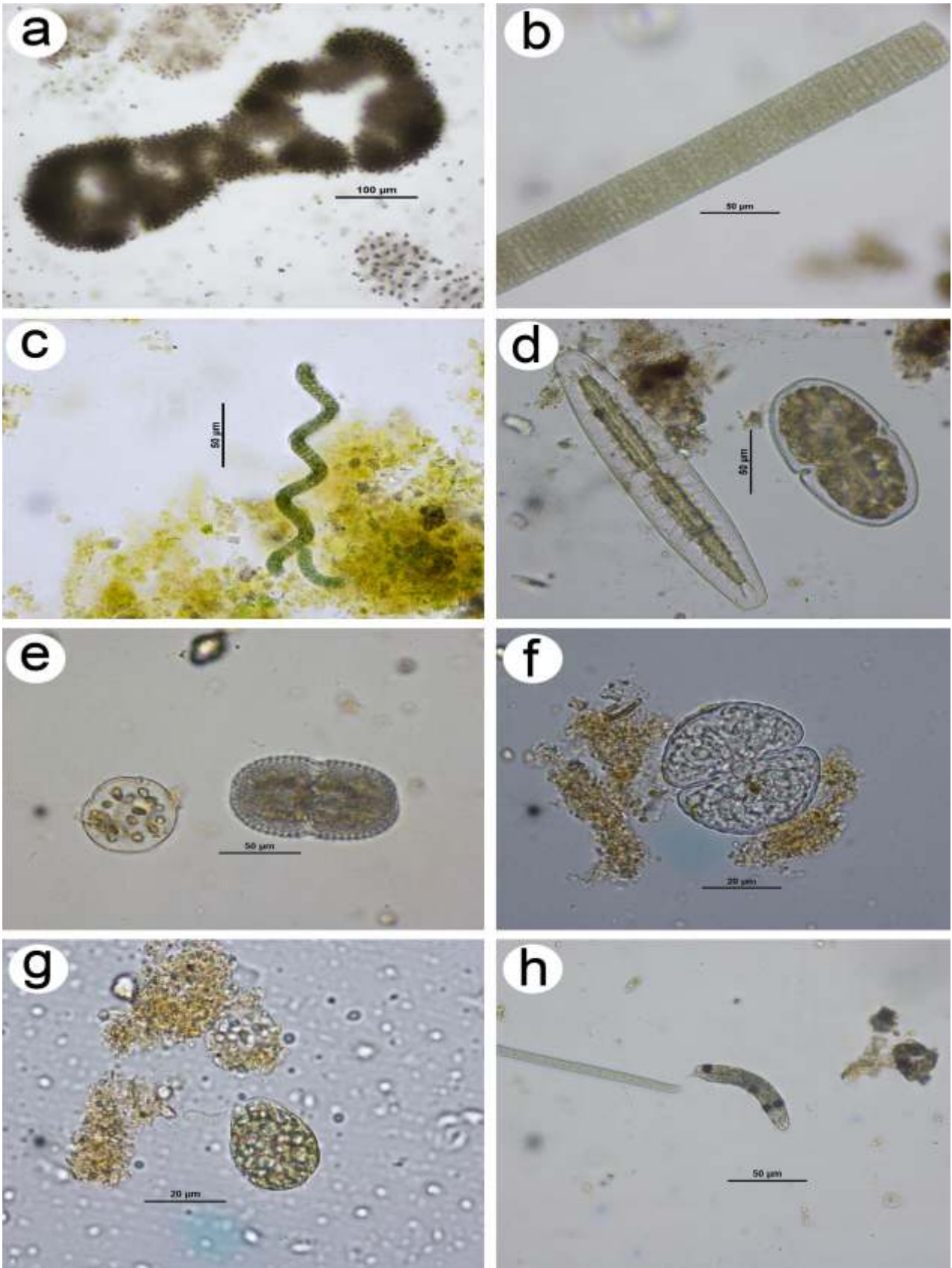


Plate 2 : **A.** *Microcystis aeruginosa* (Kutz.) **B.** *Oscillatoria princeps* Vaucher ex Gomont, **C.** *Arthospira platensis* (Nordst.) Gomont, **D.** *Netrium digitus* (Ehrenb.) Itzigs. & Rothe, *Cosmarium bituberculatum* F.E. Fritsch & M.F. Rich, **E.** *Cosmarium cuneatum* Joshua, **F.** *Cosmarium galeritum* Nordst. **G.** *Euglena ehrenbergii* G.A. Klebs, **H.** *Euglena obtuse* F. Schmitz

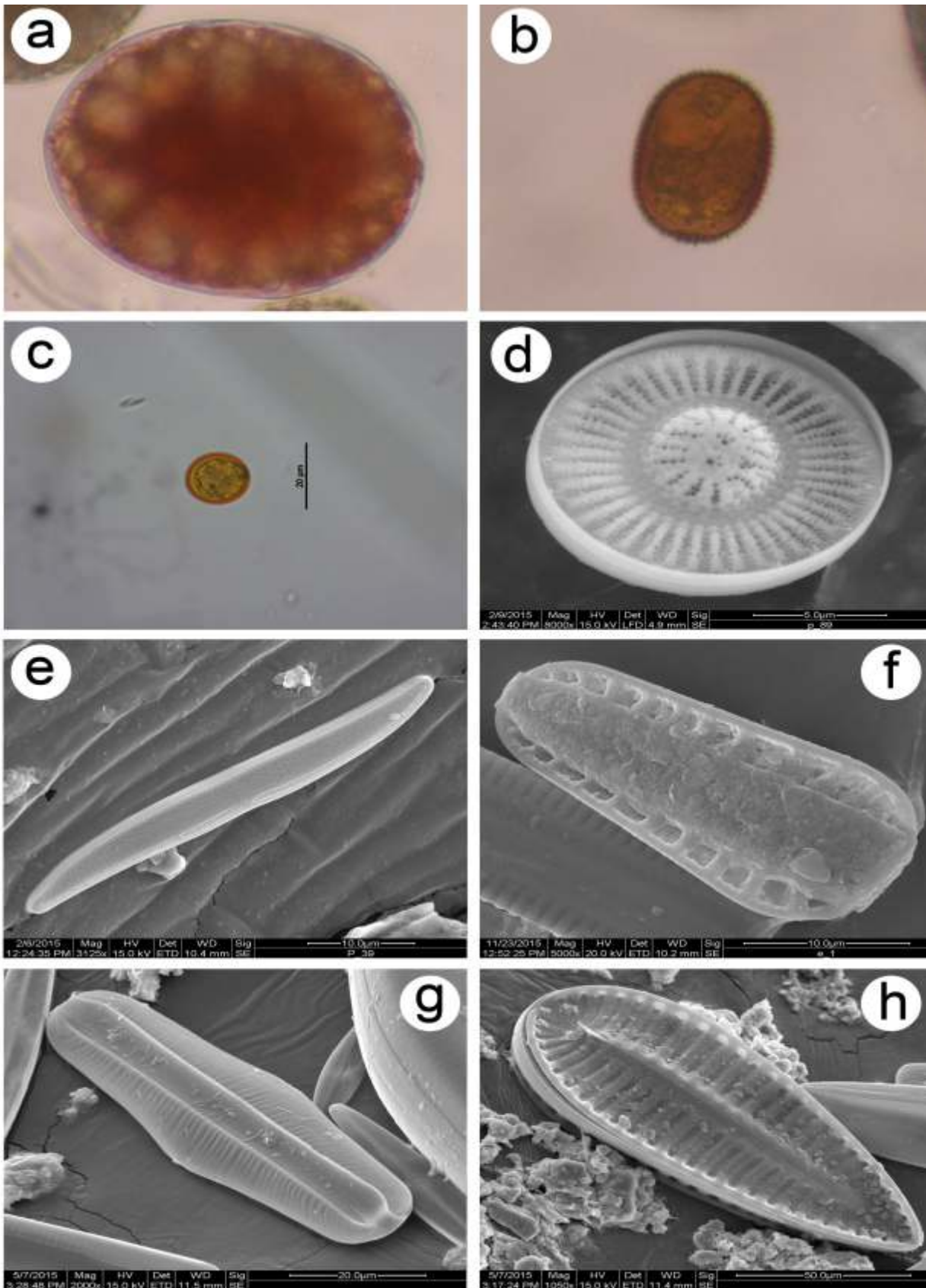


Plate 3. **A.** *Euglena sanguinea* Ehrenb., **B.** *Trachelomonas horrida* T.C. Palmer, **C.** *Trachelomonas volvocina* (Ehrenb.) Ehrenb., **D.** *Cyclotella meneghiniana* Kutz., **E.** *Pleurosigma aestuarii* (Breb. Ex Kutz) W.Sm., **F.** *Surirella subsalsa* W.Sm., **G.** *Rhopalodia gibba* (Ehrenb.) O.F. Mull., *Surirella tenera* Greg.

