

ALGARUM SPECIES EX INDIA ORIUNDAE

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The present work aims at bringing in one compass the indigenous species of algae discovered from Indian region from time to time for a period extending over more than two centuries. While no doubt, Indian botany gained greater impetus with the arrival of foreign botanists in our country during the 16th century, the land vegetation and especially the Phanerogams are comparatively well known. The vegetation of the sea and inland water-sheds in India are much less known. Speaking of algae, Kurz as early as 1869 observed that "the fresh water algae of Bengal and indeed of India generally are as yet very imperfectly known, though the number of species to be met with everywhere in our jheels, tanks, rivers, etc., appears to be a very large one. The minuteness of many forms, the care necessary in the preparation of the collected materials and especially the great difficulty which is experienced in the determination of fresh water algae in a dried state, seem to have been the principal cause of their having been almost totally neglected by Indian Botanists" (see Martens, 1870).

Our knowledge of Indian algae, after the European settlement in India, is however, to be traced to the latter part of the 18th century only. Among the more important reviews made on Indian Algology, mention is to be made of the accounts given by Agharkar (1923), Iyengar (1928, 1957), Biswas (1932, 1934, 1949), Ghose (1933), Dixit (1940), Joshi (1949), Randhawa (1960) and Maheshwari and Kapil (1963). From these accounts, the earliest reference to algae relating to India and Ceylon taken together is to the date 1798 with reference to Lebeck's collection of a *Chara* in Ceylon.

My own studies, however, reveal that the work on Indian algae started in South India at Tranquebar even much earlier in 1768 with the arrival of the Moravian Missionaries among whom the name of John Gerard Koenig would stand foremost. Koenig's collections of algae as well as his naming of some Indian algae are evidenced from such works as those of Turner (1808), C. A. Agardh (1823, 1824), J. G. Agardh (1848), Kuetzing (1849), Retzius (1891), Martens (1866), and Grunow (1915, 1916). Among the early

botanists interested in algae at the time of Koenig and immediately after him were Heyne, Klein, Roettler, Campbell, Thunberg, Roxburgh, Wight and Belanger. During the 19th and 20th centuries, however, there has been vigorous pursuits in the field of Indian Algology. Quite a number of expeditions and exploratory voyages conducted from time to time to investigate the topography, physical and biological features of the different oceans, have also contributed to an extent towards the knowledge of India algae, particularly of the coasts, continental shelves and oceanic beds. Among the most important expeditions, mention may be made of the *Galathea Expedition* (1845-1847) a Danish Expedition which visited among other places Nicobar, *Novara Expedition* (1857-1859) an Austrian Expedition which added materially to our knowledge of the algal flora, particularly of the Diatom flora of the seas around the Nicobars, the *Preussische Expedition* (1859-1863), a German Expedition which added information regarding algal flora of Indian coasts, the *Investigator Expedition* (1890-1892) an English Expedition which brought knowledge of the algal flora of the Cocos group of Islands and Diamond Islands in the Bay of Bengal, the *Valdivia Expedition* (1898-1899), a German Scientific Expedition which visited Cocos Islands, Nicobars and South Maldives among others, and which gave valuable data on the algae of Great Nicobars, Katchal, Nancowry and southern part of Bay of Bengal, the *Siboga Expedition* (1899-1900) a Dutch Expedition which reported algae from Nicobars, Andamans, Great Nicobars, Maldives, Laccadives and Indian coasts, the *Sea Lark Expedition* (1904-1905) which contained references to algae from Maldives and Laccadives and the *John Murray Expedition* (1933-1934) which included some algae from Maldives. The *Yale North Indian Expedition* (1932) brought information on the algal species of hot springs at high altitudes, particularly from the Kyam Spring in the valley of the Chang-chanmo River in Ladak.

The general picture of progress presents the following particularly in respect of the systematic accounts of algae from India. As far as marine algae is concerned, Boergesen (1928, 1930, 1931, 1932, 1933, 1934.

1935, 1937, 1938, 1942, 1946) in a series of papers gave an account of the Chlorophyceae, Phaeophyceae and Rhodophyceae of India from Bombay and Okhmandal coasts and South India. Anand (1940, 1943) gave an account of the marine Chlorophyceae and Rhodophyceae of Karachi coasts. Biswas & Sharma (1950) gave an account of the *Sargassum* species from India. The Desmids of Lower Bengal and East India were given by Wallich (1860), Lagerheim (1888), Turner (1885, 1892) and others. Martens (1870, 1871) gave the Chlorophyceae of Bengal and Dixit (1937) described the Bombay species. The South Indian Volvocales were described by Iyengar (1920, 1933). The Zygnemaceae received much attention, the Uttar Pradesh and the Madhya Pradesh species were given by C. B. Rao (1937, 1938) and the North Indian and Punjab species were treated by Randhawa in a series of papers (1936, 1938, 1939, 1940, 1941, 1958). The Oedogoniaceae of Uttar Pradesh were given by R. N. Singh (1938) and a general account of the Chlorophyceae of India is given in Biswas's account of the common fresh and brackish water algal flora of India and Burma (Biswas, 1949). Monographic works on Vaucheriaceae (Venkataraman, G. S., 1961) and Zygnemaceae (Randhawa, 1959) have also been published.

In Charophyta, valuable and important collections of East Indian Characeae are to be seen in Sir William Hooker's richest materials in his Herbarium and a few are seen mentioned in Wallichian Catalogue. Besides these, collections are to be seen in the Herbarium of Agardh and among some of the valuable collections from India are those of Meyen, Belanger, Perotett and others. Braun (1849) and Braun & Nordstedt (1882) have dealt with Characeae of India. The Uttar Pradesh species were given by Allen in a series of communications (1925, 1928, 1933, 1936, 1938, 1961). The Bombay species were given by Dixit (1931, 1935, 1939, 1942). The Bengal and Assam species were given by Kundu (1934, 1937, 1942). The South Indian species were treated by Sundaralingam (1959). This group has also been monographed by Pal, Kundu & others (1962).

In Bacillariophyta, Ehrenberg (1851, 1854) has given valuable account of diatoms of Bengal, Deccan, Northern India, Nicobars, etc. The Bombay Diatoms were given by Gonzalves & Gandhi (1952, 1953, 1954) and the latter, through a series of papers has given accounts of diatoms of Bombay, Ahmedabad, Mysore and other areas in India. The Uttar Pradesh Diatoms are given by C. S. Singh (1961) and the Calcutta

Diatoms are given by Skvortzow (1935). Misra (1956) gave an account of the West Coast Diatoms and the Madras species have been described by Venkataraman (1939) and Subrahmanyam (1946). Biswas (1949) has enumerated the diatoms of India and Burma.

In Phaeophyta, Greville (1848, 1850) has given a valuable account of South Indian *Sargassum* species, and Grunow (1915, 1916) of the species from Indian coasts, Andamans and Nicobars, etc. Boergesen has also given some species of brown sea-weeds in his works already referred to. Biswas and Sharma (1950) gave an account of Indian Sargassa.

In Rhodophyta, the series of papers by Boergesen give an account of the red-algae of Indian coasts from the Arabian Sea, and the Bay of Bengal in South India. Anand (1943) gave the species from Karachi. Biswas (1945) gave also the red-algae of Indian coasts.

In Cyanophyta, the Bengal algae were given by Banerji (1936, 1938), Bruehl & Biswas (1922, 1923, 1926), Biswas (1925, 1927). The Uttar Pradesh species were described by Bharadwaja (1935) and C. B. Rao (1936, 1937). The Bombay species were given by Dixit (1936) and Ghose (1919) has given the Lahore species. The Madras Cyanophyta were given by Iyengar and Desikachary (1944) and C. B. Rao (1938). The Indian species are included in Biswas's account (1945). The group has also been monographed by Desikachary (1959).

Interesting and valuable records of fossil algae of various groups have been recorded from different horizons in different localities in India. By far the largest representatives of fossils are seen in Corallinales, Solenoporaceae, Dasycladaceae and Charophyta. Besides these, fossils belonging to Bacillariaceae, Chlorophyta, Euglenophyceae, Cyanophyta, Silicoflagellates and Xanthophyceae are also recorded from Indian region.

SYSTEMATIC ENUMERATION

In the following pages a systematic enumeration of the various species, genera and families discovered from India is given. For sake of convenience, the enumeration of species is given under two parts, the first part containing all the species now validly known and accepted. The second part contains such of the species, although reported from India earlier, are now considered as not validly published, or their identity is being doubted for various reasons. The accepted nomenclature is indicated in bold letters, whereas the synonyms are indicated in italics in the enumeration. No claim is, however, made for the list to be exhaustive and complete.

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ABBREVIATIONS

Titles of journals and books more commonly occurring in the text have been cut down from the conventional abbreviations to mere initials as indicated below :

AB	Annals of Botany
AMH	Annals and Magazine of Natural History
ASB	Journal of the Royal Asiatic Society of Bengal
AU	Agra University Journal of Research
BNH	Journal of the Bombay Natural History Society
BSI	Records of the Botanical Survey of India
C	Cyanophyta
CS	Current Science
CU	Journal of the Department of Science of the Calcutta University
GSI	Memoirs of the Geological Survey of India. Palaeontologia Indica.
H	Hydrobiologia
IAS	Proceedings of the Indian Academy of Science (B)
IBS	Journal of the Indian Botanical Society
IBSI	Journal of the Indian Botanical Society (M. O. P. Iyengar Comm. Vol.)
JAS	Indian Journal of Agricultural Science

JLS	Journal of the Linnean Society (Bot.)
K	Kew Bulletin
KSV	Kongliga Svenska Vetenskapsakademiens Handlingar
LS	Transactions of the Linnean Society of London (Bot.)
MAS	Memoirs of the Asiatic Society of Bengal
MU	Journal of the Madras University (B)
MYU	Journal of the Mysore University
NAS	Proceedings of the National Academy of Sciences, India
NIS	Proceedings of the National Institute of Sciences of India
P	Phytomorphology
PAS	Proceedings of the Asiatic Society of Bengal
RA	Revue Algologique
RK	Rabenhorst's Kryptogamenflora
SA	Proceedings of the Symposium on Algology, ICAR, New Delhi
SEM	Siboga Expedition Monographs
TBS	Transactions and Proceedings of the Botanical Society of Edinburgh
UB	Journal of the University of Bombay
VZB	Verhandlungen der K. K. Zoologisch-botanischen Gesellschaft in Wien

PART I

CYANOPHYTA

CHROOCOCCACEAE

- Aphanocapsa benaresensis** Bharadwaja in IAS 2 : 96, f. 1 b, 1935.
Benaras.
- Chroococcus hansgirgi** Schmidle in Allg. bot. Z. 6 : 78 1900 et Hedwigia 39 : 187, 1900.
Bombay.
- C. minimus** (Keissler) Lemm. var. **crassus** Rao in IAS 3 : 166, f. 1 a, 1936.
Benaras.
- C. montanus** Hansgirg var. **hyalinus** Rao in IAS 6 : 345, f. 1 g, 1937.
Benaras.
- Clathrocystis insignis** Bec. See under **Microcystis insignis** (Beck) Desikachary.
- Dactylococcopsis fascicularis** Lemm. f. **indica** Desikachary in C : 158, 617, t. 29, f. 16, 1959.
Yercaud.
- D. magna** Bharadwaja in IAS 57 : 244, f. 3 a-f, 1963.
Imphal.

Dactylococcopsis pectinatellophila W. West in ASB 7 : 83, t. 3, f. 6, 1911.

Puri.

D. raphidioides Hansgirg var. **major** Vasishta in BNH 58 : 137, f. 1, 1961.

Hoshiarpur.

Gloeocapsa rupestris Kuetz. f. **pallida** Martens in PAS 39 : 260, 1870.

Sibpur.

G. stegophila (Itzigs.) Rabenh. var. **crassa** Rao in IAS 6 : 344, f. 1 d, 1937.

Benaras.

Gloeotheca rupestris (Lyngb.) Born. var. **major** Gonzales et Kamat in UB 27 : 22-36, 1958.

Bombay.

Gomphosphaeria aponina Kuetz. var. **muralis** Biswas in ASB 20 : 361, t. 15, f. 1, 1924.

Chilka Lake.

Merismopedia minima Beck in Beck et Zahlbruchner in Ann. Naturh. (Mus.) Hofmus. Wien 12 : 83, 1897.

Bombay.

Microcystis bengalensis Banerji in IBS 15 : 295, f. 2 a, b, 1936.

Calcutta.

M. elongata Desikachary in C : 89, 617, t. 18, f. 7, 8, 1959.

Madras.

M. insignis (Beck) Desikachary in C : 98, 1959.

Clathrocystis insignis Beck in Mus. Vindob. Krypt. Exs. 2 : 227, 1896 ; *Polycystis* (*Clathrocystis* ?)

insignis Beck et Zahlbruchner in Ann. Naturh. (Mus.) Hofmus. Wien 12 : 83, 1897.

Bombay (Beck ; Hansgirg).

M. orissica West in ASB 7 : 84, t. 3, f. 7, 1911.

Puri.

M. ramosa Bharadwaja in IAS 2 : 96, f. 1 a, 1935.

Benaras.

Polycystis (*Clathrocystis* ?) *insignis* (Beck) et Zahlbruchner. See under *Microcystis insignis* (Beck) Desikachary.

ENTOPHYSALIDACEAE

Chlorogloea fritschii Mitra in AB 14 : 457, f. 25-43, 1950.

Allahabad.

CYANIDIACEAE

Chroococcidiopsis indica Desikachary in C : 167, 617, t. 31, f. 29, 1959.

Madras.

C. karnatakensis Kamat in H 22 : 188, t. 1, f. 1-10, 1962.

Karnatak. Type K. 15.

C. spinosa Kamat in H 22 : 190, t. 2, f. 11-22, 1962.

Karnatak. Type K. 61.

CHAMAESIPHONACEAE

Chamaesiphon curvatus Nordst. in De Algie et Characeis Sandwicensibus : 4, t. 1, f. 1, 2, 1878.

Coromandal Coast.

C. curvatus Nordst. var. **turneri** Forti in De Toni, Sylloge Alg. 5 : 140, 1907.

North India (Turner).

C. filamentosa Ghose in JLS 46 : 337, t. 31, f. 1, 1924.

[*Stichosiphon sansibaricus* (Hieron.) Drouet et Daily].

Lahore.

C. siderophilus Starmach var. **glabra** Rao in IAS 6 : 347, f. 2 b, 1937.

Benaras.

DERMOCARPACEAE

Dermocarpa olivacea (Reinsch.) Tilden var. **gigantea** Rao in IAS 3 : 167, f. 1 c, d, 1936.

Benaras.

Stichosiphon indica Rao in IAS 2 : 538, f. 1-10, 1935.

[*Stichosiphon sansibaricus* (Hieron.) Drouet et Daily].

Benaras.

S. indica Rao var. **tenuis** Gupta in IAS 20 : 109, f. 1-3, 1950.

[*Stichosiphon sansibaricus* (Hieron.) Drouet et Daily].

Chamba State.

HYELLACEAE

Scopulonema concharum (Hansg.) Geitler in Eng. & Prantl. Natuerl. Pflaenzenf. 2 ed. 1 b ; 93, 1942.

Pleurocapsa concharum Hansgirg in Sitzb. K. Bohm. Ges. Wiss. Math. Nat. Cl. : 90, t. 1, f. 11-15, 1891.

Poona (Hansgirg).

PLEUROCAPSACEAE

Pleurocapsa concharum Hansgirg. See under *Scopulonema concharum* (Hansg.) Geitler.

OSCILLATORIACEAE

Arthrospira balkrishnanii Kamat in H 22 : 278, t. 15, f. 83, 1963.

Kolhapur. Type K. 377.

Arthrospira desikacharyiensis Vasishta in IBS 41 : 101, f. 3, 4, 1962.

Hoshiarpur. Type *Vasishta* 4336 in Govt. College, Hoshiarpur Herb., 1960.

A. gomontiana Setchell var. **crassa** (Gupta) Desikachary in C : 192, 1959. *Spirulina gomontiana* (Setchell) Geitler var. **crassa** Gupta in J. Res. D.A.V. College, Kanpur, 3 : 78, 1956. Kanpur.

A. joshii Vasishta in IBS 42 : 574, t. 1, 2, 1963. Hoshiarpur. Type *Vasishta* 4342, Hoshiarpur Govt. College Herb.

A. massartii Kuffareth var. **indica** Desikachary in C : 191, 617, t. 35, f. 7, 8, 1959. Madras.

A. platensis (Nordst.) Gomont f. **granulata** Desikachary in C : 190, 617, t. 35, f. 5, 6, 1959. Coconada.

A. platensis (Nordst.) Gomont var. **non-constricta** (Banerji) Desikachary in C : 191, t. 36, f. 1, 2, 1959. *Spirulina platensis* (Nordst.) Gomont var. **non-constricta** Banerji in CU 1 : 100, 1938. Calcutta.

A. platensis (Nordst.) Gomont var. **tenuis** (Rao) Desikachary in C : 190, t. 35, f. 4, 11, 1959. *Spirulina platensis* (Nordst.) Gomont var. **tenuis** Rao in IAS 6 : 365, f. 7 a, b, 1937. Benares.

A. spirulinoides Ghose in JLS 46 : 338, t. 31, f. 4, 1924. *Spirulina spirulinoides* (Ghose) Geitler in Pascher's Suesswasserfl. 12 : 344, 1925 ; RK 921 f. 590 a, 1932. Lahore.

A. spirulinoides Ghose f. **tenuis** (Singh) Desikachary in C : 189, 1959. *Spirulina spirulinoides* (Ghose) Geitler f. **tenuis** Singh in IAS 9 : 67, 1939. Gorakhpur.

A. tenuis Bruehl et Biswas in CU 4 : 7, t. 2, f. 12, 1922. *Spirulina tenuis* (Bruehl et Biswas) Geitler in Pascher's Suesswasserfl. 12 : 449, 1925 ; RK 926, 1932. Faridpur.

Hydrocoleum violaceum Martens in PAS 40 : 170, 1871. Calcutta.

Hyphaeothrix porphyromelana Bruehl et Biswas. See under **Schizothrix porphyromelana** (Bruehl et Biswas) Geitler.

Lyngbya aestuarii (Martens) Liebm. ex Gomont var.

arbustiva Bruehl et Biswas in CU 5 : 5, t. 2, f. 9 a-c, 1923.

Calcutta.

L. aestuarii (Martens) Liebm. ex Gomont var. **tenuis** Dixit in IAS 3 : 104, 1936. Bombay.

L. antarctica Gain. var. **major** Kamat in H 22 : 294, t. 17, f. 99, 1963. Kolhapur. Type K. 718.

L. arboricola Bruehl et Biswas in CU 5 : 7, t. 3, f. 10 a-e, 1923. Calcutta.

L. calcifera Bruehl et Biswas in CU 5 : 12, t. 4, f. 15 a-f, 1923. Calcutta.

L. chaetomorphae Iyengar et Desikachary in MU 16 : 58, f. 22, 1944. Madras.

L. circumcreta West var. **gelatinicola** Ghose in JLS 46 : 340, t. 31, f. 7, 1924. Lahore.

L. connectens Bruehl et Biswas in CU 5 : 4, t. 2, f. 8 a-e, 1923. Calcutta ; Lucknow.

L. corticola Bruehl et Biswas in CU 5 : 9, t. 4, f. 13 a-c, 1923. Calcutta.

L. dendrobia Bruehl et Biswas in CU 5 : 8, t. 3, f. 11 a-d, 1923. Calcutta ; Lucknow.

L. dendrobia Bruehl et Biswas f. **lurida** Bruehl et Biswas in CU 5 : 8, 1923. Bengal.

L. dixitii Kamat in H 22 : 295, t. 17, f. 101, 1963. Kolhapur. Type K. 569.

L. gandhii Kamat in H 22 : 296, t. 18, f. 108, 1963. Kolhapur. Type K. 578.

L. hieronymusii Lemm. f. **robusta** Parukutty in IAS 11 : 123, 1940. Travancore.

L. kashyapii Ghose in JLS 46 : 339, t. 31, f. 5, 1924. Lahore.

L. kolhapurensis Kamat in H 22 : 298, t. 18, f. 106, 1963. Kolhapur. Type K.

L. lachneri (Zimmermann) Geitler var. **minor** Kamat in H 22 : 298, t. 18, f. 107, 1963. Kolhapur. Type K. 719.

L. maharastrensis Kamat in H 22 : 299, t. 17, f. 103, 1963. Kolhapur. Type K. 516.

- Lyngbya palmarum** (Martens) Bruehl et Biswas in CU 5 : 11, t. 4, f. 14, 1923. *Scytonema palmarum* Martens in PAS 39 : 11, 1870.
Calcutta. Kurz's colln. no. 1789, Calcutta, July, 1867.
- L. porphyrosiphonis** Fremy in Blumea, Suppl. 2, 27 : 23, 1942.
Shenbaganur, South India (Fremy).
- L. schmidlei** Kamat var. **major** Kamat in H 22 : 209 305, t. 18, f. 109, 1963.
Kolhapur. Type K. 719.
- L. stagnina** Kuetz f. **nongranulata** Kamat in H 22 : 301, t. 17, f. 102, 1963.
Kolhapur. Type K. 71.
- L. subtilis** West var. **granulosa** Bruehl et Biswas in CU 5 : 11, t. 1, f. 7 a-b, 1923.
Calcutta.
- L. subtilis** West var. **typica** Bruehl et Biswas in CU 5 : 10, t. 1, f. 7 c, 1923.
Calcutta.
- L. truncicola** Ghose in JLS 46 : 339, t. 31, f. 6, 1924.
Lahore.
- Microcoleus amplus** Gardner var. **minor** Kamat in H 22 : 301, t. 18, f. 110, 1963.
Kolhapur. Type no. 56.
- M. lacustris** (Rabenh.) Farlow f. **intermedia** Vasishtha in BNH 58 : 140, 1961.
Hoshiarpur.
- M. lacustris** (Rabenh.) Farlow f. **minor** Desikachary in C : 346, 1959. *Microcoleus lacustris* (Rabenh.) Farlow f. Rao in IAS 11 : 131, 1940.
Delhi.
- M. steenstrupii** Boye-Petersen f. **attenuata** Kamat in H 22 : 302, t. 18, f. 111, 1963.
Kolhapur. Type no. K. 160.
- Oscillatoria acuminata** Gomont f. **tenuis** Parukutty in IAS 9 : 234, 1939.
Assam.
- O. acula** Bruehl et Biswas. See under **Oscillatoria acuta** Bruehl et Biswas orth. mut. Geitler.
- O. acuta** Bruehl et Biswas orth. mut. Geitler in RK 978, 1932. *Oscillatoria acula* Bruehl et Biswas in CU 5 : 3, t. 1, f. 6 a, b, 1923.
Calcutta.
- O. amoena** (Kuetz.) Gomont f. **kolhapurensis** Kamat in H 22 : 280, t. 15, f. 85, 1963.
Kolhapur. Type K. 675.
- O. amoena** (Kuetz.) Gomont f. **maharastrensis** Kamat in H 22 : 281, t. 15, f. 86, 1963.
Kolhapur. Type K. 503.
- O. amphigranulata** van Goor f. **conica** Kamat in H 22 : 280, t. 15, f. 84, 1963.
Kolhapur. Type K. 38.
- O. annae** van Goor f. **major** Kamat in H 22 : 281, t. 14, f. 78, 1963.
Kolhapur. Type K. 8.
- O. anomala** Bharadwaja in IAS 57 : 246, f. 3, g-1, 1963.
Assam.
- O. articulata** Gardner f. **tenuis** Parukutty. See under **O. grunowiana** Gomont var. **articulata** (Gardner) Drouet f. **tenuis** (Parukutty) Desikachary.
- O. bharadwajae** Kamat in H 22 : 282, t. 14, f. 79, 1963.
Kolhapur. Type K. 690.
- O. biswasii** Kamat in H 22 : 282, t. 14, f. 80, 1963.
Kolhapur. Type K. 381.
- O. bourrellyi** Kamat in H 22 : 282, t. 15, f. 87, 1963.
Kolhapur. Type K. 440.
- O. brevis** (Kuetz.) Gomont var. **nongranulata** Kamat in H 22 : 283, t. 15, f. 88, 1963.
Kolhapur. Type K. 415.
- O. calcuttensis** Biswas in CU 7 : 5, 1925.
Calcutta.
- O. chalybea** (Mert.) Gomont var. **minor** Kamat in H 22 : 283, t. 16, f. 89, 1963.
Kolhapur. Type K. 457.
- O. chilensis** Biswas in MAS 11 : 186, t. 28, f. 1, 1932.
Chilka Lake.
- O. claricentrosa** Gardner f. **bigranulata** Rao in IAS 6 : 367, f. 7 c, 1937.
Benaras.
- O. corakiana** Playfair var. **nongranulata** Kamat in H 22 : 284, t. 14, f. 81, 1963.
Kolhapur. Type K. 8.
- O. cortiana** Menegh. ex Gomont var. **minor** Kamat in H 22 : 284, t. 16, f. 90, 1963.
Kolhapur. Type K. 31.
- O. foreau** Fremy in Blumea, Suppl. 2, 27 : 23, f. 2, 1942.
Shenbaganur, South India.
- O. formosa** Bory ex Gomont f. **loktakensis** Bruehl et Biswas in MAS 8 : 264, t. 1, f. 5, 1926.
Assam.
- O. granulata** Gardner var. **major** Kamat in UB 30 : 28, t. 4, 1962.
Maharashtra State. Type K. 278.
- O. grunowiana** Gomont var. **articulata** (Gardner) Drouet f. **tenuis** (Parukutty) Desikachary in C : 216,

1959. *O. articulata* Gardner f. *tenuis* Parukutty in IAS 11 : 121, 1940.
Travancore.
- Oscillatoria hamelii* Fremy f. *brevis* Kamat in H 22 : 286, t. 16, f. 91, 1963.
Kolhapur. Type K. 353.
- O. jumnae* Zeller in PAS 96, 1875.
Allahabad.
- O. laetevirens* (Crouan) Gomont var. *minimus* Biswas in MAS 11 : 187, t. 28, 1932.
Chilka Lake.
- O. maharastrensis* Kamat in UB 30 : 29, t. 5, 1962.
Maharashtra State. Type K. 291.
- O. mehrai* Vasishta in IBS 42 : 575, t. 3, 5, 1963.
Hoshiarpur. Type *Vasishta 4343*, Hoshiarpur Govt. College Herb.
- O. mitrae* Kamat in H 22 : 286, t. 14, f. 82, 1963.
Kolhapur. Type K. 503.
- O. obscura* Bruehl et Biswas in CU 4 : 6, t. 2, f. 9, 1922.
Berhampur.
- O. ornata* Kuetz. ex Gomont var. *crassa* Rao in IAS 8 : 165, f. 2 d, 1938.
Cuttack.
- O. paucigranata* Bruehl et Biswas in CU 4 : 5, t. 1, f. 7, 1922.
Calcutta.
- O. princeps* Vaucher ex Gomont var. *pseudolimosa* Ghose in JLS 46 : 337, t. 31, f. 2, 1924.
Lahore.
- O. profunda* Kirchner f. *conica* Kamat in H 22 : 287, t. 16, f. 92, 1963.
Kolhapur. Type K. 582.
- O. pseudogeminata* Schmid. f. *longa* Kamat in H 22 : 288, t. 16, f. 93, 1963.
Kolhapur. Type K. 503.
- O. pseudomougeotia* Vasishta in IBS 41 : 99, f. 1, 2, 7, 1962.
Hoshiarpur. Type *Vasishta 4334*, Hoshiarpur Govt. College Herb.
- O. quadripunctulata* Bruehl et Biswas in CU 4 : 5, t. 1, f. 6, 1922.
Barisal.
- O. quadripunctulata* Bruehl et Biswas var. *unigranulata* Singh in IAS 9 : 68, f. 1, f. 1939.
Gorakhpur, Benaras and Mirzapur.
- O. raoi* De Toni in Diagn. Alg. novarum 1, Cent. 6 : 560, 1939. *O. variabilis* Rao in IAS 3 : 172, f. 3 a-d, 1936 ; *O. variabilis* Rao f. Rao in IAS 8 : 167, 1938 ; *O. variabilis* Rao f. Singh in JAS 9 : 60, 1939.
Benaras, Puri, Berhampur and Mirzapur.
- O. rubescens* DC ex Gomont var. *curvata* Kamat in H 22 : 289, t. 16, f. 94, 1963.
Kolhapur. Type K. 369.
- O. rubescens* DC ex Gomont var. *kolhapurensis* Kamat in H 22 : 289, t. 16, f. 95, 1963.
Kolhapur. Type K. 6.
- O. salina* Biswas in CU 8 : 21, t. 6, f. 6 a-h, 1927.
Calcutta.
- O. salina* Biswas f. *major* Desikachary in C : 239, 618, t. 37, f. 16, 17, 1959.
Pakala.
- O. sancta* (Kuetz.) Gomont f. *tenuis* Parukutty in IAS 11 : 120, 1940.
[*Oscillatoria sancta* (Kuetz.) Gomont].
Trivandram.
- O. schultzei* Lemm. var. *cylindrica* Kamat in H 22 : 289, t. 18, f. 104, 1963.
Kolhapur. Type K. 16.
- O. subbrevis* Schmidle f. *crassa* Dixit in IAS 3 : 103, 1936.
Bombay.
- O. subbrevis* Schmidle f. *minor* Desikachary in C : 209, 618, 1959.
Madras.
- O. suxena* Kamat in H 22 : 290, t. 18, f. 105, 1963.
Kolhapur. Type K. 548.
- O. vizagapatensis* Rao in IBS 17 : 89, f. 1-3, 1938.
Vizagapatam.
- O. yamadae* Kamat in H 22 : 291, t. 17, f. 96, 1963.
Kolhapur. Type K. 503.
- Phormidium anomala* Rao in IAS 6 : 371, f. 7 f-i, 1937.
Benaras.
- P. ceylanicum* Wille var. *minor* Kamat in H 22 : 292, t. 17, f. 100, 1963.
Kolhapur. Type K. 466.
- P. corium* (Ag.) Gomont f. *terrestris* Mitra in JAS 21 : 355, 360, 1951.
Allahabad.
- P. desikacharyiensis* Vasishta in IBS 41 : 64, f. 1-6, 1962.
Hoshiarpur. Type *Vasishta 4330*, Govt. College, Hoshiarpur Herb.
- P. hansgirgi* Schmidle in Allg. bot. Z 6 : 79, 1900 et Hedwigia 39 : 187, 1900.
Bombay.
- P. mehrai* Vasishta in IBS 41 : 101, f. 5, 6, 1962.
Hoshiarpur. Type *Vasishta 4335*, Govt. College, Hoshiarpur Herb.

- Phormidium mucosum** Gardner var. **arvense** Rao in IAS 6 : 368, f. 7 d-e, 1937.
Benaras.
- P. retzii** (Ag.) Gomont f. **major** Parukutty in IAS 11 : 122, 1940.
Trivandram.
- P. spiralis** Vasishta in IBS 41 : 65, f. 7, 8, 1962.
Hoshiarpur. Type *Vasishta 4331*, Govt. College, Hoshiarpur Herb.
- P. stagnina** Rao IBS 17 : 93, f. 4-7, 1938.
Palacol.
- P. stagnina** Rao var. **major** Kamat in H 22 : 292, t. 17, f. 98, 1963.
Kolhapur. Type K. 71.
- P. truncicola** Ghose in JLS 46 : 338, t. 31, f. 3, 1924.
Lahore.
- Schizothrix aurantiaca** Kuetz. var. **crassa** Zeller in PAS 96, 1875.
Sunderbans.
- S. friesii** (Ag.) Gomont f. **repens** Freymy in Blumea, Suppl. 2, 27 : 22, 1942.
Shenbaganur, South India.
- S. lateritia** (Kuetz.) Gomont f. **lyngbyacea** Schmidle in Hedwigia 39 : 186, t. 9, f. 20, 21, 1900.
Poona.
- S. porphyromelana** (Bruehl et Biswas) Geitler in Pascher's Susswasserfl. 12 : 449, 1925 ; RK 1083, 1932. *Hyphaeothrix porphyromelana* Bruehl et Biswas in CU 4 : 8, t. 2, f. 14, 1922.
Faridpur.
- Spirulina gomontiana** (Setchell) Geitler var. **crassa** Gupta. See under *Arthrospira gomontiana* Setchell var. **crassa** (Gupta) Desikachary.
- S. laxissima** West f. **major** Desikachary in C : 196, 618, t. 36, f. 6, 1959.
Pudukottah.
- S. platensis** (Nordst.) Gomont var. **non-constricta** Banerji. See under *Arthrospira platensis* (Nordst.) Gomont var. **nonconstricta** (Banerji) Desikachary.
- S. platensis** (Nordst.) Gomont var. **tenuis** Rao. See under *Arthrospira platensis* (Nordst.) Gomont var. **tenuis** (Rao) Desikachary.
- S. spirulinoides** (Ghose) Geitler. See under *Arthrospira spirulinoides* Ghose.
- S. spirulinoides** (Ghose) Geitler f. **tenuis** Singh. See under *Arthrospira spirulinoides* Ghose f. **tenuis** (Singh) Desikachary.
- S. tenuis** (Bruehl et Biswas) Geitler. See under *Arthrospira tenuis* Bruehl et Biswas.
- Spirulinopsis conica** Bharadwaja in IAS 57 : 248, f. 3 m, 1963.

Manipur.

- Symploca hydroides** Kuetz. ex Gomont f. **minor** Iyengar et Desikachary in MU 16 : 64, f. 30, 1944.
Krusadai Islands.

NOSTOCACEAE

- Anabaena alatospora** Gonzalves et Kamat in H 13 : 236-238, 1959.
Mysore.
- A. ambigua** Rao in IAS 5 : 107, f. 1, 2, 1937.
Wolleea ambigua (Rao) Singh in AB 6 : 606, 1942.
Benaras.
- A. anomala** Fritsch in IBS 28 : 146, f. 60-73, 1949.
Faridpur.
- A. aphanizomenoides** Forti var. **ellipsospora** Rao. See under *Anabaena orientalis* Dixit var. **ellipsospora** (Rao) Desikachary.
- A. ballygungii** Banerji in CU 1 : 98, f. 2 a-d, 1938.
Calcutta.
- A. beckii** De Toni in Noterella di nomencl. algol. 3, 1935. *A. (Trichormus) indica* Beck, Beck et Zahlbrucher in Ann. Naturh. (Mus.) Hofmus. Wien 12 : 82, 1897 ; *A. sphaerica* Born. et Flah. var. *indica* (Beck) Biswas in BSI 15 : 58-59, 1949.
Bombay.
- A. cylindrospermoides** Subba Raju in Phykos 1 : 78, f. 1-8, 1962.
Hyderabad. Type no. 101 in Herb. Osmania Univ. Lab., Hyderabad.
- A. desikacharyiensis** Vasishta in BNH 58 : 309, f. 1-4, 1961.
Hoshiarpur. Type *Vasishta 4332*, Hoshiarpur Govt. College Herb.
- A. doliolum** Bharadwaja in IAS 2 : 105, f. 6 a, b, 1935.
Benaras.
- A. fertilissima** Rao in IAS 6 : 363, f. 6 a-c, 1937.
Benaras.
- A. gelatinicola** Ghose in JLS 46 : 341, t. 31, f. 8, 1924.
Lahore and Simla.
- A. (Trichormus) indica** Beck. See under *Anabaena beckii* De Toni.
- A. iyengarii** Bharadwaja in IAS 2 : 105, f. 6 h-k, 1935.
Benaras.
- A. iyengarii** Bharadwaja var. **attenuata** Rao in IAS 8 : 163, f. 2 a-c, 1938.
Cuttack.
- A. iyengarii** Bharadwaja var. **tenuis** Rao in IAS 6 : 361, f. 5 a-c, 1937.
Benaras.
- A. iyengarii** Bharadwaja var. **unispora** Singh in IAS 9 : 67, f. 1 e, 1939.
Gorakhpur.

- Anabaena kashiensis* Bharadwaja. See under *Anabaena variabilis* Kuetz. ex Born. et Flah. var. *kashiensis* (Bharadwaja) Fritsch.
- A. mehrai* Vasishta in BNH 57 : 586, f. 8-12, 1960. Hoshiarpur. Type *Vasishta 4329*, Hoshiarpur Govt. College Herb.
- A. mysorensis* Gonzalves et Kamat in H 13 : 236-238, 1959. Mysore.
- A. naviculoides* Fritsch in IBS 28 : 138, f. 17-29, 1949. Faridpur.
- A. orientalis* Dixit in IAS 3 : 101, f. 3 d, e, 1936. Bombay.
- A. orientalis* Dixit var. *ellipsospora* (Rao) Desikachary in C 406, t. 78, f. 8, 9, 1959. *Anabaena aphanizomenoides* Forti var. *ellipsospora* Rao in IAS 6 : 362, f. 5 f-g, 1937. Benaras.
- A. oryzae* Fritsch in IBS 28 : 135, f. 1-16, 1949. Faridpur.
- A. oscillarioides* Bory ex Born. et Flah. f. *major* Vasishta in BNH 58 : 142, f. 5-7, 1961. Hoshiarpur.
- A. oscillarioides* Bory ex Born. et Flah. var. *angustus* Bharadwaja in IAS 2 : 103, f. 5 d-f, 1935. Benaras. According to Fritsch (1949) this variety is not very distinct from the type.
- A. oscillarioides* Bory ex Born. et Flah. var. *crassa* Vasishta in BNH 57 : 583, f. 5-7, 1960. Hoshiarpur. Type *Vasishta 1*, Govt. College Herb., Hoshiarpur.
- A. ramakarnae* Bharadwaja in IAS 57 : 249, f. 3 n, 1963. Manipur.
- A. randhawae* Venkataraman, in NIS 24 : 231, f. 1-10, 1958. New Delhi.
- A. sphaerica* Bornet et Flah. var. *attenuata* Bharadwaja in IAS 2 : 103, f. 5 g-h, 1935. Benaras.
- A. sphaerica* Bornet et Flah. var. *indica* (Beck) Biswas. See under *Anabena bekkii* De Toni.
- A. sphaerica* Born. et Flah. f. *major* Vasishta in BNH 58 : 142, f. 3, 4, 1961. Hoshiarpur.
- A. unispora* Gardner var. *crassa* Rao. See under *Anabaena volzii* Lemm. var. *crassa* (Rao) Fritsch.
- A. vaginicola* Fritsch et Rich f. *fertilissima* Prasad in IBS 31 : 360, f. 14-17, 1952. Benaras.
- A. variabilis* Kuetz. ex Born. et Flah. var. *ellipsospora* Fritsch in IBS 28 : 142, f. 40-50, 1949. Faridpur.
- A. variabilis* Kuetz. ex Born. et Flah. var. *kashiensis* (Bharadwaja) Fritsch in IBS 28 : 155-158, f. 88-92, 1949. *Anabaena kashiensis* Bharadwaja in IAS 2 : 105, f. 6 c, g, 1935. Benaras.
- A. volzii* Lemm. var. *crassa* (Rao) Fritsch IBS 28 : 135, 1949. *Anabaena unispora* Gardner var. *crassa* Rao in IAS 6 : 362, 1937. Benaras.
- Anabaenopsis arnoldii* Aptekarj var. *indica* Ramnathan in IBS 17 : 333, f. 1-15, t. 13, f. 1-4, 1938. Madras.
- Aulosira aenigmatica* Frey in Blumea, Suppl. 2, 27 : 37, f. 11, 1942. Shenbaganur, South India.
- A. bombayensis* Gonzalves in IBSI 381-387, f. 1-3, 1946. Bombay.
- A. fertilissima* Ghose in JLS 46 : 342, t. 31, f. 9, 1924. Lahore.
- A. fertilissima* Ghose var. *tenuis* Rao in IAS 6 : 353, f. 3 f-i, 1937. Benaras.
- A. fritschii* Bharadwaja in AB 47 : 123, f. 3, 4, 1933. Benaras.
- A. implexa* Born. et Flah. var. *crassa* Dixit in IAS 3 : 98, f. 2 a-d, 1936. Bombay.
- A. manipurensis* Bharadwaja in IAS 57 : 250, f. 3, o-r, 1963. Manipur.
- A. prolifica* Bharadwaja in AB 47 : 131, f. 5, 6, 1933. Benaras.
- A. pseudoramosa* Bharadwaja in AB 47 : 137, f. 7, 9, 1933. Benaras.
- Cylindrospermum bengalense* Biswas in CU 7 : 7, 1925. Calcutta.
- C. distinctum* Vasishta in BNH 57 : 583, f. 1-3, 1960. Hoshiarpur. Type *Vasishta 4328*, Punjab University College Herb., Hoshiarpur.
- C. doryphorum* Bruehl et Biswas in ASB 18 : 577, 1922. Bengal.
- C. echinulatum* Gonzalves et Kamat in BNH 57 : 435, t. 2, f. 7-9, 1960. Mysore. Type, Herb. *Gonzalves M. 17*.

