INTISARI

Durian (*Durio zibethinus*) adalah tanaman buah tropis yang mempunyai nilai ekonomi tinggi. Salah satu permasalahan yang menyebabkan kehilangan adalah penyakit busuk batang dan busuk akar. Penyebab penyakit busuk batang dan akar durian yang telah dilaporakan sangat bervariasi terutama dari genus *Phytophthora* dan *Pythium*. Meskipun demikian, patogen patogen tersebut seringkali menimbulkan gejala yang serupa. Penelitian ini bertujuan untuk mengetahui spesies jamur penyebab penyakit busuk batang dan akar pada tanaman durian berdasarkan identifikasi morfologi dan molekuler. Hasil eksplorasi didapatkan 15 isolat Pythiaceae yang diisolasi dari rizosfer tanaman durian sehat dan bergejala busuk batang dan akar dari perkebunan durian di Desa Plana, Kecamatan Somagede, Kabupaten Banyumas. Pengamatan morfologi menunjukkan bahwa miselium berwarna putih dengan tekstur seperti kapas hingga *fluffy*, mempunyai motif koloni *Radiate petaloid, Radiate,* dan *Rossaceous-stelate* dengan hifa tidak bersekat, spora berbentuk *ovoid, obvoid*, *pyryform, obpyriform*, dan dominan berbentuk *globose* dengan tipe *non papillate*. Laju pertumbuhan miselium sangat cepat berkisar antara 2-4 hari untuk memenuhi petri berdiameter 8,5 cm. Uji patogenesitas menunjukkan semua isolat bersifat patogenik dan memberikan pengaruh yang signifikan terhadap munculnya gejala. Lima isolat representatif dipilih dari hasil analisis dengan metode UPGMA berdasarkan perbedaan karakter kultur, morfologi, dan daya patogenesitasnya dengan koefisien kemiripan 75% untuk identifikasi molekuler. Identifikasi molekuler dilakukan dengan penanda gen *internal transscribed spacer* (ITS), *Nuclear large-ribosomal subunit* (LSU), dan *cytochrome C oxidase subunit* 1 (CoxI). Berdasarkan identifikasi molekuler, isolat DS6, DS12, DS16, dan DH2 teridentifikasi sebagai *Globisporangium splendens* dan isolat DS9 teridentifikasi sebagai *Phytopythium vexans.*

Kata kunci: durian; busuk batang; busuk akar; *G. splendens*; *P. vexans*

ABSTRACT

Durian (*Durio zibethinus*) is a tropical fruit plant with high economic value. One of the major issues leading to yield loss is stem rot and root rot diseases. The causal agents of durian stem and root rot diseases have been reported to be highly diverse, primarily from the genera *Phytophthora* and *Pythium*. However, these pathogens often induce similar symptoms. This study aims to identify the fungal species responsible for stem and root rot diseases in durian plants based on morphological and molecular identification. A total of 15 Pythiaceae isolates were obtained from the rhizosphere of both healthy and symptomatic durian plants affected by stem and root rot in durian plantations located in Plana Village, Somagede District, Banyumas Regency. Morphological observations revealed that the mycelium was white with a cotton-like to fluffy texture and exhibited Radiate petaloid, Radiate, and Rossaceous-stellate colony patterns. The hyphae were non-septate, and the spores displayed various shapes, including ovoid, obovoid, pyriform, and obpyriform, with a predominance of globose forms and a non-papillate type. The mycelium exhibited rapid growth, covering an 8.5 cm diameter Petri dish within 2–4 days. Pathogenicity tests confirmed that all isolates were pathogenic and significantly contributed to symptom development. Five representative isolates were selected based on UPGMA analysis, considering differences in cultural characteristics, morphology, and pathogenicity levels, with a similarity coefficient of 75%. These isolates were further subjected to molecular identification using internal transcribed spacer (ITS), nuclear large ribosomal subunit (LSU), and cytochrome C oxidase subunit 1 (CoxI) gene markers. Molecular identification confirmed that isolates DS6, DS12, DS16, and DH2 belonged to *Globisporangium splendens*, while isolate DS9 was identified as *Phytopythium vexans*.

Key words: durian; stem rot; root rot; *G. splendens*; *P. vexans*