Fungi of Karnataka

A Checklist

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Introduction

Fungi are the second largest group of living organisms and include the majority of nonflowering achlorophyllous organisms subsisting as parasites or saprophytes having cell-walls of chitin or cellulose or both. These organisms play essential roles (bio-degraders, life-savers, mutualists, pathogens, etc) in nearly every aspect of ecosystem development, stability and function yet we know relatively little about the size and component parts of the fungal network that contribute to these functions.

Mycologists were also quick to take advantage of the systematic revolution using molecular methods from early 1990s and there has been a series of major changes in the traditional morphology based classifications. Publication of a major new classification of the kingdom **Fungi** (Hibbett et al, 2007) has led to changes at higher level using an amalgamation of Phenetic and Phylogenetic data derived from multiple gene loci. The organisms (Fungi) studied by mycologists are now established as polyphyletic and have to be referred to at least three different kingdoms i.e. Fungi, Chromista and Protozoa.

Living vascular plants, dead vascular plants, non-vascular plants, fungi, vertebrates, invertebrates rocks, soil, water are the major habitats where these organisms grow in abundance. About 250 genera (9%) of Indian fungi are endemic while ca 2900 species i.e. 20% are known from India only. Ascomycota –the largest group represents ca 67%, while Basidiomycota-the second largest group represents ca 26% of the Indian fungi.

The variations in the seasonal climates, more precipitation and a variety of host species, the state of Karnataka present a very congenial environment for the richer mycoflora.

The present checklist is based on the literature available to the authors and is divided into proper Fungi and the fungal analogues (Chromista and Protozoa). The Ascomycota - the largest group of fungi in the state includes about 82% of Fungi while Basidiomycota - the second largest group includes about 16% of them. The remaining Fungi and the fungal analogues account for about 2-3 % of these organisms in the state. The families under each order, genera under families and species under genera are arranged alphabetically. Each record has been provided with currently accepted name, full nomenclatural citation followed by basionym and synonym, if any, with their citations.

A total of about 1255 species under about 410 genera and 140 families have been recorded as occurring in the state. Out of these, 380 species are known to occur in this state only. The family Mycosphaerellaceae with about 10 genera and 174 species is the largest family followed by Meliolaceae (7/145), Pucciniaceae (9/46), Phyllostictaceae (7/46) Pleosporaceae (15/42), Pericladiaceae (11/30) and Asterinaceae (6/20).

About 65% of the genera are represented by one species only, 30% of the genera have 2-10 species while only 5% of the genera are represented by more than 10 species in the state. The genus *Meliola* with about 112 species is the largest genus, followed by *Cercospora* (98) *Pseudocercospora* (40), *Phyllosticta* (36), *Phyllachora* (33), *Puccinia* (29), *Pestalotiopsis* (17), *Asterdiella* (16), *Colletotrichum* (15), *Phomopsis* (14) and *Sporisorium* (14).

CHROMISTA

Albuginales

Albuginaceae

Albugo (Pers.) Roussel

Albugo candida (Pers.) Roussel, Fl. Calvados, ed 2: 47. 1806

Aecidium candidum Pers., in Gmelin, Syst. Nat. ed. 13, 2(2): 1473. 1792.

Distribution: Karnataka (Bengaluru UD)

Albugo evolvuli (Damle) Safeeulla & Thirum., Sci. Cult. 18: 282. 1952.

Cystopus evolvuli Damle, J. Indian Bot. Soc. 22: 135. 1943.

Distribution: Karnataka (Bengaluru UD)

Albugo ipomoeae-aquaticae Sawada, Rep. Dept. Agri. Govt. Res. Inst. Formosa 2: 27.1922.
Distribution: Karnataka (Mysore)

Albugo ipomoeae-panduratae (Schwein.) Swingle, J. Mycol. 7(2): 112.1892.
Aecidium ipomoeae-panduratae Schwein., Schr. Naturf. Ges. Leipzig 1: 69.1822.
Distribution: Karnataka (Dharwad, Mysore).

Albugo lepidii A.N.S. Rao, Indian J. Myc. Pl. Path. 9(2): 283. 1980.
Distribution: Karnataka (Bengaluru UD)

Albugo merremiae Safee & Thirum, Ind. Phytopath. 20: 565, 1967.
Distribution: Karnataka (Dharwad).

Albugo pes-tigridis Gharse, Curr. Sci. 33: 285.1964
Distribution: Karnataka (Dharwad).

Albugo quadrata (Kalchbr. & Cooke) Kuntze, Revis. Gen. Pl. 2: 658.1891.
Cystopus quadratus Kalchbr. & Cooke, Grevillea 9(49): 22.1880).
Albugo quadrata (Wallr.) S.D. Baker, Trans. Roy. Soc. New Zealand 82(5): 991.1955.
Distribution: Karnataka (Bengaluru UD).

Wilsoniana Thines

Wilsoniana bliti (Biv.) Thines, Mycotaxon 92: 456.2005.
Uredo bliti Biv., Stirp. Rar. Sic. 3: 11.1815.
Albugo bliti (Biv.) Kuntze, Revis. Gen. Pl. 2: 658. 1891
Distribution: Karnataka (Bengaluru UD, Kodagu)

Wilsoniana platensis (Speg.) Thines, Mycotaxon 92: 456.2005.
Cystopus platensis Speg., Revista Argent. Hist. Nat. 1(6): 32 1891.
Albugo platensis (Speg.) Swingle, J. Mycol. 7(2): 113.1892.
Distribution: Karnataka (Mysore).

Peronosporales

Peronosporaceae

Eraphthora Telle & Thines

Eraphthora butleri (W. Weston) Telle & Thines, Mycol. Progr. 11(1): 127.2012.
Sclerospora butleri W. Weston, Phytopathology 23: 592.1933.
Basidiophora butleri (W. Weston) Thirum. & M.D. Whitehead, Amer. J. Bot. 39: 418.1952.
Distribution: Karnataka (Bengaluru UD).

Hyaloperonospora Constant.

Hyaloperonospora parasitica (Pers.) Constant. in Constantinescu & Fatehi, Nova Hedwigia 74(3-4): 310.2002.
Botrytis parasitica Pers., Observ. Mycol. (Lipsiae) 1: 96.1796.
Peronospora parasitica (Pers.) Fr., Summa veg. Scand., Section Post. (Stockholm): 493.1849. Distribution: Karnataka (Bengaluru UD).

Peronosclerospora (S.Ito) Hara

Peronosclerospora heteropogonis Siradhana, Dange, Rathore & S.D. Singh Curr. Sci.49(8): 316.1980 ('heteropogoni').

Distribution: Karnataka (Mysore).

Peronosclerospora sorghi (W. Weston & Uppal) C.G. Shaw, Mycologia70(3):596.1978.

Sclerosporasorghi W. Weston & Uppal, Phytopathology22: 582. 1932.

Sclerospora andropogonis-sorghi (Kulk.) Mundk., Indian J. agric. Sci.20: 138.1951.

Distribution: Karnataka (Bengaluru UD).

Petersenia Sparrow

Petersenia panicicola Thirum. & Lacy, Mycopathol. Mycol. Appl.6: 75.1951.

Distribution: Karnataka (Bangalore UD).

Phytophthora Bary

Phytophthora nicotianae Breda de Haan, Meded.LdsPI Tuin, Batavia15: 57.1896.

Phytophthora nicotianae var. *parasitica* (Dastur) G.M. Waterh., Mycol. Pap.92: 14.1963.

Phytophthora parasitica Dastur, Mem. Dept. Agric. India, Bot. Ser. 5(4): 177.1913.

Distribution: Karnataka (Bangalore UD, Kodagu).

Phytophthora palmivora (E.J. Butler) E.J. Butler, Science Rep. Agric. Res. Inst. Pusa 82.1919.

Pythium palmivorum E.J. Butler, Mem. Dept. Agric. India, Bot. Ser. 1(5): 82.1907.

Phytophthora arecae (L.C. Coleman) Pethybr., Scientific Proc. R. Dublin Soc., N.S. 13:555.1913.

Distribution: Karnataka (Dakshina Kannada, Uttara Kannada).

Plasmopara J.Schrot.

Plasmopara viticola (Berk. & M.A. Curtis) Berl. & De Toni, in Berlese, De Toni & Fischer, Syll. Fung. (Abellini) 7: 239.1888.

Botrytis viticola Berk. & M.A. Curtis, Hooker's J. Bot. Kew Gard. Misc.1: 289.1848.

Distribution: Karnataka (Kodagu).

Sclerophthora Thirum., C.G. Shaw & Naras.

Sclerophthora macrospora (Sacc.) Thirum., C.G. Shaw & Naras., Bull. Torrey Bot. Club80: 299 .1953).

Sclerospora macrospora Sacc., Hedwigia29: 155.1890.

Phytophthoramacrospora (Sacc.) S. Ito & I. Tanaka, Ann. phytopath. Soc. Japan10: 138.1940.

Distribution: Karnataka (Bangalore UD).

Sclerospora J. Schrot.

