

Diversity and Distribution of Polyporales in Peninsular Malaysia (Kepelbagaian dan Taburan Polyporales di Semenanjung Malaysia)

MOHAMAD HASNUL BOLHASSAN, NOORLIDAH ABDULLAH*, VIKINESWARY SABARATNAM, HATTORI TSUTOMU,
SUMAIYAH ABDULLAH, NORASWATI MOHD. NOOR RASHID & MD. YUSOFF MUSA

ABSTRACT

Macrofungi of the order Polyporales are among the most important wood decomposers and caused economic losses by decaying the wood in standing trees, logs and in sawn timber. Diversity and distribution of Polyporales in Peninsular Malaysia was investigated by collecting basidiocarps from trunks, branches, exposed roots and soil from six states (Johor, Kedah, Kelantan, Negeri Sembilan, Pahang and Selangor) in Peninsular Malaysia and Federal Territory Kuala Lumpur. This study showed that the diversity of Polyporales were less diverse than previously reported. The study identified 60 species from five families; Fomitopsidaceae, Ganodermataceae, Meruliaceae, Meripilaceae, and Polyporaceae. The common species of Polyporales collected were Fomitopsis feei, Amauroderma subrugosum, Ganoderma australe, Earliella scabrosa, Lentinus squarrosulus, Microporus xanthopus, Pycnoporus sanguineus and Trametes menziesii.

Keywords: Macrofungi; Polyporales

ABSTRAK

Makrokulat daripada Order Polyporales adalah antara pereput kayu yang sangat penting dan telah diketahui bahawa banyak spesies Polyporales menyebabkan kerugian daripada aspek ekonomi dengan menyebabkan pereputan pada pokok-pokok kayu, balak serta kayu gergaji. Kepelbagaian dan taburan Polyporales di Semenanjung Malaysia telah dikaji dengan membuat koleksi basidiokarpa yang terdapat pada batang-batang kayu, dahan, akar banir serta yang tumbuh di permukaan tanah di enam buah negeri (Johor, Kedah, Kelantan, Negeri Sembilan, Pahang dan Selangor), termasuk di Wilayah Persekutuan Kuala Lumpur. Hasil kajian menunjukkan taburan Polyporales adalah kurang meluas daripada yang telah dilaporkan sebelum ini. Enam puluh spesies daripada lima famili: Fomitopsidaceae, Ganodermataceae, Meruliaceae, Meripilaceae dan Polyporaceae telah dikenalpasti. Antara spesies yang biasa dijumpai adalah Fomitopsis feei, Amauroderma subrugosum, Ganoderma australe, Earliella scabrosa, Lentinus squarrosulus, Microporus xanthopus, Pycnoporus sanguineus dan Trametes menziesii.

Kata kunci: Kulat makro; Polyporales

INTRODUCTION

Peninsular Malaysia located approximately between 6° 45' and 1° 20' N latitude and 99° 40' and 104° 20' E longitudes comprises eleven states and the Federal Territory of Kuala Lumpur and Putrajaya. Topographically, Peninsular Malaysia is characterized by extensive coastal plains in the east and west, hilly and mountainous region with steep slopes in the central and undulating terrain in other parts of the peninsula. The forests of Peninsular Malaysia have been classified according to their ecological and physical conditions, but for the purposes of management they can be classified broadly into the Dipterocarp, Freshwater Swamp and Mangrove forests (Hooi 1987). The dipterocarp forest occurs on dry land just above sea level to an altitude of about 900 metres. The forests in Malaysia are mostly dominated by trees from the Dipterocarpaceae family.

Estimates of fungal diversity based on the perception that many species are yet to be discovered vary widely with the most commonly cited estimate of 1.5 million (Hawksworth 1991). For tropical forest systems in

particular, it is clear that the current number of described fungal species is only a small fraction of the number of species that exist there (Rossmann 1994). Recently, Mueller et al. (2007) estimated the species of macrofungi in tropical Asia to be in the range between 10,000 and 25,000. Furthermore, in Malaysia, 70-80% of fungi are yet to be discovered (Corner 1996; Lee et al. 1995).

The Polyporales are a large group of macrofungi. Donk (1965) divided poroid mushrooms into five families namely Polyporaceae, Hymenochaetaceae, Ganodermataceae, Bondarzewiaceae and Fistulinaceae. In addition, some poroid genera were also assigned to families Coniophoraceae, Corticiaceae and Thelephoraceae. According to Ainsworth and Bisby's dictionary of fungi (Kirk et al. 2001) there are twenty-three families in the Order Polyporales. However, many of the species belong to Polyporaceae.

In Malaysia, the history of taxonomic studies of polypores started in the 19th and early 20th century. Cooke (1883, 1884, 1885a, 1885b) was the first mycologist