- Cylindrospermum gorakhporens* Singh in IAS 9 : 65, f. 1 d, 1939.
Gorakhpur.
- C. gracile* Gonzalves et Kamat in BNH 57 : 455, t. 2, f. 3-6, 1960.
Mysore. Type, Herb. *Gonzalves M.* 16.
- C. indentatum* West. f. *major* Rao in IAS 9 : 147, f. 1 m, n, 1939.
Bihar.
- C. indicum* Rao orth. mut. De Toni. Rao in IAS 3 : 169, f. 2 d, e, 1936.
Benaras.
- C. muscicola* Kuetz. Born. et Flah. f. *hoshiarpurens* Vasishta in BNH 58 : 141, 1961.
Hoshiarpur.
- C. muscicola* Kuetz. ex Born. et Flah. var. *kashmirensis* Bharadwaja in AB 47 : 117, f. 1, 2, 1933.
Kashmir.
- C. muscicola* Kuetz. ex Born. et Flah. var. *longispora* Dixit in IAS 3 : 100, f. 3 a, b, 1936.
Bombay.
- C. muscicola* Kuetz. ex Born. et Flah. var. *macrospora* Venkataraman in BNH 54 : 918, 1957.
Benaras.
- C. sphaerica* Prasad in IBS 31 : 358, f. 1-4, 1952.
Benaras.
- C. sphaerica* Prasad var. *cylindricum* Kamat in H 22 : 279, t. 14, f. 75, 1963.
Kolhapur. Type K. 635.
- C. stagnale* (Kuetz.) Born. et Flah. var. *garhwalensis* Gupta et Nair in AU 11 : 230, 1962.
Garhwal.
- S. stagnale* (Kuetz.) Born. et Flah. var. *minus* Kamat in UB 30 : 26, t. 3, 1962.
Maharashtra State. Type K. 278.
- C. stagnale* (Kuetz.) Born. et Flah. f. *sporolimbata* Freymy in Blumea, Suppl. 2, 27 : 36, f. 10, 1942.
Shenbaganur, South India.
- C. stagnale* (Kuetz.) Born. et Flah. f. *variabilis* Prasad in IBS 31 : 358, f. 5-8, 1952.
Benaras.
- Nostoc carneum* Ag. ex Born. et Flah. f. *minor* Bharadwaja in IAS 2 : 102, 1935.
Benaras.
- N. ellipsosporum* (Dosh.) Rabenh. ex Born. et Flah. var. *violaceae* Rao in IAS 6 : 359, f. 4 c, 1937.
Benaras.
- N. hatei* Dixit in IAS 3 : 101, f. 3 c, 1936.
Bombay.
- N. linckia* (Roth) Born. ex Born. et Flah. var. *arvense* Rao in IAS 6 : 358, f. 4 a, 1937.

- Benaras.
- N. spongiaeforme* Ag. ex Born. et Flah. var. *tenu* Rao in IAS 3 : 170, f. 2 f, 1936.
Benaras.
- N. spongiaeforme* Ag. ex Born. et Flah. var. *varians* Rao in IAS 6 : 359, f. 4 b, 1937.
Benaras.
- Raphidiopsis indica* Singh in IBS 21 : 239-243, f. 1-12, 1942.
Benaras.
- Wolleea ambigua* (Rao) Singh. See under *Anabaena ambigua* Rao.
- W. bharadwajae* Singh in AB 6 : 604, f. 1-31, 1942.
Benaras.

SCYTONEMATACEAE

- Camptylonemopsis iyengarii* Desikachary in IAS 28 : 47, f. 30-40, 1948.
Madras.
- C. lahorensis* (Ghose) Desikachary in IAS 28 : 49, f. 41-45, 1948. *Camptylonema lahorens* Ghose. New Phytol. 19 : 35-39, f. 1-6, 1920.
Lahore.
- C. minor* Desikachary in IAS 28 : 47, f. 25-29, 1948.
Kodaikanal.
- C. pulneyensis* Desikachary in IAS 28 : 47, f. 16-24, 1948.
Kodaikanal.
- Dictyonema fuscescens* Martens in PAS : 257, 1870.
Calcutta.
- Petalonema alatum* Beck var. *indicum* Rao in CS 13 : 260, f. 1, 2, 1944.
Chakrata Range.
- Plectonema hansgirgi* Schmidle in Hedwigia 39 : 186, 1900.
Bombay.
- P. indica* Dixit in IAS 3 : 99, f. 2 e, f, 1936.
Bombay.
- P. tomasinianum* (Kuetz.) Born. ex Gomont var. *vandalurens* Desikachary in C : 438, 619, t. 58, f. 1, 2, 1959.
Vandalur, Madras.
- Scytonema chiasmum* Geitler f. *minor* Parukutty. See under *Scytonema chiasmum* Geitler var. *minor* Gupta et Nair.
- S. chiasmum* Geitler var. *minor* Gupta et Nair in AU 11 : 232, 1962. *S. chiasmum* Geitler f. *minor* Parukutty. IAS 11 : 119, 1940.
Garhwal and Travancore.
- S. chlorophaeum* Kuetz. f. *tenuis* Martens in PAS 11, 1870.

[*Scytonema myochrous* (Dillw.) Ag. ex Born. et Flah.].

North Bengal.

S. fremyii Desikachary in C : 474, 1959. *Scytonema tenuissimum* Fremy in Blumea, Suppl. 2, 27 : 35, f. 9, 1942.

Shenbaganur, South India.

S. fritschii Ghose in JLS 46 : 342, t. 31, f. 11, 1924. Lahore.

S. hansgirgi Schmidle in Allg. bot. Z 6 : 79, 1900 et Hedwigia 39 : 184, t. 9, f. 17, 1900.

Poona.

S. malaviyaensis Bharadwaja in RA 3 : 223, t. 14, 1930.

Benaras.

S. mirabile (Dillw.) Born. f. *minor* Bharadwaja in RA 7 : 170, f. 5 b, c, 1934.

Madras.

S. palmarum Martens. See under *Lyngbya palmarum* (Martens) Bruehl et Biswas.

S. pascheri Bharadwaja in RA 7 : 158, f. 1 c, d, 1934. Madras.

S. pseudoguyanense Bharadwaja in RA 7 : 164, f. 3 a, 1934.

Tenmalai, South India.

S. saleyeriense Web. v. Bosse var. *indica* Bharadwaja in RA 7 : 160, f. 2 e, 1934.

Tenmalai, South India.

S. simplex Bharadwaja f. *major* Vasishta in BNH 58 : 143, f. 9-11, 1961.

Hoshiarpur.

S. tenuissimum Fremy. See under *Scytonema fremyii* Desikachary.

S. vieillardii Martens in PAS : 258, 1870. Howrah.

S. zellerianum Bruehl et Biswas in CU 5 : 16, t. 5, f. 20 a-d, 1923.

Calcutta.

Scytonematopsis kashyapi (Bharadwaja) Geitler in Archiv. Hydrobiol. Suppl. 14 : 445, 1936. *Spelaopogon kashyapi* Bharadwaja in AB 42 : 73, f. 1, 2, 1928.

Benaras.

S. woronichinii Kisselewa in J. Soc. bot. U.R.S.S. 15 : 174, t. 1, f. 1, 2, 1930.

India.

Spelaopogon kashyapi Bharadwaja. See under *Scytonematopsis kashyapi* (Bharadwaja) Geitler.

Tolypothrix campylonemoides Ghose in JLS 46 : 344, t. 31, f. 12, 1924.

Lahore.

T. conglutinata Borzi ex Born. et Flah. var. *colorata* Ghose in JLS 46 : 345, t. 31, f. 13, 1924.

Simla.

T. foreauii Fremy in Blumea Suppl. 2, 27 : 33, 1942. Shenbaganur, South India.

T. lanata Wartmann f. *minor* Dixit in IAS 3 : 100, 1936.

[*Tolypothrix tenuis* (Kuetz.) Schmidt. em.].

Bombay.

T. lophopodellophila West in ASB 7 : 83, t. 3, f. 1-5, 1911.

Bombay.

T. nodosa Bharadwaja in RA 7 : 175, f. 7 c, 1934. Benaras.

MICROCHAETACEAE

Fortica bossei (Fremy) Desikachary in C : 516, t. 82, f. 13-15, t. 101, f. 4-7, 1959. *Fremyella bossei* Fremy in Blumea Suppl. 2, 27 : 27, f. 5, 1942. Shenbaganur, South India.

Fremyella aequalis Fremy. See under *Microchaete aequalis* (Fremy) Desikachary.

F. bossei Fremy. See under *Fortica bossei* (Fremy) Desikachary.

F. elongata Fremy. See under *Microchaete elongata* (Fremy) Desikachary.

Microchaete aequalis (Fremy) Desikachary in C : 513, t. 81, f. 16, 1959. *Fremyella aequalis* Fremy in Blumea Suppl. 2, 27 : 32, f. 7, 1942. Shenbaganur, South India.

M. elongata (Fremy) Desikachary in C : 513, t. 105, f. 3-7, 1959. *Fremyella elongata* Fremy in Blumea Suppl. 2, 27 : 30, f. 6, 1942. Shenbaganur, South India.

M. grisea Thuret ex Born. et Flah. var. *brevis* Bharadwaja in IAS 2 : 101, f. 4 d, 1935. Benaras.

M. loktakensis Bruehl et Biswas in MAS 6 : 265, t. 1, f. 8, a-c, 1926. Assam.

M. tenera Thuret ex Born. et Flah. var. *tenuis* Bharadwaja in IAS 2 : 101, f. 4 a-c, 1935. Benaras.

M. uberrima Carter in BSI 9 : 268, t. 1, f. 1-3, 1926. *M. uberrima* Carter f. *minor* Carter in BSI 9 : 268, t. 1, f. 4, 1926. Sadiya.

RIVULARIACEAE

Calothrix bharadwajae De Toni in Diagn. Alg. novarum 1, Cent. 6 : 501, 1939. *Calothrix fritschii* Bharadwaja in IAS 2 : 100, f. 3 g-j, 1936. Benaras.

- Calothrix castellii** (Massal) Born. et Flah. var. **somastipurensis** Rao in IAS 9 : 145, f. 1, 1939.
Bihar.
- C. debii** Bharadwaja in IAS 57 : 251, f. 4 a-d, 1963.
Assam.
- C. desikacharyensis** Vasishta in IBS 42 : 579, f. 10-16, 1963.
Hoshiarpur. Type *Vasishta 4346*, Hoshiarpur Govt. College Herb.
- C. epiphytica** West var. **major** Vasishta in IBS 41 : 513, f. 5, 1961.
Hoshiarpur. Type *Vasishta 15*.
- C. fritschii** Bharadwaja. See under **Calothrix bharadwajae** De Toni.
- C. fusca** (Kuetz.) Born. et Flah. var. **crassa** Rao in IAS 9 : 145, f. 1 b-e, 1939.
Darbhanga.
- C. ghosei** Bharadwaja in IAS 2 : 99, f. 3 e, f, 1935.
Benaras.
- C. gloecola** Skuja var. **tenuis** Vasishta in IBS 41 : 511, f. 3, 4, 1962.
Hoshiarpur. Type *Vasishta 25*.
- C. hansgirgi** Schmidle. See under **Homocothrix hansgirgi** (Schmidle) Lemm.
- C. intracellularis** Vasishta in IBS 41 : 510, f. 1, 2, 1962.
Hoshiarpur. Type *Vasishta 14* in Govt. College, Hoshiarpur Herb.
- C. marchica** Lemm. var. **intermedia** Rao in IAS 6 : 350, f. 2 f-g, 1937.
Benaras.
- C. marchica** Lemm. var. **crassa** Rao in IAS 6 : 349, f. 2 e, 1937.
Benaras.
- C. santapau** Gonzalves et Kamat in BNH 57 : 454, t. 1, f. 1, 3, 1960.
Mysore. Type *Gonzalves M. 15*.
- C. scytonemicola** Tilden var. **major** Vasishta in IBS 41 : 513, f. 6, 1962.
Hoshiarpur. Type *Vasishta 16*, Hoshiarpur College Herb.
- Gloeotrichia atra** (Roth) Biswas in Hedwigia 74 : 17, t. 1, f. 9, 1935.
Assam.
- G. echinulata** (Smith) Richter var. **berhampurensis** Rao in IAS 8 : 161, f. 1 c, e, 1936.
Berhampur.
- G. ghosei** Singh in IAS 9 : 64, f. 1 a-c, 1939.
Gorakhpur.
- G. indica** Schmidle in Allg. bot. Z 35, 1900 et Hedwigia 39 : 174, t. 9, f. 18, 19, 1900.
Bombay.
- G. intermedia** (Lemm.) Geitler var. **kanwaensis** Rao in IAS 3 : 168, f. 2 a-c, 1936.
Benaras.
- G. raciborskii** Woloszyńska var. **bombayense** Dixit in IAS 3 : 97, f. 1 d, e, 1936.
Bombay.
- G. raciborskii** Woloszyńska var. **conica** Dixit in IAS 3 : 97, f. 1 f-h, 1936.
Bombay.
- G. raciborskii** Woloszyńska var. **kashiense** Rao in IAS 6 : 351, f. 3 a-e, 1937.
Benaras.
- G. raciborskii** Woloszyńska var. **kashiense** Rao f. **hoshiarpurensis** Vasishta in BNH 58 : 145, f. 14-16, 1961.
Hoshiarpur.
- G. raciborskii** Woloszyńska var. **kashiense** Rao f. **intermedia** Vasishta in BNH 58 : 144, f. 12-13, 1961.
Hoshiarpur.
- G. raciborskii** Woloszyńska var. **longispora** Rao in IAS 9 : 146, f. 1 j-l, 1939.
Darbhanga.
- G. raciborskii** Woloszyńska var. **longispora** Rao f. **major** Bharadwaja in IAS 57 : 254, f. 4 e-h, 1963.
Assam.
- G. raciborskii** Woloszyńska var. **salsettense** Dixit in IAS 3 : 97, f. 1 b, c, 1936.
Bombay.
- Homocothrix desikacharyensis** Vasishta in IBS 42 : 575, t. 6, 7, 1963.
Hoshiarpur. Type *Vasishta 4344*, Hoshiarpur Govt. College Herb.
- H. hansgirgi** (Schmidle) Lemm. in Kryptogamenfl. der Mark Brandenburg 3 : 240, 1910. *Calothrix hansgirgi* Schmidle in Allg. bot. Z. 35, 1900 et Hedwigia 39 : 174, t. 9, f. 22, 1900.
Bombay.
- H. juliana** (Menegh.) Kirchner var. **tenuis** Singh in JAS 9 : 58, 1939.
Benaras.
- H. moniliformis** Vasishta in IBS 42 : 577, f. 8, 9, 1963.
Hoshiarpur. Type *Vasishta 4345*, Hoshiarpur Govt. College Herb.
- Leptochaete hansgirgi** Schmidle in Allg. bot. Z. 34, 1900 et Hedwigia 39 : 174, t. 9, f. 22, 1900.
Bombay.
- Rivularia dura** Roth ex Born. et Flah. var. **confluens** Frey in Blumea, Suppl. 2, 27 : 25, 1942.
Shenbaganur, South India.

Rivularia hansgirgi Schmidle in Allg. bot. Z. 6 : 34, t. 9, f. 23-25, 1900 et Hedwigia 39 : 173, t. 9, f. 23-25, 1900.

Igatpuri.

R. joshii Vasishta in IBS 41 : 521, f. 1-16, 1962.
Hoshiarpur. Type *Vasishta* 4340.

R. maharastrensis Kamat in UB 30 : 24, t. 1, 2, 1962.
Maharashtra State. Type no. K. 284.

R. mangini Fremy in Deux Cyanophycees Trav. Cryptog. dedis a Louis Mangin : 103, t. 1, 1931 et Blumea, Suppl. 2, 27 : 26, 1942.
Shenbaganur, South India.

R. mangini Fremy var. **confluens** Fremy in Blumea Suppl. 2, 27 : 26, 1942.
Shenbaganur, South India.

NOSTOCHOPSIDACEAE

Nostochopsis hansgirgi Schmidle in Hedwigia 39 : 178, 1900. *Nostochopsis rupestris* Schmidle in Allg. bot. Z. 6 : 77, 1900.
Bombay.

N. radians Bharadwaja in New Phytol. 33 : 6, f. 1, 2, 1945.
Mysore.

N. rupestris Schmidle. See under *Nostochopsis hansgirgi* Schmidle.

MASTIGOCLADOPSIDACEAE

Mastigocladopsis jogensis Iyengar et Desikachary in IAS 24 : 58, t. 1, f. 1-3, 1946.
Mysore.

MASTIGOCLADACEAE

Mastigocladus flagelliformis Schmidle. See under **Hapalosiphon flagelliformis** (Schmidle) Forti.

M. hansgirgi Schmidle. See under **Hapalosiphon hansgirgi** (Schmidle) Forti.

M. laminosus Cohn. var. **indicum** Desikachary in C : 581, 618, t. 126, f. 1-4, 1959.
Kodaikanal.

STIGONEMATACEAE

Camptylonema indicum Schmidle in Hedwigia 39 : 161, 1900. *Schmidleinema indicum* (Schmidle) De Toni in Noterelle di nomencl. algol. 8 : 6, 1936.
Bombay.

Camptylonema lahorensis Ghose. See under **Camptylonemopsis lahorensis** (Ghose) Desikachary.

Hapalosiphon flagelliformis (Schmidle) Forti in De Toni Syll. Alg. 5 : 567, 1907. *Mastigocladus*

flagelliformis Schmidle in Allg. bot. Z. 6 : 53, 1900 et Hedwigia 39 : 175, t. 10, f. 13-18, 1900.
Bombay.

H. hansgirgi (Schmidle) Forti. Ibid. 5 : 567, 1907. *Mastigocladus hansgirgi* Schmidle in Allg. bot. Z. 6 : 54, 1900 et Hedwigia 39 : 176, t. 9, f. 13-16, 1900.
Bombay.

Iyengariella tirupatiensis Desikachary in P 3 : 249-253, f. 1-25, 1953.
Tirupathy, South India.

Parthasarathiella prolifica Subba Raju in Trans. Amer. Micr. Soc. 81 : 90-93, 1962.
Hyderabad.

Schmidleinema indicum (Schmidle) De Toni. See under **Camptylonema indicum** Schmidle.

Seguenzaca anthonyii Gupta in TBS Edinburgh 36 : 317-319, 1955.
India.

Stigonema indica Schmidle. See under **Camptylonema indicum** Schmidle.

S. lavardei Fremy var. **indica** Fremy in Blumea Suppl. 2, 27 : 38, 1942.
Shenbaganur, South India.

S. minutum Hass. f. **dumatosus** Fremy. Ibid. Suppl. 2, 27 : 38, 1942.
Shenbaganur, South India.

Thackerella indica Bharadwaja in IAS 57 : 254, f. 5 a-c, 1963.
Manipur.

Westiellopsis prolifica Janet in AB 5 : 170, f. 1, 2, 1941.
Madras.

CHLOROPHYTA

CHLAMYDOMONADACEAE

Carteria eugametos Mitra in H 2 : 211, f. 3, 1950.
Allahabad.

C. intermedia Mitra in JAS 21 : 357-373, 1951 et P. 1 : 61, f. 3 a-n, 1951.
Allahabad.

C. iyengarii Ramanathan in IBS 21 : 134, f. 1-9, 1942.
Madras.

Chlamydomonas dictyosphaeriae Iyengar in SA : 390, f. 8, 1960.
Madras.

C. cudorinae Iyengar in SA : 391, f. 2, 5, 1960.
Madras.

C. eugametos Moewus. var. **indica** Mitra in JAS 21 : 357-373, 1951 et P 1 : 59, f. 2 a-w, 1951.
Allahabad.

Chlamydomonas grandistigma Mitra in JAS 21 : 357-373, 1951 et P. 1 : 58, f. 1 a-g, 1951.

Allahabad.

C. indica Mitra in JAS 21 : 357-373, 1951 et H 2 : 210, f. 2, 1950.

Allahabad.

C. iyengarii Mitra in JAS 21 : 357-373, 1952 et H 2 : 209, f. 1, 1950.

Allahabad ; Vandalur near Madras.

C. oocysticola Iyengar in SA : 391, f. 7, 1960.

Madras.

C. ulotrichae Iyengar in SA : 391, f. 9, 1960.

Madras.

C. volvocicola Iyengar in SA : 391, f. 1, 1960.

Madras.

Gloeococcus pyriformis Iyengar in SA : 397, f. 37-50, 1960.

Madras.

Physocytium indicum Iyengar in SA : 394, f. 23-33, 1960.

Trichinopoly and Madras.

Sphaerellopsis iyengarii Balakrishnan in IBS 37 : 384, f. 1-9, t. 21, 1958.

Bombay.

VOLVOACEAE

Eudorina indica Iyengar in JLS 49 : 339, 369, t. 28, f. 2, 12, 13 ; f. 3, 1933.

Madras.

E. (?) wallichii Turner in KSV 25 : 155, t. 21, f. 10, 1892.

Bengal. (Wallich Mscr. no. 347).

Pandorina morum Bory f. **major** Iyengar in JLS 49 : 329, 369, t. 28, f. 7 ; f. 1 n, o, p, u, v, 1933.

Madras.

Pleodorina sphaerica Iyengar in JLS 49 : 343, 370, t. 28, f. 4, 5 ; f. 4, 1933.

Madras.

Volvox africanus West f. **minor** Iyengar in JLS 49 : 359, 371, t. 28, f. 14, 21, 22 ; f. 6 i-k, 7 b, d, h, 8 g, 1933.

[**Volvox africanus** West].

Mysore.

V. carteri Stein f. **nagariensis** Iyengar in JLS 49 : 364, 371, t. 28, f. 18 ; f. 7 a, 8 f, 1933.

[**Volvox gigas** Pocock].

Nagari near Madras.

V. globator Ehrenberg var. **maderaspatensis** Iyengar. See under **Volvox merrilli** Shaw var. **maderaspatensis** (Iyengar) Smith.

V. merrilli Shaw var. **maderaspatensis** (Iyengar)

Smith in Trans. Amer. Micro. Soc. 63 : 308, 1944.

Volvox globator Ehrenberg var. **maderaspatensis** Iyengar in JLS 49 : 351, 370, t. 28, f. 10, 15, 24 ; f. 6 a-c, 7 g, 8 c, 9 a, 1933.

Madras.

V. prolificus Iyengar in JLS 49 : 344, t. 28, f. 3, 6, 9, 20, 23 ; f. 5 a-g, 7 j, 8 a, b, c, 1933.

Nagari.

V. rousseleti West var. **lucknowensis** Iyengar in JLS 49 : 350, 370, t. 28, f. 8, 11 ; f. 6 g, 7 f, 8 b, 9 g, 1933.

Lucknow.

PHACOTACEAE

Fortiella indica Philipose in IAS 47 : 307, f. 41-44, 1958.

West Bengal, Orissa, Andhra.

Pteromonas aculeata Lemm. var. **crenulatus** Philipose in IAS 47 : 303, f. 46-50, 56, 61, 1958.

West Bengal, Orissa, Andhra.

PALMELLACEAE

Chloranomala palmelloides Mitra in AB 14 : 463, f. 1-24, 1950 et JAS 21 : 357-373, 1951.

Allahabad and Madras.

COCCOMYXACEAE

Coccomyxa subsphaerica Chodat et Jaag. var. **terrestre** Mitra in P 1 : 62, f. 4 a-m, 1951 et JAS 21 : 357-375, 1951.

Allahabad.

CHLORODENDRACEAE

Echballoctysis courtallensis Iyengar in AB 46 : 223, t. 8, f. 5 a, f, h, j, k, 1932.

Courtallam, South India.

E. courtallensis Iyengar f. **jogensis** Iyengar AB 46 : 224, t. 8, f. 5, 6, 7 ; f. 5 g, i, l, 1932.

Mysore.

E. fritschii Iyengar in AB 46 : 222, t. 3, f. 8 ; f. 4 a-h, m-o, r-u, 1932.

Mamandur, South India.

E. fritschii Iyengar var. **pulneyensis** Iyengar in AB 46 : 223, f. 4 i-k, l, p-q, 1932.

Kodaikanal.

E. pulvinata Bohlin var. **diffuens** Iyengar in AB 46 : 222, f. 8 a-h, 1932.

Mysore.

E. pulvinata Bohlin var. **minor** Iyengar in AB 46 : 222, f. 7 a-l, 1932.

Courtallam, South India.

Ecbalocystopsis indica Iyengar in AB 47 : 24, f. a-r, 1933.
Courtallam, South India.

MICRACTINIACEAE

Golenkinia minutissima Iyengar et Balakrishnan in IBS 35 : 373, f. 1-12, 1956.
Poona.

CHARACIACEAE

Characium anophelesi Iyengar M.O.P. et M.O.T. in New Phytol. 31 : 69, t. 3, f. 1-5 ; f. 1 a-l, 1932.
Sonarpur, Lower Bengal.

C. terrestris Kanthamma in IBS 19 : 174, f. 1-23, 1940.
Madras.

Hydrocytium macrosporum Turner in KSV 25 : 154, t. 20, f. 32, 1892.
Bengal (Wallich Mscr. no. 339).

CHARACIOSIPHONACEAE

Characiosiphon rivularis Iyengar in IBS 15 : 317, t. 23, f. 1-4 ; f. 1-10, 1936.
Trichinopoly.

OOCYSTACEAE

Closteridium bengalicum Turner in KSV 25 : 158, t. 20, f. 25, 1892.
Bengal (Wallich Mscr. no. 322).

Dendrocystis raoi Iyengar in Phykos 1 : 4, f. 1-12, 1962.
Yercaud, South India. Type in Iyengar's Herbarium.

Oocystis borgei Snow var. **indica** Kamat in H 20 : 263, t. 2, f. 8, 1962.
Ahmedabad. Type G. 397.

O. (?) brunnea Turner in KSV 25 : 156, t. 21, f. 7, 1892.
Bengal (Wallich Mscr. no. 348).

O. ecbalocystiformis Iyengar in AB 46 : 224, f. 7 m-t, 1932.
Mysore.

O. kolhapurensis Kamat in H 22 : 236, t. 8, f. 36, 1963.
Kolhapur. Type K. 534.

O. kumaonensis Singh in CS 29 : 30, f. 1-4, 1960.
Naini Tal. Culture no. K.P.S. 2.

O. maharastrensis Kamat in H 22 : 236, t. 9, f. 41, 1963.
Kolhapur. Type K. 554.

O. (?) mamillata Turner in KSV 25 : 155, t. 21, f. 14, 1892.
Bengal (Wallich Mscr. no. 186, 188).

O. naegelii A. Br. in Algarum Unicell. gen. nov. : 94, 1855.

Sikkim (no. 6878).

O. sphaerica Turner in KSV 25 : 155, 1892.
Bengal (Wallich Mscr. no. 329, 352).

SELENASTRACEAE

Actinastrum indicum Kamat in H 20 : 266, t. 2, f. 9, 1962.

Ahmedabad. Type G. 258.

Dactylococcus bicaudatus A. Br. var. **curta** Mitra in JAS 21 : 357-373. 1951.
Allahabad.

DICTYOSPHAERIACEAE

Dictyosphaerium indicum Iyengar in IBS 18 : 199, t. 8, f. 1-7 ; f. 1-14, 1939.
Madras.

Hydrocystis hydrophila Turner in KSV 25 : 157, t. 20, f. 27, 1892.
Bengal (Wallich Mscr. no. 332 A).

HYDRODICTYACEAE

Hydrodictyon indicum Iyengar in IBS 4 : 316, t. 1-4, 1925.
Madras.

Pediastrum duplex Meyen var. **loktakense** Bruehl et Biswas in MAS 8 : 270, t. 2, f. 19, 1926.
Manipur.

P. incavatum Turner in KSV 25 : 160, t. 21, f. 21, 1892.
Bengal.

COELASTRACEAE

Coelastrum distans Turner in KSV 25 : 161, t. 21, f. 18, 1892.

Raneegunge (Wallich Mscr. no. 317).

C. indicum Turner in KSV 25 : 161, t. 20, f. 11, 1892.
Raneegunge (Wallich Mscr. no. 325).

C. microporum Naeg. in A. Braun Algarum unicell. gen. nov. : 70, 1855.
Igatpuri, no. 7517.

SCENEDESMACEAE

Scenedesmus abundans (Kirchner) Chodat var. **indica** Kamat in H 22 : 238, t. 8, f. 37, 1963.
Kolhapur. Type K. 513.

S. annandalei Bruehl et Biswas in MAS 8 : 266, f. 14 a, b, 1926.
Loktak Lake.

- Scenedesmus denticulatis** Lagerheim var. **kolhapurensis** Kamat in H 22 : 239, t. 8, f. 38, 39, 1963.
Kolhapur. Type K. 112.
- S. falcatus** Chodat var. **major** Kamat in H 22 : 240, t. 9, f. 42, 1963.
Kolhapur. Type K. 695.
- S. kolhapurensis** Kamat in H 22 : 240, t. 9, f. 43, 1963.
Kolhapur. Type K. 639.
- S. maharastrensis** Kamat in H 22 : 242, t. 9, f. 45, 1963.
Kolhapur. Type K. 365.
- S. margalefii** Kamat in H 22 : 242, t. 9, f. 44, 1963.
Kolhapur. Type K. 507.
- S. prismaticus** Bruehl et Biswas in CU 4 : 10, t. 3, f. 21, 1922.
Faridpur.
- S. spinulatus** Biswas in Hedwigia 74 : 20, t. 3, f. 4, 1935.
Assam.
- Tetrastrum tetracanthus** (West) Brunnth. var. **khasianum** Biswas. Ibid. 74 : 19, t. 3, f. 3, 1935.
Assam.

ULOTRICHACEAE

- Gloeotilopsis planctonica** Iyengar et Philipose in IBS 35 : 369, f. 1-27, 1956.
Madras.
- Heterothrichopsis viridis** Iyengar et Kanthamma in IBS 20 : 105, 1941. *Ulothrichopsis viridis* Iyengar et Kanthamma in IBS 19 : 170, f. 1-17, 1940.
Tambaram near Madras.
- Hormidiella parvula** Iyengar et Kanthamma in IBS 19 : 165, t. 5, f. 1-7, 1-35, 1940.
Madras.
- Ulothrichopsis viridis* Iyengar et Kanthamma. See under **Heterothrichopsis viridis** Iyengar et Kanthamma.
- Uronema indicum** Ghose in AB 34 : 98, f. 1-14, 1920.
Lahore.
- U. terrestre** Mitra in AB 11 : 358, f. 1-59, 1947 et JAS 21 : 357-373, 1951.
Allahabad.

MICROSPORACEAE

- Microspora indica** Randhawa in Hedwigia 78 : 273, f. 1, 1939.
Uttar Pradesh.

CYLINDROCAPSACEAE

- Cylindrocapsa oedogonioides** Randhawa in IAS 4 : 410, f. 1-7, 1936.
Hoshiarpur.

- C. scytonemoides** Randhawa in Hedwigia 70 : 275, t. 3, 1939.
Uttar Pradesh.
- Cylindrocapsopsis indica** Iyengar in MU 27 : 68, f. 1-75, t. 1 ; f. 1-10, t. 2, 1-13, 1957.
Madras.

ULVACEAE

- Enteromorpha livida* Hooker (Mscr.). See under **Compsopogon lividus** (Hook.) De Toni.
- Ulva indica** Anand in Punjab Univ. bot. Publ. 1, Chlorophyceae : 18, t. 2, f. 3 ; f. 3 c-f, 1940.
Karachi (Pakistan).

SPHAEROPLEACEAE

- Sphaeroplea annulina** (Roth) Agardh var. **multiseriata** Randhawa in IAS 4 : 405-407, f. 1-12, 1936.
Hoshiarpur.

CLADOPHORACEAE

- Cladophora bombayensis** Boergesen in Det. Kgl. Dansk. Vidensk. Selsk. Biol. Meddl. 12 : 22, t. 3, f. 11, 1935.
Bombay. Type *Boergesen no. 5035*.
- C. colabense** Boergesen Ibid. 12 : 19, t. 2, f. 9, 10, 1935.
Bombay. Type *Boergesen no. 5059*.
- C. crispata** Kuetz. var. **acuta** P. Richt. in O. Kuntze Rev. Gen. Plant. 3 : 390, 1898.
Deccan. Type *no. 7538*.
- C. fritschii** Anand in Punjab Univ. bot. Publ. 1, Chlorophyceae : 25, t. 5, f. 11 ; t. 6, f. 12 ; f. 9 a, b, 10 a-e, 1940.
Karachi (Pakistan).
- C. fritschii** Anand var. **kamariensis** Anand Ibid. 1 : 27, f. 11, 1940.
Karachi (Pakistan).
- C. indica** Martens in PAS 11, 1870.
Manbhum.
- C. monumentalis** Boergesen in Det. Kgl. Dansk. Vidensk. Selsk. Biol. Meddl. 12 : 24, t. 4, f. 12, 1935.
Bombay. Type *Boergesen no. 5034*.
- C. saracenica** Boergesen Ibid. 12 : 16, t. 1, f. 7, 8, 1935.
Bombay. Type *Boergesen no. 5081*.
- C. tranquebariensis** Kuetz. in Sp. Algarum L : 409, 1849. *Conferva tranquebariensis* Agardh in Systema Algarum : 111, 1824.
Tranquebar, South India.
- Conferva tranquebariensis* Agardh. See under **Cladophora tranquebariensis** Kuetz.

Chaetomorpha prostrata Anand in Punjab Univ. bot. Publ. 1, Chlorophyceae : 20, f. 5 a, b, 6, 1940. Karachi (Pakistan).

Pithophora pachyderma Schmidle in Allg. bot. Z. 6 : 17, t. 8, f. 8 ; f. 1-7, 1900. Bombay.

Rhizoclonium grande Boergesen in Det. Kgl. Dansk. Vidensk. Biol. Meddl. 12 : 14, f. 5, 6, 1935. Bombay. Type *Boergesen* no. 5130.

Spongomorpha indica Thivy et Visalakshmi in Bot. Notiser 116 : 495, f. 1-14, 1963. Okha Port. Type Herb. C.S. & M.C.R.I. no. 2255.

CHAETOPHORACEAE

Chaetomnion nakaoi Hirano in Kihara's Fauna & Flora of Nepal Himalayas : 16, t. 8, f. 1-3, 1955. Nepal Himalayas.

Chaetophora indica Martens in PAS : 11, 1870. Manbhum.

Draparnaldiopsis indica Bharadwaja in New Phytol. 32 : 173, t. 8, f. 1-4 ; f. 1-2, 1933. Benaras.

Endoderma immane Schmidle in Allg. bot. Z. 6 : 17, t. 8, f. 8-11, 1900. Bombay.

Entocladia polysiphoniae Anand in Punjab Univ. bot. Publ. 1, Chlorophyceae : 31, f. 15 b, 1940. Karachi (Pakistan).

Fritschella tuberosa Iyengar in New Phytol. 31 : 335, t. 13, f. 1, 2, 1932. Madras and Mysore.

Pseudulvella americana (Snow.) Wille var. *indica* Philipose in IBSI : 325, t. 1, f. 1-3 ; f. 1-21, 1946. Madras.

Stigeoclonium lubricum Kuetz. f. *salina* Dixit in IAS 5 : 20, 1937. Bombay.

S. macrocladium (Nordst.) Schmidle var. *tomentosum* Schmidle in Hedwigia 39 : 162, f. 1, 1900. India.

TRENTEPOHLIACEAE

Chroolepus tenue Zeller. See under *Trentepohlia tenuis* Bruehl et Biswas.

Pleurastrum terrestre Mitra in JAS 21 : 357-373, 1951. Allahabad.

Trentepohlia aurea (Linn.) Martens var. *acutata* Schmidle in Hedwigia 39 : 168, t. 8, f. 12, 13, 1900. Mahabuleswar.

T. aurea (Linn.) Martens var. *tenuior* Bruehl et Biswas in CU 5 : 18, t. 6, f. 23 a-e, 1923. Sibpur.

T. monilia De Wilden. f. *hyalina* Schmidle in Allg. bot. Z. 6 : 18, t. 8, f. 14, 1900. Bombay.

T. tenuis Bruehl et Biswas in CU 5 : 18, t. 6, f. 22 a-d, 1923. *Chroolepus tenue* Zeller in ASB 41 : 191, 1873. Bengal.

COLEOCHAETACEAE

Coleochaete orbicularis Pringsheim f. *crassa* Bharadwaja in IAS 57 : 241, 1963. Manipur.

PROTOCOCCACEAE

Polyedrium bifidum Turner in KSV 25 : 158, t. 20, f. 23, 1892. Bengal (Wallich Mscr. no. 294).

P. proteiforme Turner in KSV 25 : 158, t. 20, f. 24 a, 1892. Bengal (Wallich Mscr. no. 287).

P. tetradricum Nag. f. *torsum* Turner in KSV 25 : 158, t. 20, f. 15, 1892. Bengal (Wallich Mscr. no. 292, f. 2, 3).

Staureophanum pusillum (Wallich) Turner in KSV 25 : 159, t. 20, f. 22, 1892. Bengal.

Thallosesmium wallichianum Turner in KSV 25 : 159, t. 20, f. 31, 1892. Bengal (Wallich Mscr. no. 327).

OEDOGONIACEAE

Bulbochaete annularis Gonzalves in P 12 : 75, 76, f. 1-3, 1962. Bombay.

B. bharadwajai Singh in IAS 8 : 395, f. 10 d, 1938. Gorakhpur.

B. diamosandria Nordst. et Hirn in Acta Soc. Sci. Fenn. 27 : 323, t. 51, f. 329, 1900. Bengal (Herb. Berol.).

B. keralense Venkataraman et Natarajan in NIS 26 : 8, f. 1-4, 1960. Kottarakara, Kerala. Type *Randhawa BKI-159*, Indian Agric. Res. Inst. New Delhi, India.

B. nana Wittr. ex Hirn var. *longa* Kamat in H 20 : 252, t. 1, f. 1, 1962. Ahmedabad. Type G. 551.

Oedocladium indicum Kamat in H 20 : 261, t. 2, f. 7, 1962. Ahmedabad. Type G. 432.