Sclerospora sorghi W. Weston & Uppal, Phytopathology22: 582.1932.

Distribution: Karnataka (Bangalore UD).

Oomycota
Pontismataceae
Petersenia Sparrow

Petersenia panicola Thirum. & Lacy, Mycopathol. Mycol. Appl.6: 75. 1951.

Distribution: Karnataka (Bangalore UD).

Pythiales
Pythiaceae
Pythium Nees

Pythium butleri Subraman., Mem.Dept. Agric. India, Bot. Ser. 10(4): 193.1919.

Distribution: Karnataka (Bangalore UD).

Pythium dissotocum Drechsler, J. Wash. Acad. Sci.20: 402. 1930.

Distribution: Karnataka (Bangalore UD).

Pythium hydnosporum (Mont.) J. Schröt. in de Bary, Abh. Senckenb. Naturforsch. Ges.12: 19. 1879.

Artotrogus hydnosporus Mont. in Berkeley, Gard. Chron., London:640.1845.

Pythium artotrogus de Bary, Bot. Ztg.39: 578.1881.

Distribution: Karnataka (Bangalore UD).

ASCOMYCOTA
DOTHIDEOMYCETES

Capnodiales
Asterinaceae
Asterina Lev.

Asterina celtidicola Henn. var. **capparidis** Syd., P. Syd. and E J. Butler, Fungi Ind. Orient. Pars V. Ann. Mycol. 14: 177. 1916

Distribution: Karnataka (Dharwad).

Asterina elaeagni Syd., Ann. Mycol.29(3-4): 225.1931.

Distribution: Karnataka (Chikkamagaluru).

Asterina memecyloniae R.W. Ryan, Mem.Dept. Agric. India, Bot. Ser. 15(5): 104.1928.

Distribution: Karnataka (Uttara Kannada).

Asterina mysorensis Hansf. & Thirum., Farlowia 3: 307.1948.

Distribution: Karnataka (Chikkaballapur).

Asterina neolitsea H.S. Yates, Philipp. J. Sci., C, Bot. 13: 374.1918.

Distribution: Karnataka (Chikkaballapur).

Asterina nothopegiae R.W. Ryan, Mem.Dept. Agric. India, Bot. Ser. 16(5): 104.1928.

Distribution: Karnataka (Mysore).

Asterina olacicola Hansf., Proc. Linn. Soc. London 158: 46.1947.

Distribution: Karnataka (Chikkaballapur).

Asterina pemphidioides Cooke, Grevillea 5(33): 16.1876.

Parasterina pemphidioides (Cooke) Theiss., Ann. Mycol. 15(3-4): 246.1917.

Distribution: Karnataka (Chikkamagaluru).

Asterina pluripora R.W. Ryan, Mem. Dept. Agric. India, Bot. Ser. 15: 104.1928.

Distribution: Karnataka (Bangalore UD).

Asterina saccardoana Theiss., Abh. K.K. Zool.-Bot. Ges. Wien 7(3): 45 (1913)

Distribution: Karnataka (Dharwad).

Asterina saccopetali Tilak & U.K. Kulk., Indian Phytopath. 29(2): 169.1977.

Distribution: Karnataka (Mysore).

Asterostomella Speg.

Asterostomella erysiphoides (Kalchbr. & Cooke) Bat. & Cif., Mycopathol. Mycol. Appl. 11(1-2): 49 (1959)

Asterina erysiphoides Kalchbr. & Cooke, Grevillea 9(49): 32.1880.

Distribution: Karnataka (Chikkaballapur).

Dothidasteromella Hohn.

Dothidasteromella parvispora (Luttr. & Muthappa) Inácio & P.F. Cannon, CBS Diversity Ser. (Utrecht) 8: 164.2008.

Aulacostroma parvisporum Luttr. & Muthappa, Mycologia 66(4): 564.1974.

Distribution: Karnataka (Mysore).

Echidnodella Theiss. & Syd.

Echidnodella hopeae Hosag., M.P. Balakr. & Goos, Mycotaxon 58: 497.1996.

Distribution: Karnataka (Mysore).

Echidnodella syzygii Subhedar & V.G. Rao, J. Univ. Poona, Sci. Techn. 50:26. 1977 ('Syzygimae').

Distribution: Karnataka (Kodagu).

Lembosia Lev.

Lembosia caespitosa (Cooke) Sacc., Syll. fung. (Abellini) 2: 742 (1883)

Aulographum caespitosum Cooke, Grevillea 8 (no. 47): 95.1880 ('*Ailographium*').

Distribution: Karnataka (Shivamogga).

Lembosia inaequalis Anahosur, J. Univ. Poona, Sci. Techn. 48: 81.1976.

Distribution: Karnataka (Shivamogga).

Lembosia incisa (Syd.) Theiss., Ann. Mycol. 11(5): 443.1913.

Bas: *Asterina incisa* Syd., P. Syd. & E.J. Butler, Ann. Mycol. 9(4): 390.1911.

Distribution: Karnataka (Dakshina Kannada).

Lembosia indica Anahosur, J. Univ. Poona Sci. Techn. 48: 82.1976.
Distribution: Karnataka (Shivamogga).

Lembosia lagerstroemiae Hosag. & T.K. Abraham, New Botanist 20(1-4): 115.1997.
Distribution: Karnataka (Bangalore UD).

Lembosia syzygiicola Hosag., Indian J. For. 18(4): 276.1995.
Distribution: Karnataka (Dakshina Kannada).

Lembosina Theiss.

Lembosina aulographoides (E. Bommer, M. Rousseau & Sacc.) Theiss., Ann. Mycol. 11(5): 437.1913.
Lembosia aulographoides E. Bommer, M. Rousseau & Sacc., in Sacc., Syll. Fung. (Abellini) 9: 1107.1891.
Distribution: Karnataka (Dharwad, Shivamogga).

Morenoella

Morenoella shoreae R.W. Ryan, Mem. Dept. Agric. India, Bot. Ser. 15: 104.1928.
Distribution: Karnataka (Uttara Kannada).

Parmulariaceae

Aulacostroma Syd. & P.Syd.

Aulacostroma parvisporum Luttr. & Muthappa, Mycologia 66(4): 564.1974.
Distribution: Karnataka (Mysore).

Cycloschizon Henn.

Cycloschizon oleae-dioicae Narendra & V.G. Rao, Sydowia 28(1-6): 353.1976.
Distribution: Karnataka (Mysore).

Cocconia Sacc.

Cocconia placenta (Berk. & Broome) Sacc., Syll. Fung. (Abellini) 8: 738.1889.
Rhytisma placenta Berk. & Broome, J. Linn. Soc., Bot. 14(74): 131.1875.
Distribution: Karnataka (Mysore).

Botryosphaeriales

Phyllostictaceae

Guignardia Viala & Ravaz

Guignardia flacourtiiae Anahosur, Sydowia 24(1-6): 169.1971.
Distribution: Karnataka (Kodagu).

Guignardia heterostemmatis (T.S. Ramakr. & K. Ramakr.) D.R. Pawar & J.N. Kapoor, Kavaka 15(1-2): 17.1989.

Physalospora heterostemmatis T.S. Ramakr. & K. Ramakr., Proc. Indian Acad. Sci., Pl. Sci. 26: 8.1947 ('heterostemmae')

Distribution: Karnataka (Mysore). **Loc:** Kallar

Guignardia piperis (Rehm) Arx & E. Müll., Beitr. Kryptfl. Schweiz 11(1): 56.1954.

Stigmatea piperis Rehm, Hedwigia 40(Beibl.): 105.1901.

Distribution: Karnataka (Mysore).

Guignardia psidii Ullasa & Rawal, Curr. Sci. 53(8): 436. 1984.

Distribution: Karnataka (Bengaluru UD).

Phoma Fr.

Phoma draconis (Berk. ex Cooke) Boerema, Jaarboek. Plantenziektenkundige Dienst 1982, no. 159: 24. 1983.

Phyllosticta draconis Berk. ex Cooke, Grevillea 19(89): 8. 1890.

Distribution: Karnataka (Kodagu).

Phoma zingiberis (T.S. Ramakr.) Khune, in Mathur, Coelomycetes India: 187.1979.

Phyllosticta zingiberis T.S. Ramakr., Proc. Indian Natn Sci. Acad., Part B. Biol. Sci. 15: 170.1942 ('zingiberi').

Distribution: Karnataka (Mysore).

Phomopsis Succ. & Roum.

Phomopsis vexans (Sacc. & P. Syd.) Harter, J. Agric. Res., Washington 2(5): 338.1914.

Phoma vexans Sacc. & P. Syd., Syll. Fung. (Abellini) 14(2): 889. 1899.

Phyllosticta hortorum Speg., Atti Soc. Crittogam. Ital., Sér.2, 3: 67.1881.

Distribution: Karnataka (Belagavi).

Phyllosticta Pers.

Phyllosticta amaryllidicola Aa, Stud. Mycol. 5: 27.1973.

Karnataka (Dharwad).

