Ficus and its Effects on Building: Case Study of Shophouses in Kluang, Johor

Zuraini Md Ali
Rodiah Zawawi & Ng Sin Ping
Universiti Malaya

Plants are biological agents that can cause defects to buildings and Ficus is one of the most common plants that grow on buildings. The Ficus plant can grow on almost anything as long as there is a source of water, nutrients and sunlight. Its growth on buildings is more aggressive than other types of plants. This study considers the spreading of several types of Ficus and their effect on buildings, specifically heritage shophouses in the old town of Kluang, Johor. The types of Ficus found in the area are Ficus Microcarpa, Ficus Benjamina and Ficus Religiosa. The growth of Ficus plants on buildings can cause serious problems from root penetration, cracking building elements and structures, and damaging the decorative plasterwork and surface mouldings of heritage buildings. Early prevention is recommended to avoid further damage caused by its growth, especially before the Ficus increases in size.

Introduction

Generally, problems and failures in buildings can result from either defects or deterioration. There is a distinction between defects and deterioration: defects tend to arise due to human mistakes, whilst deterioration is a natural process that may be unavoidable although it can be minimized by care in design and selection of materials (Richardson, 2001).

There are many types of defects found in buildings. According to Watt (1999), defects are caused by various agents such as mechanical, electromagnetic, thermal, chemical and biological agents. However, Mohd Fadzil et al. (2007) note that biological agents are among the significant factors that contribute to building defects, especially in hot and humid countries. Warren (1999) notes any type of plants can grow on buildings as long as there is sufficient water, sunlight and nutrients. However, he adds that growth of harmful plants such as Ficus will be a potentially serious threat to buildings, especially to historical masonry buildings. This paper presents the investigation survey and findings of Ficus growth and its effects on heritage shophouses in the old town area of Kluang, Johor.