- Oedocladium terrestris* Biswas in RA 10:343, t. 21, f. 1-8, 1938.
Calcutta.
- Oedogonites palanensis* Rao in CS 26:178, f. 1-4, 1957.
Tertiary deposits, Palana (Eocene) Bikaner. (Fossil).
- Oedogonium abbreviatum* (Hirn) Tiffany var. *majus* Kamat in H 20:253, t. 1, f. 2, 1962.
Ahmedabad. Type *G. 130*.
- O. acreolatum* Lagerheim f. *ellipsosporum* Singh in IAS 8:387, f. 7 c-f, 1938.
Gorakhpur.
- O. ahmedabadense* Kamat in H 20:254, t. 1, f. 3, 1962.
Ahmedabad: Type *G. 412*.
- O. aquaticum* Kamat in H 20:254, t. 1, f. 4, 1962.
Ahmedabad. Type *G. 752*.
- O. armigerum* Hirn f. *major* Venkataraman et Natarajan in NIS 26:12, f. 12, 1960.
Kerala State. Type *Randhawa OKI-160*, I.C.A.R., New Delhi.
- O. armigerum* Hirn f. *tenuis* Singh in IAS 8:377, f. 2 e-f, 1938.
Gorakhpur.
- O. bengalense* Hirn in Acta Soc. Sci. Fenn. 27:268, t. 46, f. 287, 1900.
Bengal (Herb. Berol.).
- O. biforme* Nordst. var. *tenuis* Parukutty in IAS 9:230, f. 1, 1939.
Assam.
- O. birmanicum* Wittr. in Nov. Acta Reg. Soc. Sci. Upsal. 3rd. ser. 9:24, 1874.
India.
- O. borsianum* Hirn var. *crassa* Singh in IAS 8:375, f. 2 d, 1938.
Gorakhpur.
- O. calvum* Wittr. in Nov. Acta Reg. Soc. Sci. Upsal. 3rd. ser. 9:37, 1874.
India.
- O. capilliforme* Kuetz. var. *nanum* Randhawa in IAS 4:98, t. 6, f. 9, 10, 1936.
Hoshiarpur.
- O. consociatum* Collins et Harv. var. *kolhapurensis* Kamat in H 22:213, t. 1, f. 1, 1963.
Kolhapur. Type *K. 614*.
- O. crassiusculum* Wittr. var. *indica* Venkataraman in BNH 56:63, f. 12-15, 1959.
Fyzabad. Type *Randhawa no. 113*, I.C.A.R., Delhi.
- O. cyathigerum* Wittr. var. *unicellulares* Venkataraman et Natarajan in NIS 26:12, f. 13, 14, 1960.
Kerala. Type *Randhawa OKI-161*, I.C.A.R., Delhi.
- O. decipiens* Hirn var. *poriferum* Singh in IAS 8:377, f. 3 a, 1938.
Gorakhpur.
- O. ellipsosporum* Singh in IAS 8:387, f. 7 c, f, 1938.
Gorakhpur.
- O. formosum* Kamat in H 22:214, t. 1, f. 2, 1963.
Kolhapur. Type *K. 349*.
- O. franklinianum* Wittr. f. *crassa* Singh in IAS 8:385, f. 6 e-f, 1938.
Gorakhpur.
- O. franklinianum* Wittr. var. *polyspora* Randhawa in IAS 4:99, t. 7, f. 13-15, 1936.
Beas.
- O. gelatinosum* Kamat in H 22:214, t. 1, f. 3, 1963.
Kolhapur. Type *K. 534*.
- O. geminatum* Kamat in H 22:216, t. 1, f. 5, 1963.
Kolhapur. Type *K. 148*.
- O. geniculatum* Hirn var. *indicum* Singh in IAS 8:393, f. 10 b, 1938.
Gorakhpur.
- O. glabrum* Randhawa in IAS 4:102, t. 8, f. 32-34, 1936.
Hoshiarpur.
- O. glabrum* Hallas f. *maharastrense* Kamat in H 22:216, t. 2, f. 6, 7, 1963.
Kolhapur. Type *K. 364*. (?)
- O. gujaratense* Kamat in RA 6:217-219, 1962.
Gujerat.
- O. hatei* Kamat in H 22:218, t. 3, f. 14-16, 1963.
Kolhapur. Type *K. 345*.
- O. hindustanense* Kamat in H 22:220, t. 3, f. 10-13, 1963.
Kolhapur. Type *K. 197*.
- O. hohenackerii* Wittr. in Nov. Acta Reg. Soc. Sci. Upsal. 3rd. ser. 9:23, 1874.
Pondichery.
- O. howardii* West. f. *tenuis* Singh in IAS 8:389, f. 8 c-d, 1938.
Gorakhpur.
- O. imahortii* Kamat in H 22:220, t. 2, f. 8, 9, 1963.
Kolhapur. Type *K. 611*.
- O. indicum* Hirn in Acta Soc. Sci. Fenn. 27:269, t. 46, f. 288, 1900.
Bombay (Herb. Hansgirk).
- O. inerme* Hirn var. *polyspora* Randhawa in IAS 4:99, f. 16-18, t. 7, 1936.
Hamira.
- O. intermedium* Wittr. f. *tenuis* Parukutty in IAS 9:231, 1939.
Assam.

- Oedocladium intermedium** Wittr. f. *tenuis* Singh in IAS 8 : 392, f. 9 c, 1938.
Gorakhpur.
- O. irregulare** Wittr. var. *tenuis* Venkataraman in BNH 56 : 61, f. 4, 1959.
Fyzabad. Type *Randhawa no 114*, I.C.A.R., Delhi.
- O. keralense** Erady et Rajappan. See under **Oedogonium perspicum** Hirn emend Venkataraman et Natarajan var. *keralense* (Erady et Rajappan) Venkataraman et Natarajan.
- O. kirtikarii** Kamat in H 22 : 221, t. 4, f. 17-20, 1963.
Kolhapur. Type *K. 534*.
- O. kolhapurens** Kamat in H 22 : 223, t. 5, f. 21-23, 1963.
Kolhapur. Type no. *K. 382*.
- O. kushmiense** Singh in IAS 8 : 391, f. 9 a-d, 1938.
Gorakhpur.
- O. lautumnarium** Wittr. f. *tenuis* Singh in IAS 8 : 384, f. 6 a, b, 1938.
Gorakhpur.
- O. maharastrense** Kamat in H 22 : 224, t. 5, f. 24, 1963.
Kolhapur. Type *K. 646*.
- O. mesodentatum** Singh in IAS 8 : 389, f. 8 a, b, 1938.
Gorakhpur.
- O. mezospirale** Singh in IAS 8 : 378, f. 3 b-e, 1938.
Gorakhpur.
- O. mirandrium** Skuja f. *apiculata* Singh in IAS 8 : 380, f. 4 d, e, 1938.
Gorakhpur.
- O. mitratum** Wittr. var. *minor* Singh in IAS 8 : 391, f. 8 e-f, 1938.
Gorakhpur.
- O. multisporum** Wood var. *unicellularis* Venkataraman in BNH 56 : 60, f. 1-3, 1959.
Fyzabad. Type *Randhawa no. 114*, I.C.A.R., Delhi.
- O. nagii** Chaudhuri in ASB 20 : 357, f. 1-16, 1924.
Lahore.
- O. nanum** Wittr. in Nov. Acta Reg. Soc. Sci. Upsal. 3rd. ser. 9 : 37, 1874.
Pondichery.
- O. obtruncatum** Wittr. Ibid. 9 : 41, 1874.
Pondichery and Bombay.
- O. obtruncatum** Wittr. var. *completum* Hirn in Acta Soc. Sci. Fenn. 27 : 285, t. 50, f. 319, 1900.
Bengal (Herb. Berol.).
- O. oyei** Kamat in H 22 : 224, t. 5, f. 25, 1963.
Kolhapur. Type *K. 611*.
- O. perspicum** Hirn emend Venkataraman et Natarajan var. *keralense* (Erady et Rajappan) Venkataraman et Natarajan in NIS 26 : 11, 1960. *Oedogonium keralense* Erady et Rajappan in K 1958 : 53-56, f. 1-8, 1958.
Mayyanad, Kerala.
- O. poecilosporum** Nordst. ex Hirn var. *minor* Kamat in H 20 : 258, t. 2, f. 5, 1962.
Ahmedabad. Type *G. 536*.
- O. plicatum** Wittr. in Nov. Acta Reg. Soc. Sci. Upsal. 3rd. ser. 9 : 38, 1874.
India.
- O. prescottii** Kamat in H 22 : 227, t. 6, f. 26-27, 1963.
Kolhapur. Type *K. 534*.
- O. princeps** (Haas.) Wittr. ex Hirn f. *indicum* Kamat in H 22 : 227, t. 6, f. 28-29, 1963.
Kolhapur. Type *K. 319*.
- O. pusillum** Kirchner var. *catenatum* Mitra in JAS 21 : 357-373, 1951.
Allahabad.
- O. randhawae** Venkataraman in CS 27 : 355-356, f. 1-6, 1958.
Calcutta.
- O. reinschii** Roy var. *indicum* Bharadwaja in IAS 57 : 242, f. 2 a-f, 1963.
Manipur.
- O. repens** Kamat in H 22 : 229, t. 7, f. 30, 1963.
Kolhapur. Type *K. 459*.
- O. rivulare** Hirn var. *nanum* Randhawa in H 4 : 101, t. 7, f. 25-27, 1936.
Hoshiarpur.
- O. rufescens** Wittr. f. *minuta* Venkataraman in BNH 56 : 62, 1959.
Fyzabad. Type *Randhawa no. 114*, I.C.A.R., Delhi.
- O. rufescens** Wittr. f. *tenuis* Venkataraman in BNH 54 : 911, f. 13, 1957.
Benaras.
- O. santapau** Kamat in H 22 : 229, t. 8, f. 34, 35, 1963.
Rankala Lake. Type *K. 534*.
- O. silvaticum** Halls. var. *idioandrosporum* Singh in IAS 8 : 375, f. 2 a, c, 1938.
Gorakhpur.
- O. singhii** Kamat in H 22 : 230, t. 7, f. 31, 32, 1963.
Kolhapur. Type *K. 552*.
- O. singulare** Kamat in H 20 : 260, t. f. 6, 1962.
Ahmedabad. Type *G. 235*.
- O. sociale** Wittr. f. *kanwaense* Singh in H 8 : 382, f. 5 b, c, 1938.
Benaras.

- Oedocladium sociale* Wittr. f. *minor* Singh in H 8 : 384, f. 5 d-f, 1938.
Gorakhpur.
- O. spirale* Hirn var. *major* Singh in H 8 : 380, f. 4 a-c, 1938.
Gorakhpur.
- O. striatum* Randhawa in H 4 : 97, t. 6, f. 1-7, 1936.
Dasuya.
- O. tapeinosporum* Wittr. f. *minor* Singh in H 8 : 394, f. 10 c, 1938.
Benaras.
- O. terrestris* Randhawa in Hedwigia 78 : 281, t. 6, 1939.
Fyzabad.
- O. unisporum* Kamat in H 22 : 233, t. 7, f. 33, 1963.
Kolhapur. Type K. 228.
- O. vulgare* (Wittr.) Tiffany f. *robusta* Bharadwaja in IAS 57 : 241, 1963.
Manipur.
- O. wolleanum* Wittr. in Bot. Notiser : 137, 1878.
Bombay (Herb. Hansgirg).

MESOTAENIACEAE

- Cylindrocystis* (?) *depressa* Turner in KSV 25 : 16, t. 7, f. 11, 1892.
Bengal.
- C. minutissima* Turner in KSV 25 : 16, t. 1, f. 24, 1892.
Bengal.
- C. minutissima* Turner var. *kolhapurensis* Kamat in H 22 : 243, t. 8, f. 40, 1963.
Kolhapur. Type K. 680.
- C. ovalis* Turner in KSV 25 : 16, t. 1, f. 5, 1892.
Bengal.
- Gonatozygon leioderium* Turner in KSV 25 : 24, t. 20, f. 5, 1892.
India.
- G. pilosum* Wolle f. *minor* Turner in KSV 25 : 25, t. 20 a, f. 1 b ; f. 2, 1892.
Central India.
- G. ralfsii* De Bary f. *crassa* Turner in KSV 25 : 24, t. 20, f. 6, 1892.
Central India.
- G. ralfsii* De Bary f. *depauperata* Turner in KSV 25 : 24, t. 20, f. 4, 1892.
Near Nilgiri Hills.
- G. reticulatum* Turner in KSV 25 : 24, t. 20, f. 3, 1892.
Nilgiris ; Khasia and E. Bengal (E. Pakistan) (Lagerheim).

- Mesotaenium* (?) *giganteum* Turner in KSV 25 : 15, t. 1, f. 6, 1892.
Bengal.
- M. hansgirgi* Schmidle in Allg. bot. Z. 6 : 18, t. 8, f. 18, 1900.
Bombay.
- Roya kumaoense* Singh in IBS 40 : 58, t. 1, f. 1-7, 1961.
Naini Tal.

ZYGNEACEAE

- Debarya costata* Randhawa in IAS 8 : 121, f. 2 a-d, 1938.
Fyzabad.
- D. desmidioides* West et West var. *orientale* Carter.
See under *Zygnemopsis orientalis* (Carter) Transeau.
- D. jogensis* Iyengar in Phykos 2 : 54, 1963 ; Randhawa, Zygnemaceae : 111, f. 7 a, a-f, 1959.
Mysore.
- D. madrasensis* Iyengar Ibid. 2 : 55, 1963 ; Randhawa, Zygnemaceae : 113, f. 7 b, 1959.
Madras.
- Ghosella indica* Randhawa. See under *Zygnemopsis indica* Randhawa.
- Mougeotia adnata* Iyengar in RA 6 : 274, f. 3, 1932.
Periyar, South India.
- M. bangalorensis* Iyengar in Phykos 2 : 55, 1963 ; Randhawa, Zygnemaceae : 171, f. 107 a, b, 1959.
Bangalore.
- M. banneergattense* Iyengar Ibid. 2 : 57, 1963 ; Randhawa, Zygnemaceae : 174, f. 107 a, b, 1959.
Mysore.
- M. gotlandica* (Cleve) Wittr. var. *crassa* Randhawa in IAS 8 : 125, f. 7 a, b, 1938.
Fyzabad.
- M. indica* Randhawa in Bot. Gaz. 119 : 26-27, 1958.
Fyzabad.
- M. jogensis* Iyengar in RA 6 : 270, f. 2, 1932.
Mysore.
- M. mysorensis* Iyengar in Phykos 2 : 56, 1963 ; Randhawa, Zygnemaceae : 172, f. 107 B a, b, 1959.
Mysore.
- M. ordogonioides* Czurda in Beih. bot. Centralbl. 48 : 286, 1931.
Tibet.
- M. poinciana* Transeau var. *minor* Kamat in H 22 : 252, t. 10, f. 56-58, 1963.
Kolhapur. Type K. 244.
- M. producta* West W. et G.S. in Ann. R bot. Gdn. Calcutta 6 : 188, t. 10, f. 16-19, 1908.
Vizagapatam (Burkill no. 17916).

- Mougeotia quadrata** Randhawa in IAS 8 : 126, f. 9, 1938.
Fyzabad.
- M. tambaramensis** Iyengar in Phykos 2 : 56, 1963 ; Randhawa, Zygnemaceae : 173, f. 107 C, a-c, 1959. Madras.
- M. trapaeziformis** Iyengar Ibid. 2 : 57, 1963 ; Randhawa, Zygnemaceae : 173, f. 107 D, a, b, c, 1959. Mysore.
- Sirocladium kumaoense** Randhawa in Bot. Gaz. 103 : 196, f. 1-15, 1941.
Uttar Pradesh.
- S. maharastrense** Randhawa Ibid. 119 : 201-202, f. 3-10, 1958.
Bombay.
- S. vandalorensis** Randhawa Ibid. 119 : 25-26, f. 1-10, 1958.
Madras.
- Sirogonium dixitii* Kolkwitz et Krieger. See under **Sirogonium inflatum** Dixit.
- S. hui** (Li) Transeau f. *minor* Kamat in H 20 : 270, t. 4, f. 14, 1962.
Ahmedabad. Type *G. 382*.
- S. indicum** Singh in IBS 17 : 384, f. 6 b, 1938.
Gorakhpur.
- S. inflatum** Dixit in IAS 5 : 23, f. 3, 1937.
Sirogonium dixitii Kolkwitz et Krieger in RK 13 : 432, f. 682, 1944.
N. Gajerat.
- S. melanosporum** (Randhawa) Transeau in Ohio J. Sci. 44 : 243, 1944. *S. ventersicum* Transeau var. *melanospora* Randhawa in IAS 8 : 364, f. 58, 1938.
Fyzabad.
- S. reticulatum** Randhawa in IBS 37 : 380, f. 3-5, 1958.
Punjab.
- S. stictum** Kuetz. var. *microsporum* Venkataraman in BNH 54 : 914, f. 9-11, 1957.
Benaras.
- S. vandalorensis** Iyengar in Phykos 2 : 61, 1963 ; Randhawa, Zygnemaceae : 431, f. 517 a-e, 1959.
Madras.
- S. ventersicum** Transeau f. *variabilis* Singh in IBS 17 : 384, f. 6 a, 1938.
Gorakhpur.
- S. ventersicum** Transeau var. *megasporea* Rao in IBS 16 : 287, f. 7 h, 1937.
Benaras.
- S. ventersicum** Transeau var. *melanospora* Randhawa. See under **S. melanosporum** (Randhawa) Transeau.
- Spirogyra africana** (Fritsch) Czurda f. *major* Kamat in H 22 : 253, t. 10, f. 59, 1963.
Kolhapur. Type *K. 137*.
- S. ahmedabadensis** Kamat in H. 20 : 267, t. 3, f. 10, 1962.
Ahmedabad. Type *G. 550*.
- S. anomala** Rao in IBS 16 : 285, f. 6 d, e, 1937.
Saranath.
- S. applanospora** Randhawa in IAS 8 : 336, f. 31, 1938.
Punjab.
- S. asiatica** Czurda in Pascher's Suesswasserfl. Mitteleurop. 9 : 185, 1932.
Central Tibet, 5600 m.
- S. azygosporea** Singh in IBS 17 : 372, f. 1 e, 1938.
Gorakhpur.
- S. azygosporea** Singh var. *inflata* Kamat in H 20 : 267, t. 3, f. 11, 1962.
Ahmedabad. Type *G. 612*.
- S. bichromatophora** (Randhawa) Transeau in Ohio Journ. Sci. 44 : 243, 1944.
Fyzabad.
- S. bimorphis** Dixit in IAS 5 : 22, f. 3-5, 1937.
[**Spirogyra moebii** Transeau].
In a pond, Alibaug near Bombay.
- S. brunnea** Czurda f. *varians* Rao in IBS 16 : 285, f. 7 a-c, 1937.
[**Spirogyra brunnea** Czurda].
Uttar Pradesh.
- S. communis** (Hassal) Kuetz. var. *intorta* Singh in IBS 17 : 374, f. 2 a, b, 1938.
Gorakhpur.
- S. crenulata** Singh in IBS 17 : 378, f. 4 a, b, 1938.
Gorakhpur.
- S. czurdae** Misra in IAS 5 : 115, f. 3 b, c, 1937.
Kashmir.
- S. daedalea** Lagerheim var. *jubbulporensis* Rao in IBS 17 : 344, f. 2 a-c, 1938.
Jubbulpore.
- S. decimina** (Muell.) Czurda f. *longisporea* Misra in IAS 5 : 114, 1937.
Kashmir.
- S. decimina** (Muell.) Czurda var. *plena* West, W. et G.S. in Ann. R. bot. Gdn. Calcutta 6 : 187, t. 10, f. 6-8, 1907.
Burdwan.
- S. dubia** Kuetz. var. *brevis* Randhawa in IAS 8 : 356, f. 50, 1938.
Hoshiarpur.
- S. dubia** Kuetz. var. *polymorphis* Rao in IBS 17 : 346, f. 2 h, i, 1938.
Jubbulpore.

- Spirogyra ellipsospora** Transeau f. *tenuis* Singh in IBS 17 : 377, f. 3 b, 1938.
Gorakhpur.
- S. fullebornei** Schmidle f. *crassa* Rao in IBS 16 : 278, f. 4 b, 1937.
Benaras.
- S. gallica** Petit var. *bichromatophora* Randhawa in IAS 8 : 353, f. 48, 1938.
[**Spirogyra bichromatophora** (Randhawa) Transeau].
Fyzabad.
- S. ghosei** Singh in IBS 17 : 382, f. 5 c, d, 1938.
Gorakhpur.
- S. gracilis** (Kuetz.) Czurda var. *magnum* Dixit in IAS 5 : 21, f. 1, 2, 1937.
Bombay.
- S. gujaratensis** Kamat in H 20 : 268, t. 3, f. 12, 1962.
Ahmedabad. Type G. 312.
- S. hautillensis** Transeau var. *kolhapurensis* Kamat in H 22 : 254, t. 11, f. 60, 1963.
Kolhapur. Type K. 329.
- S. indica** Krieger in RK 13 : 317, 1944.
Madhya Pradesh.
- S. jaoense** Randhawa in IAS 8 : 358, f. 53, 1938.
Fyzabad.
- S. jogensis** Iyengar in IBS 37 : 388, f. 1-12, 1958.
Mysore.
- S. jogensis** Iyengar var. *minor* Iyengar in IBS 37 : 392, f. 13-21, 1958.
Periyar, Kerala State.
- S. karnalae** Randhawa in IBS 37 : 380, f. 1, 2, 1958.
Karnal.
- S. kolhapurensis** Kamat in H 22 : 256, t. 11, f. 61, 1963.
Kolhapur. Type K. 651.
- S. kundaensis** Singh in IBS 17 : 380, f. 5 a, b, 1938.
Gorakhpur.
- S. lacustris** Czurda f. *tenuis* Misra in IAS 5 : 115, 1937.
Kashmir.
- S. lamellata** (Rao) Kolkwitz et Krieger in RK 13 : 412, f. 636, 1944. *S. submaxima* Transeau var. *lamellata* Rao in IBS 17 : 350, f. 3 d, 1938.
Madhya Pradesh.
- S. macrospora** (Rao) Krieger in RK 13 : 243, 1944. *S. subsalsa* Kuetz. var. *macrospora* Rao in IBS 17 : 345, f. 2 d, e, 1938.
Madhya Pradesh.
- S. majuscula** Kuetz. var. *inflata* Kamat in H 22 : 256, t. 11, f. 62, 1963.
Kolhapur. Type K. 372.
- S. malmeana** Hirn var. *mattonse* Misra in IAS 5 : 117, f. 3 d, e, 1937.
Kashmir.
- S. malmeana** Hirn var. *verrucosa* Rao. See under **Spirogyra verrucosa** (Rao) Krieger.
- S. malmeana** Hirn var. *minor* Schmidle. See under **Spirogyra minor** (Schmidle) Transeau.
- S. manoramae** Randhawa in IAS 8 : 360, f. 55, 1938.
Uttar Pradesh.
- S. margaritata** Wollny. f. *kurze* Venkataraman in BNH 54 : 912, 1957.
Benaras.
- S. margaritata** Wollny. var. *microspora* Singh in IBS 17 : 377, f. 3 a, 1938.
Gorakhpur.
- S. minor** (Schmidle) Transeau in Ohio J. Sci. 44 : 243, 1944. *S. malmeana* Hirn var. *minor* Schmidle in Hedwigia 40 : 46, 1901.
Bombay.
- S. neglecta** (Hassal) Kuetz. f. *tenuis* Rao in IBS 16 : 280, f. 5 a, 1937.
Benaras.
- S. nitida** (Dillwyn) Link var. *microspora* Venkataraman in BNH 54 : 912, t. 14, 15, 1957.
Benaras.
- S. oudhensis** Randhawa in IAS 8 : 348, f. 41, 1938.
Fyzabad.
- S. palghatensis** Erady in BNH 59 : 701-702, f. 1-9, 1962.
Palghat. Type in Royal bot. Gdn. Kew Herb no. 1095.
- S. paradoxa** Rao in IBS 16 : 281, f. 5 e, 1937.
Benaras.
- S. prolifica** Kamat in H 20 : 268, t. 3, f. 13, 1962.
Ahmedabad. Type G. 439.
- S. randhawae** Kolkwitz et Krieger in RK 13 : 418, f. 650, 1944. *Spirogyra submaxima* Transeau var. *inflata* Randhawa in IAS 8 : 361, f. 56, 1938.
Uttar Pradesh.
- S. reticuliana** Randhawa in IAS 8 : 339, f. 33, 1938.
Fyzabad.
- S. rhizoides** Randhawa in IAS 8 : 354, 356, f. 49, 1938.
Fyzabad.
- S. rupestris** Schmidle in Allg. bot. Z. 6 : 18, 1900.
Bombay.
- S. sahnii** Randhawa in IAS 8 : 339, f. 34, 1938.
Hoshiarpur.
- S. scrobiculata** (Stockmeyer) Czurda var. *inflata* Rao in IBS 17 : 343, f. 1 h, i, 1938.
[**Spirogyra suomiana** Transeau].
Katni.

- Spirogyra satiformis* (Roth) Kuetz. var. *major* Biswas in BNH 34 : 191, t. 2, f. 2 a-d, 1930.
Manipur.
- S. setiformis* (Roth) Kuetz. var. *maxima* Rao in IBS 16 : 281, f. 5 d, 1937.
Benaras.
- S. singularis* Nordst. var. *major* Kamat in H 22 : 257, t. 11, f. 63, 1963.
Kolhapur. Type K. 633.
- S. singularis* Nordst. f. *ventricosa* Venkataraman in BNH 54 : 913, 1957.
Benaras.
- S. skujae* Randhawa in IAS 8 : 338, f. 32, 1938.
Fyzabad.
- S. spreeciana* Rabenh. var. *crassa* Rao in IBS 16 : 272, f. 2 e, f. 1937.
Benaras.
- S. spreeciana* Rabenh. var. *kashiensis* Venkataraman in BNH 54 : 912, t. 4, 1957.
Benaras.
- S. spreeciana* Rabenh. var. *kashmirensis* Misra in IAS 5 : 113, f. 2 a, b, 1937.
Srinagar.
- S. submaxima* Transeau var. *inflata* Randhawa. See under *Spirogyra randhawae* Kolkwitz et Krieger.
- S. submaxima* Transeau var. *lamellata* Rao. See under *Spirogyra lamellata* (Rao) Kolkwitz et Krieger.
- S. subsalsa* Kuetz. var. *macrospora* Rao. See under *Spirogyra macrospora* (Rao) Krieger.
- S. szechwanensis* Jao var. *varians* Singh in IBS 17 : 375, f. 2 c, 1938.
Gorakhpur.
- S. tandae* Randhawa in IAS 8 : 350, f. 44, 1938.
Fyzabad.
- S. ternata* Ripart f. *maxima* Rao in IBS 16 : 277, f. 3 h, 1937.
Benaras.
- S. ternata* Ripart var. *sphaerica* Misra in IAS 5 : 116, f. 3 a, 1937.
Srinagar.
- S. undulisepta* IAS 8 : 352, f. 46, Randhawa in 1938.
Fyzabad.
- S. verrucosa* (Rao) Krieger in RK 13 : 398, 1944.
S. malmeana Hirn var. *verrucosa* Rao in IBS 17 : 358, f. 3 b, c, 1938.
Madhya Pradesh.
- S. verruculosa* Jao var. *chakiaense* Rao in IBS 16 : 283, f. 6 c, 1937.
Benaras.
- S. verruculosa* Jao var. *crassa* Singh in IBS 17 : 380, f. 4 c, 1938.
Gorakhpur.
- S. weberi* (Kuetz.) Czurda f. *inflata* Rao in IBS 16 : 274, f. 2 g, 1937.
[*Spirogyra farlowii* Transeau].
Saranath.
- Temnogametum cylindrospermum* Iyengar in IBS 37 : 212, f. 33-39, 1958.
Western Ghats.
- T. indicum* Iyengar in IBS 37 : 209, f. 1-32, 1958.
Tambaram, south of Madras.
- T. mayyanadense* Erady et Rajappan ex Randhawa, Zygnemaceae : 184, f. 114 C, a, b, 1959.
Mayyanad, Kerala State.
- T. tirupatiense* Iyengar in IBS 37 : 214, f. 40-49, 1958.
Tirupathy ; Trivandram.
- Zygnema atrocoeruleum* West, W. et G.S. var. *crassa* Misra. See under *Zygnema misrae* Kolkwitz et Krieger.
- Z. chalybdospermum* Hansgirg f. *inflata* Singh in IBS 17 : 370, f. 1 c, d, 1938.
Gorakhpur.
- Z. cylindrospermum* (West, W. et G.S.) Krieger var. *crassa* Rao in IBS 16 : 272, f. 2 c, d, 1937.
Benaras.
- Z. czurdae* Randhawa in IAS 4 : 239, f. 1-7, t. 11, 1936.
Hoshiarpur.
- Z. gangeticum* Rao in IBS 16 : 270, f. 1 a-c, 1937.
Benaras.
- Z. giganteum* Randhawa in IAS 4 : 241, t. 12, f. 11-18 ; t. 13, f. 17-19, 1936.
Punjab.
- Z. gorakhporensis* Singh in IBS 17 : 370, f. 1 a, b, 1938.
Gorakhpur.
- Z. hansgirgii* Schmidle. See under *Zygogonium hansgirgii* (Schmidle) Transeau.
- Z. heydrichii* Schmidle var. *indicum* Randhawa. See under *Zygogonium indicum* (Randhawa) Transeau.
- Z. himalayense* Randhawa in IAS 12 : 132, f. 1-7, 1940.
Almora.
- Z. indicum* Misra in IAS 5 : 110, f. 1 a, 1937.
Srinagar.
- Z. iyengarii* Randhawa. See under *Zygnemopsis iyengarii* Randhawa.
- Z. kolhapurensis* Kamat in H 22 : 258, t. 12, f. 64, 65, 1963.
Kolhapur. Type K. 447.

- Zygnema kashmirens* Misra in IAS 5 : 112, f. 1 d, 1937. Srinagar.
- Z. maharastrense* Kamat in H 22 : 258, t. 12, f. 66, 67, 1963. Kolhapur. Type K. 450.
- Z. melanosporum* Lagerheim f. *dalense* Misra in IAS 5 : 110, f. 1 b, 1937. [*Zygnema cyaneum* Czurda]. Kashmir.
- Z. misrae* Kolkwitz et Krieger in RK 13 : 242, f. 280, 1944. *Zygnema atrocoeruleum* West. W. et G.S. var. *crassa* Misra in IAS 5 : 112, f. 1 e, 1937. Srinagar.
- Z. mucigena* Randhawa in IAS 8 : 141, f. 25 a, b, 1938. Fyzabad.
- Z. normani* Taft. var. *lamellata* Rao in IBS 16 : 271, f. 2 a, b, 1937. Benaras.
- Z. oudhensis* Randhawa in IAS 8 : 146, f. 28 a, e, 1938. Fyzabad.
- Z. sphaerica* Misra in IAS 5 : 111, f. 1 c, 1937. Srinagar.
- Z. sphaerica* Misra f. *crassa* Misra. See under *Zygnema srinagarens* Kolkwitz et Krieger.
- Z. sphaerica* Misra f. *longearticulata* Misra in IAS 5 : 111, 1937. Srinagar.
- Z. sphaerica* Misra f. *megaspora* Rao in IBS 16 : 270, f. 1 d, 1937. Benaras.
- Z. sphaerica* Misra f. *microspora* Venkataraman in BNH 54 : 913, 1957. Benaras.
- Z. srinagarens* Kolkwitz et Krieger in RK 13 : 242, 1944. *Zygnema sphaerica* Misra f. *crassa* Misra in IAS 5 : 111, 1937. Srinagar.
- Z. terrestris* Randhawa in IAS 8 : 147, f. 29 a-k, 1938. Fyzabad.
- Z. vaginatum* Klebs f. *crassa* Parukutty in IAS 9 : 232, 1939. Assam.
- Zygnemopsis globosum* Randhawa in IAS 5 : 310, f. 7, 1937. Fyzabad.
- Z. gracilis* Randhawa in IAS 8 : 133, f. 18 a-e, 1938. Fyzabad.
- Z. hesaragattense* Iyengar in Phykos 2 : 60, 1963 ; Randhawa, Zygnemaceae : 207, f. 140 E, a-g, 1959. Mysore.
- Z. indica* Randhawa in IAS 5 : 298, f. 1, 1937. *Ghosella indica* Randhawa in IBS 13 : 14, t. 1, f. 1-12, 1934. Punjab.
- Z. iyengarii* Randhawa in IAS 5 : 306, f. 5, 6, 1937 et 8 : 134, f. 19 a-d, 1938. *Zygnema iyengarii* Randhawa in IAS 4 : 241, f. 8-10, t. 9, 1936. Hoshiarpur.
- Z. jogensis* Iyengar in Phykos 2 : 61, 1963 ; Randhawa, Zygnemaceae : 208, f. 140 F, a, b, 1959. Mysore.
- Z. kilpaukensis* Iyengar Ibid. 2 : 60, 1963, Randhawa, Zygnemaceae : 206, f. 140 D, a, b, 1959. Madras.
- Z. lamellata* Randhawa in IAS 5 : 302, f. 3, 4, 1937. Fyzabad.
- Z. lamellata* Randhawa var. *globosum* Randhawa in IAS 8 : 131, f. 15, 1938. Fyzabad.
- Z. lahaulense* Randhawa in Bot. Gaz. 119 : 27, f. 11-14, 1958. Lahul, Punjab Himalayas.
- Z. minuta* Randhawa in IAS 5 : 312, f. 8, 1937. Fyzabad.
- Z. minuta* Randhawa var. *crassa* Randhawa in IAS 8 : 135, f. 21 a-l, 1938. Fyzabad.
- Z. mysorensis* Iyengar in Phykos 2 : 59, 1963 ; Randhawa, Zygnemaceae : 205, f. 140 C, a, b, 1959. Mysore.
- Z. orientalis* (Carter) Transeau in Ohio J. Sci. 44 : 244, 1944. *Debarya desmidioides* West. W. et G.S. var. *orientalis* Carter in BSI 9 : 281, t. 2, f. 17-20, 1926. Himachal Pradesh.
- Z. saravatiensis* Iyengar in Phykos 2 : 58, 1963 ; Randhawa, Zygnemaceae : 204, f. 140 A, a-f, 1959. Mysore.
- Z. sphaerospora* Randhawa in IAS 8 : 131, f. 16 a-c, 1938. Fyzabad.
- Z. splendens* Randhawa in IAS 5 : 300, f. 2, 1937. Fyzabad.
- Z. tambaramensis* Iyengar in Phykos 2 : 59, 1963 ; Randhawa, Zygnemaceae : 205, f. 140 B, a, b, 1959. Tambaram, South of Madras.
- Z. transeauana* Randhawa in IAS 8 : 132, f. 17 a-c, 1938. Fyzabad.

- Zygogonium bengalense** Marten in PAS : 11, 1870.
North Bengal.
- Z. hansgirgii** (Schmidle) Transeau in Ohio Journ. Sci. 33 : 159, 1932. *Zygnema hansgirgii* Schmidle in Hedwigia 39 : 160, t. 8, f. 23-27, 1900.
Bombay.
- Z. indicum** (Randhawa) Transeau in Zygnemataceae : 68, 1951. *Zygnema heydrichii* Schmidle var. *indicum* Randhawa in IAS 8 : 140, f. 24 a-f, 1938.
Fyzabad.
- Z. kumaonense** Randhawa in IBS 19 : 249, f. 1-11, 1940.
Almora.
- Z. talguppense** Iyengar in RA 6 : 266, f. 1, 1932.
Mysore.

DESMIDIACEAE

- Arthrodesmus convergens** Ehrenb. f. *curta* Turner in KSV 25 : 134, t. 11, f. 32, 1892.
Bengal (Wallich Mscr. no. 172).
- A. convergens** Ehrenb. f. *minor* Turner in KSV 25 : 134, t. 11, f. 41, 1892.
Bengal.
- A. convergens** Ehrenb. f. *typica* Turner in KSV 25 : 134, t. 12, f. 3, 1892.
Bengal.
- A. crispus** Turner in KSV 25 : 134, t. 11, f. 30, 1892.
Bengal.
- A. curvatus** Turner in KSV 25 : 135, 1892.
Bengal.
- A. curvatus** Turner f. *typica* Turner in KSV 25 : 135, t. 11, f. 33 ; t. 12, f. 2, 1892.
Bengal (Wallich Mscr. no. 173 A, 179).
- A. gangensis** Turner in KSV 25 : 136, t. 12, f. 14 ; t. 11, f. 38, 1892.
Bengal.
- A. hiatus** Turner in KSV 25 : 134, 1892.
Bengal.
- A. hiatus** Turner f. *major* Turner in KSV 25 : 134, t. 11, f. 40 ; t. 12, f. 1 c, 1892.
Bengal.
- A. hiatus** Turner f. *minor* Turner in KSV 25 : 134, t. 11, f. 34, 1892.
Bengal.
- A. incavatus** Turner in KSV 25 : 137, t. 11, f. 43, 1892.
Bengal.
- A. incurvus** Turner in KSV 25 : 133, t. 11, f. 28, 1892.
Bengal.
- A. indicus** Turner in KSV 25 : 135, t. 12, f. 10, 1892.
Bengal.
- A. indicus** Turner f. *minor* Turner in KSV 25 : 136, 1892.
Bengal.
- A. minor** Turner in KSV 25 : 134, t. 11, f. 29, 1892.
Bengal.
- A. morsus** Turner in KSV 25 : 137, t. 16, f. 33, 1892.
Bengal.
- A. phimus** Turner in KSV 25 : 136, t. 12, f. 9, 1892.
Bengal (Wallich Mscr. no. 192, f. 1).
- A. spicatus** Turner in KSV 25 : 136, t. 19, f. 12, 1892.
Bengal (Wallich Mscr. no. 177).
- Closterium acerosum** (Schränk.) Ehrenb. f. *attenuata* Turner in KSV 25 : 18, t. 1, f. 15, 1892.
Bengal (Wallich Mscr. no. 107).
- C. annandalei** Bruehl et Biswas in MAS 8 : 276, t. 5, f. 39, 1926.
Manipur.
- C. cornu** Ehrenb. var. *tenuissima* Bruehl et Biswas in CU 4 : 15, t. 4, f. 28, 1922.
Faridpur.
- C. didymotocum** Corda var. *annulata* Iyengar et Vimala Bai in IBS 20 : 78, f. 4, 11, 12, 1941.
Kodaikanal.
- C. ehrenbergii** Menegh. f. *attenuatum* Kamat in H 22 : 244, t. 9, f. 46, 1963.
Kolhapur. Type K. 103.
- C. ehrenbergii** Menegh. f. *tenuis* Venkataraman in BNH 54 : 914, 1957.
Benaras.
- C. khasianum** Turner in KSV 25 : 23, 1892.
Khasia (Lagerheim).
- C. kolhapurens** Kamat in H 22 : 245, t. 9, f. 47, 48, 1963.
Kolhapur. Type K. 705.
- C. kolhapurens** Kamat var. *minus* Kamat in H 22 : 245, t. 10, f. 49, 50, 1963.
Kolhapur. Type K. 551.
- C. leibleinii** Kuetz. var. *angulatum* Balsamo. f. *minor* Turner in KSV 25 : 19, t. 1, f. 10, 1892.
Bengal.
- C. libellula** Focke var. *pulneyensis* Iyengar et Vimala Bai in IBS 20 : 75, f. 7, 8 a, b., 1941.
Kodaikanal.
- C. loktakense** Bruehl et Biswas in MAS 8 : 274, t. 5, f. 35 a-c, 1926.
Manipur.
- C. maharastrense** Kamat in H 22 : 246, t. 10, f. 51, 52, 1963.
Kolhapur.