Phyllosticta artocarpina Syd., P. Syd. & E.J. Butler, Ann. Mycol. 14(3-4): 180.1916.

Phyllostictina artocarpina (Syd., P. Syd. & E.J. Butler) Syd., in Petrak & Sydow, Feddes Repert. Spec. Nov. Regni Veg., Beih. 42: 189.1927.

Distribution: Karnataka (Mysore).

Phyllosticta bambusina (Speg.) Speg., Syll. Fung. (Abellini) 10: 137.1892.

Phoma bambusina Speg., Anal. Soc. Cient. Argent. 22(4): 189.1886.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta batatas (Thüm.) Sacc., Syll. fung. (Abellini) 3:51.1884 ('*batatae*').

Depazea batatas Thüm., Mycoth. Univ., cent. 6: no. 598.1876 ('*batatae*').

Phyllosticta batatas (Thüm.) Cooke, Grevillea 7(41): 35.1878.

Distribution: Karnataka (Dharwad).

Phyllosticta bauhiniae Cooke, Grevillea 12(61): 26.1883.

Distribution: Karnataka (Dharwad).

Phyllosticta bougainvilleicola V.G. Rao, Mycopathol. Mycol. Appl. 22: 157.1964.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta buteae Syd. & P. Syd., in Syd., P. Syd. & E.J. Butler, Ann. Mycol. 14(3-4): 180. 1916.

Distribution: Karnataka (Mysore).

Phyllosticta caladii Bat., in Batista & Vital, Bol. Secr. Agric. (Pernambuco) 19(1-2): 18.1952.

Distribution: Karnataka (Dharwad).

Phyllosticta cannabis (L.A. Kirchn.) Speg., Nov. Add.: no. 150.1884.

Depazea cannabis L.A. Kirchn., Lotos 6: 183.1856.

Distribution: Karnataka (Dharwad).

Phyllosticta chrysanthemi Ellis & Dearn., Canad. Rec. Sci. 5: 268.1893.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta citrullina Chester, Bull. Torrey Bot. Club 18: 374.1891.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta clematidis Ellis & Dearn., Canad. Rec. Sci. 5: 268.1893.

Distribution: Karnataka (Uttara Kannada).

Phyllosticta cocculi Thüm., Rev. Mycol., Toulouse 2: 36.1880.

Distribution: Karnataka (Dakshina Kannada).

Phyllosticta cocos Cooke, Grevillea 8(47): 94.1880.

Distribution: Karnataka (Belagavi).

Phyllosticta codiaeicola Died., in Sydow, Sydow & Butler, Ann. Mycol. 14(3-4): 184.1916.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta combreticola Henn., Verh. Bot. Ver. Prov. Brandenb. 40:161.1899.

Distribution: Karnataka (Dharwad).

Phyllosticta convolvulacearum (Lacy & Thirum.) Khune in Mathur, Coelomycetes India: 208. 1979
Macrophoma convolvulacearum Lacy & Thirum., Sydowia5(1-2): 127.1951.

Distribution: Karnataka (Chikkamagaluru).

Phyllosticta cycadina Pass., Atti Accad. Naz. Linc. Rend. Adunc. Solen.66.1888.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta dahliicola Brunaud, Bull. Soc. Bot. Fr.34: 429.1887('dahliaecola').

Distribution: Karnataka (Dharwad).

Phyllosticta dianthi Westend., Herb. Crypt. Belg.1: no. 293.1857.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta draconis Berk., Crypt. Lucit.: 51.1853.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta epichloës Thirum., Bull. Torrey Bot. Club75: 176.1948('epichloes').

Distribution: Karnataka (Bengaluru UD).

Phyllosticta gladioloides Bat., in Batista & Vital, Bol. Secr. Agric. (Pernambuco) 19(1-2): 32. 1952.

Distribution: Karnataka (Dharwad).

Phyllosticta hortorum Speg., Atti Soc. Crittogam. Ital., Sér.2,3: 67.1881.

Distribution: Karnataka (Dharwad).

Phyllosticta kawakamii Sawada, Rep. Govt Res. Inst. Dep. Agric., Formosa 85: 63.1943.

Distribution: Karnataka (Mysore).

Phyllosticta limoni M.T. Lucas & Sousa da Câmara, Agron. lusit. 16(2): 96.1954('limonum')

Distribution: Karnataka (Chikkaballapur).

Phyllosticta marmorata Cooke, *Grevillea* 9 (no. 49): 13 (1880)

Distribution: Karnataka (Uttara Kannada).

Phyllosticta murrayae Gonz. Frag. & Cif., Boln Real Soc. Españ. Hist. Nat., Biolog.27:438. (1927)

Distribution: Karnataka (Dharwad).

Phyllosticta musarum (Cooke) Aa, Stud. Mycol.5: 72. 1973.

Sphaeropsis musarum Cooke, Grevillea8(47): 93. 1880.

Phyllostictina musarum (Cooke) Petr., Ann. Mycol.29(3-4): 268. 1931.

Distribution: Karnataka (Belagavi).

Phyllosticta pongamiae Syd. & P. Syd., Ann. Mycol.14(3-4): 178 (1916).

Distribution: Karnataka (Bengaluru UD).

Phyllosticta rotalae (Thirum. & Naras.) Khunein Mathur, Coelomycetes India: 218.1979 ('rotaliae').

Macrophoma rotalae Thirum. & Naras., Sydowia4(1-6): 71.1950.

Distribution: Karnataka (Shivamogga).

Phyllosticta solani Ellis & G. Martin, Amer. Nat.16(12): 1002.1882.

Distribution: Karnataka (Bengaluru UD, Dharwad).

Phyllosticta sterculiae G. Winter, Boll. Soc. Broteriana Sér. 1,2: 54.1884.

Distribution: Karnataka (Bengaluru UD).

Phyllosticta symploci Syd. & P. Syd., in Sydow, Sydow & Butler, Ann. Mycol. 14(3-4): 180. 1916.

Distribution: Karnataka (Kodagu).

Phyllosticta vignae Speg., Anal. Mus. nac. B. Aires, Ser.3, 13: 341.1911.

Distribution: Karnataka (Kodagu).

Phyllosticta ziziphi Thüm., Hedwigia19: 180.1880.

Distribution: Karnataka (Chikkaballapur).

Phyllostictella gastonis (Roum.) Tassi, Bull. Labor. Orto Bot. de R. Univ. Siena4: 4.1901.

Phyllosticta gastonis Roum., Rev. Mycol. (Toulouse) 8: 19 (1886)

Distribution: Karnataka (Belagavi),

Phyllostictina murnadensis Ponnappa, Curr. Sci. 36(19): 526.1967.

Distribution: Karnataka (Kodagu).

Physalospora clerodendri T.S. Ramakr., Proc. Indian Acad. Sci., Sect. B35: 112.1952.

Distribution: Karnataka (Dakshina Kannada).

Capnodiales

Capnodiaceae

Capnodium Mont.

Capnodium annonae Pat., Bull. Soc. Mycol. France 20(3): 135.1904 ('anonae').
Distribution: Karnataka (Hassan).

Capnodium citri Berk. & Desm., in Berkeley, J. Roy. Hort. Soc. 4: 11.1849
Distribution: Karnataka (Bengaluru UD, Chikkaballapur).

Capnodium eugeniarum Cooke in Saccardo's Syll. Fung. 1: 78.1882.
Distribution: Karnataka (Belagavi, Chikkaballapur).

Capnodium lanosum Cooke, Grevillea 8(47): 96.1880.
Distribution: Karnataka (Belagavi).

Capnodium mangiferae Cooke, Rep. Dis. Leaves Coffee & Other Pl.: 5.1876 ('mangiferum').
Dimerosporium mangiferae (Cooke) Sacc., Syll. Fung. (Abellini) 1: 53.1882 ('mangiferum').
Distribution: Karnataka (Mysuru).

Capnodium ramosum Cooke, Grevillea 21(99): 76.1893.
Distribution: Karnataka (Bengaluru UD).

Tripospermum Speg.

Tripospermum myrti (Lind) S. Hughes, Mycol. Pap. 46: 18.1951.
Triposporium myrti Lind, Danish Fungi: 537.1913.
Distribution: Karnataka (Dakshina Kannada).

Cladosporiaceae

Cladosporium Link

Cladosporium calotropidis F. Stevens, Trans. Ill. St. Acad. Sci. 10: 207.1917.
Distribution: Karnataka (Hassan).

Cladosporium cladosporioides (Fresen.) G.A. de Vries, Contrib. Knowl. Genus cladosporium 57.1952.
Penicillium cladosporioides Fresen., Beitr. Mykol. 1: 22.1850.
Distribution: Karnataka (Bengaluru UD).

Cladosporium herbarum (Pers.) Link in Willd., Sp. Pl. 4, 6(1): 556.1816.
Dematium herbarum Pers., Ann. Bot. (Usteri) 11: 32.1794.
Distribution: Karnataka (Belagavi).

