REVIEW
OF LITERATURE
Morphological studies on algae have been done by a large number of workers, from almost every region of the world. Hence only a few of the works are being cited here. The works being cited have been tried to be more relevant to the present studies, but can not be claimed to be the only best ones.

History of Algae is as old as that of botany. Phykos was the Greek, Fucus was the Roman Tsao was the Chinese and Limu was the Hawaiian words for an Alga. The first writings on algae appeared in the ancient Chinese classics, where references to the collecting, eating and medicinal uses of algae are found. There are also references in Roman and Greek literature related to the use of algae for cosmetic purposes. Early writings about algae were restricted either to their use or either to their taxonomy. Carolus Linnaeus (1754) distinguished two kingdoms of living things: Animalia for animals and Vegetabilia for plants. He included Hepaticeae amongst group of plants he named Algae. Since the beginning of nineteenth century, with the development of microscope as a workable tool, microscopic and life history studies were made by Roth (1797-1805), Turner (1802), Vaucher (1803), Link (1820), Agardh (1824), Hasall (1852), Areschoug (1866-74) etc. In the later part of 19th century many genera were described by Klebs (1893), West (1916), Strasberger (1897), Sauvageau (1899) and Blackman (1900) etc. Major contributors to the knowledge on algae, in the early part of 20th century were: Fritsch (1931, 35, 45) and Yamanauchi (1909) etc.

List of Indian, early, workers, contributing to the knowledge on algae includes: Royle (1839), Griffith (1847), Carter (1858), Wallich (1828), Ghose (1920, 21). Iyenger, the father of modern Indian algology started publication on Indian algae since 1920. His students Balakrishnan, Desikachary, Kanthamma, Ramanathan and Subramaniam followed him with significant contributions to Indian algae. Bruhl and
Biswa (1926), Bharadwaja (1933), Dixit (1931, 35, 37, 40, 42), have contributed much to the knowledge on Indian algae. Monographs on algae, published by the ICAR are valuable contributions to Indian algae.


Cyanophyta is, although being separated from algal group but still the study of the group as algae is not much objected. It is one of the most investigated groups of Indian algae. To quote only a few of the workers of the group include Desikachary (1959), Dhingra & Ahluwalia (2007), Mishra et al. (2008), Rao (1939) and Singh (1961).

Chlorophyceae including the volvocales has been studied by Dixit. (1935), Iyengar (1960), Kamat (1962), Khan (1970), and Singh (1941b).

Volvocales have been studied by Apte (1936), Das & Srivastava (1955), Das & Srivastava (1956), Desikachary (1971, 1972), Doraiswami (1940), Hegde & Bharati (1983), Philipose (1958) and Rao (1944). However, the monograph on volvocales by Iyengar & Desikachary (1981) is a most exhaustive account on the Indian volvocales.
Literature on Chlorococcales includes Philipose (1967) and Shukla et al. (2007). Works on Charophyta include Agarkar & Kundu (1937), Allen (1925, 1928, 1933, 1936, 1937, 1942), Dixit (1931, 1935, 1937, 1940, 1942), Kundu (1938b, c, 1941, 1959), Pal et al (1962), Pal & Venkataraman (1962), and Sundaralingam (1959). Oedogoniales is not a much investigated group. Some of the works on the group include Gonzalves & Gangla (1949), Gonzalves & Jain (1968, 1970, 1981), Gonzalves & Joshi (1943a, b, c, 1946), Gonzalves & Sonnad (1955, 1957, 1961) and Goyal (1964). Lesser works on the group has been compensated by the voluminous monograph on the group by Gonzalves (1962). Thus, Gonzalves only is the major contributor to the group in India.

Ulotrichales like Oedogoniales is a less investigated group. Some of the works on the group are: Mitra (1945, 1947), Ramanathan (1964), Randhawa (1936c, d, 1941, 1948, 1959a), RN Singh (1954), VP Singh (1941a).

A monograph on Zygremaceae has been written by Randhawa (1959b), while Venkataraman (1961) has written monograph on Vaucheriaceae.


Euglenineae is studied both by the zoologists as well the botanists, hence, the group is one of the more investigated groups of algae. Some of the works on the group include Habib & Pandey (1990), Munawar (1974), Naidu (1962, 1966), Patel & Waghodekar (1981), Philipose (1982, 1984, 1988) and Suxena (1955).

Taxonomy of algae has been proposed by Desikachary (1958).

Algae as food has been evaluated by Kamat (1969).

Physico-chemical characters of the habitat of freshwater algae have been studied by Das (2008) and Vikal & Tyagi (2006).

Eutrophication and its association with algal bloom has been investigated by Kamat (1968), Kanungo et al. (1985), Kapoor & Vikal (2006) and Tiwari & Shukla (2007).

Pollution and plankton relations has been investigated by Kar et al (1987), Rai & Kumar (1980), Reddy & Venkateswarlu (1985) and Sinha (2002).

Algae as bioindicator has been assessed by Laal et al. (1994).

Seasonal variation of freshwater algae has been investigated by Mishra et al. (2007).

Studies on soil algae of India has been made by Singh (1939).