- Closterium manipurens** Bruehl et Biswas in MAS 8 : 275, t. 5, f. 40, 1926.
Manipur.
- C. nematodes** Joshua var. **proboscideum** Turner in KSV 25 : 21, t. 22, f. 13, 1892.
Khasia.
- C. rectimarginatum** Scott et Prescott. var. **majus** Kamat in H 22 : 246, t. 10, f. 53, 1963.
Kolhapur. Type K. 640.
- C. subcrassum** Turner in KSV 25 : 22, t. 22, f. 15, 1892.
Khasia.
- C. truncatum** Turner in KSV 25 : 22, t. 22, f. 14, 1892.
East India and Khasia.
- C. wallichii** Turner in KSV 25 : 21, t. 1, f. 13 a, 1892.
Bengal (Wallich Mscr. no. 331).
- C. wittrockianum** Turner in KSV 25 : 21, t. 1, f. 25, 1892.
Bengal (Wallich Mscr. no. 108).
- Cosmarium actinophorum** Bruehl et Biswas in MAS 8 : 294, t. 10, f. 104, 1926.
Manipur.
- C. aequale** Turner in KSV 25 : 64, t. 9, f. 31, 1892.
Bengal (Wallich Mscr. no. 157).
- C. aequale** Turner var. **nepalense** Hirano in Kihara's Fauna & Flora of Nepal Himalayas : 20, t. 4, f. 3, 1955.
Nepal Himalayas.
- C. aitchinsonii** Schaarch. var. **punctatum** Turner in KSV 25 : 55, t. 9, f. 18, 1892.
Bengal.
- C. alatum** Kirchner var. **indicum** Turner in KSV 25 : 57, t. 8, f. 36, 1892.
Bengal.
- C. amoenum** Breb. var. **majus** Kamat in H 20 : 273, t. 4, f. 15, 1962.
Ahmedabad. Type G. 551.
- C. apertum** Turner in KSV 25 : 54, t. 8, f. 11, 1892.
Bengal.
- C. armillatum** Turner in KSV 25 : 55, t. 8, f. 22, 1892.
Bengal.
- C. auriculatum** Reinsch. var. **verrucosum** Turner in KSV 25 : 50, t. 9, f. 8 a, 1892.
Bengal.
- C. bacciferum** Turner in KSV 25 : 69, t. 10, f. 8, 1892.
Bengal.
- C. barrackporeanum** Turner in KSV 25 : 68, t. 10, f. 4, 1892.
Bengal, Barrackpore.
- C. bengalense** Turner in KSV 25 : 56, t. 8, f. 33 ; t. 9, f. 33. 1892.
Bengal (Wallich Mscr. no. 125).
- C. bicrenatum** Turner in KSV 25 : 54, t. 8, f. 13, 1892.
Bengal (Wallich Mscr. no. 136).
- C. bidentatum** Turner in KSV 25 : 55, t. 8, f. 24, 1892.
Bengal.
- C. bifurcatum** Schmidle in Allg. bot. Z. 6 : 34, f. 9, 10, 1900.
Bombay.
- C. biobconicum** Bruehl et Biswas in MAS 8 : 285, t. 8, f. 64, 1926.
Loktak Lake, Manipur.
- C. bireme** Nordst. var. **asiaticum** Hirano in Kihara's Fauna & Flora of Nepal Himalayas : 21, t. 4, f. 16, 17, 1955.
Nepal Himalayas.
- C. bissetii** Turner in KSV 25 : 50, t. 7, f. 30, 1892.
Bengal.
- C. bitrapezoideum** Bruehl et Biswas in MAS 8 : 291, t. 8, f. 83, 1926.
Manipur.
- C. boldtii** Turner in KSV 25 : 49, t. 7, f. 24, 1892.
Bengal.
- C. cambricum** Cooke et Wills. f. **minor** Turner in KSV 25 : 70, t. 10, f. 15, 1892.
Bengal.
- C. centrosphinctum** Turner in KSV 25 : 51, t. 8, f. 1, 1892.
Bengal.
- C. chondriophorum** Bruehl et Biswas in MAS 8 : 295, t. 10, f. 99 a-c, 1926.
Manipur.
- C. coliferum** Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 7, t. 1, f. 5, 1888.
Bengal.
- C. coloratum** Turner in KSV 25 : 47, t. 8, f. 14, 1892.
Bengal.
- C. concentricum** Turner in KSV 25 : 62, t. 9, f. 11, 1892.
Bengal.
- C. conspersum** Ralfs. var. **rotundatum** Wittr. f. **boldtii** Turner in KSV 25 : 67, 1892.
Himalayas (Lagerheim).
- C. contractum** Kirchner var. **abbreviatum** Bruehl et Biswas in MAS 8 : 288, t. 8, f. 65, 1926.
Manipur.

- Cosmarium contractum** Kirchner var. **punctatum** Turner in KSV 25 : 48, t. 9, f. 21, t. 7, f. 38, 1892. Bengal.
- C. corruptum** Turner in KSV 25 : 51, t. 8, f. 2, 1892. Bengal.
- C. craspedopleurum** Turner in KSV 25 : 73, t. 23, f. 14, 1892. East Bengal (E. Pakistan).
- C. crenatum** Ralfs. f. **minuta** Turner in KSV 25 : 50, t. 7, f. 28, 1892. Bengal.
- C. ctenoideum** Turner in KSV 25 : 51, t. 7, f. 39, 1892.
- C. creniferum** Turner in KSV 25 : 56, t. 8, f. 29, 1892. Bengal.
- C. cuneatum** (?) Josh. var. **indicum** Turner in KSV 25 : 62, t. 9, f. 14, 1892. Bengal.
- C. cycladatum** Turner in KSV 25 : 54, t. 8, f. 12, 1892. Bengal.
- C. cyclicum** Lund. f. **crenulatum** Kamat in H 20 : 274, t. 4, f. 16 a, b, 1962. Ahmedabad. Type G. 506.
- C. decacuminatum** Bruehl et Biswas in MAS 8 : 299, t. 8, f. 80, 1926. Manipur.
- C. dentiferum** Corda var. **minus** Kamat in H 20 : 275, t. 4, f. 17, 1962. Ahmedabad. Type G. 279.
- C. depressum** (Nag.) Lund. var. **granulatum** Turner in KSV 25 : 68, t. 10, f. 3, 1892. Khasia.
- C. dulciferum** Turner in KSV 25 : 65, t. 9, f. 39, 1892. Bengal (Wallich Mscr. no. 189. This taxon is named in Wallich Mscr. no. 189 as *Euastrum anceps*, Mungulpore, 3. Nov. 1855 ; G. C. Wallich).
- C. ellipsoidale** Bruehl et Biswas in MAS 8 : 294, t. 10, f. 102, 1926. Manipur.
- C. erosum** Archer non Delp. f. **minor** Turner in KSV 25 : 58, t. 8, f. 44, 1892. Bengal.
- C. euryisthmum** Bruehl et Biswas in MAS 8 : 287, t. 11, f. 107, 1926. Manipur.
- C. exiguum** Archer f. **minor** Turner in KSV 25 : 55, t. 8, f. 18, 1892. Bengal.
- C. forceps** Bruehl et Biswas in MAS 8 : 286, t. 9, f. 86, 1926. Manipur.
- C. forte** Turner in KSV 25 : 61, t. 8, f. 66, 1892. North India.
- C. gangense** Turner in KSV 25 : 59, t. 8, f. 55, 1892. Bengal.
- C. gradatum** Turner in KSV 25 : 68, t. 10, f. 1, 1892. Bengal (Wallich Mscr. no. 269 ; Zygote no. 276).
- C. granulorum** Bruehl et Biswas in MAS 8 : 296, t. 10, f. 96 a-c, 1926. Manipur.
- C. hanneri** Reinsch. f. **acuta** Turner in KSV 25 : 53, t. 8, f. 15, 1892. Bengal.
- C. hansgirgianum** Schmidle in Allg. bot. Z. 6 : 18, t. 8, f. 15, 1900. Bombay.
- C. hexagonoides** Bruehl et Biswas in MAS 8 : 289, t. 8, f. 72 a-c, 1926. Manipur.
- C. homalodermum** Nordst. f. **typica** Turner in KSV 25 : 53, t. 8, f. 62, 1892. Bengal.
- C. homalodermum** Nordst. var. **achondrum** Turner in KSV 25 : 53, t. 8, f. 10, 1892. Bengal.
- C. impressulum** Elfving f. **minor** Turner in KSV 25 : 66, t. 9, f. 42, 1892. Bengal.
- C. incavatum** Turner in KSV 25 : 58, t. 8, f. 47, 1892. Bengal.
- C. incavatum** Turner var. **planum** Turner in KSV 25 : 58, t. 22, f. 7, 1892. Khasia Hills.
- C. indicum** Turner in KSV 25 : 67, t. 9, f. 50, 1892. Bengal (Wallich Mscr. no. 279).
- C. innotum** Turner in KSV 25 : 60, t. 8, f. 58, 1892. Bengal.
- C. insigne** Turner in KSV 25 : 58, t. 8, f. 46, 1892. Bengal.
- C. laciniatum** Turner in KSV 25 : 55, t. 8, f. 26, 1892. Bengal.
- C. lacustre** Bruehl et Biswas in MAS 8 : 287, t. 9, f. 93 a-c, 1926. Manipur.
- C. laeve** Rabenh. f. **minor** Turner in KSV 25 : 48, t. 7, f. 22 ; t. 8, f. 21, 1892. Bengal.

- Cosmarium loktakense** Bruehl et Biswas in MAS 8 : 297, t. 11, f. 108 a-c, 1926.
Loktak Lake, Manipur.
- C. longicollum** Bruehl et Biswas in MAS 8 : 296, t. 11, f. 109 a-e, 1926.
Manipur.
- C. macrosporum** Turner in KSV 25 : 69, t. 10, f. 11, 1892.
Bengal.
- C. maculatum** Turner in KSV 25 : 49, t. 7, f. 31, 1892.
Bengal.
- C. maharastrense** Kamat in H 22 : 249, t. 10, f. 54, 1963.
Kolhapur. Type *K. 130*.
- C. manipurens** Bruehl et Biswas in MAS 8 : 295, t. 10, f. 97 a-c, 98, 1926.
Manipur.
- C. melanosporum** (?) Archer f. *orientalis* Turner in KSV 25 : 58, t. 8, f. 43, 1892.
Bengal.
- C. meneghinii** Breb. f. *tricrenata* Turner in KSV 25 : 71, t. 8, f. 25, 1892.
Bengal.
- C. meneghinii** Breb. var. *loktakense* Bruehl et Biswas in MAS 8 : 292, t. 8, f. 68 a, c, 1926.
Manipur.
- C. microsphinctum** (?) Nordst. f. *parvula* Turner in KSV 25 : 52, 1892.
Bengal ; Central India.
- C. noduliferum** Turner in KSV 25 : 50, t. 7, f. 27, 1892.
Bengal.
- C. mordax** Turner in KSV 25 : 50, t. 7, f. 29 ; t. 9, f. 7, 1892.
Bengal.
- C. munitum** Turner in KSV 25 : 56, t. 8, f. 30, 1892.
Bengal.
- C. nanum** Bruehl et Biswas in MAS 8 : 286, t. 16, f. 163 a-c, 1926.
Manipur.
- C. nigrocirratum** Turner in KSV 25 : t. 8, f. 34, 1892.
Bengal.
- C. norimbergense** Reinsch. var. *microscopicum* Turner in KSV 25 : 64, t. 9, f. 28, 1892.
Bengal.
- C. obsoletum** (Hantzsch.) Reinsch. f. *major* Turner in KSV 25 : 60, t. 8, f. 63, 1892.
Bengal.
- C. occidentale** Turner var. *ornatum* Turner in KSV 25 : 68, t. 10, f. 5, 1892.
Bengal.
- C. octagonum** Turner in KSV 25 : 69, t. 10, f. 12, 1892.
Bengal (Wallich Mscr. no. 202).
- C. octogibbosum** (Reinsch.) Turner var. *indica* Turner in KSV 25 : 52, t. 8, f. 8, 1892.
Bengal.
- C. octogibbosum** (Reinsch.) Turner var. *indica* Turner f. *minor* Turner in KSV 25 : 53, t. 10, f. 14, 1892.
North India.
- C. orientale** Turner in KSV 25 : 65, t. 9, f. 35, 1892.
Bengal.
- C. pachydermum** Lund var. *indicum* Iyengar et Vimala Bai in IBS 20 : 86, f. 36-39, 1941.
Kodaikanal.
- C. palustre** Turner in KSV 25 : 60, 1892.
Bengal.
- C. palustre** Turner var. *circulare* Turner in KSV 25 : 60, 1892.
Bengal.
- C. palustre** Turner var. *circulare* Turner f. *major* Turner in KSV 25 : 61, t. 8, f. 65, 1892.
Bengal (Wallich Mscr. nos. 170, 281).
- C. palustre** Turner var. *circulare* Turner f. *minor* Turner in KSV 25 : 61, t. 9, f. 29, 1892.
Bengal (Wallich Mscr. nos. 170, 281).
- C. palustre** Turner var. *ovala* Turner in KSV 25 : 60, 61, t. 9, f. 1, 1892.
Bengal.
- C. panduriforme** Turner in KSV 25 : 49, t. 9, f. 3, 1892.
Bengal (Wallich Mscr. no. 143).
- C. paradoxum** Turner in KSV 25 : 64, t. 9, f. 22, 1892.
Bengal.
- C. peregrinum** Turner in KSV 25 : 60, t. 8, f. 56, 1892.
Bengal.
- C. perincisum** Gronbl. var. *ahmedabadense* Kamat in H 20 : 276, t. 4, f. 18, 1962.
Ahmedabad. Type no. *G. 820*.
- C. perizosum** Turner in KSV 25 : 62, t. 9, f. 12, 1892.
Bengal.
- C. perizosum** Turner var. *cornatum* Turner in KSV 25 : 62, t. 9, f. 13, 1892.
Bengal.
- C. perpastrum** Turner in KSV 25 : 48, t. 7, f. 23, 1892.
Bengal (Wallich Mscr. no. 141).
- C. phascolus** Breb. f. *trinotata* Schmidle in Hedwigia 39 : 171 t. 8, f. 16, 1900.
Mahabuleshwar.

- Cosmarium porticum** Archer f. **attenuata** Turner in KSV 25 : 59, t. 8, f. 51, 1892.
Bengal.
- C. praeceusum** Turner in KSV 25 : 61, t. 9, f. 2, 1892.
Bengal.
- C. prominens** Turner in KSV 25 : 70, t. 10, f. 7, 1892.
Bengal (Wallich Mscr. no. 154).
- C. protractulum** Bruehl et Biswas in MAS 8 : 300, t. 10, f. 101, 1926.
Manipur.
- C. proteiforme** Turner in KSV 25 : 64, 1892.
Bengal (Wallich Mscr. no. 138).
- C. proteiforme** Turner var. **wallichii** Turner in KSV 25 : 64, t. 9, f. 26, 1892.
Bengal.
- C. pseudocoronatum** Turner in KSV 25 : 58, t. 8, f. 45, 1892.
Bengal.
- C. pseudohectagonoides** Bruehl et Biswas in MAS 8 : 289, t. 8, f. 71 a-c, 1926.
Manipur.
- C. pseudophaseolus** Bruehl et Biswas in MAS 8 : 288, t. 8, f. 66 a-c, 1926.
Manipur.
- C. pseudoprotuberance** Kirchner f. **typica** Turner in KSV 25 : 59, t. 10, f. 6, 1892.
Titaghur (Wallich).
- C. ptilotum** Turner in KSV 25 : 62, t. 9, f. 17, 1892.
North India.
- C. pulchellum** Turner in KSV 25 : 66, t. 9, f. 46, 1892.
Bengal.
- C. pulcherrimum** Nordst. var. **typica** Turner in KSV 25 : 73, 1892.
East Bengal (E. Pakistan).
- C. punctulatum** Breb. var. **depressum** Turner in KSV 25 : 54, t. 8, f. 16, 1892.
Bengal.
- C. punctulatum** Breb. var. **klebsianum** Turner in KSV 25 : 54, t. 7, f. 36, 1892.
Bengal.
- C. pusillum** Breb. var. **retusum** Turner in KSV 25 : 71, t. 10, f. 25, 1892.
Bengal.
- C. putale** Turner in KSV 25 : 71, t. 8, f. 31, 1892.
Bengal.
- C. quadrans** Turner in KSV 25 : 52, t. 8, f. 6, 1892.
Bengal.
- C. quadrilaterum** Bruehl et Biswas in MAS 8 : 298, t. 13, f. 111 a-c ; f. 143, 1926.
Manipur.
- C. raneegungense** Turner in KSV 25 : 65, t. 10, f. 13, 1892.
Bengal (Wallich Mscr. no. 131).
- C. rectosporum** Turner in KSV 25 : 69, t. 10, f. 16, 1892.
Bengal (Wallich Mscr. no. 164).
- C. regnellii** Wille f. **evolutae** Turner in KSV 25 : 49, 1892.
Bengal.
- C. regnellii** Wille var. **major** Turner in KSV 25 : 49, 1892.
Bengal (Wallich Mscr. no. 153).
- C. regnellii** Wille var. **minor** Turner in KSV 25 : 49, 1892.
Bengal (Wallich Mscr. no. 153).
- C. rotundum** Turner in KSV 25 : 58, t. 8, f. 48, 1892.
Bengal.
- C. rugosum** Turner in KSV 25 : 61, t. 8, f. 67, 1892.
Bengal.
- C. scabrolatum** Turner in KSV 25 : 59, t. 8, f. 50, 1892.
Bengal.
- C. scabrum** Turner in KSV 25 : 65, t. 9, f. 32, 1892.
Bengal.
- C. scenedesmum** Delp. var. **punctatum** Turner in KSV 25 : 60, t. 8, f. 61, 1892.
Bengal.
- C. scissum** Bruehl et Biswas in MAS 8 : 297, t. 10, f. 100 a, b, 1926.
Manipur.
- C. scutellum** Turner in KSV 25 : 66, t. 9, f. 38, 1892.
Bengal (Wallich Mscr. no. 133).
- C. serratum** Turner in KSV 25 : 47, t. 19, f. 6, 1892.
Bengal.
- C. sexangulare** Lund var. **bengalense** Turner in KSV 25 : 64, t. 9, f. 30, 1892.
Bengal.
- C. sexlaterum** Bruehl et Biswas in MAS 8 : 299, t. 8, f. 79 a-c ; f. 81 a-c, 1926.
Manipur.
- C. sigillatum** Turner in KSV 25 : 72, t. 23, f. 11, 1892.
East Bengal (E. Pakistan).
- C. sikhimense** Turner in KSV 25 : 61, t. 9, f. 4, 36, 1892.
North India.
- C. sparsum** Turner in KSV 25 : 69, t. 19, f. 13, 16, 1892.
Bengal.
- C. spiculiferum** Turner in KSV 25 : 67, t. 9, f. 49, 1892.
Bengal.

- Cosmarium staurochondrum** Lemaire var. **orientale** Turner in KSV 25 : 64, t. 9, f. 23, 1892.
Bengal (Wallich Mscr. no. 129).
- C. strabo** Bruehl et Biswas in MAS 8 : 289, t. 9, f. 85 a-c, 1926.
Manipur.
- C. striatum** Boldt. f. **indica** Turner in KSV 25 : 62, t. 9, f. 6, 1892.
Bengal.
- C. striatum** Boldt. var. **hexalobum** Schmidle in Hedwigia 39 : 171, t. 8, f. 22, 1900.
Mahabuleswar.
- C. subcirculare** Turner in KSV 25 : 52, t. 8, f. 3, 1892.
Bengal.
- C. subcirculare** Turner var. **rugosum** Turner in KSV 25 : 52, t. 8, f. 7, 1892.
Bengal ; Central India.
- C. subprotractum** Bruehl et Biswas in MAS 8 : 299, t. 8, f. 78 a-c, 1926.
Manipur.
- C. subquasillus** Boldt. var. **tropicum** Turner in KSV 25 : 63, t. 9, f. 15, 1892.
Central India.
- C. subretusiforme** West, W. et G.S. var. **majus** Kamat in H 22 : 250, t. 10, f. 55, 1963.
Kolhapur. Type *K. 611*.
- C. supergranatum** Turner in KSV 25 : 57, 1892.
Bengal.
- C. supergranatum** Turner f. **media** Turner in KSV 25 : 57, t. 8, f. 38, 1892.
Bengal.
- C. supergranatum** Turner f. **minor** Turner in KSV 25 : 57, t. 8, f. 37, 1892.
Bengal.
- C. supergranatum** Turner f. **pulchrum** Turner in KSV 25 : 57 t. 9, f. 24, 1892.
Bengal (Wallich Mscr. no. 135).
- C. taxichondrum** Lund var. **nudum** Turner in KSV 25 : 60, t. 8, f. 64, 1892.
Bengal.
- C. tenerum** Turner in KSV 25 : 55, t. 8, f. 27, 1892.
Bengal.
- C. tetrophthalmum** Kuetz. f. **indicae** Turner in KSV 25 : 67, t. 9, f. 47, 1892.
Sikkim (Wallich Mscr. no. 150).
- C. thangaicum** Bruehl et Biswas in MAS 8 : 297, t. 11, f. 106 a-c, 1926.
Manipur.
- C. tittaghurens** Turner in KSV 25 : 63, t. 9, f. 19, 1892.
Tittaghur (Wallich Mscr. no. 165).
- C. triceps** Turner in KSV 25 : 59, t. 8, f. 52, 1892.
Bengal.
- C. trinodiferum** Turner in KSV 25 : 51, t. 7, f. 37, 1892.
Bengal, North India.
- C. tumescens** Turner in KSV 25 : 49, t. 7, f. 32, 1892.
Bengal.
- C. umbonatum** Turner in KSV 25 : 70, t. 10, f. 10, 1892.
Bengal.
- C. vittatum** Turner in KSV 25 : 53, t. 8, f. 9, 1892.
Bengal.
- C. willsianum** Turner in KSV 25 : 53, t. 8, f. 19, 1892.
Bengal.
- Desmidium baileyi** (Ralfs.) Nordst. f. **indicum** Turner in KSV 25 : 149, t. 19, f. 5, 1892.
Nakoorhyall Tall, Bengal.
- D. baileyi** (Ralfs.) Nordst. f. **major** Turner in KSV 25 : 148, t. 19, f. 11, 1892.
Bengal.
- D. baileyi** (Ralfs.) Nordst. f. **minor** Turner in KSV 25 : 148, 1892.
Bengal.
- D. baileyi** (Ralfs.) Nordst. f. **wallichii** Turner in KSV 25 : 149, t. 19, f. 4, 1892.
Bengal.
- D. bengalicum** Turner in KSV 25 : 147, 1892.
Bengal ; Khasia (Wallich Mscr. no. 73).
- D. swartzii** Agardh var. **minor** Turner in KSV 25 : 145, 1892.
Bengal (Wallich Mscr. no. 56).
- Docidium abruptum** Turner in KSV 25 : 32, t. 4, f. 11, 1892.
Bengal.
- D. aequale** Turner in KSV 25 : 28, t. 3, f. 11, 1892.
Bengal.
- D. aequale** Turner f. **monstrosa** Turner in KSV 25 : 28, t. 2, f. 10, 1892.
Bengal.
- D. baculiforme** Turner in KSV 25 : 33, t. 4, f. 15, 1892.
North India (Wallich Mscr. no. 106 a).
- D. bengalense** Turner in KSV 25 : 30, t. 3, f. 3, 1892.
Bengal.
- D. conjunctum** Turner in KSV 25 : 32, t. 4, f. 6, 1892.
Bengal.
- D. crispulum** Turner in KSV 25 : 34, t. 4, f. 14, 1892.
Bengal.

- Dodidium cristatum* Turner. See under **Pleurotaenium cristatum** (Turner) Borge.
- D. cylindricum** Turner in KSV 25 : 28, t. 2, f. 11, 1892.
Bengal.
- D. egregium** Turner in KSV 25 : 34, t. 2, f. 14, 15, 1892.
Bengal.
- D. ehrenbergii** Ralfs. var. **tumidum** Turner in KSV 25 : 31, t. 4, f. 4, 1892.
Bengal.
- D. elatum** Turner in KSV 25 : 27, t. 2, f. 16, 1892.
Bengal (Wallich) ; East India (Lagerheim).
- D. eugeneum** Turner in KSV 25 : 30, t. 3, f. 3, 1892.
Bengal.
- D. excelsum** Turner in KSV 25 : 31, t. 4, f. 2, 1892.
Bengal.
- D. gloriosum** Turner in KSV 25 : 30, t. 3, f. 5, 1892.
Bengal.
- D. indicum** Grunow f. **major** Turner in KSV 25 : 32, t. 4, f. 8, 1892.
Bengal (Wallich Mscr. no. 103) ; Himalayas.
- D. inerme** Turner in KSV 25 : 37, t. 4, f. 2 b, 1892.
Bengal.
- D. inornatum** Turner in KSV 25 : 36, t. 4, f. 20, 1892.
Bengal.
- D. irregulare* Turner. See under **Pleurotaenium irregulare** (Turner) Carter.
- D. latum** Turner in KSV 25 : 36, t. 7, f. 1, 1892.
Bengal.
- D. longiusculum** Turner in KSV 25 : 29, t. 2, f. 19, 1892.
Bengal.
- D. maculatum* Turner. See under **Pleurotaenium maculatum** (Turner) Carter.
- D. mammillatum** Turner in KSV 25 : 27, t. 2, f. 5, 1892.
Bengal.
- D. oedomatum** Turner in KSV 25 : 34, t. 2, f. 7, 1892.
Near Nilgiri Hills.
- D. orientale* Turner. See under **Pleurotaenium cristatum** (Turner) Borge f. **orientalis** (Turner) West, W. et G.S.
- D. parvum** Turner in KSV 25 : 36, t. 4, f. 18, 1892.
Bengal.
- D. periaeve** Turner in KSV 25 : 27, t. 2, f. 6, 1892.
Bengal.
- D. polymorphum** Turner in KSV 25 : 29, t. 2, f. 13, 17 ; t. 4, f. 13, 1892.
Bengal.
- D. pristidae** Hobson in Quart. J. Micr. Sci. 3 : 169, 1863.
Bombay.
- D. pyriforme** Turner in KSV 25 : 37, t. 7, f. 3, 1892.
Bengal.
- D. quantillum** Turner in KSV 25 : 28, t. 2, f. 9 ; t. 4, f. 12, 1892.
Bengal.
- D. regale** Turner in KSV 25 : 30, t. 3, f. 6, 1892.
Bengal.
- D. rhomphaeum** Turner in KSV 25 : 29, t. 2, f. 18, 1892.
Bengal.
- D. robustum** Turner in KSV 25 : 27, t. 2, f. 8, 1892.
Bengal.
- D. rotundatum** Turner in KSV 25 : 37, t. 7, f. 2 a, 1892.
North India ; Bengal.
- D. salebrosum** Turner in KSV 25 : 34, t. 2, f. 12, 1892.
Bengal.
- D. sceptrum** Roy f. **punctata** Turner in KSV 25 : 31, t. 3, f. 10, 1892.
Near Nilgiri Hills, South India.
- D. setigerum** Turner in KSV 25 : 33, t. 4, f. 5, 1892.
Bengal (Wallich Mscr. no. 118).
- D. sonthalianum** Turner in KSV 25 : 33, t. 3, f. 8, 1892.
Bengal (Wallich Mscr. no. 120).
- D. subcoronulatum** Turner in KSV 25 : 29, t. 3, f. 1, 1892.
Bengal.
- D. truncatulum** Turner in KSV 25 : 32, t. 4, f. 10, 1892.
Bengal.
- D. wallichianum** Turner in KSV 25 : 30, t. 3, f. 2, 1892.
Bengal.
- Dysphinctium asperum** Turner in KSV 25 : 41, t. 7, f. 16, 1892.
Bengal.
- D. basidecorum** Turner in KSV 25 : 42, t. 8, f. 42, 1892.
Bengal.
- D. cohnii** (Kirchner) Turner var. **regulare** Turner in KSV 25 : 41, t. 7, f. 39, 1892.
North India.
- D. conicum** Turner in KSV 25 : 43, t. 1, f. 26, 1892.
Raneegunge (Wallich Mscr. no. 96).

- Dysphinctium connatum** (Breb.) Reinsch. f. *laeve* Turner in KSV 25 : 41, t. 7, f. 6, 1892.
Bengal.
- D. dubium** Turner in KSV 25 : 40, t. 1, f. 1, 2, 1892.
Bengal.
- D. exile** Turner in KSV 25 : 40, t. 1, f. 21, 1892.
Searsola (Wallich Mscr. no. 98).
- D. heterodoxum** Turner in KSV 25 : 41, t. 7, f. 15, 1892.
Bengal.
- D. heterodoxum** Turner var. *ornatum* Turner in KSV 25 : 41, t. 7, f. 14, 1892.
Bengal.
- D. inferum** Turner in KSV 25 : 40, t. 1, f. 21, 1892.
Bengal.
- D. lagerheimianum** Turner in KSV 25 : 43, t. 22, f. 6 a, b, 1892.
Khasia.
- D. monile** Turner in KSV 25 : 41, t. 7, f. 13, 1892.
Bengal (Wallich Mscr. no. 97).
- D. paxillosum** Turner in KSV 25 : 43, t. 22, f. 5 a, b, 1892.
Khasia.
- D. qualum** Turner in KSV 25 : 42, t. 10, f. 9, 1892.
Bengal (Wallich Mscr. no. 158).
- D. retusum** Turner in KSV 25 : 41, t. 7, f. 10, 1892.
Bengal.
- D. subconnatum** Turner in KSV 25 : 42, 1892.
Bengal (Wallich Mscr. no. 185).
- D. subturgidum** Turner in KSV 25 : 40, t. 7, f. 4, 1892.
Bengal.
- D. supraconnatum** Turner in KSV 25 : 42, t. 9, f. 5, 1892.
Bengal.
- D. willci** Turner in KSV 25 : 42, t. 8, f. 40, 1892.
North India ; Bengal.
- Euastridium staurastroides** Carter in BSI 9 : 287, t. 1, f. 26, 1926.
Sadiya.
- Euastrum acanthophorum** Turner in KSV 25 : 82, t. 10, f. 53, 1892.
Bengal.
- E. acanthopleurum** Turner in KSV 25 : 82, t. 10, f. 46, 1892.
Bengal.
- E. ampullaceum** Ralfs. var. *incavatum* Turner in KSV 25 : 78, t. 10, f. 59, 1892.
North India.
- E. anceps** Wallich Mscr. no. 189.
[*Cosmarium dulciferum* Turner].
Mungalpore (G. C. Wallich).
- E. annulatum** Turner in KSV 25 : 80, t. 10, f. 36, 52, 1892.
Bengal (Wallich Mscr. no. 199).
- E. binale** (Turp.) Ralfs. var. *unicorno* Turner in KSV 25 : 81, t. 10, f. 58, 1892.
Bengal (Wallich Mscr. no. 201).
- E. candianum** Delp. var. *munitum* Turner in KSV 25 : 82, t. 10, f. 40, 1892.
Bengal.
- E. carduetum** Turner in KSV 25 : 86, t. 10, f. 60, 1892.
Bengal.
- E. clavatum** Turner in KSV 25 : 85, t. 11, f. 18, 1892.
Bengal.
- E. clepsydra** Wallich in AMH 3 ser. 5 : 284, t. 14, f. 19-21, 1860.
Raneegunge.
- E. commissurale** Breb. var. *capitatum* Turner in KSV 25 : 75, t. 11, f. 11 a, b, 1892.
Bengal.
- E. commissurale** Breb. var. *wallichii* Turner in KSV 25 : 75, t. 11, f. 10 a-c, 1892.
Bengal.
- E. coralloides** Josh. var. *trigibberum* Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 6, 1888.
Bengal.
- E. cruciforme** Wallich ex Turner in KSV 25 : 76, t. 11, f. 13, 1892.
Bengal.
- E. cymatium** Turner in KSV 25 : 80, t. 10, f. 49, 1892.
Bengal.
- E. declive** Roy var. *ornatum* Turner in KSV 25 : 83, 1892.
Bengal.
- E. dentiferum** Turner in KSV 25 : 80, t. 10, f. 10, 38, 1892.
Bengal.
- E. didelta** Ralfs. var. *bengalicum* Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 6, t. 1, f. 3, 1888.
Bengal.
- E. divaricatum** Lund var. *involutum* Turner in KSV 25 : 84, t. 11, f. 25, 1892.
Bengal.
- E. elegans** (Breb.) Kuetz. var. *loktakense* Bruehl et Biswas in MAS 8 : 278, t. 6, f. 50 a-c, 1926.
Manipur.

- Euastrum elegans* Breb. var. *nudum* Turner in KSV 25 : 84, t. 11, f. 14, 1892.
Bengal.
- E. elegans* Breb. var. *planum* Turner in KSV 25 : 84, t. 11, f. 16, 1892.
North India.
- E. erosum* Lund f. *attenuata* Turner in KSV 25 : 78, t. 10, f. 21, 18, 1892.
Bengal.
- E. erosum* Lund f. *undata* Turner in KSV 25 : 78, t. 10, f. 23, 1892.
North India.
- E. gangense* Turner in KSV 25 : 87, t. 11, f. 20, 1892.
Bengal.
- E. hansgirgii* Schmidle in Allg. bot. Z. 6 : 34, f. 5, 8, 1900.
Bombay.
- E. incurvatum* Turner in KSV 25 : 83, t. 11, f. 1, 1892.
Bengal (Wallich Mscr. nos. 192, 207).
- E. levatum* Turner in KSV 25 : 80, t. 10, f. 48, 1892.
Bengal.
- E. loktakense* Bruehl et Biswas in MAS 8 : 278, t. 6, f. 50 a-c, 1926.
Manipur.
- E. longicolle* Nordst. var. *himalayense* Turner in KSV 25 : 87, t. 23, f. 9, 1892.
Himalayas.
- E. longifrons* Turner in KSV 25 : 84, 1892.
Bengal.
- E. longifrons* Turner var. *major* Turner in KSV 25 : 85, t. 11, f. 3 a, 1892.
Bengal.
- E. longifrons* Turner var. *minor* Turner in KSV 25 : 85, t. 11, f. 3 a, b, 1892.
Bengal.
- E. micranthum* Turner in KSV 25 : 82, t. 10, f. 33, 1892.
Bengal.
- E. mirificum* Schmidle in Allg. bot. Z. 6 : 172, 1900
Bombay.
- E. nobile* Turner in KSV 25 : 76, t. 10, f. 2, 1892.
Bengal.
- E. nordstedtianum* Wolle var. *elegans* Turner in KSV 25 : 85, t. 11, f. 17, 1892.
Bengal.
- E. nummularium* Delp. var. *planum* Turner in KSV 25 : 86, t. 11, f. 15, 1892.
Bengal.
- E. obesum* Joshua f. *glabra* Turner in KSV 25 : 78, t. 10, f. 61, 1892.
Bengal.
- E. orbiculare* Wallich in AMH 3 ser. 5 : 282, t. 14, f. 8-11, 1860.
Raneegunge.
- E. paradoxum* Turner in KSV 25 : 83, t. 11, f. 4, 1892.
Bengal (Wallich Mscr. no. 205).
- E. platycerum* Reinsch. var. *pulchrum* Turner in KSV 25 : 75, t. 10, f. 44, 1892.
Bengal.
- E. praepandum* Turner in KSV 25 : 83, t. 10, f. 57, 1892.
Bengal (Wallich Mscr. no. 205).
- E. praepandum* Turner var. *euryisthmum* Bruehl et Biswas in MAS 8 : 278, t. 6, f. 48 a-c, 49 ; t. 10, f. 105, 1926.
Manipur.
- E. projectum* Turner in KSV 25 : 83, t. 10, f. 56, 1892.
Bengal (Wallich Mscr. no. 199).
- E. prorum* Turner in KSV 25 : 85, t. 11, f. 23, 1892.
Bengal.
- E. quincunciale* Turner in KSV 25 : 85, t. 11, f. 21, 1892.
Bengal.
- E. quintanum* Turner in KSV 25 : 81, t. 10, f. 42, 1892.
Bengal.
- E. radiatum* Turner in KSV 25 : 83, t. 10, f. 54, 1892.
Bengal.
- E. schizostaurum* Turner in KSV 25 : 76, t. 11, f. 12, 1892.
Bengal.
- E. sculptum* Turner in KSV 25 : 87, t. 8, f. 32, 1892.
Bengal.
- E. simplicius* Turner in KSV 25 : 81, t. 10, f. 31, 1892.
Bengal.
- E. simplicius* Turner f. *minor* Turner in KSV 25 : 81, t. 10, f. 41, 1892.
Bengal.
- E. singulare* Turner in KSV 25 : 79, t. 10, f. 45, 1892.
Bengal.
- E. spicatum* Turner in KSV 25 : 87, t. 10, f. 43, 1892.
Bengal.
- E. spiculatum* Bruehl et Biswas in MAS 8 : 279, t. 6, f. 46, 47, 1926.
Loktak Lake, Manipur.