Cladosporium tenuissimum Cooke, Grevillea 6(40): 140.1878.
Distribution: Karnataka (Dharwad, Kodagu).

Coccoliniaceae

Dennisiella Bat. & Cif.

Dennisiella babingtonii (Berk.) Bat. & Cif., Beih. Sydowia3: 38.1962.

Strigula babingtonii Berk., Suppl. Engl. Bot.4: tab. 2957.1849.

Capnodium footii Harv. ex Berk. & Desm. in Berkeley, J. Roy. Horti. Soc. 4: 243.1849.

Distribution: Karnataka (Tumakuru).

Mycosphaerellaceae

Cercospora Fresen.

Cercospora achyranthina Thirum. & Chupp, Mycologia 40 (3): 352.1948.

Distribution: Karnataka (Bengaluru UD).

Cercospora adhatodae S. Chowdhury, Lloydia 18: 84.1955.

Distribution: Karnataka (Chikkaballapur).

Cercospora airekari Syd. & P. Syd., Ann. Mycol. 12(2): 202.1914.

Distribution: Karnataka (Kodagu).

Cercospora althaeina Sacc., Michelia 1(2): 269.1878.

Distribution: Karnataka (Bengaluru UD).

Cercospora anisomelicola Sawada, Rep. Dep. Agri. Gov. Res. Inst. Formosa 86: 166.1943.

Distribution: Karnataka (Bengaluru UD).

Cercospora annamalaiensis Rangaswami & Chandras., Mycologia 52(3): 516.1961.

Distribution: Karnataka (Mysore).

Cercospora arachidicola Hori, Rep. Nisigahara Agric. Exp. Sta., Tokyo: 26.1917.

Distribution: Karnataka (Bengaluru UD).

Cercospora asplenii Jaap, Ann. Mycol. 14 (1-2): 43.1916.

Distribution: Karnataka (Bengaluru UD).

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Distribution: Karnataka (Mysuru).

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Distribution: Karnataka (Bengaluru UD).

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Distribution: Karnataka (Belagavi).

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Distribution: Karnataka (Belagavi).

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Distribution: Karnataka (Kodagu).

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Distribution: Karnataka (Belagavi, Mysuru).

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Distribution: Karnataka (Chikkamagaluru).

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Distribution: Karnataka (Bengaluru UD).

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Distribution: Karnataka (Tumakur).

Unplaced capnodiales

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Scolecostigmina fici-elasticae (J.N. Kapoor) U. Braun, *Schlechtendalia* 3: 37.1999.
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 Distribution: Karnataka (Mysuru).

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 Distribution: Karnataka (Chikkaballapur, Kodagu, Mysuru).

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Dothideaceae

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Vestergrenia indica Anahosur, *Sydowia* 24(1-6): 171.1971.
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Hysteriaceae

Gloniella Sacc.

Gloniella indica G.T. Joshi & Patw., *Indian Phytopath.* 24(4): 787.1972.
 Distribution: Karnataka (Kodagu)

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Microthyriaceae

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Hansfordiella cupulifera (Hansf.) S. Hughes, *Mycol. Pap.* 47: 12.1951.
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 Distribution: Karnataka (Shivamogga).

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Microthyrium microscopicum Desm., Ann. Sci. Nat., Bot., sér. 2, 15: 138.1841.

Distribution: Karnataka (Belagavi)

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Microthelia fuscomaculans (W. Yamam.) E. Müll. in E. Müll. & Arx, Beitr. Kryptfl. Schweiz 11(2): 286.1962.

Astrosphaeriella fuscomaculans W. Yamam., in W. Yamam., Maeda & Oyasu, Sci. Rep. Hyogo Univ. Agric., Ser. 2, Agri. Biol. 1: 63.1954.

Distribution: Karnataka (Kodagu)

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Distribution: Karnataka (Bengaluru UD).

Elsinoe bitancourtiana Thirum., Mycologia 38(2): 223.1946.

Distribution: Karnataka (Chikkaballapur).

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Stephanotheca oleae Hansf. & Thirum., Farlowia 3(3): 303.1948.
Distribution: Karnataka (Chikkamagaluru).

Mytilinidiaceae

Ostreola Darker

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Distribution: Karnataka (Uttara Kannada).

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Patellariaceae

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Lecanidium coorgica Anahosur, Sydowia 24(1-6): 178.1971 ('coorgicii').
Distribution: Karnataka (Kodagu).

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Distribution: Karnataka (Kodagu).

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Tryblidiella rufula (Spreng.) Sacc., Syll. Fung. (Abellini) 2: 757.1883.
Distribution: Karnataka (Bengaluru UD, Kodagu, Uttara Kannada).

Pleosporales

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Corynespora Gussow

Corynespora cassicola (Berk. & M.A. Curtis) C.T. Wei, Mycol. Pap. 34: 5.1950.
Helminthosporium cassicola Berk. & M.A. Curtis in Berkeley, J. Linn. Soc., Bot. 10(46): 361.1868 ('cassiaeicola').
Distribution: Karnataka (Kodagu).

Didymellaceae**Didymella** Sacc.

Didymella bryoniae (Fuckel) Rehm, Ber. Naturhist. Augsburg 26: 27.1881.
Sphaeria bryoniae Fuckel, Jahrb. Nassauischen Vereins Naturk. 23-24: 112.1870.
 Distribution: Karnataka (Bengaluru UD).

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Didymosphaeriaceae**Didymosphaeria** Fuckel

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 Distribution: Karnataka (Shivamogga).

Didymosphaeria futilis (Berk. & Broome) Rehm, Hedwigia 18: 167.1879.
Sphaeria futilis Berk. & Broome, Ann. Mag. Nat. Hist., Ser. 2,9: 326.1852.
 Distribution: Karnataka (Bengaluru UD).

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 Distribution: Karnataka (Kodagu).

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 Distribution: Karnataka (Mysuru)

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 Distribution: Karnataka (Kodagu).

Leptosphaeriaceae**Leptosphaeria** Ces. & De Not.

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 Distribution: Karnataka (Kodagu).

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 Distribution: Karnataka (Kodagu).

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Distribution: Karnataka (Belagavi, Udupi).

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Massariaceae

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Distribution: Karnataka (Dharwad).

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Distribution: Karnataka (Chikkamagaluru).

Massaria De Not.

Massaria indica Punith., Mycol. Pap. 119: 6.1970.
Distribution: Karnataka (Bengaluru UD).

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Melanommataceae

Herpotrichia Fuckel

Herpotrichia callimorpha (Auersw.) G. Winter, Hedwigia 24: 99.1885.
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Distribution: Karnataka (Mysuru).

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Melanomma Nitschke ex Fuckel

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Stagonospora brideliae Thirum. & Naras., Sydowia 4(1-6): 71.1950.

Distribution: Karnataka (Chikkaballapur).

Pleosporaceae

Alternaria Nees

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Distribution: Karnataka (Bengaluru UD, Mysuru).

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Distribution: Karnataka (Mysuru).

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Distribution: Karnataka (Bengaluru UD).

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Distribution: Karnataka (Bengaluru UD).

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 Distribution: Karnataka (Bengaluru UD).

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 Distribution: Karnataka (Bengaluru UD).

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 Distribution: Karnataka (Bengaluru UD).

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 Distribution: Karnataka (Dharwad).

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 Distribution: Karnataka (Dharwad).

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Curvularia Boedijn

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 Distribution: Karnataka (Dharwad).

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Eudarluca mycophila (Petr.) Arx in Müll. & Arx, Beitr. Kryptfl. Schweiz 11(2): 314.1962.
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 Distribution: Karnataka (Bengaluru UD).

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Clasterosporium maydicum Sacc., Nuovo Giorn. Bot. Ital. 23(2): 213.1916.
 Distribution: Karnataka (Bengaluru UD).

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Pleospora tarda E.G. Simmons, Sydowia 38: 291.1986.
Stemphylium botryosum Wallr., Fl. Crypt. Germ. 2: 300.1833.
 Distribution: Karnataka (Dharwad).

Pseudocochliobolus Tsuda, Ueyama & Nishih

Pseudocochliobolus eragrostidis Tsuda & Ueyama, Trans. Mycol. Soc. Japan 26(3): 322.1985.
Curvulariaeragrostidis (Henn.) J.A. Mey., Publ. Inst. Nat. Étude agron. Congo Belge, Sér. sci. 75: 183.1959.
 Distribution: Karnataka (Bengaluru UD).

Setosphaeria K.J. Leonard & Suggs

Setosphaeria rostrata K.J. Leonard, Mycologia 68(2): 409.1976.
Drechslerahalodes (Drechsler) Subram. & B.L. Jain, Curr. Sci. 35: 354.1966.

Drechslerarostrata (Drechsler) M.J. Richardson & E.M. Fraser, Trans. Brit. Mycol. Soc. 51(1): 148.1968.

Distribution: Karnataka (Bengaluru UD).

Stemphylium Wallr.

