

SURVEY ON INTENSITY AND INCIDENCE DISTRIBUTION OF *Odontoglossum ringspot virus* (ORSV) INFECTING ORCHIDS IN ORCHID GARDENS IN SLEMAN DAN KLATEN REGENCY

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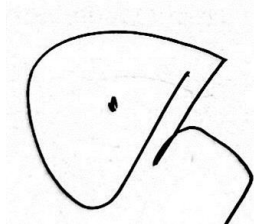
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ABSTRACT

Odontoglossum ringspot virus (ORSV) or *Tobacco mosaic orchid virus* strain (TMV-O) is a member of the *Virgaviridae* Family virus. This virus cause disease in orchid plants which is transmitted through a mechanical transmission. ORSV infection in orchid plants causes typical symptoms in the form of chlorotic, streaked, necrotic, mosaic and ringed spots. This study aims to determine the incidence and intensity levels and symptoms of *Odontoglossum ringspot virus* (ORSV) infection in various types of orchids in several orchid gardens in Sleman Regency and Klaten Regency. Observations and sampling were carried out at orchid gardens in Sleman and Klaten by calculating disease incidence, disease intensity and symptom variations. ORSV identification was carried out using the mechanical transmission method to the indicator *Chenopodium amaranticolor* plant as well as molecular *Polymerase Chain Reaction* (PCR) testing using universal primers Tobamo-dF and Tobamo-dR. The inoculation results showed that the plant samples that were transmitted to the indicator plants were positive for suspected ORSV with symptoms of local lesions, and the PCR results were marked by the appearance of a band measuring ± 880 bp. Symptoms of *Odontoglossum ringspot virus* (ORSV) infection in various types of orchids. The incidence and intensity levels that cause *Odontoglossum ringspot virus* (ORSV) virus infection in orchids in several orchid gardens in Sleman Regency and Klaten Regency show different results, with the highest incidence and intensity being found, in the Tajem orchid garden it was 34% and 17.5%, while the lowest incidence and intensity was in the KWT Melati Asri orchid garden at 12% and 4.6%. This report is the latest information on the spread of ORSV infection in orchid plants in Sleman and Klaten.

Key words: Orchid, *Chenopodium amaranticolor*, ORSV, PCR.

Pembimbing utama

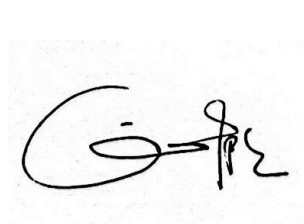


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SURVEI DISTRIBUSI TINGKAT INTENSITAS DAN INSIDENSI *Odontoglossum ringspot virus* (ORSV) YANG MENGINFEKSI ANGGREK DI KEBUN ANGGREK KABUPATEN SLEMAN DAN KLATEN

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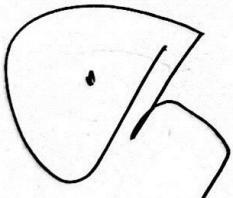
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INTISARI

Odontoglossum ringspot virus (ORSV) atau *Tobacco mosaic virus orchid strain* (TMV-O) merupakan salah satu virus anggota Famili Virgaviridae. Virus ini menyebabkan penyakit pada tanaman anggrek yang tertular secara mekanik. Infeksi ORSV pada tanaman anggrek menimbulkan gejala khas berupa klorotik, streak (bergaris), nekrotik, mosaik dan bercak bercincin. Penelitian ini bertujuan untuk mengetahui tingkat insidensi dan intensitas serta gejala infeksi virus *Odontoglossum ringspot virus* (ORSV) pada berbagai jenis anggrek di beberapa kebun anggrek Kabupaten Sleman dan Kabupaten Klaten. Pengamatan dan pengambilan sampel dilakukan pada kebun anggrek yang berada di Sleman dan Klaten dengan menghitung kejadian penyakit, intensitas penyakit dan variasi gejala. Identifikasi ORSV dilakukan dengan metode penularan mekanis ke tanaman indikator *Chenopodium amaranticolor* serta pengujian molekuler *Polymerase Chain Reaction* (PCR) menggunakan primer universal Tobamo-dF dan Tobamo-dR. Hasil inokulasi menunjukkan bahwa sampel tanaman yang ditularkan ke tanaman indikator positif diduga ORSV dengan gejala adanya lesi lokal, serta hasil PCR ditandai dengan munculnya band berukuran ± 880 bp. Gejala infeksi virus *Odontoglossum ringspot virus* (ORSV) pada berbagai jenis anggrek. Tingkat insidensi dan intensitas yang disebabkan infeksi virus *Odontoglossum ringspot virus* (ORSV) pada anggrek di beberapa kebun anggrek Kabupaten Sleman dan Kabupaten Klaten menunjukkan hasil yang berbeda beda, insidensi dan intensitas tertinggi terdapat di kebun anggrek Tajem sebesar 34% dan 17,5% sedangkan insidensi dan intensitas terendah terdapat di kebun anggrek KWT Melati Asri sebesar 12% dan 4,6%. Laporan ini menjadi informasi terbaru penyebaran infeksi ORSV pada tanaman anggrek di Sleman dan Klaten.

Kata kunci: Anggrek, *Chenopodium amaranticolor*, ORSV, PCR.

Pembimbing utama




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