- Euastrum stigmatosum* Turner in KSV 25 : 85, t. 11, f. 24, 1892.
Bengal.
- E. subintegrum* Nordst. var. *indicum* Turner in KSV 25 : 74, t. 7, f. 17, 1892.
Bengal.
- E. subspinosum* Turner in KSV 25 : 84, 1892.
Bengal.
- E. subspinosum* Turner f. *tumida* Turner in KSV 25 : 84, t. 10, f. 37, 1892.
Bengal.
- E. subspinosum* Turner f. *typica* Turner in KSV 25 : 84, t. 10, f. 17, 1892.
Bengal.
- E. substellatum* Nordst. f. *bengalensis* Turner in KSV 25 : 82, t. 10, f. 32, 1892.
Bengal.
- E. substellatum* Nordst. f. *typica* Turner in KSV 25 : 82, 1892.
Khasia.
- E. turgidum* Wallich in AMH 3 ser. 5 : 283, t. 14, f. 17, 18, 1860.
Raneegunge.
- E. turgidum* Wallich var. *grunowii* Turner f. *bitumida* Turner in KSV 25 : 75, 1892.
Bengal.
- E. verrucosum* Ehrenb. var. *simplex* Joshua f. *tumescens* Turner in KSV 25 : 74, t. 11, f. 9, 1892.
North India.
- E. verrucosum* Ehrenb. var. *typicum* Turner in KSV 25 : 74, t. 74, 1892.
Bengal.
- E. verrucosum* Ehrenb. var. *wallichianum* Turner in KSV 25 : 74, t. 9, f. 9, 1892. *E. verrucosum* Ehrenb. var. Wallich in AMH 3 ser. 5 : 282, t. 14, f. 5-7, 1860.
Lower Bengal (Wallich Mscr. no. 197).
- E. webbianum* Turner in KSV 25 : 86, 1892.
Bengal.
- E. webbianum* Turner f. *minor* Turner in KSV 25 : 86, t. 12, f. 4, 1892.
North India.
- Hyalotheca indica* Turner in KSV 25 : 152, t. 22, f. 17, 1892.
Bengal (Wallich Mscr. no. 51).
- H. indica* Turner f. *major* Turner in KSV 25 : 152, t. 19, f. 18, 1892.
Bengal.
- H. indica* Turner f. *minor* Turner in KSV 25 : 152, 1892.
Bengal.
- H. minima* Turner in KSV 25 : 153, t. 22, f. 16, 1892.
Bengal.
- Leuronema nitens* Wallich in AMH 3 ser. 5 : 193, t. 7, f. 10, 1860.
[*Sphaerzosma nitens* Wallich].
Raneegunge.
- Micrasterias alata* Wallich in AMH 5 : 279, t. 13, f. 11, 1860.
Raneegunge.
- M. alata* Wallich f. *depressa* Turner in KSV 25 : 93, t. 6, f. 2, 1892.
Baboosole, Bengal.
- M. alata* Wallich f. *typica* Turner in KSV 25 : 93, t. 6, f. 3, 5, 1892.
Bengal.
- M. ampullacea* Mask. var. *bengalica* Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 5, t. 1, f. 2, 1888.
[*Micrasterias mahabuleshwarsensis* Hobson f. *bengalica* (Lagerheim) Carter].
Bengal.
- M. anomala* Turner var. *irregularis* Turner in KSV 25 : 97, t. 22, f. 1, 1892.
Khasia.
- M. apiculata* (Ehrenb.) Menegh. var. *lacerata* Turner in KSV 25 : 94, t. 22, f. 3, 1892.
Khasia.
- M. cruciata* Wallich in AMH 3 ser. 5 : 281, t. 13, f. 12, 1860.
Raneegunge.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *alata* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *compressa* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *gracilis* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *lata* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *minor* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *robusta* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.
- M. crux-melitensis* (Ehrenb.) Ralfs. f. *typica* Turner in KSV 25 : 92, t. 5, f. 4, 1892.
Bengal.

- Micrasterias excelsior* Wallich ex Turner in KSV 25 : 95, t. 5, f. 2, 1892.
[*Micrasterias mahabuleshwariensis* Hobson var. *excelsa* (Wallich) Turner].
Raneegunge (Wallich Mscr. no. 81).
- M. foliacea* Bailey f. *elongata* Turner in KSV 25 : 94, 1892.
Bengal (Wallich) ; Khasia (Lagerheim).
- M. foliacea* Bailey f. *typica* Turner in KSV 25 : 94, t. 6, f. 12-14, 1892.
Bengal.
- M. furcata* Ralfs. f. *expansa* Turner in KSV 25 : 93, t. 5, f. 5, 1892.
North India.
- M. furcata* Ralfs. f. *gracillima* Turner in KSV 25 : 93, 1892.
Bengal.
- M. incisa* (Breb.) Ralfs. f. *aculeata* Turner in KSV 25 : 89, 1892.
Raneegunge (Wallich Mscr. no. 86).
- M. incisa* (Breb.) Ralfs. f. *typica* Turner in KSV 25 : 89, t. 6, f. 8, 10, 1892.
Bengal.
- M. incisa* (Breb.) Ralfs. f. *wallichiana* Turner in KSV 25 : 89, 1892.
Bengal (Wallich Mscr. no. 90).
- M. khasia* Turner in KSV 25 : 97, t. 23, f. 2, 1892.
Khasia (Lagerheim).
- M. lux* Joshua var. *wallichii* Turner in KSV 25 : 91, t. 22, f. 2, 1892.
Khasia (Lagerheim).
- M. mahabuleshwariensis* Hobson in Quart. J. Micr. Sci. 3 : 169, 1863.
Mahabuleswar.
- M. mahabuleshwariensis* Hobson var. *excelsior* (Wallich) Turner in KSV 25 : 95, t. 5, f. 2, 1892.
Raneegunge (Wallich).
- M. mahabuleshwariensis* Hobson var. *surculifera* Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 5; t. 1, f. 1, 1888.
Bengal.
- M. mahabuleshwariensis* Hobson var. *wallichii* (Gruen.) West, W. et G.S. f. *bengalica* (Lagerheim) Carter in BSI 9 : 288, 1926.
Sadiya.
- M. oscitans* Ralfs. f. *mucronata* Turner in KSV 25 : 88, 1892.
Bengal ; Sikkim.
- M. pinnatifida* (Kuetz.) Ralfs. f. *expansa* Turner in KSV 25 : 89, 1892.
Bengal.
- M. pinnatifida* (Kuetz.) Ralfs. f. *quadrata* Turner in KSV 25 : 89, 1892.
Bengal.
- M. pinnatifida* (Kuetz.) Ralfs. f. *typica* Turner in KSV 25 : 88, 1892.
Bengal (Wallich Mscr. nos. 87, 88).
- M. pusilla* Wallich in AMH 3 ser. 5 : 281, t. 13, f. 13, 1860.
[*Staurophanum pusillum* (Wallich) Turner].
Raneegunge.
- M. radians* Turner in KSV 25 : 91, 1892.
Bengal.
- M. radians* Turner f. *dentata* Turner in KSV 25 : 92, t. 5, f. 6 b, 1892.
Bengal (Wallich Mscr. no. 84).
- M. radians* Turner f. *typica* Turner in KSV 25 : 92, t. 5, f. 6 a, 1892.
Bengal.
- M. stauromorpha* Turner in KSV 25 : 90, t. 6, f. 16-18, 1892.
Bengal.
- M. wallichii* Gruenow var. *major* Turner in KSV 25 : 96, 1892.
Hyderabad.
- Onychonema laeve* Nordst. f. *minus* Turner in KSV 25 : 139, 1892.
India.
- O. nordstedtiana* Turner in J. Roy. Micr. Soc. 2 ser. 5 : 934, 1885.
India.
- O. nordstedtiana* Turner f. *compressum* Turner in KSV 25 : 139, t. 17, f. 17 c, 1892.
Bengal.
- O. uncinatum* Wallich in AMH 3 ser. 3 : 194-195, t. 8, f. 7-11, 1860.
Raneegunge.
- O. uncinatum* Wallich f. *tenuis* Turner in KSV 25 : 138, t. 17, f. 14 a, b, 1892.
Bengal.
- Oocardium stratum* Nag. var. *minor* Carter in BSI 9 : 295, t. 2, f. 21-24, 1926.
Abor Hills.
- Penium bisporum* Turner in KSV 25 : 17, t. 1, f. 10, 1892.
Bengal (Wallich Mscr. no. 100).
- P. closterioides* Ralfs. var. *gracilis* Bruehl et Biswas in CU 4 : 14, t. 5, f. 33, 1922.
Faridpur.
- P. digitum* (Ehrenb.) Breb. f. *rectum* Turner in KSV 25 : 18, t. 1, f. 27, 1892.
Bengal.

- Penium lanceolatum* Turner in KSV 25 : 17, 1892.
Raneegunge.
- P. navigium* Turner in KSV 25 : 17, t. 1, f. 9, 1892.
Bengal.
- P. oblongum* De Bary f. *major* Turner in KSV 25 : 18, t. 1, f. 22, 1892.
Bengal.
- P. polymorphum* Perty f. *obesum* Turner in KSV 25 : 17, t. 7, f. 7, 1892.
Bengal.
- P. rotundum* Turner in KSV 25 : 18, t. 7, f. 12, 1892.
Bengal.
- P. simplex* Turner in KSV 25 : 17, t. 3, f. 9, 1892.
Bengal (Wallich Mscr. no. 119).
- P. sublamellosum* Turner in KSV 25 : 17, t. 1, f. 8, 1892.
Raneegunge (Wallich Mscr. & fig. no. 99).
- Pleurotaenium constrictum* (Bail.) Lagerheim, subsp. *coroniferum* Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 11, t. 1, f. 9, 1888.
Bengal.
- P. cristatum* (Turner) Borge in Bih. Svensk. Vetensk. Akad. Handl. 24, f. 15, 1899: *Docidium cristatum* Turner in KSV 25 : 32, t. 4, f. 7, 1892.
Bengal.
- P. cristatum* (Turner) Borge f. *orientalis* (Turner) West, W. et G.S. in Ann. R. bot. Gdn. Calcutta 6 : 195, 1907. *Docidium orientale* Turner in KSV 25 : 31, t. 4, f. 1, 1892.
Bengal.
- P. ehrenbergii* (Breb.) De Bary var. *crassa* Venkataraman in BNH 54 : 915, 1957.
Benaras.
- P. firmum* West, W. et G.S. var. *cylindricum* Carter in BSI 9 : 285, 1926.
Bengal.
- P. maculatum* (Turner) Carter in BSI 9 : 285, t. 1, f. 25, 1926. *Docidium maculatum* Turner in KSV 25 : 31, t. 4, f. 3, 1892.
Bengal.
- P. irregulare* (Turner) Carter in BSI 9 : 284, 1926. *Docidium irregulare* Turner in KSV 25 : 33, t. 4, f. 9, 1892.
Bengal.
- Sphaerozosma bengalense* Turner in KSV 25 : 141, t. 18, f. 5, 1892.
Bengal (Wallich Mscr. no. 58).
- S. cosmarioides* Wallich ex Turner in KSV 25 : 142, t. 21, f. 1, 1892.
Raneegunge (Wallich Mscr. no. 49 C).
- S. excavatum* Ralfs. f. *major* Turner in KSV 25 : 141, 1892.
Bengal.
- S. excavatum* Ralfs. f. *minor* Turner in KSV 25 : 141, 1892.
Bengal.
- S. exiguum* Turner in KSV 25 : 141, t. 18, f. 16, 1892.
Bengal.
- S. indicum* Turner in KSV 25 : 141, t. 18, f. 2, 1892.
Bengal.
- S. loktakense* Bruehl et Biswas in MAS 8 : 311, t. 15, f. 158 a-d, 1926.
Manipur.
- S. manipurense* Bruehl et Biswas in MAS 8 : 311, t. 14, f. 152 a, c, 1926.
Manipur.
- S. pulchellum* Bailey subsp. *thangaense* Bruehl et Biswas in MAS 8 : 309, t. 14, f. 147 a-e ; f. 148 a-c, 1926.
Manipur.
- S. vertebratum* (Breb.) Ralfs. var. *indicum* Turner in KSV 25 : 140, 1892.
Bengal.
- S. vertebratum* (Breb.) Ralfs. var. *indicum* Turner f. *lata* Turner in KSV 25 : 140, t. 17, f. 18 a, c, d, 1892.
Bengal.
- S. vertebratum* (Breb.) Ralfs. var. *indicum* Turner f. *subacuta* Turner in KSV 25 : 140, t. 17, f. 18 b, 1892.
Bengal.
- S. vinculatum* Turner in KSV 25 : 142, t. 22, f. 18, 1892.
North India.
- Spondylosium fragile* Turner in KSV 25 : 44, t. 18, f. 9, 1892.
Bengal.
- S. incurvatum* Turner in KSV 25 : 45, t. 18, f. 8, 1892.
Bengal.
- S. incurvatum* Turner var. *major* Turner in KSV 25 : 45, 1892.
Bengal.
- S. incurvatum* Turner var. *minor* Turner in KSV 25 : 45, 1892.
Bengal.
- S. nitens* (Wallich) Archer var. *triangulare* Turner in KSV 25 : 44, t. 8, f. 12, 13, 1892.
Bengal (Wallich Mscr. no. 62).

- Spondylosium nitens** (Wallich) Archer var. **triangulare** Turner f. **producta** Turner in KSV 25:45, f. 3, 1892.
Bengal (Wallich Mscr. no. 62).
- S. nitens** (Wallich) Archer var. **triangulare** Turner f. **tensa** (Turner in KSV 25:45, t. 18, f. 3 a, f. 6, 7, 10, 11, 17 a-c, 1892.
Bengal.
- S. nitens** (Wallich) Archer var. **typica** Wallich f. **major** Turner in KSV 25:44, 1892.
Bengal (Wallich Mscr. no. 69).
- S. nitens** (Wallich) Archer var. **typica** Wallich f. **minor** Turner in KSV 25:44, 1892.
Bengal.
- S. mungulporeanum** Turner in KSV 25:46, t. 18, f. 14, 1892.
Bengal.
- S. ovale** Turner in KSV 25:44, t. 18, f. 9, 1892.
Bengal (Wallich Mscr. no. 65).
- S. rectum** Turner in KSV 25:46, t. 18, f. 20, 1892.
Bengal.
- S. reniforme** Turner in KSV 25:46, t. 19, f. 6, 1892.
Bengal.
- Staurastrum aequum** Turner in KSV 25:115, t. 13, f. 26, 1892.
Bengal.
- S. alternans** Breb. var. **minor** Turner in KSV 25:105, t. 16, f. 6, 1892.
Bengal.
- S. ambiguum** Turner in KSV 25:128, t. 16, f. 18, 1892.
Bengal.
- S. angulare** Turner in KSV 25:130, t. 14, f. 17, 1892.
Bengal.
- S. annandaleanum** Bruehl et Biswas in MAS 8:305, t. 12, f. 124, a, b, 1926.
Manipur.
- S. apiculiferum** Turner in KSV 25:127, t. 16, f. 7, 1892.
Bengal.
- S. apiculiferum** Turner f. **minor** Turner in KSV 25:127, 1892.
Bengal (Wallich Mscr. no. 258, f. 2, 4, 235).
- S. arachne** Ralfs. var. **pulneyensis** Iyengar et Vinjala Bai in IBS 20:96, f. 70, 74, 78, 1941.
Kodaikanal.
- S. aristiferum** Ralfs. var. **planum** Turner in KSV 25:106, t. 16, f. 32, 1892.
Bengal.
- S. ascendens** Bruehl et Biswas in MAS 8:307, t. 13, f. 142 a-c, 1926.
Manipur.
- S. baculiferum** Turner in KSV 25:108, t. 16, f. 25, 1892.
Raneegunge (Wallich Mscr. no. 268).
- S. bellum** Turner in KSV 25:128, t. 16, f. 9, 1892.
Bengal.
- S. bengalense** Turner in KSV 25:124, 1892.
Bengal.
- S. bengalense** Turner f. **minor** Turner in KSV 25:124, t. 14, f. 13, 1892.
Bengal (Wallich Mscr. no. 251 a).
- S. bifidum** (Ehrenb.) Breb. var. **tortum** Turner in KSV 25:108, t. 16, f. 37, 1892.
Bengal.
- S. bissetii** Turner in KSV 25:121, t. 16, f. 26, 1892.
Bengal.
- S. bisulcatum** Turner in KSV 25:111, t. 16, f. 41, 1892.
Bengal.
- S. boergescenii** Turner in KSV 25:110, t. 13, f. 23, 1892.
Bengal (Wallich Mscr. no. 280-b).
- S. ceratodes** Turner in KSV 25:132, t. 14, f. 28 a, b, 1892.
Bengal (Wallich Mscr. no. 225).
- S. conicum** Turner in KSV 25:129, t. 16, f. 38, 1892.
Bengal.
- S. contectum** Turner in KSV 25:111, t. 15, f. 20, 1892.
Bengal.
- S. contectum** Turner var. **inevolutum** Turner in KSV 25:111, t. 22, f. 11; t. 16, f. 2, 1892.
Bengal.
- S. coroniferum** Turner in KSV 25:114, t. 13, f. 21, 1892.
Bengal (Wallich Mscr. no. 219, f. 1, a).
- S. crenulatum** (Nag.) Delp. var. **nepalense** Hirano in Kihara's Fauna & Flora of Nepal Himalaya:28, t. 5, f. 4, 1955.*
Nepal Himalayas.
- S. curvatum** Turner in KSV 25:128, t. 16, f. 9, 1892.
Bengal.
- S. curvirostrum** Turner in KSV 25:107, t. 17, f. 12, 1892.
Bengal.
- S. curvirostrum** Turner f. **compressa** Turner in KSV 25:107, 1892.
Raneegunge.
- S. dejectum** Breb. var. **apiculatum** Lund f. **indica** Turner in KSV 25:106, t. 19, f. 14, 1892.
Bengal (Wallich Mscr. no. 267, f. 1, 2).

- Staurostrum depressum** Nag. f. **aperta** Turner in KSV 25 : 104, t. 13, f. 19, 1892.
Bengal (Wallich Mscr. no. 280 A).
- S. dickiei** Ralfs. var. **circulare** Turner in KSV 25 : 105, t. 16, f. 5, 1892.
Bengal.
- S. dickiei** Ralfs. var. **circulare** Turner f. **major** Turner in KSV 25 : 105, t. 16, f. 25, 1892.
Bengal.
- S. dicodon** Bruehl et Biswas in MAS 8 : 308, t. 12, f. 137 a, b, 1926.
Manipur.
- S. dilatatum** Ehrenb. var. **indicum** Turner in KSV 25 : 109, t. 13, f. 17, 1892.
Bengal (Wallich Mscr. no. 278).
- S. ecorne** Turner in KSV 25 : 107, t. 15, f. 17, 1892.
Bengal (Wallich Mscr. no. 264, f. 2).
- S. ensiferum** Turner in KSV 25 : 109, t. 16, f. 22, 1892.
Raneegunge (Wallich Mscr. no. 240, f. 3).
- S. eximium** Turner in KSV 25 : 131, t. 17, f. 6, 1892.
Bengal (Wallich Mscr. no. 239).
- S. festivum** Turner in KSV 25 : 129, t. 16, f. 13, 1892.
Bengal.
- S. fissum** Turner in KSV 25 : 110, t. 14, f. 24, 1892.
Raneegunge (Wallich Mscr. no. 223).
- S. foliatum** Turner in KSV 25 : 115, t. 13, f. 30, 1892.
Bengal.
- S. furcatum** (Ehrenb.) Breb. f. **indica** Turner in KSV 25 : 116, t. 16, f. 6, 1892.
Bengal.
- S. galeatum** Turner in KSV 25 : 122, t. 16, f. 3, 9, 10, 1892.
Bengal (Wallich Mscr. no. 259, 261, f. 3).
- S. gemmulatum** Turner in KSV 25 : 114, t. 13, f. 26, 1892.
Bengal.
- S. gladiosum** (?) Turner var. **longispinum** Turner in KSV 25 : 112, t. 17, f. 2, 1892.
Bengal (Wallich Mscr. no. 180).
- S. hantzschii** Reinsch. var. **cornutum** Turner in KSV 25 : 102, t. 15, f. 23, 1892.
Bengal.
- S. horae** Bruehl et Biswas in MAS 8 : 306, t. 12, f. 130 a-c, 1926.
Manipur.
- S. horridum** Turner in KSV 25 : 118, t. 14, f. 4, 1892.
Bengal.
- S. ignotum** Turner in KSV 25 : 130, t. 16, f. 30, 1892.
Bengal.
- S. indicum** Turner in KSV 25 : 118, t. 14, f. 11, 1892.
Raneegunge, Bengal (Wallich Mscr. no. 282).
- S. ineditum** Turner in KSV 25 : 121, t. 15, f. 27, 1892.
Bengal.
- S. inerme** Turner in KSV 25 : 131, t. 17, f. 8, 1892.
Bengal (Wallich Mscr. no. 265, f. 3).
- S. infestum** Turner in KSV 25 : 120, t. 15, f. 21, 1892.
Bengal.
- S. iotatum** Wolle f. **pentagona** Turner in KSV 25 : 132, t. 22, f. 12, 1892.
North India.
- S. kurzianum** Turner in KSV 25 : 106, t. 16, f. 43, 1892.
Bengal.
- S. laceratum** Turner in KSV 25 : 126, t. 15, f. 11, 1892.
Bengal (Wallich Mscr. no. 260).
- S. lacustre** Smith var. **nepalense** Hirane in Kihara's Fauna & Flora of Nepal Himalaya : 29, t. 5, f. 5, 1955.
Nepal Himalayas.
- S. leptocladum** Nordst. f. **minor** Turner in KSV 25 : 123, t. 14, f. 16, 1892.
Central India.
- S. loktakense** Bruehl et Biswas in MAS 8 : 305, t. 12, f. 131 a, b, 1926.
Manipur.
- S. longibrachiatum** (Borge) Gutwin var. **intermedium** Iyengar et Vimala Bai in IBS 20 : 91, f. 77 80, 81, 1941.
Kodaikanal.
- S. lundellii** Turner in KSV 25 : 131, t. 16, f. 15, 1892.
Bengal.
- S. manfeldtii** Delp. var. **bispinatum** Turner in KSV 25 : 128, t. 16, f. 11-12, 1892.
Bengal.
- S. manfeldtii** Delp. var. **pinnatum** Turner in KSV 25 : 128, t. 16, f. 10, 1892.
Bengal.
- S. manipurens** Bruehl et Biswas in MAS 8 : 307, t. 12, f. 132 a, b, 133 a, b, 134 a, b, 135, 136 a, b, 1926.
Manipur.
- S. margaritaceum** (Ehrenb.) Menegh. var. **inornatum** Turner in KSV 25 : 113, t. 13, f. 22, 1892.
Bengal (Wallich Mscr. no. 217).
- S. maskellii** Turner in KSV 25 : 131, t. 16, f. 21, 1892.
Bengal.

- Staurostrum microscopicum** Turner in KSV 25 : 105, t. 14, f. 23, 1892.
Bengal.
- S. mucronatum** Ralfs. var. **recta** Ralfs. f. **minor** Turner in KSV 25 : 106, t. 29, f. 15, 1892.
Bengal (Wallich Mscr. no. 267, f. 3).
- S. mutabile** Turner in KSV 25 : 129, t. 16, f. 42, 1892.
Bengal.
- S. nathorstii** Turner in KSV 25 : 127, t. 16, f. 8, 1892.
Bengal.
- S. nodiferum** Turner in KSV 25 : 130, t. 14, f. 26, 1892.
Raneegunge (Wallich Mscr. no. 241).
- S. nonanum** Turner in KSV 25 : 119, t. 15, f. 14, 1892.
Bengal.
- S. nonanum** Turner var. **minor** Turner in KSV 25 : 119, t. 15, f. 15, 1892.
Bengal (Wallich Mscr. no. 213).
- S. nonanum** Turner var. **quadrangulare** Turner in KSV 25 : 119, t. 15, f. 24 ; t. 16, f. 1, 1892.
Bengal.
- S. nuncinatum** Turner in KSV 25 : 127, t. 16, f. 3, 1892.
Bengal (Wallich Mscr. no. 67).
- S. ochthodes** Turner in KSV 25 : 105, t. 16, f. 22, 1892.
Bengal.
- S. opimum** Turner in KSV 25 : 129, t. 16, f. 35, 1892.
Bengal.
- S. ordinatum** Turner in KSV 25 : 126, t. 15, f. 9, 1892.
Bengal.
- S. orientale** Turner in KSV 25 : 123, t. 19, f. 5, 1892.
Bengal (Wallich Mscr. no. 259).
- S. orientale** Turner f. **minor** Turner in KSV 25 : 123, 1892.
Bengal.
- S. pansum** Turner in KSV 25 : 117, t. 13, f. 32, 1892.
Bengal (Wallich Mscr. no. 211).
- S. paradoxum** Meyen var. **depressum** Turner in KSV 25 : 125, t. 15, f. 5, 1892.
Bengal.
- S. patens** Turner in KSV 25 : 108, t. 16, f. 21, 1892.
Bengal.
- S. pinnatum** Turner in KSV 25 : 115, t. 13, f. 27, 1892.
Bengal (Wallich Mscr. no. 218).
- S. pinnatum** Turner var. **simplex** Turner in KSV 25 : 115, t. 13, f. 29, 1892.
Bengal.
- S. pisciforme** Turner in KSV 25 : 118, t. 13, f. 7, 1892.
Bengal (Wallich Mscr. nos. 236, 237).
- S. prasadianum** Bruehl et Biswas in MAS 8 : 306, t. 11, f. 114 a, b, 1926.
Manipur.
- S. pseudosebaldi** Wille var. **pulchellum** Turner in KSV 25 : 124, t. 16, f. 14, 1892.
Bengal.
- S. quadratum** Turner in KSV 25 : 109, t. 16, f. 19, 1892.
Bengal (Wallich Mscr. no. 226).
- S. quadricornutum** Roy et Bisset f. **divergens** Turner in KSV 25 : 111, t. 17, f. 4, 1892.
Bengal.
- S. recurvatum** Turner in KSV 25 : 128, t. 16, f. 16, 1892.
Bengal.
- S. resupinum** Turner in KSV 25 : 126, t. 15, f. 12, 1892.
Bengal.
- S. retusum** Turner in KSV 25 : 104, t. 13, f. 13, 1892.
Bengal (Wallich Mscr. no. 271).
- S. rotundatum** Turner in KSV 25 : 105, t. 16, f. 39, 1892.
Bengal.
- S. royii** Turner in KSV 25 : 120, t. 15, f. 25, 1892.
Bengal.
- S. rusticum** Turner in KSV 25 : 121, t. 16, f. 27, 1892.
Bengal.
- S. scolopacinum** Turner in KSV 25 : 107, t. 17, f. 10, 1892.
Bengal (Wallich Mscr. no. 273).
- S. sexangulare** (Bulnh.) Lund var. **attenuatum** Turner in KSV 25 : 117, t. 15, f. 3, 1892.
Bengal.
- S. sexangulare** (Bulnh.) Lund var. **crassum** Turner in KSV 25 : 117, t. 15, f. 1 a, b, 1892.
Bengal.
- S. sexangulare** (Bulnh.) Lund var. **intermedium** Turner in KSV 25 : 117, t. 15, f. 2, 1892.
Bengal (Wallich Mscr. nos. 212, 214) ; Khasia (Lagerheim).
- S. smaragdinum** Turner in KSV 25 : 103, t. 13, f. 14, 1892.
Bengal (Wallich Mscr. no. 277).
- S. sonthalianum** Turner in KSV 25 : 124, t. 14, f. 27, 1892.
Bengal (Wallich Mscr. nos. 227, 229, 230, 231).

- Staurostrum sonthalianum** Turner var. *minor* Schmidle in Hedwigia 39 : 173, 1900.
Bombay.
- S. spinosissimum** Turner in KSV 25 : 113, t. 13, f. 7, 1892.
Raneegunge (Wallich Mscr. no. 147).
- S. stellatum** Reinsch. var. *pulchellum* Turner in KSV 25 : 113, t. 13, f. 24, 1892.
Bengal (Wallich Mscr. no. 219, f. 1).
- S. stellinum** Turner in KSV 25 : 119, t. 15, f. 6, 1892.
Central India.
- S. strensallense** Turner in KSV 25 : 113, t. 17, f. 1, 1892.
North India, Sikkim.
- S. subrotula** Turner in KSV 25 : 125, t. 15, f. 7, 1892.
Bengal.
- S. sundarbandense** Turner in KSV 25 : 124, t. 14, f. 18, 1892.
Bengal (Wallich Mscr. no. 228).
- S. thangaicum** Bruehl et Biswas in MAS 8 : 304, t. 12, f. 127 a-c, 1926.
Manipur.
- S. torsum** Turner in KSV 25 : 115, t. 13, f. 28, 1892.
Bengal (Wallich Mscr. no. 256 b).
- S. trachydermum** Turner in KSV 25 : 129, t. 16, f. 23, 1892.
Bengal.
- S. trachydermum** Turner f. *minor* Turner in KSV 25 : 129, t. 16, f. 47, 1892.
Bengal.
- S. triangulare** Turner in KSV 25 : 116, t. 13, f. 33, 1892.
Central India.
- S. trifidum** Nordst. f. *reversa* Turner in KSV 25 : 108, 1892.
Raneegunge (Wallich Mscr. no. 243).
- S. trifurcatum** Turner in KSV 25 : 110, 1892.
Bengal (Wallich Mscr. no. 243).
- S. trifurcatum** Turner var. *reversum* Turner in KSV 25 : 110, t. 17, f. 9, 1892.
Raneegunge (Wallich Mscr. no. 242).
- S. triskales** Bruehl et Biswas in MAS 8 : 303, t. 12, f. 129 a-c, 1926.
Manipur.
- S. trisulcatum** Turner in KSV 25 : 111, t. 17, f. 7, 1892.
Bengal.
- S. trisulcatum** Turner f. *minor* Turner in KSV 25 : 111, t. 16, f. 17, 1892.
Bengal.
- S. truncatum** Turner in KSV 25 : 116, t. 13, f. 20, 1892.
Bengal (Wallich Mscr. no. 266).
- S. unguiferum** Turner in KSV 25 : 130, t. 15, f. 18, 1892.
Bengal (Wallich Mscr. no. 265, f. 1).
- S. unguiferum** Turner f. *major* Turner in KSV 25 : 131, t. 15, f. 19, 1892.
Bengal.
- S. unicorn** Turner in KSV 25 : 107, t. 15, f. 16, 1892.
Bengal (Wallich Mscr. no. 264, f. 1, 3).
- S. unicorn** Turner var. *gracilis* Iyengar et Vimala Bai in IBS 20 : 90, f. 54, 55, 60, 1941.
Kodaikanal.
- S. wallichii** Turner in KSV 25 : 117, t. 13, f. 34, 1892.
Raneegunge.
- S. wallichii** Turner var. *aequale* Carter in BSI 9 : 294, t. 2, f. 9, 10, 1926.
Sadiya.
- S. wilsii** Turner in KSV 25 : 114, t. 13, f. 25, 1892.
Bengal.
- S. witrockii** Turner in KSV 25 : 126, t. 15, f. 26, 1892.
Bengal.
- S. zelleri** Turner in KSV 25 : 122, t. 16, f. 28, 1892.
Bengal.
- Streptonema trilobatum** Wallich in AMH 3 ser. 5 : 196, t. 8, f. 1-6, 1860.
Raneegunge.
- Triplastrum abbreviatum** (Turner) Iyengar et Ramanathan in IBS 21 : 228, f. 6, 1942. *Triploceras abbreviatum* Turner in KSV 25 : 27, t. 4, f. 17, 1892.
Raneegunge (Wallich Mscr. no. 105).
- T. indicum** Iyengar et Ramanathan in IBS 21 : 228, t. 9, f. 1-9, 1942.
Madras.
- Triploceras abbreviatum* Turner. See under **Triplastrum abbreviatum** (Turner) Iyengar et Ramanathan.
- T. bidentatum** Nordst. f. *depauperata* Turner in KSV 25 : 26, 1892.
Sonthal Jungle (Wallich Mscr. no. 112).
- T. gracile** Bailey subsp. *bilobatum* Turner in KSV 25 : 26, t. 2, f. 4, 1892.
Central India.
- T. gracile** Bailey f. *elongata* Turner in KSV 25 : 25, t. 2, f. 1, 1892.
Central India ; East India (Lagerheim).
- T. gracile** Bailey f. *gracillima* Turner in KSV 25 : 26, t. 2, f. 2, 1892.
Raneegunge ; Central India (Wallich Mscr. no. 116).

- Triploceras gracile** Bailey f. **quadrilobata** Turner in KSV 25 : 26, t. 2, f. 3, 1892.
Bengal.
- Xanthidium acanthophorum** Nordst. var. **bengalicum** Lagerheim in Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 9, t. 1, f. 7, 1888.
Bengal.
- X. antilopaeum** (Breb.) Kuetz. f. **depressa** Turner in KSV 25 : 99, t. 12, f. 24, 1892.
North India ; Nilghiri Hills in South India.
- X. armatum** Breb. var. **incongruum** Turner in KSV 25 : 102, t. 13, f. 4, 1892.
Khasia.
- X. bengalicum** Turner in KSV 25 : 100, t. 12, f. 32, 1892.
Bengal (Wallich Mscr. no. 174).
- X. bisenarium** Ehrenb. f. **typica** Turner in KSV 25 : 99, t. 12, f. 30, 1892.
Bengal.
- X. bisenarium** Ehrenb. var. **ornatum** Turner in KSV 25 : 99, t. 13, f. 2, 1892.
Bengal.
- X. bisenarium** Ehrenb. var. **rotundatum** Turner in KSV 25 : 99, t. 12, f. 28, 1892.
Bengal.
- X. brevicorne** Turner in KSV 25 : 101, t. 13, f. 9, 1892.
Central India.
- X. cosmariforme** Turner in KSV 25 : 98, t. 12, f. 17, 1892.
Bengal.
- X. cosmariforme** Turner f. **evoluta** Turner in KSV 25 : 98, t. 9, f. 9, 1892.
Bengal.
- X. cristatum** Breb. f. **erectum** Turner in KSV 25 : 99, t. 13, f. 5, 1892.
Bengal.
- X. cristatum** Breb. f. **inevoluta** Turner in KSV 25 : 99, t. 12, f. 27, 1892.
Bengal.
- X. cristatum** Breb. f. **inornata** Turner in KSV 25 : 99, t. 12, f. 18, 1892.
Bengal.
- X. cristatum** Breb. f. **irregularis** Turner in KSV 25 : 99, t. 13, f. 3, 1892.
Bengal.
- X. cristatum** Breb. var. **leiodermum** Turner in KSV 25 : 99, t. 12, f. 33, 1892.
Bengal.
- X. eximium** Turner in KSV 25 : 102, t. 13, f. 12 ; t. 22, f. 10, 1892.
Central India.
- X. hastiferum** Turner in J. Roy. Micr. Soc. 2 ser 5 : 938, f. 20, 1885.
Southern India.
- X. hastiferum** Turner f. **angulata** Turner in KSV 25 : 100, t. 12, f. 16, 19, 1892.
Bengal.
- X. hastiferum** Turner f. **plana** Turner in KSV 25 : 100, t. 12, f. 23 ; t. 13, f. 6, 1892.
Bengal (Wallich Mscr. no. 175 a).
- X. hastiferum** Turner f. **typica** Turner in KSV 25 : 100, t. 12, f. 25, 1892.
Bengal ; Himalayas.
- X. hexacanthum** Turner in KSV 25 : 101, t. 12, f. 26, 1892.
Bengal.
- X. indicum** Lagerheim In Bih. Svensk. Vetensk. Akad. Handl. 13, afd. 3 : 9, t. 1, f. 6, 1888.
Bengal.
- X. ineptum** Turner in KSV 25 : 101, t. 12, f. 21, 1892.
Bengal (Wallich Mscr. no. 286).
- X. loktakense** Bruehl et Biswas in MAS 8 : 302, t. 8, f. 82 a-c, 1926.
Manipur.
- X. pulchrum** Turner in KSV 25 : 102, t. 13, f. 10, 1892.
Central India.
- X. ranecungense** Turner in KSV 25 : 102, t. 13, f. 11, 1892.
Central India ; Bengal (Wallich Mscr. no. 127).
- X. searsolense** Turner in KSV 25 : 101, t. 13, f. 8, 1892.
Bengal.
- X. sexmamillatum** West, W. et G.S. var. **pulneyensis** Iyengar et Vimala Bai in IBS 20 : 86, f. 53, 57, 1941.
Kodaikanal.
- X. tetracanthum** Turner in KSV 25 : 101, t. 12, f. 29, 1892.
Bengal.
- X. torquatum** Turner in KSV 25 : 102, t. 22, f. 8, 1892.
North India.
- X. trilobum** Nordst. var. **indicum** Carter in BSI 9 : 291, t. 2, f. 7, 1926.
Sadiya.

PROTOSIPHONACEAE

- Halicystis boergesenii** Iyengar et Ramanathan in IBS 33 : 451, f. 1-19 ; t. 16, f. 1-14, 1954.
Krusadai Island.

Protosiphon botryoides Klebs f. *parieticola* Iyengar in Arch. Protistenk. 79 : 299, f. 1, c, d, f-i, k-z, 1933. Madras.

BRYOPSIDACEAE

Pseudobryopsis mucronata Boergesen in IBS 9 : 163, f. 7, 1930. Bombay.

CAULERPACEAE

Caulerpa chemnitzia (Esper) Lamour in J. bot. : 144, 1809. *Fucus chemnitzia* Esper in Icones Fuc. : 127, 1797-99.

Malabar, South India (Herb. Esper).

C. scalpelliformis (R. Br.) Web. v. Bosse f. *dwarkensis* Boergs. in IBS 11 : 55, t. 1, 1932.

Manora near Karachi (Pakistan).

C. veravalensis Thivy et Chauhan in Botanica Marina 5 : 97, t. 1, f. 1-8, 1963.

Gujarat. Type no. 1418, Herb. Central Salt & Marine Chemicals Res. Inst., Bhavnagar.

Fucus chemnitzia Esper. See under *Caulerpa chemnitzia* (Esper) Lamour.

DASYCLADACEAE

Acicularia dyumatsenae Rao et Pia in GSI 21 : 24, f. 20-29, 1936.

Niniyur beds of Trichinopoly Cretaceous. Type Geol. Surv. India nos. 15753-15762.

A. indica Varma in NIS 20 : 301, t. 9, f. 4, 5, 6, 1954.

Niniyur beds (Danian) of Trichinopoly area (Mattur and Nattakule).

Clypeina sahnii Varma in Paleobot. 1, Birbal Sahni Mem. Vol. 439, t. 1, f. 1-6 ; f. 1-12, 1952.

Mattur ; Cretaceous Rocks, Trichinopoly.

Dissocladdella savitriæ Rao et Pia in GSI 21 : 15, t. 1, f. 1-4 ; t. 2, f. 4 ; f. 1-9, 1936.

Niniyur beds ; Cretaceous Trichinopoly. Type Geol. Surv. India nos. 15730-15742.

Indopolia satyavanti Rao et Pia in GSI 21 : 20, t. 1, f. 1, 5-13 ; t. 2, f. 4, 1936.

Niniyur beds of Trichinopoly Cretaceous. Type Geol. Surv. India nos. 15743-15752.

Morelletpora nammalensis Varma in CS 19 : 207, f. 1, 2, 1950.

Ranikot beds (Paleocene) Punjab Salt Range ; Khairabad Limestone beds.

Orioporella malaviae Rao et Pia in GSI 21 : 26, t. 2, f. 4-9 ; f. 22-34, 1936.

Niniyur group ; Trichinopoly Cretaceous. Type Geol. Surv. India nos. 15763-15766.

Triploporella ranikotensis Walton in Rec. Geol. Surv. India 56 : 217, 1926.

Sind, Ranikot beds ; Tertiary. (Pakistan).

CODIACEAE

Codium dwarkense Boergs. in IBSI : 6, 8, f. 3-5, 1946.

Dwaraka. Type Boergesen no. 5366 ; 5402-5403, 5461 ; Okha no. 5552.

C. iyengarii Boergs. in IBSI : 4, 8, f. 1, 2, 1946.

Cape Monze near Karachi (Pakistan).

Udotea indica Gepp, A et E.S. in "Codiaceae" in SEM 62 : 121, t. 2, f. 13, 14 ; t. 6, f. 52, 53, 1911.

Karachi.

SIPHONOCLADACEAE

Chamaedoris auriculata Boergs. in IBS 12 : 5, f. 3, 4, 5, 1933.

Dwaraka. Type Boergesen no. 5447.

BOODLEACEAE

Boodlea siamensis Reinb. f. *robusta* Boergs. in IBS 9 : 153, f. 2, 1930.

[*Boodlea composita* (Harv. et Hook. fil.) Brand.]. Dwaraka.

Struvea tuticorinensis Boergs. in IBS 12 : 3, t. 1, f. 2, 1933.

Tuticorin. Type Boergesen no. 5673.

ANADYOMENACEAE

Willecella ordinata Boergs. in IBS 9 : 155, f. 3, 4, 1930. Okha Port.

CHAROPHYTA

Chara belangeri A. Br. See under *Nitella acuminata* A. Br. var. *belangeri* A. Br.