Stemphylium lycopersici (Enjoji) W. Yamam., Trans. Mycol. Soc. Japan 2 (5): 93.1960.

Thyrospora lycopersici Enjoji, J. Pl. Protect. Tokyo 18: 52.1931.

Stemphylium floridanum C.I. Hannon & G.F. Weber, Phytopathology 45: 14.1955.

Distribution: Karnataka (Bengaluru UD).

Trichoconiella B.L. Jain

Trichoconiella padwickii (Ganguly) B.L. Jain, Kavaka 3: 39.1976.

Trichoconispadwickii Ganguly, J. Indian Bot. Soc. 26: 238.1948.

Distribution: Karnataka (Bengaluru UD).

Tremato sphaeriaceae

Tetraplo sphaeria Kaz. Tanaka & K. Hiray.

Tetraplo sphaeriatetraploa (Scheuer) Kaz. Tanaka & K. Hiray., Stud. Mycol. 64: 182.2009.

Massarina tetraploa Scheuer, Mycol. Res. 95(1): 126.1991.

Tetraploaaristata Berk. & Broome, Ann. Mag. Nat. Hist., Ser. 2, 5: 459.1850.

Distribution: Karnataka (Dakshina Kannada).

Tremato sphaeriaindica Tilak & Jadhav, Sydowia 26(1-6): 289.1974.

Distribution: Karnataka (Dharwad).

Unplaced pleosporales

Anguillospora Ingold

Anguillospora longissima (Sacc. & P. Syd.) Ingold, Trans. Brit. Mycol. Soc. 25(4): 402.1942.

Fusarium longissimum Sacc. & P. Syd., Syll. Fung. (Abellini) 14(2): 1128.1899.

Distribution: Karnataka (Dakshina Kannada).

Ascochyta Lib.

Ascochyta dahliicola (Brunaud) Petr., Ann. Mycol. 25(3/4): 202 (1927)

Phyllosticta dahliicola Brunaud, Bull. Soc. Bot. France 34: 429.1887 ('dahliaecola').

Distribution: Karnataka (Dharwad).

Ascochyta santali Thirum. & Naras., Sydowia 4(1-6): 72.1950.

Distribution: Karnataka (Chikkamagaluru).

Ascochyta sclareae Sarwar, Indian J. Microb. 17(3): 148.1977.

Distribution: Karnataka (Bengaluru UD).

Ascochyta sorghi Sacc., Fungi Venet. Nov. Vel. Crit., Sér. 2: 302.1875.

Distribution: Karnataka (Bengaluru UD).

Clavariopsis De Wild.

Clavariopsis aquatica De Wild., Ann. Soc. Belge Microscop. 19: 201.1895.

Distribution: Karnataka (Dakshina Kannada).

Dictyosporium Corda

Dictyosporium heptasporum (Garov.) Damon, Lloydia 15: 118.1952.

Cattanea heptaspora Garov., Rc. Ist. Lomb., Milano, ser. 2 8: 125.1875.

Distribution: Karnataka (Bengaluru UD).

Periconia Tode

Periconia byssoides Pers., Syn. Meth. Fung. 1: 18.1801.

Distribution: Karnataka (Bengaluru UD).

Periconia echinocloae (Bat.) M.B. Ellis, Dematiaceous Hyphomycetes: 347.1971.

Periconiella echinocloae Bat., Bol. Secr. Agric. (Pernambuco) 19(1-2): 174. 1952.

Distribution: Karnataka (Chikkamagaluru, Shivamogga).

Phoma Fr.

Phoma caricae-papayae (Tarr) Punith., Trans. Brit. Mycol. Soc. 75(2): 340.1980.

Ascochyta caricae-papayae Tarr, Fungi Pl. Dis. Sudan: 53.1955.

Distribution: Karnataka (Kodagu).

Phoma glomerata (Corda) Wollenw. & Hochapfel, Z. Parasitkde 3(5): 592.1936.

Coniothyrium glomeratum Corda, Icon. Fung. 4: 39.1840.

Distribution: Karnataka (Bengaluru UD).

Phoma keckii (Thüm.) Sacc., Syll. Fung. 3: 90.1884.

Sphaeropsis keckii Thüm., Istr. Sci. Nat. 10(1): 177. 1886

Macrophoma keckii (Thum.) Berl. & Vogliano, Atti Soc. Vernez.-Trent. Istr. Sci. Nat. 10(1): 177. 1886.

Distribution: Karnataka (Dakshina Kannada).

Phoma typharum Sacc., Syll. Fung. (Abellini) 3: 163.1884.

Distribution: Karnataka (Bengaluru UD).

Phomopsis Sacc. & Roum.

Phomopsis casuarinae (Tassi) Died., Krypt.-Fl. Brandenburg 9(2): 251.1912.

Phoma casuarinae Tassi, Atti R. Accad. Fisiocrit. Siena, Sér. 4, 8: 5. 1896.

Distribution: Karnataka (Uttara Kannada).

Phomopsis erythrinae (Petch) Petr., Sydowia 10(1-6): 106.1957.

Phyllosticta erythrinae Petch, Ann. Roy. Bot. Gard. Peradeniya 3(1): 4.1906.

Distribution: Karnataka (Dharwad).

Phomopsis euphorbiae (Sacc.) Traverso, Fl. Ital. Crypt. 1: Fungi. 2(1): 233.1906.

Phoma euphorbiae Sacc., Michelia 2(7): 339.1881.

Distribution: Karnataka (Bengaluru Rural).

Trypetheliales**Trypetheliaceae****Mycomicrothelia** Keissl.

Mycomicrothelia indica Anahosur, Sydowia 24(1-6): 170.1971.
Distribution: Karnataka (Kodagu).

Tubeufiales**Tubeufiaceae****Annajenkinsia** Thirum. & Naras.

Annajenkinsia fungicola Thirum. & Naras., Mycologia 47(5): 760.1955.
Distribution: Karnataka (Kodagu).

Boerlagiomyces Butzin

Boerlagiomyces laxus (Penz. & Sacc.) Butzin, Willdenowia 8(1): 39.1977.
Boerlagella laxa Penz. & Sacc., Malpighia 11(9-10): 405.1897.
Distribution: Karnataka (Kodagu).

Chaetosphaerulina I. Hino

Chaetosphaerulina yasudai I. Hino, Canad. J. Plant Sci. 10: 62. 1938.
Distribution: Karnataka (Uttara Kannada).

Tubeufia eugeniae (Subhedar & V.G. Rao) A. Pande, Ascomycetes Penin. India :172. 2008
Thaxteriella eugeniae Subhedar & V.G. Rao, Indian J. Mycol. Pl. Path. 15(2): 184. 1986.
Distribution: Karnataka (Shivamogga)

Family known Order unknown**Engerulaceae****Capnodiastrum** Speg.

Capnodiastrum stylosporum (Cooke) Petr., Sydowia 6(5-6): 342.1952.
Asterina stylospora Cooke, Grevillea 10(56): 129.1882.
Distribution: Karnataka (Dharwad).

Englerula Henn.

Englerula macarangae Henn., Beibl. Bot. Jahrb. Syst. 34: 49.1904.
Distribution: Karnataka (Chikkamagaluru).

Sarcinella Sacc.

Sarcinella cassiae E.J. Butler ex Munjal & J.N. Kapoor, in Munjal & Kapoor, Indian Phytopath. 16: 91.1963.
Distribution: Karnataka (Belagavi).

Parodiellaceae

Parodiella Speg.

Parodiella hedysari (Schwein.) S. Hughes, Can. J. Bot. 36 (6):75.1958.
Coryneum hedysari Schwein., Trans. Am. phil. Soc., New Series 4(2): 306.1832.
 Distribution: Karnataka (Mysuru).

Parodiella paraguayensis Speg., Anal. Soc. Cient. Argent. 18(6): 285.1884.
 Distribution: Karnataka (Dakshina Kannada).

Parodiella perisporioides (Berk. & M.A. Curtis) Speg., Anal. Soc. Cient. Argent. 9(4): 178 1898.
Dothidea perisporioides Berk. & M.A. Curtis, Grevillea 4(31): 103.1876.
 Distribution: Karnataka (Dakshina Kannada).

Parodiella perisporioides f. multiloculata Ullasa, J. Univ. Poona, Sci. Techn. 36: 112.1969.
 Distribution: Karnataka (Dakshina Kannada).

Parodiopsidaceae

Dimeriella Speg.

Dimeriella salaciae Hansf. & Thirum., Farlowia 3(3): 300.1948.
 Distribution: Karnataka (Dakshina Kannada).

Pseudoperisporiaceae

Phaeodimeriella Speg.

Phaeodimeriella asterinarum (Speg.) Theiss., Beih. Bot. Zentl., Abt. 2,29: 68.1912.
Dimerosporium asterinarum Speg., Boln Acad. Nac. Cienc. Córdoba 11(4): 484.1889.
 Distribution: Karnataka (Dharwad).

Phaeostigme Syd. & P. Syd.

