V. MYCOGEOGRAPHY

Decay fungi like other fungi are widely distributed. Temperature is the most important factor governing the distribution (Bakshi, 1971). Rainfall also greatly influence on the occurrence of decay fungi a certain amount of moisture in the substrate and in the atmosphere is necessary for the fungi to develop sporophore. Therefore, in deserts, decay fungi are few. In tropical conditions with high temperature and rainfall, decay fungi are diverse and large in number and also remain active for greater part of the year. In temperate regions, fungi are fewer and remain active for a shorter period, i.e. during summer.

According to Ryvarden (1991), a climate is never sharply defined in nature and this will also be reflected in distribution.

Many genera and of course species where the distribution is fairly well known and used in their delimitation.

The distribution of the species is strongly affected by the available substrate. Bisbay (1933) stated that the range of fungal distribution is controlled to a larger extent by the distribution at their hosts rather than the climatic factors apart form the nature of the substrate (Findlay, 1966).

The Aphyllorales commonly known as wood decaying fungi are known to be widely distributed. Temperature relation of Indian species of wood decaying fungi has been worked out in culture (Sehgal et al, 1966) and their distribution according to climate has been correlated. Harsh and Bisht (1982) and Mehrotra et al, 1983) have also determine the role of altitude in the distribution of species in the Kumaun Himalayas.

Ryvarden (1991) has concluded the order Aphyllorales as cosmoplitian genera, because the member of this genus is recorded from all major climatic zones. He also considered this genus as an Austro-American genus because
many of the endemic species are found in this region. The species endemic for Southern-South America are *Phellinus badius*, *P. gilvus*, *P. contiguus*, *Microporellus chocolates* and species endemic to Australia and New Zealand are *Polyporus alveolaris*, *P. tenuiculus*, *Loweporus tephroporus* (Rajchenberg, 1989).

The species *Aphyllophorales* will be classified geographically as follows (Fig. 5).

A. Cosmopolitan species:

These species of *Aphyllophorales* may tolerate wide range of temperatures, so that they are universally distributed both as regards continents and climates, tropical to temperate. The species compromise: *Fomitopsis scutellata*, *Ganoderma lucidum*, *Heterobasidion insulare*, *Lenzites acuta*, *Trametes pubescens*, *Trametes tephroleuca*, *Phellinus contiguus*, *Phellinus gilvus*, *Amylostereum chailletii*, *Scytinostromella heterogena*, *Scytinostroma poretentosum*, *Scytinostroma rhizomorpharum*, *Stereum rugosum*, *Stereum sanguinolentum*, *Stereum hirsutum*, *Polyporus alveolaris*, *P. grammacephalus*, *P. tenuiculus*.

B. Climate dependent species:

In this group the distribution of species seems to be restricted by the climatic factors, either directly or indirectly through the host. The latter is probably rather rare as very few species are restricted to only one host species viz., *Polyporus alveolaris*, *Polyporus tenuiculus*, *Lenzites acuta*, *Lenzites elegans*, *Irpex lacteus*, *Ganoderma ahmadii*, *Ganoderma lucidum*, *Coriolopsis brunneo-leuca*, *Amauroderma camararium*, *Albatrellus confluens*. In other case it may be more difficult to see the real reason for a pattern, but of a species has a wide range of hosts and does not follow them everywhere, it is fair to assume some climatic factors are involved. Thus the species placed here are those where this criterion has been fulfilled in the climatic group. The
group is further subdivided according to type of climate involved. The following classification refers to the main climate of world (Ryvarden, 1991). In connection with the following discussion, there will be references made to the continued drift (Table 5).

1. Tropical species- The tropical polypores are generally in a shaky state, the order Aphyllophorales mainly composed of species with a tropical distribution. The species are generally reported in the tropical zones and can be sub-divided in to following groups-

a. Pantropical- Species distributed throughout the forest part of the tropical zones e.g. all except Phellinus contiguus and Phellinus gilvus.


c. Neotropical- Species endemic to tropical America.