C. brachypus A. Br. in Hook. J. bot. 1 : 298, 1849.

Chara setosa Klein apud Willdenow in Acta Acad. Berol. : 58, t. 1, f. 1, 1801-1802 ; Sp. Pl. 4 : 184, 1805.

Tranquebar. (Klein, 1799 in Herb. Willdenow), Madras (Graham in Heb. Agardh), (*Dr. Wight no. 130, 132* Herb. Hooker, R. Bot. Gdn. Kew).

Klein named his plant as *Chara setigera* Klein.

C. brachypus A. Br. var. *gracilescens* A. Br. Ibid. 1 : 298, 1849.

Madras (*Dr. Wight no. 134* in Hooker's Herb.).

C. braunii Gmelin var. *coromandelina* (A. Br.) Zaneveld in Blumea 4 : 144, 1940. *Chara coronata* Ziz. var. *coromandelina* A. Br. in Hook. J. bot.

1 : 295, 1849 et Abh. K. Akad. Wiss. Berlin : 112,

1882. *Chara involucreta* Roxb. in Flora Indica 3 : 565, 1832 et Calcutta edn. : 648, 1874.
Coromandel. (Belanger, 1826-28, Type Berlin-Dahlem bot. Gartens & Museums Herb. Inde no. 94).
- Chara braunii** Gmelin var. **kuerzii** Zaneveld. Ibid. 4 : 144, 1940. *Chara coronata* Ziz. var. *coromandelina* A. Br. in Hook. J. bot. 1 : 295, 1849 et Abh. K. Akad. Wiss. Berlin : 112, 1882.
Bengal (*Kuerz.*, Type *S. Kuerz.* 1925, Berlin-Dahlem bot. Gartens & Museums).
- C. corallina* Klein apud Willdenow. See under **Chara corallina** Willdenow.
- C. corallina** Willdenow in Mem. Acad. Roy. Berlin, f. 1803 : 89, 1805 : Samml. d. Abh. K. Wiss. Berlin f. 1803 : 61, 1806 : Sp. Plant. 4 : 186, 1805. *Chara corallina* Klein apud Willdenow in Act. Acad. Berol. : 61, t. 2, f. 2, 1801-1802. *Chara roxburghi* A. Br. in Rogensb. bot. Zeit. : 59, 1836. *Nitella corallina* Ag. in Syst. Alg. : 123, 1824.
Tranquebar. (Klein, 7.1.1799) ; Madras (*Wight* no. 137).
- C. coronata* Ziz. var. *coromandelina* A. Br. See under **Chara braunii** Gmelin var. *coromandelina* (A. Br.) Zaneveld and **Chara braunii** Gmelin var. *kuerzii* Zaneveld.
- C. erythrogyna** Griffith in Notulae ad Plantae Asiaticas 2 : 278, 1849.
Serampore.
- C. fibrosa** Ag. subsp. *flaccida* (A. Br.) Zaneveld in Blumea 4 : 162, 1940. *Chara flaccida* A. Br. var. *wightii* A. Br. in Hook. J. bot. 1 : 296, 1849. *Chara hydropitys* A. Br. var. *flaccida* A. Br. Ibid. 1 : 296, 1849.
Malabar.
- C. flaccida* A. Br. var. *wightii* A. Br. See under **Chara fibrosa** Ag. subsp. *flaccida* (A. Br.) Zaneveld.
- C. furcata* Roxb. in Flora Indica 3 : 564, 1932 et Calcutta edn. : 648, 1874.
[*Nitella furcata* (Roxb. apud Bruzelius) Ag.].
Bengal.
- C. griffithii** A. Br. et Nordst. in Abh. K. Akad. Wiss. Berlin 13 : 129, 1882.
Serampore.
- C. gymnopus** A. Br. var. *ceylonica* A. Br. f. *flexibitor* A. Br. et Nordst. Ibid. 13 : 197, 1882.
Nilghiris.
- C. gymnopus** A. Br. var. *macilenta* A. Br. et Nordst. Ibid. 13 : 192, 1882.
Assam.
- C. hatei** Dixit in IBS 18 : 235, f., a-d, 1939.
Bombay.
- C. hydropitys** Reichenb. apud Mossler f. **major** A. Br. in Hook. J. bot. 1 : 297, 1849.
Assam.
- C. hydropitys** Reichenb. apud Mossler f. **minor** A. Br. Ibid. 1 : 297, 1849.
Coromandel.
- C. hydropitys* Reichenb. apud Mossler var. *flaccida* A. Br. See under **Chara fibrosa** Ag. subsp. *flaccida* (A. Br.) Zaneveld.
- C. hydropitys** Reichenb. apud Mossler var. **indica** A. Br. f. **minor** A. Br. Ibid. 1 : 297, 1849.
Coromandel coast.
- C. hydropitys** Reichenb. ex Mossler var. **indica** A. Br. f. **plumosa** Sundaralingam in IAS 49 : 37, f. 97, 1959.
Seven Pagodas.
- C. indica** Rao et Rao in GSI 29 : 10, t. 1, f. 13 ; t. 3, f. 6, 1939.
Deccan Inter-Trappeans near Rajahmundry. Type *Geol. Surv. India* no. 16645.
- C. involucreta* Roxb. See under **Chara braunii** Gmelin var. *coromandelina* (A. Br.) Zaneveld.
- C. nuda** Pal. f. *kolhapurensis* Dixit in IBS 18 : 234, 1939.
Kolhapur.
- C. pashanii** Dixit in IBS 14 : 258, f. 1, A-D, 1935.
Poona.
- C. polyphylla* A. Br. var. *ceylonica* A. Br. f. *gymnoteles* A. Br. in Hook. J. bot. 1 : 300, 1849.
[**Chara zeylanica** Willdenow].
Madras.
- C. rajahmundryica** Rao et Rao in GSI 29 : 9, t. 1, f. 10, t. 3, f. 3, 1939.
Deccan Inter-trappeans near Rajahmundry. Type *Geol. Surv. India* no. 16642.
- C. roxburghi* A. Br. See under **Chara corallina** Willdenow.
- C. sahnii** Rao et Rao in GSI 29 : 10, t. 1, f. 12, t. 3, f. 5, 1939.
Deccan Inter-trappeans near Rajahmundry. Type *Geol. Surv. India* no. 16644.
- C. sampathi** Rao et Rao in GSI 29 : 9, t. 1, f. 11, t. 3, f. 4, 1939.
Deccan Inter-trappeans near Rajahmundry. Type *Geol. Surv. India* no. 16643.
- C. sausari** Sahni et Rao in NAS 13 : 215-222, f. 1-8, 1943.
Inter-trappeans chert, Madhya Pradesh.
- C. setosa* Klein apud Willdenow. See under **Chara brachypus** A. Br.

Chara spagnoides Griffith in Notulae Plant. Asiat. 2 : 278, t. 63, f. 2, 1849.

Kabul.

C. vandalorensis Sundaralingam in IAS 49 : 47, f. 99-103, 1959.

Madras.

C. verticillata Roxb. in Flora Indica 3 : 563, 1832 et Calcutta edn. 647, 1874.

[**Chara zeylanica** Willdenow].

India.

Nitella belangeri A. Br. See under **Nitella acuminata** A. Br. var. **belangeri** A. Br.

N. acuminata A. Br. var. **belangeri** A. Br. in Hook. J. bot. 1 : 292, 1849. **Chara belangeri** A. Br. in Hook. J. bot. 1 : 292, 1849. **Nitella belangeri** A. Br. in Monatsber. K. Akad. Wiss. Berlin, 355, 1858. Coromandel.

N. bengalensis Kundu in Journ. BNH 42 : 844, t. 2, f. 17-30, 1942.

Calcutta.

N. byssoides A. Br. See under **Nitella tenuissima** (Desvaux) Kuetz. var. **byssoides** A. Br.

N. corallina Ag. See under **Chara corallina** Willdenow.

N. dispersa A. Br. See under **Nitella flagelliformis** A. Br.

N. flagellifera Groves et Allen in J. bot. Lond. 65 : 337, 1927.

Saharanpur.

N. flagelliformis A. Br. in Hook. J. bot. 1 : 294, 1849. **Nitella dispersa** A. Br. in Abh. K. Akad. Wiss. Berlin 13 : 47, t. 5, f. 114-117; 1882.

Konkan. Type in Berlin-Dehlem bot. Gartens & Museum.

N. furcata (Roxb. apud Bruzelius) Ag. var. **roxburghii** (A. Br.) Zaneveld in Blumea 4 : 92, 1940. **Nitella roxburghii** A. Br. in Hook. J. bot. 1 : 293, 1848. Coromandel. (Wight no. 135, 136 in Herb. Hooker ; Herb. Berlin-Dahlem Bot. Gartens & Museums).

N. grovesii Kundu in IBS 16 : 263, 1937 et Proc. 21st Indian Sci. Cong. (Bot.) : 293, 1934. Assam.

N. hyalina Ag. var. **indica** A. Br. et Nordst. in Abh. K. Akad. Wiss. Berlin 13 : 79, 1882. Bengal.

N. pakistanica Faridi in Biologia 2 : 254, f. 1-6, 1956. Lahore.

N. patula Groves et Allen in J. bot. Lond. 45:338, 1927. Saharanpur.

N. polygloch A. Br. var. **zollingeri** A. Br. f. **nicobarica** A. Br. et Nordst. in Abh. K. Akad. Wiss. Berlin 13 : 75, 1882.

[**Nitella furcata** (Roxb. apud Bruzelius) Ag. var. **nicobarica** (A. Br.) Zaneveld.].

Nicobar Islands.

N. pseudotenuissima Kundu in BNH 42 : 843, t. 1, f. 1-16, 1942.

Muree Hills.

N. roxburghii A. Br. See under **Nitella furcata** (Roxb. apud Bruzelius) Ag. var. **roxburghii** (A. Br.) Zaneveld.

N. saharanpurensis Allen in IBS 40 : 238, t. 7, f. 1, 2 ; f. 1, 1961.

Saharanpur. Type Allen no. 155, Herb. British Museum ; Paratype, Benaras.

N. tenuissima (Desvaux) Kuetz. var. **byssoides** A. Br. in Abh. K. Akad. Wiss. Berlin 13 : 64, 1882. **Nitella byssoides** A. Br. in Hook. J. bot. 1 : 294, 1849.

Coromandel.

N. terrestris Iyengar in Bull. bot. Soc. Beng. 12 : 89, t. 1, f. 1-7 ; t. 2, f. 1-10, 1958.

Madras.

N. tuberculata Kundu in IBS 16 : 223, f. 1-12, 1937. E. Bengal (E. Pakistan).

N. wattii Groves in JLS 46 : 367, t. 36, 1924. Mugra (Sir George Watt no. 306).

CHRYSTOPHYTA

HETEROCAPSACEAE

Chlorogloea fritschii Mitra in AB 14 : 463, f. 25-43, 1950.

Allahabad.

BOTRYDIACEAE

Botrydium clavatum Iyengar. See under **Botrydium divisum** Iyengar.

B. divisum Iyengar in IBS 4 : 197, t. 3, f. 1-5, t. 4, f. 1-13 ; t. 5, f. 1-6, 1925. **Botrydium clavatum** Iyengar in Proc. Indian Sci. Congr. (Bot.), 1924. Calcutta.

B. granulatum (L.) Grev. var. **clavaciformis** Randhawa in IAS 11 : 224, f. 1-4, 1940. Fyzabad.

B. intermedium Iyengar in Proc. Indian Sci. Congr. (Bot.) 283-284, 1935. **Botrydium tuberosum** Iyengar var. **intermedium** Rao, in IBS 15 : 351, f. 1-4, 1936. Lucknow.

B. stoloniferum Mitra in JAS 21 : 357, 1951. Allahabad.

B. tuberosum Iyengar in IBS 4 : 195, t. 1, f. 1-7 ; t. 2, f. 1, 2, 4, 5, 1925. Madras.

Botrydium tuberosum Iyengar var. *intermedium* Rao.
See under *Botrydium intermedium* Iyengar. s

VAUCHERIAACEAE

Vaucheria amphibia Randhawa in Archiv. Protistensk.
92 : 540 f. 4, 1939.
Fyzabad.

V. kuerzii Zeller in PAS : 96, 1875.
Rewah.

V. mayyanadensis Erady in P 4 : 332, f. 1-29, 1954.
Mayyanad, Kerala. Type in Bot. Lab. Univ. College,
Trivandram no. 1025.

V. ornithocephala Agardh var. *indica* (Randhawa)
Venkataraman in 'Vaucheriaceae' : 62, f. 39, c, 1961.
Vaucheria polysperma Hassal var. *indica* Randhawa
in Archiv. Protist. 92 : 539, f. 3, 1939.
Fyzabad.

V. polysperma Hassal var. *indica* Randhawa. See
under *Vaucheria orinithocephala* Agardh var. *indica*
(Randhawa) Venkataraman.

CHRYSTOPHYCEAE

Chrysodictyon indicum Ramanathan in IBS : 188, t. 1,
f. 1, 2, ; t. 2, f. 3-6, f. 1-8, 1946.
Madras.

Hydrurus foetidus (Vill.) Kirchner var. *indica* Bharad-
waja in IAS 3 : 278, f. 1 b, 2 a-c, 1936.
Kashmir.

Ochromonas indica Mitra in JAS 21 : 357-373, 1951.
Allahabad.

Ruttnera pringsheimii Subrahmanyam in Archiv.
Mikrobiol. 42 : 219-225, 1962.
India.

Synura adamsii Smith f. *malabarica* Philipose in IAS
37 : 239, f. 2, d, i, l-n, 1953.
Cochin.

CRASPEDOMONADACEAE

Cladospongia elegans Iyengar et Ramanathan in
IBS 19 : 244, f. 1-10, t. 8, f. 1-6, 1940.
Madras.

BACILLARIOPHYCEAE

NAVICULACEAE

Amphipleura frauenfeldii Grunow in Verh. zool. bot.
Ges. Wien, 13 : 144, t. 14, f. 3, 1863.
Nicobar Islands.

Anomoconeis lanceolata Gandhi in H 14 : 134, f. 9-10,
1959.
Ahmedabad. Type slide *Ahm.* 6 : V. 352.

A. rhomboidea Krishnamurthy in IBS 33 : 365, f. 33,
1954.

Kambakkam. Type no. 48.

A. rhomboidea Krishnamurthy f. *minor* Krishnamurthy
in IBS 33 : 367, f. 31, 1954.
Kambakkam. Type no. 48.

A. sphaerophora (Kuetz.) Pfitzer var. *guntheri*
(Ehrenb.) Mull. f. *rostrata* Gonzalves et Gandhi in
IBS 32 : 263, f. 90, 1953.
Bombay.

A. sphaerophora (Kuetz.) Pfitzer var. *sculpta*
(Ehrenb.) f. *indica* Venkataraman in IAS 10 : 324,
f. 70, 80, 1939.
Madras.

Caloneis baccariana (Gruenow) Cleve var. *hustedtii*
Gandhi in H 17 : 224, f. 11-12, 1961.
Ahmedabad.

C. madraspatensis Subrahmanyam in IAS 24 : 177,
f. 396, 1946.
Madras.

C. pulchra Messikommer f. *partabgarhensis* Gandhi
in IBS 34 : 312, f. 10, 1955.
Rajasthan.

C. schumanniana (Gruenow) Cleve var. *biconstricta*
Gruenow f. *brevistriata* Iyengar et Subrahmanyam
in NAS 13 : 229, 1943.
Karewa beds, Gulmarg.

C. schumanniana (Gruenow) Cleve var. *biconstricta*
Gruenow f. *interrupta* Krishnamurthy in IBS
33 : 362, f. 17, 1954.
Vandalur. Type no. 7.

C. silicula (Ehrenb.) Cleve var. *gibbosa* Gandhi in
Phykos 1 : 117, f. 9, 1962.
Ahmedabad.

C. silicula (Ehrenb.) Cleve var. *truncatula* Gruenow
f. *boriviliana* Gonzalves et Gandhi in IBS 32 : 248,
f. 76, 1953.
Bombay.

Diploneis incurvata (Greg.) Cleve var. *arabica* Misra
in BNH 53 : 562, f. 59, 1956.
West coast of India.

D. robustus Subrahmanyam in IAS 24 : 180, f. 400,
1946.
Madras.

Frustulia indica Gandhi in H 14 : 103, f. 30-31,
1959.
Kolhapur. Type slide *Pan* : 4 : 139.

F. saxonica Rabenh. var. *linearis* Cleve f. *capitata*
Gandhi in Ceylon J. Sci. 1 : 52, f. 17, 1957.
Kolhapur.

- Frustulia saxonica* Rabenh. var. *linearis* Cleve f. *minor* Gandhi. Ibid. 1 : 52, f. 16, 1957.
Kolhapur.
- F. vulgaris* Thw. var. *subcapitata* Gandhi in H 14 : 103, f. 28-29, 1959.
Kolhapur. Type slide *Pan* : 3 : 138.
- Mastogloia amoyensis* Voigt. var. *robusta* Gonzalves et Gandhi in IBS 31 : 149, f. 59, 1952.
Bombay.
- M. dolosa* Venkataraman in IAS 10 : 316, f. 49, 1939.
Madras.
- M. dolosa* Venkataraman var. *ambigua* Gonzalves et Gandhi in IBS 31 : 150, f. 61, 61, a, 1952.
Bombay.
- M. exigua* Lewis f. *brevirostris* Venkataraman in IAS 10 : 317, f. 44, 45, 1939.
Madras.
- Navicula boscana* Skvortzow in Philip. J. Sci. 58 : 183, t. 1, f. 23, 1935.
Calcutta.
- N. boscana* Skvortzow var. *bacillum* Skvortzow. Ibid. 58 : 184, t. 1, f. 24, 1935.
Calcutta.
- N. budda* Skvortzow. Ibid. 58 : 183, t. 1, f. 22, 1935.
Calcutta.
- N. calcuttensis* Skvortzow. Ibid. 58 : 184, t. 1, f. 26, 1935.
Calcutta.
- N. calcuttensis* Skvortzow var. *gracilis* Skvortzow. Ibid. 58 : 184, t. 1, f. 27, 1935.
Calcutta.
- N. capitellata* Skvortzow. Ibid. 58 : 183, t. 1, f. 21, 1935.
Calcutta.
- N. cocconeiformis* Greg. var. *oblonga* Gandhi in IBS 38 : 316, f. 13, 1959.
Mysore. Type slide no. 748.
- N. cuspidata* Kuetz. f. *brevirostrata* Gandhi in BNH 55 : 496, f. 36, 1958 et 57 : 79, 1960.
Kolhapur. Type, *Gandhi Rankala Herb. no. KOP-49, 18.9.1954.*
- N. cuspidata* Kuetz. f. *indica* Krishnamurthy. See under *Navicula pseudocuspidata* Gandhi.
- N. cuspidata* Kuetz. var. *conspicua* Venkataraman in IAS 10 : 325, f. 83, 88, 1939.
Nilgiris.
- N. cuspidata* Kuetz. var. *major* Meister f. *robusta* Gonzalves et Gandhi in IBS 33 : 342, f. 109, 1954.
Bombay.
- N. exigua* (Greg.) O. Mueller var. *calcuttensis* Skvortzow in Philip. J. Sci. 58 : 183, t. 1, f. 20, 1935.
Calcutta.
- N. gemmata* Grev. var. *biseriata* Gruenow in Alg. Novara : 100, t. 1a, f. 16, 1870.
Nancowry.
- N. gonzalvesiana* Gandhi in IBS 34 : 322, f. 51, 1955.
Rajasthan.
- N. hochstetteri* Gruenow in Verh. zool. bot. Ges. Wien. 13 : 153, t. 14, f. 2, a, b, c, 1863.
Nicobars.
- N. insociabilis* Krasske var. *lanccolata* Skvortzow in Philip. J. Sci. 58 : 182, t. 1, f. 16, 1935.
Calcutta.
- N. kamorthensis* Gruenow in Verh. zool. bot. Ges. Wien. 13 : 152, t. 14, f. 16, 1863.
Nicobars.
- N. lacustris* Greg. var. *major* Venkataraman in IAS 10 : 332, f. 86, 1939.
Madras.
- N. medica* Skvortzow in Philip. J. Sci. 58 : 184, t. 1, f. 25, 1935.
Calcutta.
- N. mutica* Kuetz. var. *linearis* Gonzalves et Gandhi in IBS 33 : 342, f. 111, 1954.
Bombay.
- N. nicobarica* Gruenow in Verh. zool. bot. Ges. Wien. 13 : 150, t. 14, f. 8, a, b, 1863.
Nicobars.
- N. panhalgarhensis* Gandhi in H 14 : 109, f. 51, 1959.
Kolhapur. Type slide *Pan.* : 7 : 142.
- N. partabgarhensis* Gandhi in IBS 34 : 320, f. 20, 1955.
Rajasthan.
- N. platysoma* Ehrenberg in Mikrogeologie : 122, 1854.
-Pinnularia platysoma Ehrenberg. Ibid. 122, 1854.
Mangalore.
- N. pseudocuspidata* Gandhi in IBS 35 : 200, f. 11, 1956.
Navicula cuspidata Kuetz. f. *indica* Krishnamurthy in IBS 33 : 367, f. 30, 1954.
Dharwar. Madras (Krishnamurthy no. 18).
- N. pseudoseminulum* Skvortzow in Philip. J. Sci. 58 : 183, t. 1, f. 18, 1935.
Calcutta.
- N. pseudoseminulum* Skvortzow var. *curta* Skvortzow. Ibid. 58 : 183, t. 1, f. 19, 1935.
Calcutta.
- N. pygmaea* Kuetz. var. *indica* Skvortzow. Ibid. 58 : 182, t. 1, f. 14, 1935.
Calcutta.

- Navicula rhombiformis** Gandhi in H 14 : 135, f. 11-20, 1959.
Ahmedabad. Type *slide Ahm. 1 : V : 353*.
- N. spicula** (Dickie) Cleve var. **pulneyensis** Krishnamurthy in IBS 33 : 367, f. 36, 1954.
Kodaikanal. Type *no. 103*.
- N. suborbicularis** (Greg.) Pritchard var. **nankooensis** Gruenow in Alg. Novara : 100, t. 1 a, f. 15, 1870.
Nancowry.
- N. vanhaeffeniformis** Gandhi in IBS 34 : 321, f. 50, 1955.
Rajasthan.
- N. viridula** Kuetz. var. **calcuttensis** Skvortzow in Philip. J. Sci. 58 : 181, t. 1, f. 9, 1935.
Calcutta.
- N. viriduloides** Gandhi in H 14 : 108, f. 46, 1959.
Kolhapur. Type *slide Pan. : 5 : 140 and 140 b*.
- N. viriduloides** Gandhi var. **lanceolata** Gandhi in H 14 : 108, f. 47, 1959.
Kolhapur. Type *slide Pan. : 6 : 141*.
- Neidium affine** (Ehrenb.) Cleve var. **amphirhynchus** (Ehrenb.) Cleve f. **truncatula** Gonzalves et Gandhi in IBS 32 : 249, f. 78, 1953.
Bombay.
- N. capitellata** Gandhi in IBS 38 : 313, f. 7, 35, 1959.
Mysore.
- N. grandis** Gandhi in IBS 38 : 313, f. 8, 1959.
Jog Falls. *Slide no. 751*.
- N. indicum** Gonzalves et Gandhi in IBS 32 : 252, f. 84, 1953.
Bombay.
- N. indicum** Gonzalves et Gandhi f. **undulata** Gonzalves et Gandhi in IBS 31 : 253, f. 85, 1953.
Bombay.
- N. indicum** Gonzalves et Gandhi var. **capitata** Gonzalves et Gandhi in IBS 32 : 253, f. 86, 1953.
Bombay.
- N. iridis** (Ehrenb.) Cleve f. **ambigua** Gonzalves et Gandhi in IBS 32 : 250, f. 80, 1953.
Bombay.
- N. oblique-striatum** A.S. var. **parallella** Gonzalves et Gandhi in IBS 32 : 251, f. 83, 1953.
Bombay.
- N. panhalgarhensis** Gandhi in H 14 : 105, f. 33, 1959.
Kolhapur. Type *slide Pan. : 3 : 138*.
- N. productum** (Smith) Cleve var. **bombayensis** Gonzalves et Gandhi in IBS 32 : 250, f. 81, 1953.
Bombay.
- Pinnularia aestuarii** Cleve var. **lata** Gandhi in BNH 54 : 851, f. 19, 1957.
Dharwar.
- P. borealis** Ehrenb. var. **lonavalensis** Gandhi in H 20 : 143, t. 1, f. 25, 1962.
Bombay. Type *Gandhi slide LON-13 : 214*.
- P. brauntii** (Gruenow) Cleve var. **amphicephala** (Mayer) Hust. f. **subconica** Venkataraman in IAS 10 : 337, f. 113, 1939.
Madras.
- P. brevicostata** Cleve var. **indica** Gandhi in BNH 57 : 84, f. 15, 1960.
Bombay. Type *BOM-AND 18 : 6-3-1945*.
- P. calcutta** Skvortzow in Philip. J. Sci. 58 : 184, t. 1, f. 28, 1935.
Calcutta.
- P. calcutta** Skvortzow var. **curta** Skvortzow. Ibid. 58 : 184, t. 1, f. 29, 1935.
Calcutta.
- P. conica** Gandhi in BNH 54 : 847 f. 9, 10, 1957.
Dharwar.
- P. dactylus** Ehrenb. var. **hyalina** Iyengar et Subrahmanyam in NAS 13 : 231, f. 18, 1943.
Karewa beds, Gulmarg.
- P. dolosa** Gandhi in BNH 57 : 82, f. 10-11, 1960.
Bombay. Type *BOM-AND 43 : 45, 1945-48*.
- P. dolosa** Gandhi var. **chariessa** Gandhi in BNH 57 : 83, f. 12, 1960.
Bombay. Type *BOM-AND 47, 1946-48*.
- P. esox** Ehrenb. var. **capitata** Gandhi in BNH 54 : 849, f. 17, 1957.
Dharwar.
- P. esox** Ehrenb. var. **fasciata** Gandhi in BNH 54 : 849, f. 16, 1957.
Dharwar.
- P. gibba** Ehrenb. f. **undulata** Venkataraman in IAS 10 : 338, f. 99, 1939.
Madras.
- P. karnatica** Gandhi in BNH 54 : 846, f. 4, 1957.
Dharwar.
- P. kolhapurensis** Gandhi in BNH 55 : 498, f. 21, 1959 et 57 : 79, 1960.
Kolhapur. Type *Gandhi Rankala Herb. no. KOP-61 (slide), 9-12-54*.
- P. lacus-biwa** Skvortzow f. **minor** Gandhi in BNH 57 : 94, f. 42, 1960.
Bombay. Type *BOM-POW 18 : 28-1-1945*.
- P. legumen** Ehrenb. var. **interrupta** Gandhi in H 14 : 115, f. 68, 1959.
Kolhapur. Type *slide 11 : 106*.
- P. lonavalensis** Gandhi in H 20 : 141, t. 1, f. 23, 1962.
Bombay. Type *Gandhi slide LON-7 : 208*.
- P. macra** Gandhi in H 17 : 226, f. 15-16, 1961.
Ahmedabad.

- Pinnularia mesolepta** Ehrenb. var. **indica** Gandhi in BNH 57 : 92, f. 33-35, 1960.
Bombay.
- P. mysorens** Gandhi in IBS 38 : 320, f. 18, 1959.
Mysore. Type *slide no.* 755.
- P. nakaii** Skvortzow var. **indica** Gandhi in BNH 57 : 94, f. 43, 1960.
Bombay.
- P. neglecta** (Mayer) Berg. var. **interrupta** Gandhi in BNH 54 : 850, f. 18, 1957.
Dharwar.
- P. neglecta** (Mayer) Berg. var. **undulata** Gandhi in BNH 57 : 99, f. 55, 1960.
Bombay. Type *BOM-POW* 62 : 6-3-1945.
- P. panhalgarhensis** Gandhi in H 14 : 113, f. 64-66, 1959.
Kolhapur. Type *slide PAN* : 10 : 145.
- P. panhalgarhensis** Gandhi var. **lanceolata** Gandhi in H 14 : 114, f. 67, 1959.
Kolhapur. Type *slide PAN* : 10 : 145.
- P. platysoma** Ehrenberg. See under *Navicula platysoma* Ehrenberg.
- P. pseudoluculenta** Gandhi in BNH 57 : 99, f. 56, 1960.
Bombay. Type *BOM-BOR* 35 : 10-8-1946.
- P. pseudomicrostauron** Gandhi in Phykos 1 : 120, f. 20-21, 1962.
Ahmedabad.
- P. pusilla** Gandhi in H 14 : 111, f. 59-62, 1959.
Kolhapur. Type *slide PAN* : 8 : 143.
- P. sagittata** Gandhi in IBS 38 : 319, f. 17, 1959.
Mysore. Type *slide* 752.
- P. simplex** Gandhi in BNH 57 : 96, f. 48, 49, 1960.
Bombay. Type *BOM-WAD* 10 : 31-7-1945.
- P. sudetica** Hilsa var. **commutata** (Gruenow) Cleve f. **obtusata** Gandhi in H 14 : 116, f. 73-74, 1959.
Kolhapur. Type *slide PAN* : 12 : 147.
- P. ueno** Skvortzow var. **wadalensis** Gandhi in BNH 57 : 83, f. 13-14, 1960.
Bombay. Type *BOM-AND* 5-7 : 31-7-1945.
- P. vespa** Ehrenb. in Mikrogeologie : 106, t. 33, f. 9, no. 213, 1854.
[*Navicula vespa* (Ehrenb.) Fritsch.].
Nepal.
- Pleurosigma aestuarii** (Breb.) Smith var. **intermedia** Gruenow in Alg. Novara : 102, 1870.
Nancowry.
- P. angulatum** (Quekett) Smith f. **chemburiana** Gonzalves et Gandhi in IBS 32 : 243, f. 68, 1953.
Bombay.
- P. baileyi** Gruenow in Cleve et Gruenow in Arct. Diat. : 59, 1880.
Bengal.
- P. directum** Gruenow var. **membranaceae** Subrahmanyam in IAS 24 : 177, f. 389, 392, 1946.
Madras.
- P. galapagense** Cleve var. **kumariensis** Venkataraman in NIS 23 : 81, f. 22, 1957.
Cape Comorin.
- P. validum** Shadbolt var. **nicobaricum** Gruenow in Alg. Novara : 101, t. 1 A, f. 20, 1870
Nancowry.
- Stauroneis acuta** Smith var. **tenuis** Gonzalves et Gandhi in IBS 32 : 260, f. 100, 1953.
Bombay.
- S. anceps** Ehrenb. var. **hyalina** Brun. et Peragallo f. **producta** Gonzalves et Gandhi in IBS 32 : 257, f. 96, 1953.
Bombay.
- S. angulare** Gonzalves et Gandhi in IBS 32 : 259, f. 97, 1953.
Bombay.
- S. calcuttensis** Skvortzow in Philip. J. Sci. 58 : 101, f. 5, 6, 1935.
Calcutta.
- S. erythraea** Gruenow in Verh. zool. bot. Ges. Wien 10 : 567, t. 7, f. 17, 1860.
Nicobar Islands.
- S. obtusa** Lagerst. f. **indica** Gonzalves et Gandhi in IBS 32 : 261, f. 102, 1953.
Bombay.
- S. obtusa** Lagerst. var. **chemburiana** Gonzalves et Gandhi in IBS 32 : 261, f. 101, 1953.
Bombay.
- S. partabgarhensis** Gandhi in IBS 34 : 315, f. 14, 1955.
Rajasthan.
- S. parvula** Gruenow var. **lanceolata** Skvortzow in Philip. J. Sci. 58 : 181, t. 1, f. 7, 1935.
Calcutta.
- S. phoenicenteron** Ehrenb. f. **capitata** Gonzalves et Gandhi in IBS 32 : 256, f. 92, 1953.
Bombay.
- S. phoenicenteron** Ehrenb. f. **producta** Gandhi in IBS 37 : 252, f. 7, 1958.
Kolhapur.

AMPHITROPIDACEAE

- Entomoneis indica** Ehrenberg in Mikrogeologie : 131, 1854.
R. Ganges.

CYMBELLACEAE

- Amphora kamorthensis* Gruenow in Alg. Novara : 99, t. 1 a, f. 12 a, b, c, 1870.
Nicobar Islands.
- A. normani* Rabenh. var. *gibbosa* Skvortzow in Philip. J. Sci. 58 : 185, t. 1, f. 31, 1935.
Calcutta.
- A. venata* Kuetz. var. *indica* Skvortzow. Ibid. 58 : 185, t. 1, f. 33, 1935.
Calcutta.
- Cocconema subtile* Ehrenberg in Mikogeologie : 108, 1854.
Nepal.
- Cymbella amphicephala* Naeg. var. *subundulata* Cleve in Naviculoid Diat. 1 : 172, 1894 ; KSV 26 : 172, 1894.
Jubbalpur, no. 7283.
- C. cymbiformis* Ehrenb. var. *bipunctata* Rehl. in O'Kuntze Rev. Gen. Plant. 3 : 391, 1898.
Jubbalpur, no. 7283.
- C. leptoceros* (Ehrenb.) Gruenow var. *rostrata* Hust. f. *indica* Gandhi in BNH 57 : 103, f. 64, 1960.
Bombay. Type BOM-BOR 48 : 10-8-1946.
- C. powiana* Gandhi in BNH 57 : 104, f. 67, 1960.
Bombay. Type BOM-POW 77 : 6-3-1945.
- C. pseudocuspidata* Gandhi in H 14 : 117, f. 75, 1959.
Kolhapur. Type slide no. PAN : 13, 148.
- C. rivularis* Gandhi in IBS 38 : 324, f. 26, 1959.
Mysore.
- C. sagarensis* Gandhi in IBS 38 : 322, f. 24, 25, 1959.
Mysore. Type no. 756.
- C. sagarensis* Gandhi f. *gracilis* Gandhi in IBS 38 : 323, f. 44, 1959.
Mysore. Type no. 756-57.
- C. ventricosa* Kuetz. var. *depressa* Krishnamurthy in IBS 33 : 371, f. 50, 1954.
Madras. Type no. 3.

GOMPHONEMACEAE

- Gomphonema abbreviatum* Kuetz. f. *minor* Krishnamurthy in IBS 33 : 375, f. 64, 1954.
Kodaikanal. Type no. 102.
- G. abbreviatum* Kuetz. var. *pulneyensis* Krishnamurthy in IBS 33 : 377, f. 65, 1954.
Kodaikanal. Type no. 101.
- G. angustatum* (Kuetz.) Rabenh. var. *producta* Gruenow f. *indica* Gandhi in BNH 57 : 110, f. 84, 1960.
Bombay.

- G. balatonis* Pant. var. *lanceolata* Gandhi in BNH 57 : 119, f. 94, 1960.
Bombay.
- G. bengalense* Gruenow in Van-Heurck Syn. t. 24, f. 37, 38, 1880-85.
Jubbalpur. Type no. 7283.
- G. clavatoides* Gandhi in BNH 57 : 112, f. 88, 89, 103, 1960.
Bombay. Type BOM-BOR 99-102 : 10-8-1946.
- G. clavatoides* Gandhi var. *valida* Gandhi in BNH 57 : 113, f. 104, 1960.
Bombay. Type BOM-BOR 102 : 10-8-1946.
- G. clevei* Fricke var. *bipunctata* Gandhi in IBS 38 : 326, f. 49, 1959.
Mysore. Type no. 761.
- G. constrictum* Ehrenb. var. *indica* Gandhi in BNH 57 : 106, f. 69, 1960.
Bombay. Type BOM-POW 78 : 28-1-1945.
- G. dharwarensis* Gandhi in IBS 35 : 206, f. 25-27, 1956.
Dharwar.
- G. ghosea* Abdul-Majeed in 'Bacillariophyta' : 30, t. 3, f. 1, 2, 3, 1935.
Lahore (Pakistan).
- G. gracile* Ehrenberg var. *frickei* Gandhi in BNH 57 : 116, f. 90, 1960.
Bombay. Type BOM-POW 60 : 6-3-1945.
- G. gracile* Ehrenberg var. *subcapitata* Gandhi in BNH 57 : 116, f. 91, 1960.
Bombay. Type BOM-WAD 16 : 31-7-1945.
- G. lacus-rankala* Gandhi in BNH 55 : 500, f. 39, 1958 et 57 : 79, 1960.
Kolhapur. Type Gandhi Rankala Herb. no. KOP 63 (side) 9-12-1954.
- G. lacus-rankala* Gandhi var. *gracilis* Gandhi in BNH 55 : 500, f. 41, 1958 et 57 : 79, 1960.
Kolhapur. Type Gandhi Rankala Herb. no. KOP 65 (slide) 9-12-1954.
- G. lacus-rankala* var. *robusta* Gandhi in BNH 55 : 500, f. 40, 1958 et 57 : 79, 1960.
Kolhapur. Type Gandhi Rankala Herb. no. KOP 64 (slide) 9-12-1954.
- G. macropunctatum* Krishnamurthy in IBS 33 : 373, f. 59, 1954.
Madras. Type no. 8.
- G. magnifica* Gandhi in BNH 57 : 113, f. 108, 1960.
Bombay. Type BOM-BOR 106 : 10-8-1946.
- G. magnifica* Gandhi var. *rhomboida* Gandhi in BNH 57 : 114, f. 109, 1960.
Bombay. Type BOM-BOR 106 : 10-8-1946.
- G. moniliforme* Gandhi in BNH 57 : 120, f. 99, 1960.
Bombay. Type BOM-POW 110 : 6-3-1945.

Gomphonema sphaerophorum Ehrenberg f. *subcapitata* Venkataraman in IAS 10 : 345, f. 126, 127, 128, 1939.

Madras.

G. spicula Gandhi. See under *Gomphonema spiculoides* Gandhi.

G. spiculoides Gandhi in BNH 57 : 117, 1960. *Gomphonema spicula* Gandhi in BNH 55 : 501, f. 28, 1958 et 57 : 79, 1960.

Kolhapur. Type *Gandhi Rankala KOP 68 (slide)* 18-9-1954.

G. spiculoides Gandhi var. *major* Gandhi in BNH 57 : 117, f. 92, 1960.

Bombay. Type *BOM-WAD 18 : 31-7-1945*.

G. tenuis Gandhi in BNH 57 : 120, f. 97, 98, 1960.

Bombay. Type *BOM-BOR 107*.

COCONEIDACEAE

Cocconeis bramaputrae Ehrenberg in Mikrogeologie : 128, 1854.

In R. Brahmaputra.

C. indica Ehrenberg. Ibid. : 126, 1854.

Mangalore (Ehrenberg).

C. littoralis Subrahmanyam in IAS 24 : 171, f. 368, 370, 1946.

Madras.

C. pellucida Gruenow var. *nankooensis* Gruenow in Alg. Novara : 98, 1807.

Nancowry.

C. quarnerensis Gruenow var. *borgesensis* Misra in BNH 53 : 559, f. 51, 1956.

Okha Port.

C. sigmoides Subrahmanyam in IAS 24 : 170, f. 364, 365, 1946.

Madras.

Eucocconeis lapponica Hust. f. *rostrata* Gonzalves et Gandhi in IBS 31 : 141, f. 45 a, b, 1952.

Bombay.

Orthoneis barhadensis Gruenow var. *nankooensis* Gruenow in Alg. Novara : 98, t. 1 a, f. 10, 1870.

Nancowry.

ACHNANTHACEAE

Achnanthes andicola (Cleve) Hust. var. *elongata* Gonzalves et Gandhi in IBS 31 : 142, f. 4 a, b, 1952.