Phaeostigme picea (Berk. & M.A. Curtis) Syd. & P. Syd., Ann. Mycol. 15(3-4): 200.1917.
Asterina picea Berk. & M.A. Curtis, in Berkeley, J. Linn. Soc., Bot. 10(46): 374.1868.
Dimerium piceum (Berk. & M.A. Curtis) Theiss., Ann. Mycol. 10(1): 3.1912.
 Distribution: Karnataka (Chikkaballapur).

Unplaced Dothideomycetes

Cerodothis Muthappa

Cerodothis aurea Muthappa, Mycologia 61: 737.1969.
 Distribution: Karnataka (Kodagu).

Wettsteinina Hohn.

Wettsteinina carissae R. Rao, Sydowia 25(1-6): 54.1972.
 Distribution: Karnataka (Kodagu, Uttara Kannada).

Venturiaceae

Acantharia Thesis. & Syd.

Acantharia arecae (Sivan., P.M. Kirk & Govindu) Y. Zhang & K.D. Hyde, in Zhang et al., Fungal Diversity Res. Ser.51(1): 258.2011.

Zeuctomorpha arecae Sivan., P.M. Kirk & Govindu in Sivan., Bitun. Ascomycetes Anam. (Vaduz): 572.1984.

Exosporium arecae (Berk. & Broome) Petch, Ann. Roy. Bot. Gard. Peradeniya 10: 174.1927.
Distribution: Karnataka (Kodagu).

Fusicoccum Corda

Fusicoccum smilacis Woron., Trudy Tiflissk. Bot. Sada 28: 21.1913.
Distribution: Karnataka (Dharwad).

Rosenscheldiella Thesis. & Syd.

Rosenscheldiella cinnamomi Muthappa, Sydowia 21: 163.1968.
Distribution: Karnataka (Kodagu).

Rosenscheldiella indica Anahosur, Sydowia 24(1-6): 179.1971.
Distribution: Karnataka (Kodagu).

EUROTIOMYCETES

Chaetothyriales

Chaetothyriaceae

Chaetothyrum Speg.

Chaetothyrum mysorensis Hansf. & Thirum., Farlowia 3(3): 301.1948.
Distribution: Karnataka (Chikkamagaluru).

Herpotrichiellaceae

Berlesiella Sacc.

Berlesiella castlerockii Subhedar & V.G. Rao, Curr. Sci. 46(24): 868.1977.
Distribution: Karnataka (Dharwad).

Eurotiales

Trichocomaceae

Aspergillus P.Micheli

Aspergillus arenarius Raper & Fennell, Genus Aspergillus: 475.1965.
Distribution: Karnataka (Mysuru).

Aspergillus candidus Link, Mag. Gesell.Naturf. Freunde Berlin 3(1-2): 16.1809.
Distribution: Karnataka (Bengaluru UD)

Aspergillus flavus Link, Mag. Gesell.Naturf. FreundeBerlin 3(1-2): 16.1809.
Distribution: Karnataka (Bengaluru UD).

Aspergillus fumigates Fresen., Beitr. Mykol.3: 81.1863.
Distribution: Karnataka (Bengaluru UD).

Aspergillus glaucus (L.)Link, Mag. Gesell.Naturf. FreundeBerlin 3(1-2): 16.1809.
Mucor glaucus L., Sp. Pl.2: 1186.1753.
Distribution:

Aspergillus nidulans (Eidam) G. Winter, Rabenh.Krypt.-Fl., ed.2 (Leipzig) 12: 62.1884.
Sterigmatocystis nidulans Eidam, Beitr. Biol. Pfl.3: 393.1883.
Distribution: Karnataka (Bengaluru UD).

Aspergillus niger Tiegh., Ann. Sci. Nat., Bot., Sér. 5, 8: 240.1867.
Distribution: Karnataka (Bengaluru UD).

Aspergillus ochraceus Wilh., Inaugural Dissertation (Strassburg): 66.1877.
Distribution: Karnataka (Bengaluru UD).

Aspergillus sulphureus (Fresen.) Thom & Church, TheAspergilli: 185.1926.
Sterigmatocystis sulphurea Fresen., Beitr. Mykol.3: 83.1863.
Distribution: Karnataka (Bengaluru UD).

Aspergillus sydowii (Bainier & Sartory) Thom & Church, The Aspergilli: 147.1926.
Sterigmatocystis sydowii Bainier & Sartory, Ann. Mycol.11(1): 25.1913.
Distribution: Karnataka (Kodagu).

Aspergillus tamaris Kita, Zentbl.Bakt.ParasitKde, Abt.2, 37(17-21): 433.1913.
Distribution:Karnataka (Bengaluru UD).

Aspergillus terreus Thom, Amer. J. Bot.5: 85.1918.
Distribution: Karnataka (Bengaluru UD).

Arachniotus J.Schrot.

Arachniotus terrestris Raillo, Zentbl.Bakt.ParasitKde, Abt.2, 78: 521.1929.
Distribution: Karnataka (Bengaluru UD).

Penicillioopsis Solms

Penicillioopsis bambusae Nag Raj & Govindu, Sydowia23(1-6): 112.1970.
Distribution: Karnataka (Bengaluru UD).

Penicillium Link

Penicillium digitatum (Pers.) Sacc., Fungi Italica autogr. Del. 17-28: t. 894.1881.
Monilia digitata Pers., Syn. Meth. Fung. (Göttingen) 2: 693.1801.
Distribution: Karnataka (Dakshina Kannada).

Paecilomyces Bainier

Paecilomyces variotii Bainier, Bull. Soc. Mycol. France 23(1): 27. (1907).
Spicariadivaricata (Thom) J.C. Gilman & E.V. Abbott, J. Iowa State Coll. Sci.1(3): 301.1927.
Distribution: Karnataka (Bengaluru UD).

Thermoascus Miehe

Thermoascus aurantiacus Miehe, Selbsterhitz.Heus: 70.1907.

Distribution: Karnataka (Bengaluru UD).

Thermomyces lanuginosus Tsikl., Ann. Inst. Pasteur, Paris 13: 500.1899.

Humicola lanuginosa (Tsikl.) Bunce, Trans. Brit. Mycol. Soc. 44(3): 375.1961 ('lanuginosus').

Distribution: Karnataka (Mysore).

ONYGENALES**Gymnoascaceae****Arachnietus** J.Schrot.

Arachnietus terrestris Raillo, Zentbl. Bakt. ParasitKde, Abt. 2, 78: 521.1929.

Distribution: Karnataka (Bengaluru UD).

LECANOROMYCETES**OSTROPALES****Stictidaceae****Stictis** Pers.

Stictis radiata (L.) Pers., Observ. Mycol.2: 73.1800.

Lichen radiatus L., Sp. Pl.2. 1753.

Distribution: Karnataka (Bengaluru UD).

LEOTIOMYCETES**Erysiphales****Erysiphaceae****Erysiphe** R.Hedw. ex DC.

Erysiphe cichoracearum f. **nicotianae** Jacz., Karm. Opred. Grib., Vip. 2. Muchn.-Rosj. Griby (Leningrad): 226.1927.

Distribution: Karnataka (Bengaluru UD).

Erysiphe graminis DC. in DC. & Lam., Fl. Franc. ed. 3, 6: 106.1815.

Blumeria graminis (DC.) Speer, Sydowia 27(21-26): 2. 1975.

var. **graminis**

Distribution: Karnataka (Bengaluru UD).

var. **tritici** DC. in DC. & Lam., Fl. Franç., ed.3, 6: 106. 1815.

Distribution: Karnataka (Bengaluru UD).

Golovinomyces (U.Braun) V.P. Heluta

Golovinomyces cichoracearum (DC.) V.P. Heluta, Ukr. Bot. Zh.45(5): 62.1988 ('cichoraceorum').

Erysiphecichoracearum DC., Fl. France. ed. 3, 2: 274. 1805.

Distribution: Karnataka (Bengaluru UD).

Leveillula G.Arnaud

Leveillula taurica (Lév.) G. Arnaud, Ann.Épiphyt. 7: 92.1921.
Erysiphe taurica Lév., Ann. Sci. Nat., Bot., sér. 3 15: 53.1851.
 Distribution: Karnataka (Bengaluru UD, Mysuru).

Podosphaera Kunze

Podosphaera crotonis (Ponnappa) U. Braun & S. Takam., Schlechtendalia4: 28.2000.
Kokkaleracrotonis Ponnappa, Sydowia23(1-6): 5.1970.
 Distribution: Karnataka.

Podosphaera euphorbiae (Castagne) U. Braun & S. Takam., Schlechtendalia4: 28.2000.
Botrytis euphorbiae Castagne, Suppl. Cat. Pl. Mars.: 81.1851.
Sphaerothecaeuphorbiae (Castagne) E.S. Salmon, Bull. Torrey Bot. Club29: 95.1902.
 Distribution: Karnataka (Uttara Kannada).