The species are reported from this group- Amauroderma camerarium, A. rude, A. leptopus, Amylostereum chailletii, Albatrellus confluens, Coriolopsis brunneo-leuca, Coriolopsis caperata, Coriolopsis gallica, Ceraceomyces reidii, Earliella scabrosa, Epithele fulva, Flavolus brasilensis, Fomitopsis feei, Fomitopsis scutellata, Flavodon flavus, Ganoderma lucidum, G. ahmadii, Gloeoporus thelephorides, Ganodrma species, Heterobasidion insulare, Hexogonia tenuis, Irpex lacteus, Lenzites acuta, L. steroids, L. elegans, Lopharia papyracea, L. species, L. cinerascens, Loweporus tephroporus, Microporellus chocolatus, Polyporus grammacephalus, Polyporus alveolaris, Polyporus tenuiculus, Phellinus badius, P. gilvus, P.
contiguus, Perenniporia medulla-panis, Gramothele fuligo, Rigidoporus sp., Scytinostromella heterogena, Stereum gausapatum, Stereum hirsutum, Stereum rugosum, Stereum sanguinolentum, Scytinostroma poretentosum, Scytinostroma rhizomorpharum, Trametes tephroleuca, Trametes menziezii, Trametes mariana, Trametes pubescens, Trametes cingulata and Schizophyllum commune occur in tropic of Africa and Asia even though the regions are widely separated geographically.

2. Sub-tropical species- This group includes both Northern and Southern sub-tropics of America, Europe, Africa and Asia. Bakshi (1971) introduced the Himalyan species in the temperate regions, but the Author has quoted this area as subtropical in this text. The species are Amauroderma rude, A. leptopus, Amylostereum chailletii, Albatrellus confluens, Coriolopsis brunneo-leuca, Coriolopsis gallica, Ceraceomyces reidii, Epithele fulva, Flavolus brasilensis, Fomotopsis feei, Flavodon flavus, Ganoderma lucidum, Gloeoporus thelephorides, Heterobasidion insulare, Hexogonia tenuis, Irpex lacteus, L. steroids, Loparia papyracea, Loweporus tephroporus, Microporellus chocolates, Polyporus tenuiculus, Phellinus badius, Phellinus contiguus, Perenniporia medulla-panis, Rigidoporus sp., Schizophyllum commune, Scytinostromella heterogena, Stereum gausapatum, Stereum rugosum, Scytinostroma poretentosum, Trametes tephroleuca, Trametes mariana, Trametes pubescens and Trametes cingulata.

3. Temperate species- this group include the Northern regions of the America, Europe, Asia and Southern region of New Zealand. The species are namely Amylostereum chailletii, Amauroderma camerarium, Coriolopsis gallica, Epithele fulva, Fomotopsis scutellata, Ganoderma lucidum, Heterobasidion insulare, Lenzites acuta, Phellinus contiguus, Phellinus gilvus, Scytinostromella heterogena, Scytinostroma poretentosum, Scytinostroma rhizomorpharum, Stereum rugosum, Stereum sanguinolentum, Stereum hirsutum.
4. Boreal species- Erriksson and Strid (1969) introduced the term “ta gia species” for fungi having special Northern distribution pattern. Renvall et al, (1991) reported Phellinus contiguus from Montane coniferous forest as Tagia species of Boreo-continental. This group includes species which are circumpolar and in the northern boreal (Sweden and Siberia ) regions of Asia and Europe shows the distribution of species which thrive at low temperatures like Ganoderma lucidum, Lenzites acuta, and Phellinus badius these species are widely distributed in tropics of America, Europe, Africa, Asia and Australia even though the climate is totally different.

Species of Aphyllophorales were previously reported from India by Bagchee et al,(1954), Bakshi (1971), Thind et al, (1957-1980) from all major plains especially from Nothern India: Dehra Dun, Musoorie, Chandigarh etc. Recently Anjali roy (1987), Culcutta, Tiwari et al, (1989), Jabalpur (M.P.); Natarajan and Raman (1980); Ganesh and Leelavathy (1986), Calicut; Sharma and Ghosh (1989), Calcutta were reported it from the tropical regions of the India.

The floristic elements of the species of Aphyllophorales that occur in the state of Maharashatra can be classified into three main types-

i. Species migrated from western sub-Himalayan ranges (Viz. Amylostereum chailletii, Fomitopsis scutellata, Ganoderma lucidum, Heterobasidion insulare, Lenzites Acuta, Stereum rugosum, Trametes pubescens, Trametes tephroleuca.