Fresh water streams at Borivli, Bombay.

A. bengalensis Gruenow in Cleve et Gruenow Arct. Diat. : 18, 1880.

Coast of Bengal.

A. bengalensis Gruenow var. *subventricata* Gruenow. Ibid. : 18, 1880.

Bengal.

A. coarcta (Breb.) Gruenow var. *parallela* Venkataraman in IAS 10 : 314, t. 17, f. 46, 47, 48, 1939.

Madras.

A. exigua Gruenow var. *indica* Skvortzow in Philip. J. Sci. 58 : 180, t. 1, f. 2, 1935.

Calcutta.

A. lanceolata (Breb.) Gruenow var. *tenuis* Gonzalves et Gandhi in IBS 31 : 145, f. 53 a, b, 1952.

Bombay.

A. hungarica Gruenow var. *linearis* Abdul-Majeed in 'Bacillariophyta' : 19, t. 2, f. 9, 10, 11, 1933.

Punjab.

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Ahmedabad.

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Calcutta.

Hantzschia amphioxys (Ehrenb.) Gruenow var. *amphilepta* (Ehrenb.) Gruenow in Cleve et Gruenow Arct. Diat. : 103, 1880.

Bengal.

H. amphioxys (Ehrenb.) Gruenow var. *capitellata* Gruenow. Ibid. : 103, 1880.

Bengal.

Nitzschia commutata Gruenow var. *curta* Skvortzow in Philip. J. Sci. 58 : 187, t. 1, f. 48, 1935.

Calcutta.

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Ahmedabad.

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Calcutta.

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Calcutta.

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Nicobar Islands.

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Rajasthan.

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Bengal.

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Bengal.

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 Nicobar Islands.

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N. pseudofossilis Gandhi in H 14 : 138, f. 14, 1959.
 Ahmedabad. Type *slide AHM 8 : V : 354*.

N. pseudogracilis Gandhi in IBS 38 : 326, f. 51, 1959.
 Mysore. Type *slide no. 763*.

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 f. 1, 1880.
 Calcutta.

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 Calcutta.

N. torta Gandhi in H 17 : 230, f. 25-26, 1961.
 Ahmedabad.

N. vasnaii Gandhi in IBS 39 : 566, f. 24, 1960.
 Ahmedabad.

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 Calcutta.

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Campylodiscus iyengarii Subrahmanyam in IAS
 24 : 192, f. 440, 1946.
 Madras.

Podocystis ovalis Misra in BNH 53 : 554, f. 38,
 1956.
 Okha Port ; Dwaraka.

Suriella capronioides Gandhi in IBS 38 : 328, f. 52,
 1959.
 Sagar. Type *no. 766*.

S. elegans Ehrenb. var. *tenuis* Venkataraman in NIS
 23 : 86, f. 20, 1957.
 Cape Comorin.

S. horrida Huest. f. *minor* Gandhi in IBS 38 : 328,
 f. 31-32, 1959.
 Sagar. Type *no. 764*.

S. lamina Ehrenberg in Mikogeologie : 173, 1854.
 Nicobar Islands.

S. lanceolata Gandhi in IBS 34 : 335, f. 56, 1955.
 Rajasthan.

S. nicobarica Ehrenberg in Mikogeologie : 173, 1854.
 Nicobar Islands.

S. robusta Ehrenberg f. *minor* Gandhi in IBS 34 : 334,
 f. 45, 1955.
 Rajasthan.

S. subsalsa Smith f. *major* Gandhi in IBS 37 : 263,
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Mysore.

S. tenera Greg. var. *ambigua* Gandhi in Ceylon J. Sci.
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 Kolhapur.

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 Ges. Wien. 13 : 140, t. 14, f. 18 a, b, c, 1863.
 Nicobar Islands.

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 raman in IAS 10 : 305, f. 25, 26, 1939.
 Madras.

F. capuciana Desmaziers var. *courtallensis* Krishna-
 murthy in IBS 33 : 355, f. 3, 4, 1954.
 Courtallam. Type *no. 151*.

F. intermedia Gruenow var. *robusta* Venkataraman in
 IAS 10 : 304, f. 27, 42, 1939.
 [*Fragilaria ungeriana* Gruenow].
 Trichinopoly.

F. nankooensis Gruenow in Alg. Novara : 95, t. 1
 a, f. 2, 1870.
 Nancowry.

Raphoneis amphiceros Ehrenberg f. *linearis* Gonzalves
 et Gandhi in IBS 31 : 125, f. 14, 1952.
 Bombay.

R. discoides Subrahmanyam in IAS 24 : 166, f. 347,
 352, 1946.
 Madras.

Synedra kashyapiensis Misra in BNH 53 : 555, f. 40,
 1956.
 Porbandar.

S. ulna (Nitzsch.) Ehrenberg var. *constricta* Venkata-
 raman in IAS 10 : 308, f. 36, 1939.
 Madras.

S. ulna (Nitzsch.) Ehrenb. var. *crassa* Venkataraman
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 Cape Comorin.

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 Phytopl. Deutsch. Tiefsee Exptn. "Valdivia"
 2 : 268, 1907.
 Great Nicobar.

PLAGIOGRAMMACEAE

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 Gruenow in Alg. Novara : 95, t. 1 a, f. 8, 1870.
 Nancowry.

P. pulchellum Grev. var. *intermedia* Misra in BNH
 53 : 554, t. 37, 1956.
 Bombay.

LICMOPHORACEAE

- Climacosphenia littoralis* Misra in BNH 53 : 552, t. 36 a, b, c, 1956.
Dwaraka.
- Licmophora bharadwajai* Misra in BNH 53 : 549, f. 29, 30 a, b, 1956.
Dwaraka.
- L. paradoxa* (Lyngb.) Agardh var. *media* Misra in BNH 53 : 550, t. 32, 33, 1958.
Dwaraka ; Bombay.
- L. grandis* (Kuetz.) Gruenow var. *somnathii* Misra in BNH 53 : 552, t. 34 a, b, c, d, 1956.
Veraval, Porbandar.

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- Grammatophora caulerpica* Misra in BNH 53 : 547, f. 25, 1956.
Okha Port ; Bombay.
- Lauderia punctata* Karsten in Indische Phytopl. Deutsch Tiefsee Expdn. "Valdivia" 2 : 268, 374, t. 42, f. 7, 1907.
Nancowry.
- Rhabdonema indicum* Misra in BNH 53 : 546, f. 21, 1956.
Dwaraka.

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Nancowry.

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Bombay.
- Eunotia camelus* (Ehrenb.) Berg. var. *gibbosa* Gandhi in Ceylon J. Sci. 1 : 49, f. 14, 1957.
Radhanagari.
- E. camelus* (Ehrenb.) Berg. var. *karveorensis* Gandhi. Ibid. 1 : 49, f. 11-13, 1957.
Radhanagari ; Kolhapur.
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Radhanagari ; Kolhapur.
- E. fallax* Cleve var. *gracillima* Krasske f. *densistriata* Gonzalves et Gandhi in IBS 31 : 132, f. 30, 1952.
Bombay.
- E. gangetica* Ehrenberg in Mikogeologie : 131, t. 35 a, f. 2, 1854.
In R. Ganges.

- E. hebridica* Berg. var. *bergii* Gandhi in H 14 : 10, f. 21, 1959.
Kolhapur. Type slide PAN 1 : 136.
- E. minuta* Abdul-Majeed in 'Bacillariophyta' : 16, t. 2, f. 5, 6, 1935.
Lahore (Pakistan).
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Madras.
- E. pectinalis* (Kuetz.) Rabenh. var. *neglecta* Gandhi in Ceylon J. Sci. 1 : 47, f. 3-5, 1957.
Radhanagari.
- E. praeupta* Ehrenb. var. *musculicola* Peterson f. *major* Gonzalves et Gandhi in IBS 31 : 131, f. 26, 1952.
Bombay.
- E. pseudolunaris* Venkataraman in IAS 10 : 311, f. 53, 61, 1939.
Travancore.
- E. pseudopectinalis* Huest. f. *robusta* Gonzalves et Gandhi in IBS 31 : 136, f. 35, 1952.
Bombay.
- E. tetraglyphis* Ehrenberg in Mikogeologie : 172, 1854.
Nicobar.
- E. tumida* Gandhi in H 14 : 102, f. 22, 25, 1959.
Kolhapur. Type slide PAN 2 : 137.
- E. valida* Huest. var. *ambigua* Gonzalves et Gandhi in IBS 31 : 133, f. 31, 1952.
Bombay.
- E. valida* Huest. var. *ambigua* Gonzalves et Gandhi f. *boriviliana* Gonzalves et Gandhi in IBS 31 : 133, f. 32, 1952.
Bombay.

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- Rhizolenia castracanei* Peragallo var. *rhomboidea* Subrahmanyam in IAS 24 : 123, f. 153, 154, 156-160, 1946.
Madras.
- R. simplex* Karsten var. *major* Karsten in Indische Phytopl. Deutsch-Tiefsee Expdn. "Valdivia" 2 : 268, 376, t. 41, f. 1 a, 1907.
Nancowry.
- R. squamosa* Karsten. Ibid. 2 : 268, 382, t. 42, f. 3, 1907.
Nancowry.

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Nancowry.

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Nancowry.

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Nancowry.

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Nancowry.

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Nancowry.

T. robertsonianum Grev. var. *dwarkensum* Misra in BNH 53 : 541, f. 12, 1956.
Dwaraka.

CHAETOCERACEAE

Chaetoceros affinis Laueder var. *intermedius* Subrahmanyam in IAS 24 : 137, f. 233, 1946.
Madras.

C. didymus Ehrenb. var. *heterosetoides* Subrahmanyam in IAS 24 : 135, f. 220, 1946.
Madras.

C. indicus Subrahmanyam in IAS 24 : 133, f. 197, 205, 210, 1946.
Madras.

C. seychellarum Karsten in Indische Phytopl. Deutsch Tiefsee Expdn. "Valdivia" 2 : 268, 1907.
Great Nicobar.

C. sumatranum Karsten. Ibid. 2 : 268, 1907.
Nancowry.

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Aulacodiscus orbiculatus Subrahmanyam in IAS 24 : 107, f. 90, 91, 94, 95, 1946.
Madras.

A. orientalis Grev. var. *nankooresensis* Gruenow in Alg. Novara : 103, 1870.
Nancowry.

XANTHIOPYXIDACEAE

Thalassiosira coramandeliana Subrahmanyam in IAS 24 : 91, f. 15, 1946.
Madras.

T. marginata Venkataraman in IAS 10 : 297, f. 12, 13, 1939.
Madras.

T. tropica Misra in BNH 53 : 540, f. 8, 1956.
Porbandar.

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Coscinodiscus actinocyclus Ehrenberg in Mikrogeologie : 131, 1854.

In R. Brahmaputra.

C. centralis Ehrenberg. Ibid. t. 21, f. 3, 1854.
[*Coscinodiscus oculus-iridis* Ehrenberg].

Nancowry.

C. discoplea Ehrenberg. Ibid. 131, 1854.

In R. Ganges near Calcutta and in R. Brahmaputra near Barisal (E. Pakistan).

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Nancowry.

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In R. Ganges near Calcutta.

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Dwaraka, Veeraval, Bombay.

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In R. Ganges, Calcutta.

C. mesodictyon Ehrenberg. Ibid. 131 : 1854.
In R. Ganges.

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Nancowry.

Stictodiscus californicus Grev. var. *nankooresensis* Gruenow in Alg. Novara : 103, t. 1 a, f. 23, 1870.
Nancowry.

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Melosira roeseana Rabenh. var. *indica* Skvórtzow., in Philip. J. Sci. 58 : 180, t. 1, f. 1, 1935.
Calcutta.

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Nancowry.

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Peridinium sanguineum Carter in AMH 3 ser. 1 : 260, 1858.
Bombay.

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Naini Tal.

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Great Nicobar.

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Hyderabad. Type in Herb. Osmania Univ. no. 11/c, Oct. 1957, 1960.

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- Hornellia marina** Subrahmanyam in Indian Journ. Fish. 1 : 200-201, f. 1-12, 1954.
Malabar.

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Nancowry deposit. Type in Cleve & Moller slide no. 163, Herb., Crypt. Mus. hist. Nat. Paris.

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[**Euglena srinagari** (Bhatia) Huber-Pestalozzi].
Kashmir.
- Cryptoglana angulosa** Carter in AMH 3 ser. 3 : 1858.
[**Pteromonas angulosa** (Carter) Lemmerman].
Bombay.
- C. cordiformis** Carter in AMH 3 ser. 3 : 250, t. 8, f. 28, 1858.
[**Platymonas cordiformis** (Carter) Korshikov].
Bombay.
- C. lenticularis** Carter in AMH 3 ser. 3 : 247, t. 8, f. 18, 19, 1858.
[**Phacotus lenticularis** (Carter) Stein].
Bombay.
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Bombay.
- E. maharastrensis** Kamat in H 22 : 262, t. 13, f. 68, 69, 1963.
Kolhapur. Type K. 386.
- E. pringsheimii** Iyengar in Archiv. Mikrobiol. 42 : 325, f. 1-8, 1962.
Madras. Type in Iyengar's Herb.

- E. tuba** Carter in AMH 4 ser. 3 : 249, t. 17, f. 13, 1869.
Bombay.

- Glenoclosterium varians** Carter in AMH 3 : 258, t. 17, f. 16, 1869.
Bombay.

- Lopocinclis salina** Fritsch var. **ahmedabadensis** Kamat in UB 30 : 20, t. 3, 1962.

Ahmedabad. Type G. 473.

- Phacus acuminatus** Stokes var. **janei** Suxena in IBS 34 : 436, f. 2, 1955.
Hyderabad.

- P. heimi** Lefevra var. **minor** Suxena in IBS 34 : 493, f. 8, 13, 1955.
Hyderabad.

- P. platalea** Drez. var. **minor** Kamat in UB 30 : 17, t. 1, 1962.
Ahmedabad. Type G. 624.

- P. pseudopatalea** Pochm. var. **indica** Kamat in UB 30 : 17, t. 2, 1962.
Ahmedabad. Type G. 579.

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Calicut.

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Kolhapur. Type K. 386.

- Trachelomonas desikacharyi** Kamat in H 22 : 266, t. 13, f. 71, 1963.

Kolhapur. Type K. 556.

- T. kashmiri** Bhatia in Archiv. Protistenk. 72 : 363, f. 2, 1930.
Kashmir.

- T. ornata** Skvortzow var. **majus** Kamat in H 22 : 266, t. 13, f. 72, 1963.

Kolhapur. Type K. 553.

- T. ovalis** Daday var. **maharastrensis** Kamat in H 22 : 267, t. 13, f. 73, 1963.

Kolhapur. Type K. 557.

PERANEMACEAE

- Notosolenus skujae** Suxena in IBS 34 : 447, f. 45-47, 1955.
Sagar.

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E. enhali Boergs. in IBS 16 : 8, f. 2, 3, 1937.

[*Hecatonema terminalis* (Kuetz.) Kylin].

Pamban.

E. filifer Boergs. in IBS 16 : 10, f. 4, 5, 1937.

Mahabalipuram.

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E. thyrsoideus Boergs. in IBS 16 : 12, f. 6, 7, 1937.

Mahabalipuram.

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Mahabalipuram.

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Cape Comorin.

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Mahabalipuram.

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Cape Comorin.

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Okha, Dwaraka.

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Bombay.

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Bombay. Type *Boergesen* no. 5103.

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F. filiformis Klein (Mscr.). See under *Sargassum angustifolium* Kuetz.

F. intricatus Koenig. See under *Sargassum tenue* J. Ag. var. *capillaris* (Kuetz.) Gruenow.

F. lendigerus Esper in Fuci, t. 15, 1797-1799 ; Agardh, C. A. Sp. Alg. 1 : 7, 1823.

[*Sargassum cymosum* J. Ag. var. *esperii* (Sieber) Gruenow].

Bengal (Esper.).

Fucus leptocystus Mertens (Mscr.). See under *Sargassum angustifolium* Kuetz.

F. nudus Roettler. See under *Sargassum flavicans* (Mert.) C. Ag. var. *nuda* (Roettler) Gruenow.

F. punctatus Klein. See under *Sargassum tenue* J. Ag. f. *tranquebarensis* Gruenow.

F. swartzii Turner. See under *Sargassum swartzii* (Turner) C. Ag.

F. trichophyllus Klein (Mscr.). See under *Sargassum angustifolium* Kuetz.

F. virgatus Mertens (Mscr.). See under *Sargassum virgatum* (Mertens) C. Ag.

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Peninsular India.

S. acutifolium Greville in AMH 2 ser. 3 : 256, t. 10, 1849 ; TBS 3 : 98, t. 11, 1850.

Peninsular India.

S. affine Greville Mscr. in Herb. Hookerianum.

[*Sargassum acinaria* (Turner) J. Ag.].

India.

S. angustifolium Kuetz. in Sp. Alg. : 611, 1849 ; Tab. Phycol. 11, t. 171, 1861. *Fucus angustifolium* Turner in Hist. Fuc. 4, t. 212, 1819 ; *Fucus filiformis* Klein (Mscr.) ex Gruenow in VZB 65 : 365, 1915 ; *Fucus leptocystus* Mertens (Mscr.) ex Agardh, C. A. Sp. Alg. 1 : 32, 1823 ; Syst. Alg. : 305, 1824 ; *Fucus trichophyllus* Klein (Mscr.) ex Gruenow in VZB 65 : 365, 1915 ; *Sargassum flexile* Greville in AMH 2 ser. 3 : 505, t. 11, f. 3, 1849, et TBS 3 : 231, t. 15, 1850.

Indian Ocean.

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Coast of Hindustan (Wight) ; Tranquebar, South India.

S. biserrula J. Ag. f. *rudolphiana* Gruenow in VZB 65 : 415, 1915.

Near Tranquebar.

S. biserrula J. Ag. var. *tranquebarensis* Gruenow in Asken. Alg. der. Expd. Gazelle : 27.

Tranquebar.

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Peninsular India.
- S. brevifolium* Greville var. *pergracilis* Greville in AMH 2 ser. 3 : 108, t. 4, f. 3 b, 1849.
India.
- S. campbellianum* Greville. See under *Sargassum tenerrimum* J. Ag. var. *campbellianum* (Greville) Gruenow.
- S. capillare* Kuetz. See under *Sargassum tenue* J. Ag. var. *capillaris* (Kuetz.) Gruenow.
- S. carpophyllum* J. Ag. var. *aristifera* Gruenow in VZB 65 : 367, 1915.
Malabar.
- S. cervicorne* Greville in AMH 2 ser. 3 : 217, t. 9, f. 3, 1849 et TBS 3 : 96, t. 10, 1850.
[*Sargassum binderi* Sonder var. *cervicornis* (Grev.) Gruenow].
Peninsular India.
- S. cinereum* J. Ag. var. *thunbergii* Gruenow in VZB 65 : 378, 1915.
Coromandel Coast.
- S. concinnum* Greville (Mscr.) Gruenow in VZB 66 : 164, 1916.
India.
- S. divaricatum* Greville in AMH 2 ser. 3 : 255, t. 10, f. 2, 1849.
Peninsular India.
- S. dumosum* Greville in AMH 2 ser. 2 : 433, t. 13, 1848.
Peninsular India.
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[*Sargassum coriifolium* J. Ag. var. *echinocarpa* (Grev.) Gruenow].
Madras.
- S. elegans* Greville in AMH 2 ser. 3 : 107, t. 4, f. 2, 1848.
[*Sargassum myriocystum* J. Ag. var. *elegans* (Grev.) Gruenow].
Indian Coast.
- S. esperi* Agardh, C.A. in Sp. Alg. 1 : 7, 1823.
[*Sargassum cymosum* J. Ag. var. *esperi* (Seiber) Gruenow].
Bengal.
- S. flavicans* (Mert.) C. Ag. var. *nuda* (Roettler) Gruenow in VZB 65 : 368, 1915. *Fucus nudus* Roettler in Herb. Berol ; Gruenow ibid.
Tranquebar.
- S. flexile* Greville. See under *Sargassum angustifolium* Kuetz.
- S. gracile* Greville. See under *Sargassum tenue* J. Ag.
- S. granuliferum* C. Ag. in Sp. Alg. 1 : 31, 1823 et Syst. Alg. 305, 1824.
Indian Ocean ; in Herb. Colsman.
- S. ilicifolium* (Turner) C. Ag. var. *marginatum* C. Ag. See under *Sargassum marginatum* J. Ag.
- S. lanceolatum* Greville in AMH 2 ser. 2 : 431, t. 13, 1848 et TBS 3 : 90, t. 8, 1850.
[*Sargassum coriifolium* J. Ag. var. *lanceolata* (Grev.) Gruenow].
India.
- S. lanceolatum* J. Ag. var. *nicobarica* Gruenow in Novara Expdn. 1 : 1870 et VZB 66 : 32, 1916.
Nicobar Islands.
- S. leptophyllum* Greville. See under *Sargassum virgatum* (Mert.) C. Ag.
- S. marginatum* J. Ag. in Sp. et Gen. Ord. Alg. 1 : 324, 1848. *S. ilicifolium* (Turner) C. Ag. var. *marginatum* C. Ag. in Sp. Alg. 1 : 12, 1823 et Syst. Alg. : 296, 1824.
Indian Ocean (Koenig, specimen sent by Retzius to Agardh ; Herb. Agardh).
- S. marginatum* J. Ag. f. *cannamorensis* Gruenow in VZB 65 : 396, 1915.
Cannanore, West Coast of South India (Marchesetti).
- S. obovatum* Greville in AMH 2 ser. 3 : 216, t. 9, 1849 et TBS 3 : 95, t. 10, 1850.
[*Sargassum densifolium* Zan.].
Peninsular India.
- S. porosum* Greville in AMH 2 ser. 3 : 106, t. 4, 1849 et TBS 3 : 92, t. 9, 1850.
[*Sargassum oligocystum* Mont.].
Madras.
- S. scherzerianum* Gruenow in Reise der Frag. Novara, bot. Theil. 1 : 55, t. 5, f. 2 a, 1870.
Nicobar Islands.
- S. squarrosus* Greville in AMH 2 ser. 3 : 254, t. 10, 1849 et TBS 3 : 97, t. 11, 1850.
Peninsular India.
- S. swartzii* (Turner) C. Ag. in Sp. Alg. 1 : 11, 1823 et Syst. Alg. : 296, 1824. *Fucus swartzii* Turner in Hist. Fuci. 4 : 110, t. 248, 1819.
In the coast of Hindustan (Wight) Hooker's Herb. no. 247, 335.
- S. tenerrimum* J. Ag. in Sp. Gen. et Ord. Alg. 1 : 305, 1848.
Bombay (Herb. Areschoug) ; Karachi (Pakistan).
- S. tenerrimum* J. Ag. var. *ambigua* Gruenow in VZB 65 : 370, 1915.
Cannanore (Marchesetti).

Sargassum tenerrimum J. Ag. var. **campbellianum** (Grev.) Gruenow in VZB 65 : 370, 1915. *Sargassum campbellianum* Greville in AMH 2 ser. 2 : 275, t. 5, 1848 et TBS 3 : t. 7, 1850.
Bombay.

S. tenue J. Ag. in Sp. Gen. et Ord. Alg. 1 : 303, 1848. *Sargassum gracile* Greville in AMH 2 ser. 3 : 504, t. 11, 1849 et TBS 3 : 229, t. 15, 1850.
Coast of Hindustan, Herb. Hooker no. 239.

S. tenue J. Ag. var. **capillaris** (Kuetz.) Gruenow in VZB 65 : 374, 1915. *Sargassum capillare* Kuetz. in Sp. Alg. : 611, 1849 et Tab. Phycol. 11, t. 16(2), 1861 ; *Fucus intricatus* Koenig ex Kuetzing Phycol. Gen. : 361, 1843.
Tranquebar.

S. tenue J. Ag. var. **koenigii** Gruenow in VZB 65 : 375, 1915.
Tranquebar.

S. tenue J. Ag. var. **pseudocapillaris** Gruenow in VZB 65 : 374, 1915.
Pearl Bank, Indian Ocean.

S. tenue J. Ag. f. **tranquebarensis** Gruenow in VZB 65 : 374, 1915. *Fucus punctatus* in Herb. Vahl.ii.
Tranquebar.

S. virgatum (Mert.) C. Ag. in Sp. Alg. 1 : 10, 1823 et Syst. Alg. : 296, 1824 ; Kuetzing Sp. Alg. : 611, 1849. *Fucus virgatus* Mertens (Mscr.) ; Agardh, C.A. Syst. Alg. : 296, 1824 ; Agardh, J.G. Sp. Gen. et Ord. Alg. : 333, 1848 ; *Sargassum leptophyllum* Greville in AMH 2 ser. 3 : 504, t. 11, 1849.
Bay of Bengal (Herb. Berol.), Madras ; Tranquebar, Herb. Hooker no. 243.

S. wightii Greville in AMH 2 ser. 3 : 217, t. 9, 1849 et TBS 3 : 95, t. 10, 1850.
Coast of Hindustan (Wight).

RHODOPHYTA

PORPHYRIDACEAE

Allogonium depressum Martens in PAS : 12, 1870.
Lower Bengal.

ERYTHROTRICHACEAE

Compsopogon indicus Das in NIS 29 : 242, t. 1, 2, f. 1, 1963.
W. Bengal.

C. iyengarii Krishnamurthy in P 3 : 373, t. 1, f. 1-9, f. 1-44, 1953 et 7 : 402, f. 1-17, 1957.
Madras. Type Herb. Krishnamurthy no. 20, Presidency College, Madras.

ACROCHAETIACEAE

Acrochaetium champii Anand in "Rhodophyceae" : 8, f. 2 B, a, b, 1943.

Karachi (Pakistan).

A. dwarkense Boergs. in K 1932 : 114, f. 2, 1932.
Dwaraka.

A. erectum Boergs in K 1932 : 114, f. 1, 1932.
Dwaraka. Type *Boergesen* no. 5431.

A. iyengarii Boergs. in K 1933 : 113, f. 1, 2, 1933.
Mahabalipuram.

A. krusadii Boergs. in IBS 16 : 32, f. 17, 18, 19, 1937.
Krusadai Islands.

A. liagoraefilum Boergs. in IBS 16 : 35, f. 20, 21, 1937.
Mahabalipuram.

A. liagoroides Boergs. in IBS 16 : 40, f. 24, 25, 1937.
Mahabalipuram.

A. manorensense Anand in "Rhodophyceae" : 6, f. 2 a, 1943.

Karachi (Pakistan).

A. multisporum Boergs. in IBS 16 : 38, f. 22, 23, 1937.
Tuticorin.

A. sargassicola Boergs. in K 1932 : 115, f. 3-5, 1932.
Bombay. Type *Boergesen* no. 5005.

A. spathoglossi Boergs. in IBS 16 : 30, f. 14, 1937.
Tuticorin.

A. subseriatum Boergs. in K 1932 : 118, f. 6-7, 1932.
Tuticorin.

A. tuticorinense Boergs. in IBS 16 : 30, f. 15, 16, 1937.
Tuticorin.

CHANTRANSIACEAE

Chantransia pulvinata Schmidle in Allg. bot. Z. 6 : 79, 1900.
Bombay.

HELMINTHOCLADIACEAE

Helminthocladia calvadosii (Lamour) Setch. f. **indica** Desikachary in IBS 36 : 453, 454, f. 1-13, 1957.
Okha Port.

Liagora erecta Zeh. in Notizbl. K. bot. Gartens Museums, Berlin 5 : 268, 1913.
Madras.

CHAETANGIACEAE

Gloiophlaea fascicularis Boergs. See under **Pseudogloiophlaea fascicularis** (Boergs.) Desikachary.

Pseudogloiophlaea fascicularis (Boergs.) Desikachary in IAS 47 : 163-172, f. 1-8, 9-20, t. 8, 1958.
Gloiophlaea fascicularis Boergs. in K 1934 : 2, t. 1, f. 1, 2, 1934.

Okha Port ; Cape Comorin (*Boergesen* no 549, Karachi, Pakistan).

Scinaia bengalica Boergs. in Bot. Notiser. Lund. 89:184, f. 1-3, 1938.

Madras. Type no. 88 in Herb. British Museum, Nat. Hist., Edgar Thurston ; Herb. Iyengar, Madras.

S. hatei Boergs. in K 1931 : 5, f. 2, t. 1, f. 3, 4, 1931. Dwaraka, Okha Port. Type *Boergesen* no. 5484.

S. indica Boergs. in K 1931 : 4, t. 1, f. 1, 2, 1932.

Dwaraka, Okha Port. Type *Boergesen* no. 5479.

GELIDIACEAE

Echinocaulon myriocladum Boergs. in K 1934 : 5, f. 4, 5, 1934.

[*Gelidiella myrioclada* (Boergs.) Feldm. et Hamel]. Bombay. Type *Boergesen* no. 5235.

Gelidium heteroplatos Boergs. in K 1934 : 3, f. 3, t. 1, 1934.

Bombay.

G. pulvinatum (Kuetz.) Thuer. f. *parvissima* Boergs. in Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 12 : 42, f. 17, 1935.

Bombay.

G. variable (Grev.) J. Ag. See under *Gelidiopsis variabilis* (Grev.) Schmitz.

CORYNOMORPHACEAE

Corynomorpha prismatica J. Ag. in Bidr. Florid. in Lunds Univ. Arsskr. 8 : 4, 1872 et Epicr. : 143.

Gymnophloea prismatica Kuetz. in Sp. Alg. : 711, 1849 et Tab. Phycol. 16, t. 58, f. a-f, 1866. *Acrotylus prismaticus* J. Ag. in Sp. Alg. 2 : 193, 1851.

Hindustan (Herb. Agardh).

GRATELOUPIACEAE

Grateloupia comorinii Boergs. in IBS 17 : 217, f. 3, 4, 1938.

Cape Comorin. Type *Boergesen* no. 274.

G. indica Boergs. in K : 119, t. 2, 1932.

Okha Port. Type, *Boergesen* no. 5490.

G. lithophila Boergs. in IBS 17 : 215, t. 7, 1938.

Madras. Type *Boergesen* no. 370.

G. watii Holmes in J. bot. Lond. 34 : 351, 1896.

Kathiawar.

Halymenia amoena Bory in Belanger's Voy. bot. Crypt. : 169, 1829.

Cape Comorin.

H. dubia Bory Ibid. : 169, 1829.

Cape Comorin.

H. imbricata Dickie in Murray's Cat. Ceylon Alg. in Ann. Mag. nat. Hist. 20 : 23, 1887.

Tuticorin (Ferguson).

H. jelinekii Gruenow in Alg. Novara : 66, t. 9, f. 2 a-d, 1870.

Nicobar Islands.

H. polydactyla Boergs. See under *Sebdenia polydactyla* (Boergs.) Balakrishnan.

H. venusta Boergs. in K : 124, t. 5, f. 11, 1932.

Dwaraka. Type *Boergesen* no. 5442.

SQUAMARIACEAE

Cruoriella bicolor Boergs. in Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 12 : 47, f. 20, 21, 1935.

Bombay. Type *Boergesen* no. 5211.

Peyssonnelia obscura Web. v. Bosse var. *bombayensis* Boergs. Ibid. 12 : 44, f. 18, 19, 1935.

Bombay. Type *Boergesen* no. 5211 *pro parte*.

SOLENOPORACEAE

Solenopora coromandelensis Rao in IBSI : 335, f. 2, t. 1, f. 3-5, 1946.

Trichinopoly Cretaceous.

S. sahnii Rao et Samba Gowda in CS 23 : 178, f. 3, 1954.

Gullypaudy. Type no. E. 72.

S. tiruchiensis Rao et Samba Gowda in CS 23 : 178, f. 1, 1954.

Trichinopoly Cretaceous. Type A. 3/13.

Parachaetetes asvapatii Rao et Pia in GSI 21 : 32, t. 3, f. 1-5 ; f. 35-38, 1936.

Trichinopoly Cretaceous. Type *Geol. Surv. India* nos. 15767-15775.

CORALLINACEAE

Archaeolithothamnium archisporangia Rao in NAS 13 : 274, t. 1, f. 6 ; f. 1, 1943.

Khasia Hills. Type *Geol. Surv. India* no. K. 40/954-a.

A. cherrapunjensis (Das Gupta) Rao in NAS 13 : 272, 1943. *Lithothamnium cherrapunjensis* Das Gupta in CU 8 : 1-10, 1926.

Assam.

A. hemchandri Rao in NAS 13 : 275, t. 1, f. 7 ; f. 3, 1943.

Assam. Type *Geol. Surv. India* no. 40/300.

A. lakiensis Varma in NIS 18 : 304, t. 12, f. 3, 1952. Punjab.

A. langrinensis Rao in NAS 13 : 273, t. 1, f. 3-5 ; f. 4, 1943.

Assam. Type *Geol. Surv. India* no. K. 40/954 (a).

- Archaeolithothamnium nammalensis** Varma in NIS 18 : 305, t. 12, f. 4, 1952.
Punjab.
- A. nongsteinensis** Rao in NAS 13 : 270, t. 1, f. 1, 2 ; f. 2m, 1943.
Assam. Type *Geol. Surv. India no. K. 40/299-2*.
- A. nummulticum** (Gee) Rao in MYU 2 : 41-53, 1941.
Lithothamnium nummulticum Gee in Rec. Geol. Surv. India 59 : 217, 1926.
Andaman Islands.
- A. ranikotensis** Rao in MYU 2 : 48, t. 3, f. 4, t. 4, f. 1 ; f. 8, 10, 1942.
North West India.
- A. samanensis** Rao in MYU 2 : 45, t. 3, f. 3, 4, t. 4, f. 1, 3, 5 ; f. 7, 9, 11, 1942.
North West India.
- A. zonatum** Varma in NIS 18 : 303, t. 12, f. 1, 2, 1952.
Punjab.
- Corallina grandis** (Das Gupta) Rao in NAS 13 : 286, t. 2, f. 16-17 ; f. 27-30, 1943. *Lithophyllum grandis* Das Gupta in CU 8 : 1-10, 1926.
Assam. Type *Geol. Surv. India no. K. 40/957-a*.
- Goniolithon brassicaflorida** (Harv.) Foslie f. *laccadivica* Foslie. See under *Goniolithon laccadivicum* Foslie.
- G. laccadivicum** Foslie in "Corallinaceae" ; SEM 61 : 51, t. 9, f. 10-13, 1904. *Goniolithon brassicaflorida* (Harv.) Foslie f. *laccadivica* Foslie in Litho. Mald. Laccad. : 469, t. 25, f. 7, 1902.
Laccadive Islands.
- Lithophyllum lockhartii** Rao in MYU 2 : 48, t. 4, f. 5 ; f. 6, 1942.
N. West India.
- Lithothamnium cherrapunjensis* Das Gupta. See under **Archaeolithothamnium cherrapunjensis** (Das Gupta) Rao.
- L. grandis** Das Gupta. See under **Corallina grandis** (Das Gupta) Rao.
- L. malhi** Rao in NAS 13 : 281, t. 2, f. 11, 13, 1943.
Assam. Type *Geol. Surv. India no. K. 40/301-1*.
- L. nummulticum** Gee. See under **Archaeolithothamnium nummulticum** (Gee) Rao.
- L. pecki** Rao in NAS 13 : 279, t. 2, f. 9 ; f. 8-9, 1943.
Assam. Type *Geol. Surv. India no. K. 40/301-y*.
- Melobesia assamica** Rao in NAS 13 : 284, t. 2, f. 14 ; f. 22-24, 1943.
Assam. Type *Geol. Surv. India no. K. 40/300-b*.
- Mesophyllum daviesi** Rao in MYU 2 : 49, t. 3, f. 1, 2 ; t. 4, f. 2 ; f. 1-5, 1942.
West India.

- M. lakiense** Varma in NIS 19 : 350, t. 1 d, f. 1, 2, 3, 6, 1953.
Punjab.
- M. punjabense** Varma in NIS 19 : 351, t. 14, f. 4, 5 ; t. 15, f. 5, 6, 1953.
Punjab.

NEMASTOMACEAE

- Gymnophloea prismatica* Kuetz. See under **Corynomorpha prismatica** J. Ag.

SEBDENIACEAE

- Sebdenia polydactyla** (Boergs.) Balakrishnan in SA : 89, 1962. *Halymenia polydactyla* Boergs. in K 1932 : 122, t. 4, f. 10, 1932.
Okha Port, Dwaraka, Karachi (Pakistan). Type *Boergesen no. 5521*.

SOLIERIACEAE

- Solieria robusta** (Grev.) Kylin var. **wightii** (J. Ag.) Kylin in Lunds. Univ. Arsskr. n.f. avd. 2, 28 : 18, t. 5, f. 10, 1932.
Bay of Bengal.

RHODOPHYLLIDACEAE

- Gelidiopsis variabilis** (Grev.) Schmitz in Mar. Florid. von Deutsch-Oestafrika in Engler's Bot. Jahrb. 21 : 148, 1895. *Gigartina variabilis* Grev. (Mscr.) ex J. Agardh Sp. Alg. 2 : 468, 1851. *Gelidium variable* (Grev.) J. Ag. in Sp. Alg. 2 : 468, 1851.
India.

SPHAEROCOCCACEAE

- Sarcodia dichotoma** Boergs. in K : 122, t. 5, f. 8, 1933.
Karachi (Pakistan). Type Kew Herb. (J. A. Murray).

GRACILARIACEAE

- Gracilaria foliifera** (Forssk.) Boergs. f. **aeruginosa** Boergs. in IBS 17 : 226, 1938.
Pamban.
- G. foliifera** (Forssk.) Boergs. f. **granatea** Boergs. in IBS 17 : 226, 1938.
Krusadai Island.
- G. pygmaea** Boergs. in IBS 16 : 327, f. 3, 4, 1937.
Krusadai Island.
- Sarconema furcatum** Boergs. in K : 12, t. 2, f. 8, 1934.
Karachi (Pakistan). Type in Herb. Kew (J. A. Murray).

Sarconema scinaoides Boergs. in K : 12, t. 2, f. 9, 1934.
Karachi (Pakistan). Type in Kew Herb.

ACROTYLACEAE

Acrotylus prismaticus J. Ag. See under *Corynomorpha prismatica* J. Ag.

PHYLLOPHORACEAE

Gymnogongrus densus (Grev.) J. Ag. in Sp. Alg. 2:315, 1851. *Chondrus densus* Grev. (Mscr.) in J. Agardh Sp. Alg. 2:315, 1851.
India.

G. pygmaeus (Grev.) J. Ag. Ibid. 2:317, 1851. *Chondrus pygmaeus* Grev. (Mscr.) in Herb. Hooker ; J. Agardh, Sp. Alg. 2:317, 1851.
India.

GIGARTINACEAE

Chondrus densus Grev. Mscr. See under *Gymnogongrus densus* (Grev.) J. Ag.

C. pygmaeus Grev. Mscr. See under *Gymnogongrus pygmaeus* (Grev.) J. Ag.

Gigartina variabilis Grev. Mscr. See under *Gelidiopsis variabilis* (Grev.) Schmitz.

CHAMPIACEAE

Champia compressa Harv. var. *scindica* Boergs. in K 1933:117, t. 5, f. 3, 1933.

Karachi (Pakistan). Type in Kew Herb.