Podosphaera pannosa (Wallr.) de Bary, Abh. Senckenb. Naturforsch. Ges.1(3): 48.1870.
Alphitomorpha pannosa Wallr., Verh. Ges. Nat. Freunde Berlin1(1): 43.1819.
 Distribution: Karnataka (Bengaluru UD).

Pseudoidium Y.S.Paul & J.N.Kapoor

Pseudoidium caesalpiacearum (Hosag.& U. Braun) U. Braun & R.T.A. Cook, Taxon.Man.
 Erysiphales (Powdery Mildews)11: 600.2012.
Oidium caesalpiacearum Hosag. & U. Braun in Braun, Mycotaxon25(1): 267.1986.
 Distribution: Karnataka (Bengaluru UD).

Helotiales**Dermateaceae****Diplocarpon** F.A. Wolf

Diplocarpon rosae F.A. Wolf, Bot. Gaz. 54: 231.1912.
 Distribution: Karnataka (Kodagu).

Gloeosporium Desm. & Mont.

Gloeosporium artocarpi Delacr., Bull. Soc. Mycol. France. 21: 198.1905.
 Distribution: Karnataka (Bengaluru UD).

Gloeosporium palmarum Oudem., Contrib. Flora Mycol. d. Pays-Bas 14: 48.1894.
 Distribution: Karnataka (Mysuru).

Marssonina Magnus

Marssonina kirchneri Hegyi, Magy. Bot. Lapok10: 317.1911.
Passalora kirchneri (Hegyi) Petr., Ann. Mycol.39(4-6): 295.1941.
 Distribution: Karnataka (Bengaluru UD).

Helotiaceae

Calloriopsis Syd. & P. Syd.

Calloriopsis gelatinosa (Sacc.) Syd. & P. Syd., Ann. Mycol. 15(3-4): 254.1917.

Bas: *Orbilina gelatinosa* Sacc., Syll. Fung. (Abellini) 8: 624.1889.

Distribution: Karnataka (Chikkamagaluru).

Hyaloscyphaceae

Arachnopeziza Fuckel

Arachnopeziza boudieri (V.G. Rao & Subhedar) A. Pande, Ascomycetes Penin. India:249. 2008 ('boudierii').

Distribution: Karnataka (Bengaluru UD).

Lachnaceae

Lachnum Retz.

Lachnum boreale (Povah) A. Pande, Ascomycetes Penin. Ind.(Jodhpur): 250. 2008 ('borealis')

Erinella borealis Povah, Mycologia 24(2): 241.1932.

Distribution: Karnataka

Lachnum erythrinicola (V.G. Rao & Subhedar) A. Pande, Ascomycetes Penin. Ind.: 251. 2008.

Dasyscyphus erythrinicola V.G. Rao & Subhedar, Indian J. Mycol. Pl. Path. 9(2): 259.1980.

Distribution: Karnataka (Kodagu).

Leotiaceae

Alatospora Ingold

Alatospora acuminata Ingold, Trans. Brit. Mycol. Soc. 25(4): 384.1942.

Distribution: Karnataka (Dakshina Kannada).

Incertaesedis

Helotiales

Tetracladium De Willd.

Tetracladium furcatum Descals, in Descals & Webster, Trans. Brit. Mycol. Soc. 80(1): 70.1983.

Distribution: Karnataka (Bengaluru UD).

Trimmatostroma Corda

Trimmatostroma hughesii V.G. Rao & Subhedar, Mycopathologia 58(2): 79.1976.

Distribution: Karnataka (Kodagu).

Rhytismatales

Cryptomycetaceae

Cryptomyces Grev.

Cryptomyces muelleri Ullasa, Nova Hedwigia 19(1-2): 346.1970.

Distribution: Karnataka (Kodagu).

Rhytismataceae**Lophodermium** Chevall.

Lophodermium arundinaceum (Schrad.) Chevall., Fl. Gén. Env. Paris1: 435.1826.

Hysterium arundinaceum Schrad., J. Bot.2(1): 68.1799.

Distribution: Karnataka (Shivamogga).

Rhytisma Fr.

Rhytisma lagerstroemiae Rabenh., Fungi Europ. Exsicc.: no. 2310.1876.

Distribution: Karnataka (Belagavi, Mysuru, Uttara Kannada).

Thelebolales**Thelebolaceae****Dennisiopsis** Subram. & Chandrash.

Dennisiopsis octospora Subram. & Chandrash., Kew Bull. 31(3): 639. 1977.

Distribution: Karnataka (Dakshina Kannada).

Family known order unknown**Myxotrichaceae****Malbranchea** Sacc.

Malbranchea pulchella Sacc. & Penz., Michelia2(8): 639.1882.

Distribution: Karnataka (Mysuru).

Chaetomella Fuckel

Chaetomella circinoseta Stolk, Trans. Brit. Mycol. Soc. 46(3): 413.1963.

Distribution: Karnataka (Bengaluru UD).

Chaetomella raphigera Swift, Mycologia22(4): 165.1930.

Chaetomella terricola var. *mysorensis* Nag Raj & Govindu, Sydowia23(1-6): 111.1970.

Distribution: Karnataka (Bengaluru UD, Mysuru).

Chaetospermum Sacc.

Chaetospermum chaetosporum (Pat.) A.L. Sm. & Ramsb., Trans. Brit. Mycol. Soc. 4(2): 328. 1914.

Distribution: Karnataka (Chikkamagaluru).

Geniculospora Sv. Nilsson

Geniculospora inflata (Ingold) Sv. Nilsson ex Marvanová & Sv. Nilsson, Trans. Brit. Mycol. Soc.57(3): 532.1971.

Articulospora inflata Ingold, Trans. Brit. Mycol. Soc. 27(1-2): 38.1944.

Distribution: Karnataka

PEZIZOMYCETES**Pezizales****Pyronemataceae****Acervus** Kanouse

Acervus epispartius (Berk. & Broome) Pfister, Occ. Pap. Farlow Herb. Crypt. Bot.8: 3.1975.
Peziza epispartia Berk. & Broome, J. Linn. Soc., Bot. 14(74): 103.1873.
 Distribution: Karnataka (Belagavi, Mysuru).

Miladina Svrcek

Miladina lecithina (Cooke) Svrcek, Ceska Mykol. 26(4): 214.1972 ('lechithina')
Peziza lecithina Cooke, Grevillea4(31): 110.1876 ('lechithina')
Actinospora megalospora Ingold, Trans. Brit. Mycol. Soc. 35(1): 66.1952.
 Distribution: Karnataka (Dakshina Kannada).

Sowerbyella Nannf.

Sowerbyella rhenana (Fuckel) J. Moravec, Mycol. Helv. 2(1): 96.1986.
Aleuria rhenana Fuckel, Jharb. Nassau. Ver. Naturk. 23-24: 325, t.5, f.1.1870.
 Distribution: Karnataka

Meliolinaceae**Meliolina** Syd. & P. Syd.

Meliolina cladotricha (Lév.) Syd. & P. Syd., Ann. Mycol. 12(6): 553.1914.
Meliola cladotricha Lév., Ann. Sci. Nat., Bot., sér. 3,5: 266. 1846.
 Distribution: Karnataka (Chikkamagaluru).

Meliolina mollis (Berk. & Broome) Höhn., Sber. Akad. Wiss. Wien, Math.-naturw. Kl., Abt. 1 128: 557.1919.
Meliola mollis Berk. & Broome, J. Linn. Soc., Bot. 14(74): 136.1875.
 Distribution: Karnataka (Belagavi).

Meliolina pulcherrima (Syd. & P. Syd.) Syd. & P. Syd., Ann. Mycol. 12(6): 553.1914.
Meliola pulcherrima Syd. & P. Syd., Ann. Mycol. 11(3): 254.1913.
 Distribution: Karnataka (Belagavi).

Oedocephalum Preuss

Oedocephalum aurantiacum Cooke, Grevillea 5(36): 147.1877.
 Distribution: Karnataka (Mysuru).

Parodiopsidaceae**Balladyna** Racib.

Balladyna gardeniae Racib., Parasit. Alg. Pilze Java's (Jakarta) 2: 6.1900.
 Distribution: Karnataka (Mysuru).

Saccardiaceae

Dictyonella Hohn.

Dictyonella alangii Hansf. & Thirum., Farlowia 3: 285.1948.
Distribution: Karnataka (Shivamogga).

Unknown Order/Family

Amblyosporium Fresen.

Amblyosporium coprophiloides (B.S. Mehrotra&M.D. Mehrotra) Piroz., Can. J. Bot.47: 333. 1969.
Searchomyces coprophiloides B.S. Mehrotra& M.D. Mehrotra, Sydowia16(1-6): 213.1963.
Distribution: Karnataka (Dakshina Kannada).

Amphichaetella Hohn.

Amphichaetella echinata (Kleb.) Hohn., Sber. Akad.Wiss.Wien, Math.-naturw.Kl., Abt. 1, 125(1-2): 92. 1916.
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Distribution: Karnataka (Dakshina Kannada).

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 Distribution: Karnataka (Uttara Kannada).

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