

Diversity of Endophytic Fungi Isolates Based on Variations in Leaf Shape of Guava Bol (*Syzygium malaccense*) Plants in Palembang and Its Contribution to Biology Subjects Class X Fungi Materials in SMA/MA Class X Biology Subjects Fungi in SMA/MA

ABSTRACT

Endophytic fungi are fungi that can grow in plant tissues without causing disease symptoms in the host plant. This study aims to determine the diversity of endophytic fungi on guava leaves (*Syzygium malaccense*) in the city of Palembang. The identification data of endophytic fungi obtained were analyzed for each genus obtained by using the diversity analysis of the PAST 3 application and then making a PCA (Principal Component Analysis) graph for *S. malaccense* leaves. Based on the results of this study, there were 20 isolates of endophytic fungi isolated from guava leaves (*Syzygium malaccense*) from 1 place in the city of Palembang. In the square leaf section there were 10 isolates while in the zigzag leaf section there were 4 isolates and in the circular leaf section there were 6 isolates. Based on microscopic identification, it showed that 20 isolates belonged to 13 different genera, including *Arthrographis* sp., *Aspergillus* sp., *Basidiobolus*., *Chrysonilia*., *Lichtheimia* sp., *Madurella* sp., *Microsporum* sp., *Mortierella zychae*., *Rhizomucor* sp., *Rhizopus* sp., *Trichoderma* sp., *Trichophyton* sp. The index value of the diversity index of endophytic fungi in the leaf section of the square index (D) is (0.12) while the zigzag shape is worth (0.25) and the circular shape is (0.33). The value of the diversity index of endophytic fungi in the square shape of the leaf is (2,16) while the zigzag shape is (1,38) and the circle shape is (1,24). This shows that the condition of the diversity of leaf tissue in the square shape is more than the zigzag and circle shapes.

Keywords : *Endophytic Fungi, Guava Bol (Syzygium malaccense), Diversity.*

**Keanekaragaman Isolat Fungi Endofit Berdasarkan Variasi
Bentuk Daun Tumbuhan Jambu Bol (*Syzygium malaccense*) Di
Palembang Dan Sumbangsihnya Pada Mata Pelajaran Biologi
Kelas X Materi Fungi Di SMA/MA**

ABSTRAK

Fungi endofit adalah fungi yang dapat tumbuh didalam jaringan tanaman tanpa menimbulkan gejala penyakit pada tanaman inangnya. Penelitian ini bertujuan untuk mengetahui keanekaragaman fungi endofit pada daun jambu bol (*Syzygium malaccense*) di kota Palembang. Data identifikasi fungi endofit yang didapatkan dianalisis setiap genus yang diperoleh dengan analisa diversitas aplikasi PAST 3 kemudian membuat grafik PCA (*Principal Component Analisis*) Daun *S.malaccense*. Berdasarkan hasil penelitian ini didapatkan sebanyak 20 isolat fungi endofit yang diisolasi dari daun jambu bol (*Syzygium malaccense*) dari 1 tempat yang ada di kota Palembang. Pada bagian daun persegi ditemukan 10 isolat sedangkan pada bagian daun zigzag terdapat 4 isolat dan pada bagian daun lingkaran terdapat 6 isolat. Berdasarkan identifikasi mikroskopis menunjukkan bahwa 20 isolat termasuk kedalam 13 genus yang berbeda, antara lain *Arthrographis* sp., *Aspergillus* sp., *Basidiobolus*., *Chrysonilia*., *Lichtheimia* sp., *Madurella* sp., *Microsporum* sp., *Mortierella zychae*., *Rhizomucor* sp., *Rhizopus* sp., *Trichoderma* sp., *Trichophyton* sp. Nilai indeks keanekaragaman fungi endofit pada bagian daun bentuk persegi index (D) sebesar (0,12) sedangkan bentuk zigzag bernilai (0,25) dan bentuk lingkaran bernilai (0,33). Nilai indeks keanekaragaman fungi endofit pada bagian daun bentuk persegi bernilai (2,16) sedangkan bentuk zigzag bernilai (1,38) dan bentuk lingkaran bernilai (1,24). Hal tersebut menunjukkan bahwa kondisi keanekaragaman jaringan daun bentuk persegi lebih banyak daripada bentuk zigzag dan lingkaran.

Kata Kunci : Fungi Endofit, Jambu Bol (*Syzygium malaccense*), Keanekaragaman.