The members of the Zygnemataceae are common throughout the different states of India. The different genera present in the states are shown in Fig. 18. They are fairly abundant in areas of heavy and medium rainfall in the States of Assam, Bihar, Andhra Pradesh, Orissa, Uttar Pradesh, Punjab, West Bengal, Western Ghats areas of Bombay, Mysore, Tamil Nadu, and Kerala. In the dry areas of the Deccan Plateau, Gujarat, and in Rajasthan they are rather rare. In the States of Uttar Pradesh, Punjab, West Bengal, Tamil Nadu, Mysore, Bombay, Gujarat, and Kerala much amount of work has been done on this group of algae. The other states remain more or less unexplored. (Table.4)
Fig. 18. MAP OF INDIA

Genera
- Mougeotia
- Temnogametum
- Spirogyra
- Sirogonium
- Siriacladium
- Zygnema
- Zygmemopsis
- Zygogonium
- Debarya

1. Jammu & Kashmir
2. Punjab
3. Himachal Pradesh
4. Uttar Pradesh
5. Bihar
6. Sikkim
7. West Bengal
8. Assam
9. Madhya Pradesh
10. Gujarat
11. Maharashtra
12. Andhra Pradesh
13. Karnataka
14. Tamil Nadu
15. Kerala
Table: 4. References cited for the members of Zygmemataceae reported from different states of India.

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<th>States</th>
<th>References</th>
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<td>1.</td>
<td>Andhra Pradesh</td>
<td>Randhawa 1936; West 1907; Lekshminarayana 1978.</td>
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<td>2.</td>
<td>Assam</td>
<td>Carter 1926; Randhawa 1959.</td>
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<td>5.</td>
<td>Himachal Pradesh</td>
<td>Carter 1926; Randhawa 1940; Transeau 1944.</td>
</tr>
</tbody>
</table>
9. Maharashtra


10. Madhya Pradesh

Rao 1938; Agarkar & Agarkar 1972; Rao in Randhawa 1959.

11. Punjab


12. Tamil Nadu

Iyengar 1958; Iyengar in Randhawa 1959; Randhawa 1958.

13. Sikkim

Krishna 1993

14. Uttar Pradesh

15. West Bengal

In Kerala, 8 genera are identified, and they are distributed in the different districts of Kerala as shown in the Fig.19. Species of Spirogyra, Mougeotia and Zygnema are particularly common, and these genera are cosmopolitan in distribution. Species of Sirocladium, and Zygogonium are commonly found in the terrestrial wet soils and rocky cuttings of Idukki, Kasargod, Kollam, Palakkad and Wynad districts of Kerala. And the other genera, Sirogonium, Temnogametum and Zygnemopsis are distributed randomly in different areas. (Table 5).

During summer season most of the water bodies are getting dry, so that, at this period, the Zygnemataceae members have poor growth. But, during rainy seasons the water bodies are flooded with water. But at the post monsoon months they are partially or completely dried and movement of water is at its minimum. The rapid movement of water and overflowing occur only during monsoon seasons, so that the maximum growth occurs only during post monsoon months, that is when the water becomes clear. At this time free-floating filamentous forms are abundant in different areas. Epiphytic forms are less abundant and terrestrial forms are rare (Table 6). Monthly occurrence of the vegetative and reproductive stages of different genera of Zygnemataceae are given in Table 7.
Districts
1. Kasargod
2. Kannur
3. Kozhikode
4. Wynad
5. Malappuram
6. Thrissur
7. Palakkad
8. Ernakulam
9. Alappuzha
10. Kottayam
11. Idukki
12. Pathanamthitta
13. Kollam
14. Trivandrum

Genera
Mougeotia
Temnogametum
Spirogyra
Sirogonium
Sirocladium
Zygnema
Zygnemopsis
Zygogonium

Fig. 19.
Table 5. List of species collected from the different districts of Kerala.

<table>
<thead>
<tr>
<th>No.</th>
<th>Districts</th>
<th>Mougeotia</th>
<th>Sirocladium</th>
<th>Sirogonium</th>
<th>Spirogyra</th>
<th>Temnothrix</th>
<th>Zygnematum</th>
<th>Zygnekempsis</th>
<th>Zygongoniolum</th>
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Table: 6. Habitat and number of species of Zygnemataceae collected from different places of Kerala

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<th>Spg</th>
<th>Srg</th>
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**Mou** - Mougeotia  
**Tem** - Temnogametum  
**Zym** - Zygnema  
**Zyp** - Zyg nemopsis  
**Zyg** - Zygogonium  
**Spg** - Spirogyra  
**Srg** - Sirogonium  
**Scl** - Sirocladium
Table: 7. Monthly variations in vegetative and reproductive stages of different genera.

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V - Vegetative stages  
R - Reproductive stages