C. globulifera Boergs. in IBS 16:330, f. 5, 6, 7, 1937.
Pamban.

C. indica Boergs. in K:120, t. 6, f. 7, 1933.
Dwaraka ; Okha Port.

C. plumosa Anand in "Rhodophyceae":63, f. 43 a-d, 1943.
Karachi (Pakistan).

Gastroclonium iyengarii Srinivasan in IBS 39:160, t. 4, f. 1-3 ; f. 1-5, 1960.
Okha Port. Type no. 3421 ; Isotype 3422 ; Paratype in Herb. M. O. P. Iyengar.

RHODYMENIACEAE

Chrysomenia uvaria (L.) J. Ag. f. *luxurians* Boergs. in K 1931:8, t. 2, f. 1 ; f. 5, 1931.

[*Botryocladia leptopoda* (J. Ag.) Kylin].

Dwaraka ; Karachi (Pakistan) (Murray).

Maripelta thivyae Dawson in Nova Hedwigia 5:448, t. 81, f. 5, 1963.

Krusadai Island. Holotype in Herb. Beaudette Foundation.

Rhodymenia dissecta Boergs. in IBS 17:226, f. 7, 1938.

Tuticorin.

CERAMIACEAE

Ceramium manorensis Anad in "Rhodophyceae":28, f. 19 a-d, 1943.

Karachi (Pakistan).

C. tranquebariense Roth. See under *Cladophora tranquebariensi* Kuetz.

Monospora indica Boergs. in K:12, f. 8, 1931.
Bombay.

Spyridia alternans Boergs. in K:125, t. 7, f. 9, 1933.
Karachi (Pakistan).

S. fusiformis Boergs. in IBS 16:338, f. 12, 13, 14, 1937.

Krusadai Island.

DELESSERIACEAE

Caloglossa bombayensis Boergs. in K:127, f. 10-12, 1933.

Bombay. Type *Boergesen* 5208.

Delesseria bengalensis Martens. See under *Hypoglossum bengalense* Martens.

D. pygmaea Martens. See under *Hypoglossum pygmaeum* Martens.

Hypoglossum bengalense Martens in PAS:258, 1870.

Delesseria bengalensis Martens ex Prain in BSI 3:331, 1903.

Malta.

H. pygmaeum Martens in PAS:172, 1871. *Delesseria pygmaea* Martens ex Prain in BSI 3:331, 1903.
Calcutta Salt Lakes.

Membranoptera murrayi Boergs. in K:130, t. 8, f. 13-14, 1933.

Karachi, Pakistan. Type in Kew Herbarium.

Myriogramma bombayensis Boergs. in K:23, t. 2, f. 4, f. 15, 1931 et Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 12:57, f. 24-25, 1935.

Bombay. Type *Boergesen* 5132.

M. okhaensis Boergs. in K:22, t. 2, f. 3, f. 14, 193.

Okha Port. Type *Boergesen* 5485 ; Karachi (Pakistan) (Herb. Kew, J. A. Murray).

LOPHOTHALIACEAE

Lynkiella karuvalensis Varma in IAS 52:52, t. 1, f. 1-3 ; t. 2, f. 4-7 ; f. 1-14, 1960.

Tuticorin. Type in Cent. Mar. Fish. Res. Stn. Herb. RPV 1038 ; Paratype 1038-1, 1038-2, 1038-3 (Velangu Karuval Paars, Tuticorin).

RHODOMELACEAE

- Acanthophora wightii* J. Ag. in Sp. Alg. 3 : 821, 1876. India.
- Amansia prolifera* Grev. See under *Enantiocladia prolifera* (Grev.) Falkenb.
- Chondria cornuata* Boergs. in K : 130, f. 15, 16, 1932. Bombay. Type *Boergesen* 5076 ; Karachi (Herb. Kew, J. A. Murray).
- C. dasyphylla* (Woodw.) Ag. var. *stellata* Boergs. in K : 133, f. 15, 16, t. 9, 1933. Dwaraka.
- C. transversalis* Boergs. in IBS 17 : 232, f. 9, 10, 11, 1938. Tuticorin. Type *Boergesen* 5737.
- Dictymenia prolifera* Kuetz. See under *Enantiocladia prolifera* (Grev.) Falkenb.
- Enantiocladia prolifera* (Grev.) Falkenb. in Rhodomelaceen Monogr. ; 26 : 442, 1901. *Amansia prolifera* Grev. ex J. Agardh Sp. Alg. 2 : 1116, 1863 ; *Dictymenia prolifera* Kuetz. in Sp. Alg. : 848, 1849 et Tab. Phycol. 19, t. 54, 1869. Cape Comorin ; Tuticorin.
- Laurencia parvula* Boergs. in IBS 16 : 49, f. 27, 1937. Krusadai Island.
- L. pedicularioides* Boergs. in K : 136, t. 9, 1933. Dwaraka. Type *Boergesen* 5449.
- L. platyclada* Boergs. in K : 21, t. 3, f. 13, 1941. Karachi, Pakistan (Herb. New York Bot. Gardens).
- Polysiphonia gopnathensis* Thivy et Rao in Botanica Marina 5 : 25, t. 1, 2, f. 1-12, 1963. Gujerat. Type *CSMCRI Herb. nos. 168, 170*. Bhavanagar.
- P. platycarpa* Boergs. in K : 23, f. 16, 17, 1934 et Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 12 : 60, 1935. Bombay. Type *Boergesen* 5024.
- P. polychroma* Martens in PAS : 172, 1871. Calcutta Salt Lakes.
- P. tuticorinensis* Boergs. in IBS 17 : 235, t. 8, f. 12, 13, 1938. Tuticorin. Type *Boergesen* 5764.
- P. unguiformis* Boergs. in IBS 16 : 53, f. 30-33, 1937. Pamban.
- Spirocladia barodensis* Boergs. in Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 10 : 14, f. 1-10, 1933. Okha Port. Type *Boergesen* 5551, 5562.

DASYACEAE

- Dasya flagellifera* Boergs. in Det. K. Dansk. Vidensk. Selsk. Biol. Meddl. 11 : 50, t. 1, f. 7, 8, 1934. Okha Port. Type *Boergesen* 5549.

D. iyengarii Boergs. in IBS 16 : 345, f. 16, 17, 1937. Pamban.

Dictyurus purpurescens Bory in Belanger's Voy. Ind. Orient. (1826-1829) : 170, t. 1, f. 2, 1836. Cape Comorin.

PART II

Species which are considered as not validly published, doubtful or rejected.

CYANOPHYTA

CHROOCOCCACEAE

Aphanothece pallida (Kuetz.) Rabenh. f. *minor* Dixit in IAS 3 : 95, 1936.

Bombay. Desikachary (1959) considers the identity of this taxon as doubtful as this resembles very much var. *macrococca* Brugg. which is transferred to *A. castagnei* (Breb.) Rabenh.

A. saxicola Nag. f. Rao in IAS 3 : 165, 1936.

Benaras.

Chroococcus montanus Hansgirg f. Rao in IAS 6 : 345, f. 1, f. 1937.

Benaras.

C. pallidus Nag. f. Dixit in IAS 3 : 95, 1936.

Bombay.

C. pallidus Nag. f. Rao in IBS 17 : 82, 1938.

Andhra State.

C. westii (West) Boye-Peterson var. *terrestris* Mitra in JAS 21 : 36, 1956.

Allahabad. "Nomen nudum" (Desikachary, 1959).

Dactylococcopsis raphidioides Hansgirg f. Rao in IAS 6 : 347, 1937.

Benaras.

Gloeocapsa granosa (Berk.) Kuetz. f. Gonzalves in UB 16 : 24, 1947.

Vajreshwari, "Species inquirendae" (Desikachary, 1959).

G. kurziana Martens ex Prain in BSI 3 : 332, 1905. Sibpur, "Species Excludenda" (Desikachary, 1959).

G. stegophila (Itzigs.) Rabenh. f. Rao in PAS 11 : 126, 1940.

Delhi.

Merismopedia glauca (Ehrenb.) Nag. f. Rao in IAS 9 : 143, f. 1 a, 1939.

Dharbanga.

M. minima Beck. f. Rao in IAS 6 : 346, 1937.

Benaras.

Microcystis aeruginosa Kuetz. var. *elongata* Rao in IAS 6 : 341, f. 1 a-c, 1937.

Uttar Pradesh. According to Desikachary (1959),

the variation in the species itself is so much that it is not desirable to keep this variety separate.

Microcystis scripta (Richter) Lemm. f. Rao in IAS 11 : 125, 1940.

Delhi.

Palmogloea kuerziana Martens in PAS : 11, 1870.

Calcutta. Species of *Palmogloea* are now transferred to *Anacystis* or *Gloeocystis*.

Synechocystis sp. Rao in CS 26 : 177-178, t. 6, 7, 1957.

Bikaner.

Tetrapedia foliacea Turner in KSV 25 : 12, t. 20, f. 18, 1892.

Bengal (Wallich Mscr. no. 311). The genus is not recognised by Geitler as according to him, most of the species have been identified as developmental stages of various algae, or they being imperfectly known.

T. wallichiana Turner in KSV 25 : 12, t. 20, f. 10, 1892.

Bengal (Wallich Mscr. no. 324).

CHAMAESIPHONACEAE

Chamaesiphon siderophilus Starmach var. Rao in IAS 6 : 347, 1937 et 8 : 84, 1938.

Uttar Pradesh and Orissa.

C. sp. Turner in KSV 25 : 13, 1892.

[*Chamaesiphon curvatus* Nordst. var. *turneri* Forti]. North India.

DERMOCARPACEAE

Dermocarpa sphaerica Setchell et Gardner f. Rao in IAS 11 : 127, 1940.

Delhi.

Stichosiphon indica Rao f. Singh in IAS 9 : 63, 1939.

[*Stichosiphon sansibaricus* (Hieron) Drouet et Daily].

Benaras.

OSCILLATORIACEAE

Conferva bombycina Kuetz. var. *crassior* Martens in PAS 39 : 258, 1870.

Calcutta.

Hydrocoleum lenormandi Martens in PAS 40 : 173, 1871.

Salt Lakes, Calcutta. "*Species inquirendae*" (Desikachary, 1959).

Hyphaethrix investiens Martens in PAS 39 : 11, 1870.

N. Bengal.

H. subundulata Martens in PAS 40 : 171, 1871.

[*Schizothrix subundulata* (Martens) Desikachary]. Bengal.

Lyngbya birgei Smith f. Gupta in Journ. Res. D.A.V. College, Kanpur 3 : 1956.

Allahabad.

L. ceylanica Wille f. Rao in IAS 3 : 174, 1936 et IBS 17 : 94, 1938.

Benaras.

L. corticola Bruehl et Biswas f. Rao in IAS 6 : 372, 1937.

Benaras.

L. dendrobia Bruehl et Biswas f. Rao in IAS 6 : 372, 1937.

Benaras.

L. digueti Gomont f. Banerji in CU 1 : 105, 1938.

Lower Bengal.

L. digueti Gomont f. Rao in IAS 6 : 373, 1937.

Benaras.

L. hieronymusii Lemm. var. *major* Mitra in JAS 21 : 359, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

L. iyengari Mitra in JAS 21 : 359, 362, 1951.

Allahabad. "*Species Excludenda*" (Desikachary, 1959).

L. iyengari Mitra var. *violaceae* Mitra in JAS 21 : 359, 362, 1951.

Allahabad. "*Species excludenda*" (Desikachary, 1959).

L. majuscula Harv. var. *chakiaense* Rao in IAS 3 : 174, f. 3 e, f, 1936.

Benaras. According to Desikachary (1959), this algae is so variable that it is doubtful whether one can separate subordinate taxa.

L. martensiana Menegh. f. Banerji in CU 1 : 106, 1938.

Salt Lakes, Bengal.

L. martensiana Menegh. f. Rao in IAS 6 : 374, 1937.

Benaras.

L. martensiana Menegh. f. Bharadwaja in IAS 2 : 97, f. 2 a, 1935.

Benaras.

L. martensiana Menegh. f. Singh in IAS 14 : 253, 1941.

Punjab.

L. penicillata (Kuetz.) Rabenh. var. *tripunctata* Biswas in Hedwigia 76 : 121, t. 7, f. 2, 1937.

[*Schizothrix penicillata* (Kuetz.) Gomont ?].

Inle Lake (Annandale).

L. polysiphoniae Frey f. Singh in IAS 14 : 253, 1941.

Punjab.

L. rubida Frey f. Mitra in JAS 21 : 359, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

- Lyngbya rubida* Fremy f. Rao in IAS 6 : 373, 1937 et 8 : 169, 1938.
Benaras.
- L. stagnina* Kuetz. f. Rao in IAS 6 : 374, 1937.
Benaras.
- Microcoleus chthonoplastes* Thuret ex Gomont f. Dixit in IAS 3 : 105, 1936.
Bombay.
- M. lacustris* (Rabenh.) Farlow f. Rao. See under **Microcoleus lacustris** (Rabenh.) Farlow f. **minor** Desikachary.
- M. subtorulosus* (Breb.) Gomont f. Singh in IAS 9 : 68, 1939.
Gorakhpur.
- Oscillatoria acuminata* Gomont f. Dixit in IAS 3 : 103, 1936.
Bombay.
- O. acuminata* Gomont f. Rao in IAS 6 : 368, 1937.
Benares.
- O. calcuttensis* Biswas f. Rao in IBS 17 : 92, 1938.
Palacol.
- O. curviceps* Ag. ex Gomont f. Rao in IAS 8 : 165, f. 2 e, f, 1938.
Cuttack.
- O. curviceps* Ag. ex Gomont f. Parukutty in IAS 11 : 120, 1940.
Travancore.
- O. formosa* Bory ex Gomont f. Rao in IBS 17 : 92, 1938.
Andhra State.
- O. jatorvensis* Vouk. f. Gonzalves in BU 16 : 26, 1947.
Bombay.
- O. kuerziana* Martens in PAS 39 : 12, 1870.
Calcutta. "*Species Inquirendae*" (Desikachary, 1959).
- O. martini* Fremy f. Rao in IAS 8 : 166, 1938.
Orissa.
- O. proboscidea* Gomont f. Gonzalves in BU 16 : 26, 1947.
Bombay.
- O. pseudogeminata* Schmidle f. Rao in IAS 6 : 366, 1937.
Uttar Pradesh.
- O. pseudogeminata* Schmidle f. Rao in IAS 11 : 129, 1940.
Delhi.
- O. rubescens* DC ex Gomont f. Rao in IAS 6 : 367, 1937.
Benaras.
- O. sancta* (Kuetz.) Gomont f. Dixit in IAS 3 : 103, 1936.
[*Oscillatoria sancta* (Kuetz.) Gomont].
Bombay.
- O. sancta* (Kuetz.) Gomont f. Rao in IAS 6 : 366, 1937.
[*Oscillatoria sancta* (Kuetz.) Gomont].
Benaras.
- O. serpentina* Richter in O'Kuntze's Rev. gen. Pl. 3 : 387, 1898 ; Forti in De Toni's Syll. Alg. 5 : 188, 1907.
Poona. no 7516. "*Species Inquirendae*" (Desikachary, 1959).
- O. subbrevis* Schmidle f. Dixit in IAS 3 : 103, 1936.
Bombay.
- O. terebriformis* Ag. ex Gomont f. Rao in IAS 3 : 171, 1936.
Uttar Pradesh.
- O. variabilis* Rao in IAS 3 : 172, f. 3 a-d, 1936.
[*Oscillatoria raoi* De Toni].
Benaras.
- O. variabilis* Rao f. Rao in IAS 8 : 167, 1938.
[*Oscillatoria raoi* De Toni].
Berhampur.
- O. variabilis* Rao f. Sing in JAS 9 : 60, 1939.
[*Oscillatoria raoi* De Toni].
Mirzapur, and Benaras.
- O. versicolor* Martens in PAS 40 : 173, 1871.
Calcutta. "*Species Inquirendae*" (Desikachary, 1959).
- Phormidium ambiguum* Gomont f. Rao in IAS 6 : 369, 1937.
Benaras.
- P. angustissimum* West, W. et G.S. f. Mitra in JAS 21 : 359, 360, 362, 1951.
Allahabad.
- P. autumnale* (Ag.) Gomont f. Rao in IAS 8 : 169, 1938.
Orissa.
- P. bohnieri* Schmidle f. Rao in IAS 3 : 173, 1936 et 6 : 368, 1937.
Benaras ; Berhampur.
- P. favosum* (Bory) Gomont f. Rao in IAS 6 : 369, 1937.
Benaras.
- P. fragile* (Menegh.) Gomont f. Mitra in JAS 21 : 359, 361, 1951.
Allahabad.
- P. hieronymusii* Lemm. f. *major* Mitra in JAS 21 : 359, 360, 362, 1951.
Allahabad. "*Nomen nudum*" (Desikachary, 1959)
- P. jadinianum* Gomont f. Rao in IAS 3 : 173, 1936.
Benaras.

Phormidium oryzetorum Martens in PAS 39 : 12, 1870.
Calcutta. "*Species Inquirendae*" (Desikachary, 1959).

P. pachydermaticum Frey f. Rao in IAS 8 : 168, 1938.
Berhampur.

Schizothrix subundulata (Martens) Desikachary in C : 332, 1959.

Bengal. "*Species Inquirendae*" (Desikachary, 1959).

Symploca muralis Kuetz. ex Gomont f. Rao in IAS 6 : 375, 1937.
Benaras.

NOSTOCACEAE

Anabaena allahabadii Mitra in JAS 21 : 359, 1949.
Allahabad. "*Nomen nudum*" (Desikachary, 1959).

A. gelatinosa Fritsch ex De in Proc. R. Soc. Lond. ser. B, 127 : 125, 1939.

[*Anabaena oryzae* Fritsch].

Bengal. "*Nomen nudum*" (Desikachary, 1959).

A. hansgirgi Schmidle in Hedwigia 39 : 185, 1900.
Bombay. "*Species rejeciendae*" (Desikachary, 1959).

A. iyengarii Bharadwaja f. Rao in IAS 9 : 148, 1939.
Bihar.

A. iyengarii Bharadwaja f. Singh in IAS 9 : 67, 1939.
Gorakhpur.

A. moniliforme Randhawa in IAS 4 : 37, 1936.
North India. "*Species rejeciendae*" (Desikachary, 1959).

A. (Sphaerozyga) nordstedtii Turner in KSV 25 : 13, f. 19, 1892.

North India. "*Species rejeciendae*" (Desikachary, 1959).

A. oscillarioides Bory ex Born. et Flah. f. Parukutty in IAS 9 : 233, 1939.
Assam.

A. thermalis Vouk var. *indica* Fritsch ex De in Proc. R. Soc. Lond. 127 : 125, 1939.

[*Anabaena anomala* Fritsch].

Bengal. "*Nomen nudum*" (Desikachary, 1959).

A. torulosa (Carm.) Lagerh. ex Born. et Flah. f. Fritsch in IBS 28 : 144, f. 51-59, 1949.
Faridpur.

A. variabilis Kuetz. ex Born. et Flah. f. Rao in IAS 3 : 171, 1936.

Benaras. According to Fritsch (1949) this taxon is not quite different from the type.

Anabaenothrix cylindrica Randhawa et Ghose in IAS 3 : 407, f. 1, 2, 1936.

Punjab.

A. epiphytica Randhawa et Ghose in IAS 3 : 408, f. 3-5, 1936.

Punjab.

Cylindrospermum muscicola Kuetz. ex Born. et Flah. f. Singh in JAS 9 : 59, 1939.

Uttar Pradesh.

C. muscicola Kuetz. ex Born. et Flah. f. Singh in IAS 14 : 252, 1941.

Punjab.

C. muscicola Kuetz. ex Born. et Flah. var. *kashmirensis* Bharadwaja f. Singh. in IAS 14 : 252, 1941.

Punjab.

C. vouki Pevalek f. Prasad in IBS 41 : 324, 1962.
India.

Nodularia fertilissima Randhawa in IAS 4 : 41, 1936.
Hoshiarpur. "*Nomen nudum*" (Desikachary, 1959).

Nostoc linckia (Roth) Bornet ex Born. et Flah. var. *globispora* Mitra in JAS 21 : 359, 360, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

N. paludosum Kuetz. ex Born. et Flah. f. Rao in IAS 6 : 358, 1957.

Benaras.

N. piscinale Kuetz. ex Born. et Flah. f. Rao in IAS 6 : 359, 1937.

Benaras.

Richelia intracellularis Schmidt f. Iyengar et Desikachary in MU 16 : 53, f. 16, 1944.

Madras.

Sphaerozyga nordstedtii Turner in KSV 25 : 13, t. 20, f. 19, 1892.

Bengal (Wallich Mscr. no. 336 and Turner no. 792).

Wollea bharadwajae Singh f. Prasad in IBS 31 : 360, f. 9-13, 1952.

Benaras.

SCYTONEMATACEAE

Plectonema indica Dixit f. Rao in IBS 17 : 86, 1938.
Andhra State.

Scytonema granulatum Martens in PAS 40 : 172, 1871.
Salt Lakes, Calcutta. "*Species Inquirendae*" (Desikachary, 1959).

S. iyengari Bharadwaja f. Singh in IAS 14 : 251, 1941.
Punjab.

S. maculiforme Schmidle in Allg. bot. Z. 6 : 78, 1900 et Hedwigia 39 : 184, 1900.

Bombay. "*Species Inquirendae*" (Desikachary, 1959).

S. myochrous (Dillw.) Ag. ex Born. et Flah. f. Bharadwaja in RA 7 : 174, 1934.

Gundar Falls, South India.

Scytonema pseudoguyanense Bharadwaja f. Bharadwaja
in RA 7 : 166, 1934.

Kerala.

Tolypothrix lanata Wartmann f. Rao in IAS 6 : 354,
1937.

[*Tolypothrix tenuis* (Kuetz.) Schmidt em.].

United Provinces.

T. robusta Gardner f. Rao in IAS 6 : 354, 1937.

Benaras.

MICROCHAETACEAE

Microchaete tenera Thuret f. Bharadwaja in IAS
2 : 101, 1935.

United Provinces.

M. tenera Thuret ex Born. et Flah. f. Rao in IAS
6 : 352, 1937.

Benaras.

RIVULARIACEAE

Calothrix anomala Mitra in JAS 21 : 360, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

C. catenata Mitra in JAS 21 : 362, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

C. elenkinii Kossinskaja f. Rao in IBS 17 : 84, 1938.
Andhra State.

C. fusca (Kuetz.) Born. et Flah. f. Rao in IAS 8 : 159,
f. 1 a, b, 1938.

Berhampur.

C. gardneri De Toni f. Rao in IAS 6 : 350, 1937.

Benaras.

C. linearis Gardner f. Rao in IAS 6 : 350, 1937.

[*Calothrix gardneri* De Toni].

Benaras.

C. membranaceae Schmidle var. *purpurea* Mitra in JAS
21 : 362, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959).

C. ramosa Bharadwaja in Archiv. Protistenk. 81 : 246,
1933.

India. "*Nomen nudum*" (Desikachary, 1959).

C. scytonemicola Tilden f. Bharadwaja in IAS 2 : 98,
f. 3 a, b, 1935.

Benaras.

C. viguerii Fremy f. Rao in IBS 17 : 84, 1938.

Andhra State.

Gloeotrichia intermedia (Lemm.) Geitler var. *kan-
waensis* Rao. f. Singh in JAS 9 : 58, 1939.

Uttar Pradesh.

G. raciborskii Woloszyńska var. *bombayense* Dixit f.
Prasad in IBS 41 : 324, 1962.

India.

Rivularia globiceps West f. Rao in IBS 17 : 85, 1938.
Vizagapatam.

STIGONEMATACEAE

Fischerella anomala Bharadwaja in Archiv. Protistenk.
81 : 246, 1933.

India. "*Nomen nudum*" (Desikachary, 1959).

F. muscicola (Thur.) Gomont var. *indica* Mitra in
JAS 21 : 360, 362, 1951.

Allahabad. "*Nomen nudum*" (Desikachary, 1959)

Fischeria tenuis Martens in PAS 39 : 259, 1870.

Calcutta. "*Species Inquirendae*" (Desikachary, 1959).

Hapalosiphon welwitschii West, W. et G.S. f. Rao in
IAS 6 : 349, f. 3 c, d, 1937.

Benaras.

Mastigonema granulatum Martens in PAS 39 : 258,
1870.

Howrah. "Doubtful and of uncertain status" (Desi-
kachary, 1959).

Stigonema tenue (Martens) Born. et Flah. in Rev.
des Nostoc. heterocyst. : 67, 1887.

Calcutta. "*Species Inquirendae*" (Desikachary,
1959).

CHLOROPHYTA

CHLAMYDOMONADACEAE

Chlamydomonas sp. Iyengar in SA 1959 : 391, f. 3,
1960 et 393, f. 20, 21, 1960.

Madras.

Chlorogonium sp. Philipose in IAS 47 : 297, f. 17-19,
1958.

West Bengal, Orissa, Andhra.

VOLVOCACEAE

Volvox merrilli Shaw f. Iyengar in JLS 49 : 354, f. 7,
8, d, 9, f, 1933.

Seven Pagodas near Madras.

CHARACIACEAE

Characium ambiguum Hermann f. Dixit in IAS 5 : 17,
1937.

Bombay.

ULOTRICHACEAE

Geminella mutabilis (Nag.) Wille f. Parukutty in IAS
9 : 142, 1939.

Shillong.

Ulothrix sp. Rao in CS 26 : 177-178, t. 5, 1957.

Bikaner.

ULVACEAE

Enteromorpha prolifera Agardh f. Singh in IAS
14 : 257, 1941.

Benaras.

Monostroma sp. Carter in BSI 9 : 279, 1926.
Tirusuli River.

CLADOPHORACEAE

Cladophora bengalensis Martens ex Prain. in BSI 3 : 330, 1903.
Barrackpore.

CHAETOPHORACEAE

Palaeachlya sp. Rao et Pia in GSI 21 : 28, t. 2 f. 1, 2, 1936.
Trichinopoly Cretaceous. Type *Geol. Surv. India* no. K. 31/970 and K. 31/971.

TRENTEPOHLIACEAE

Mycoidea parasitica Cunningham in LS 2nd ser. 1 : 312, t. 42, 43, 1880
[*Cephaleures virescens* Kunze].
Nilghiris ; Calcutta.
Trentepohlia gracilis Iyengar ex Bruehl. et Biswas in CU 5 : 19, t. 7, f. 24 a-f, 1923.
Sibpur.

OEDOGONIACEAE

Oedogonites sp. Dwivedi in CS 28 : 285-286, 1959.
Madhya Pradesh.
Oedogonium capilliforme Kuetz. f. Singh in IAS 8 : 387, f. 7 a-b, 1938.
Gorakhpur.
O. hirnii Gutwinski f. Singh in IAS 8 : 393, f. 10 a, 1938 et JAS 9 : 65, 1939.
Gorakhpur.
O. intermedium Wittr. f. Singh in JAS 9 : 65, 1939.
Uttar Pradesh.
O. longatum Kuetz. f. Singh in IAS 8 : 382, f. 5 a, 1938.
Benaras.

ZYGNEACEAE

Mougeotia sphaerocarpa Wolle f. Rao in IBS 16 : 287, f. 7 d, 1957.
Benaras.
Sirogonium floridanum Transeau f. Rao in IBS 17 : 352, f. 3 c, 1938.
[*Sirogonium ceylanicum* Wittr.].
Madhya Pradesh.
S. ventersicum Transeau f. Rao in IBS 16 : 287, 1937 et 17 : 353, 1938.
Benaras.
Spirogyra anomala Rao f. Rao in IBS 17 : 350, 1938.
Hoshangabad.

S. anomala Rao f. Singh in IBS 17 : 380, f. 4 d, 1938.
Gorakhpur.
S. bififormis Jao f. Singh in IBS 17 : 374, 1938.
Gorakhpur.
S. chuniae Jao f. Rao in IBS 16 : 274, f. 3 a-c, 1937.
[*Spirogyra grevilleana* (Hassal.) Kuetz.].
Benaras.
S. columbiana Czurda f. Rao in IBS 16 : 278, f. 4 c, d, 1937 et 17 : 348, 1938.
[*Spirogyra columbiana* Czurda.].
Uttar Pradesh.
S. decimina (Mull.) Czurda f. Rao in IBS 16 : 277, 1937 et 17 : 342, f. 1 e, 1938.
Benaras.
S. dubia Kuetz. f. Rao in IBS 16 : 277, f. 3 f-g, 1937 et 17 : 345, f. 2 f-g, 1938.
Benaras.
S. fluviatilis Hilse f. Rao in IBS 16 : 283, f. 6 a, b, 1937.
Benaras.
S. fullebornei Schmidle f. Rao in IBS 16 : 278, 1937.
Benaras.
S. fullebornei Schmidle f. Singh in IBS 17 : 375, 1938.
Benaras.
S. juergensii Kuetz. f. Singh in IBS 17 : 374, 1938.
Gorakhpur.
S. lacustris Czurda f. Misra in IAS 5 : 115, f. 2 a, 1937.
Kashmir.
S. longata (Vaucher) Czurda f. Rao. in IBS 17 : 342-343, f. 1 f-g, 1938.
[*Spirogyra indica* Krieger].
Madhya Pradesh.
S. neglecta (Hassal) Kuetz. f. Rao. in IBS 16 : 280, f. 5 b, 1937.
Benaras.
S. neglecta (Hassal) Kuetz. f. Singh in IBS 17 : 375, 1938.
Benaras.
S. nitida (Dillw.) Link f. Rao in IBS 16 : 280, f. 5 c, 1937.
Benaras.
S. nitida (Dillw.) Link f. Singh in IBS 17 : 377, 1938.
Gorakhpur.
S. plena (West, W. et G.S.) Czurda f. Rao in IBS 16 : 283, f. 5 f-g, 1937.
Benaras.
S. plena (West, W. et G.S.) Czurda f. Singh in IBS 17 : 378, 1938.
Gorakhpur.
S. pseudoneglecta Czurda f. Rao in IBS 17 : 349, 1938.
Jubbulpur.

- Spirogyra scrobiculata* (Stockmeyer) Czurda var. *inflata* Rao f. Rao in IBS 17 : 344, 1938.
[*Spirogyra suomiana* Transeau].
Madhya Pradesh.
- S. setiformis* (Roth) Kuetz. f. Dixit in IAS 5 : 22, 1937.
Bombay.
- S. setiformis* (Roth) Kuetz. f. Rao in IBS 16 : 280, 1937.
Benaras.
- S. subaequa* Kuetz. var. Martens in PAS : 171, 1871.
Rajmahal Hills.
- S. subsalsa* Kuetz. f. Misra in IAS 5 : 113, f. 2 d, 1937.
Kashmir.
- S. ternata* Ripart f. Rao in IBS 16 : 277, f. 4 a, 1937.
Benaras.
- S. varians* (Kuetz.) Czurda f. Rao in IBS 17 : 342, 1938.
Madhya Pradesh.
- S. verruculosa* Jao f. Rao in IBS 17 : 349, f. 3 a, 1938 et 16 : 283, 1937.
Jubbulpore ; Benaras.
- S. weberi* (Kuetz.) Czurda f. Rao in IBS 16 : 274, 1937.
Benaras.
- S. weberi* (Kuetz.) Czurda f. Singh in IAS 14 : 259, 1941.
Benaras.
- Zygnema globosum* Czurda f. Singh in IBS 17 : 369, 1938.
Gorakhpur.
- Z. globosum* Czurda f. Rao in IBS 17 : 341, f. 1 a-d, 1938.
Jubbulpore.
- Z. normani* Taft. var. *lamellata* Rao. f. Singh in IAS 14 : 259, 1941.
Benaras.
- Z. sphaerica* Misra f. Misra in IAS 5 : 111, 1937.
Kashmir.
- Z. sphaerica* Misra f. Rao in IBS 16 : 270, f. 1 e, 1937.
Benaras.

DESMIDIACEAE

- Closterium lunula* (Mueller) Menegh. f. Turner in KSV 25 : 29, 1892.
Bengal.
- C. pusillum* Hantz. f. Venkataraman in BNH 54 : 915, 1957.
Benaras.

- C. ulna* Focke f. Turner in KSV 25 : 20, 1892.
Bengal.
- Cosmarium arnellii* Boldt. f. Turner in KSV 25 : 60, t. 8, f. 60, 1892.
Bengal.
- C. homalodermum* Nordst. f. Turner in KSV 25 : 53, t. 8, f. 23, 1892.
Bengal.
- C. jenisejense* Boldt. f. Turner in KSV 25 : 56, t. 8, f. 28, 1892.
North India.
- C. maculatum* Turner f. Turner in KSV 25 : 49, t. 8, f. 68, 1892.
Bengal.
- C. norimbergense* Reinsch. var. *microscopicum* Turner f. Turner in KSV 25 : 64, t. 9, f. 43, 1892.
Bengal.
- C. pseudoprotuberance* Kirchner f. Turner in KSV 25 : 59, t. 8, f. 49, 1892.
Bengal.
- C. pusillum* Breb. var. *retusum* Turner f. Turner in KSV 25 : 71, t. 10, f. 26, 1892.
Bengal.
- C. venustum* Breb. f. Turner in KSV 25 : 70, t. 10, f. 20, 24 ; t. 11, f. 2, 1892.
Bengal.
- C. sp.* Turner in KSV 25 : 52, t. 8, f. 4, 1892.
Bengal.
- Euastrum commissurale* Breb. var. *crassum* Nordst. f. Turner in KSV 25 : 75, t. 11, f. 27, 1892.
Bengal.
- E. commissurale* Breb. var. Wallich in AMH 3 ser. 5 : 285, t. 14, f. 12-16, 1860.
Raneegunge.
- E. rostratum* Ralfs. var. Wallich in AMH 3 ser. 5 : 283, 1860.
Raneegunge.
- E. verrucosum* Ehrenb. var. Wallich in AMH 3 ser. 5 : 282, t. 14, f. 5-7, 1860.
[*Euastrum verrucosum* Ehrenb. var. *wallichianum* Turner].
Lower Bengal.
- Holocystis incisa* Kuetz. var. Wallich in AMH 3 ser. 5 : 276, t. 13, f. 6-8, 1860.
Lower Bengal.
- Hyalotheca incisa* Kuetz. var. Wallich in AMH 3 ser. 5 : 276, t. 13, f. 6-8, 1860.
Raneegunge.
- H. mucosa* Ralfs. var. Wallich in AMH 3 ser. 5 : 187, 1860.
Raneegunge.

Leuronema nitens Wallich var. Wallich in AMH 3 ser.
5 : 194, t. 7, f. 12-14.; t. 8, f. 12, 13, 1860.

[*Sphaerososma nitens* Wallich].

Raneegunge.

Micrasterias expansa Bailey var. Wallich in AMH
3 ser. 5 : 276, t. 13, f. 9, 1860.

Raneegunge.

M. foliacea Bailey var. Wallich in AMH 3 ser.
5 : 280, t. 16, f. 1-4, 1860.

Raneegunge.

M. morsa Ralfs. var. Wallich in AMH 3 ser. 5 : 277,
t. 13, f. 10, 1860.

Raneegunge.

Sphaerososma excavatum Ralfs. var. Wallich in AMH
3 ser. 5 : 192, t. 7, f. 15, 16, 17, 1860.

[*Sphaerososma wallichii* Jacobs.].

Raneegunge.

Staurostrum cristatum (Nag.) Archer f. Turner in KSV
25 : 112, t. 16, f. 44, 1892.

North India.

S. denticulatum (Nag.) Archer f. Turner in KSV
25 : 112, 1892.

North India.

S. gracile Ralfs. f. Iyengar et Vimala Bai in IBS 20 : 96,
f. 64, 65, 66, 1941.

Kodaikanal.

S. papillosum Kirchner f. Turner in KSV 25 : 112,
t. 13, f. 18, 1892.

Bengal (Wallich Mscr. no. 184).

S. quadricornutum Roy et Bisset f. Turner in KSV
25 : 110, t. 14, f. 2, 1892.

Bengal (Wallich Mscr. no. 221).

DASYCLADACEAE

Holosporella sp. Samba Gowda in CS 22 : 169, f. 1, 2,
1953.

Trichinopoly Cretaceous.

Neomerearum sp. Rao et Pia in GSI 21 : 23, t. 2, f. 3,
1936.

Trichinopoly Cretaceous. Type *Geol. Surv. India*
no. K. 31/967.

Neomeris (Decaisnella) sp. Varma in NIS 20 : 299,
t. 9, f. 1, 7, 1954.

Trichinopoly.

N. (Larvaria ?) sp. Rao in MYU 2 : 51, t. 4, f. 6 ;
f. 13, 1942.

North West India.

N. (Vaginopora) sp. Varma in NIS 20 : 300, t. 9,
f. 2, 3, 1954.

Trichinopoly.

CHAROPHYTA

Chara braunii Gmelin var. *kuerzii* Zaneveld f. Sun-
daralingam in IAS 49 : 25, 1959.

Bangalore.

C. nuda Pal f. Sundaralingam in IAS 49 : 27, f. 65-70,
1959.

Madras.

C. soluta Griffith in Not. Plant. Asiat. 2 : 280, 1849.

Haridwar. Zaneveld (1940) remarks that the type
specimens seem to have disappeared and the species is
insufficiently described and has never been mentioned
again. He has, therefore, included this taxon under
doubtful or little known species.

Lycimoscepus voigtii Griffith Ibid. 2 : 283, t. 44, f. 1-14,
1849.

Bengal. Griffith described this as a new genus with
the above species. At the same time he has remarked
also that this may be a representative of Equisetaceae.

CHRYSOPTHYA

BOTRYDIACEAE

Botrydium granulatum (L.) Grev. var. Iyengar in IBS
4 : 200, 1925.

Mysore.

VAUCHERIAACEAE

Vaucheria sessilis DC. f. Singh in IAS 14 : 255, 1941
Punjab.

CHRYSOPHYCEAE

Hydrurus foetidus (Vill.) Kirchner f. Bharadwaja in
IAS 3 : 278, f. 1 a, 1936.
Kashmir.

BACILLARIOPHYCEAE

NAVICULACEAE

Pinnularia major Smith f. Singh in JAS 9 : 67, 1939.
Uttar Pradesh.

FRAGILARIACEAE

Raphoneis elegans Pant. et Gruenow f. Desikachary et
Maheshwari in IBS 37 : 34, f. 22, 1958.
Colebrook Islands.

ASTEROLAMPRACEAE

Asterolampra nicobarica Gruenow f. Desikachary et
Maheshwari in IBS 37 : 32, f. 8, 1958.
Colebrook Islands.

Asteromphalus flabellatus (Breb.) Grev. f. Desikachary et Maheshwari in IBS 37 : 33, f. 4, 1958.
Colebrook Islands.

EUGLENOPHYTA

Euglena sp. Rao in CS 26 : 177-178, t. 8, 9, 1957.
Bikaner.
Lepocinclis ovum (Ehrenb.) Lemmerm. var. *punctato-striata* Lemmerm. f. Suxena in IBS 34 : 433, f. 40, 1955.
Hyderabad.

PHAEOPHYTA

SARGASSACEAE

Sargassum heterocystum Mont. var. Gruenow in Expd. Novara.
[*Sargassum brevifolium* Grev. f. *subecostata* Gruenow].
Nicobar Islands.

RHODOPHYTA

CORALLINACEAE

Archaeolithothamnium sp. Rao in Nature 128 : 226, f. 1, 1931.
Trichinopoly Cretaceous.
Lithothamnium sp. Rao. Ibid. 128-873, 1931.
Trichinopoly Cretaceous.

CERAMIACEAE

Ceramium manorensis Anand f. Anand. in "Rhodophyceae" : 29, f. 20 a-c, 1943.
Karachi (Pakistan).

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