Journal of Plant Pathology (2023) 105:315
https://doi.org/10.1007/s42161-022-01218-8

DISEASE NOTE

First report of *Neopestalotiopsis rosae* causing leaf spot and crown rot of strawberry in Turkey

Durmuş Erdurmuş[1] · Gülsüm Palacıoğlu[2] · Gamze Erdurmuş[1] · Harun Bayraktar[3]

Received: 3 June 2022 / Accepted: 29 August 2022 / Published online: 31 October 2022

Keywords Leaf spot and crown rot disease · Neopestalotiopsis rosae · Strawberry

In June 2021, leaf spot and crown rot symptoms were observed on approximately 4% of strawberry (*Fragaria* × *ananassa* Duch.) plants surveyed in a 6 decares field in Mersin province (36°22'27.1"N 34°00'25.8"E), Turkey. Symptoms included wilting, necrotic lesions with black acervuli on leaves, dark-brown necrosis on stolons and fruits, root rot and crown rot. The crown and stolon tissues from symptomatic 10 plants were surface sterilized in 1% sodium hypochlorite for 2 min, placed onto potato dextrose agar (PDA) and incubated at 24 °C. Fungal colonies from all samples produced white cottony mycelium with abundant black acervuli distributed in concentric rings 10 days after planting. Conidia were fusiform to ellipsoid, 4-septate, average 24.1 × 7.3 µm (n = 30) in size. The basal cell was hyaline, thin-walled, 4–6 µm long, conic to obconic with a truncate base, and with a short oblique appendage. The three median cells were doliiform and brown with darker septa. The apical cell was hyaline, cylindrical, thin walled, 3–5 µm long, and with 3–4 tubular apical appendages. Those morphological features matched those of *Neopestalotiopsis rosae* (Maharachchikumbura et al. 2014). Identity of a representative isolate was confirmed by sequencing of the internal transcribed spacer (ITS) and translation elongation factor 1-α (EF1-α) loci (White et al. 1990; O'Donnell et al. 2010). Sequences were deposited in GenBank (ITS: ON366984; EF1α: ON381185) and proved to 100% match in BLAST searches with *Neopestalotiopsis rosae* strain CBS 124,745 (GenBank Accession Nos. ITS: KM199360; EF1-α: KM199524). Phylogenetic analysis with concatenated sequences further confirmed the identification. To fulfill Koch's postulates, a spore suspension of 2×10^6 spore/mL was sprayed on six strawberry seedlings at the 3 to 4 leaf stage until run-off. Inoculated plants were incubated for 7 days at 23 °C in moist chambers. All inoculated plants showed typical dark-brown necrotic lesions. The fungus was re-isolated and re-identified. No symptoms were observed on control plants. To our knowledge, this is the first report of *Neopestalotiopsis rosae* causing leaf spot and crown rot disease of strawberry in Turkey.

Declarations

Ethical statement This article does not contain any studies with human participants or animals.

Conflict of interest All authors declare that they have no conflict of interests.

References

Maharachchikumbura SSN, Hyde KD, Groenewald JZ, Xu J, Crous PW (2014) Pestalotiopsis revisited. Studies in Mycology 79: 121–186

O'Donnell K, Sutton DA, Rinaldi MG, Sarver BA, Balajee SA, Schroers HJ, Summerbell RC, Robert VA, Crous PW, Zhang N, Aoki T (2010) Internet-accessible DNA sequence database for identifying fusaria from human and animal infections. J Clin Microbiol 48:3708–3718

White TJ, Bruns T, Lee SJ, Taylor J (1990) Amplification and direct sequencing of fungal ribosomal RNA genes for phylogenetics In: Innis MA, Gelfand DH, Sninsky JJ, White TJ, editors. PCR protocols: a guide to methods and applications 18:315 – 322

✉ Harun Bayraktar
bayrakta@agri.ankara.edu.tr

[1] Plant Protection Central Research Institute, 06172 Ankara, Turkey

[2] Department of Plant Protection, Faculty of Agriculture, Şırnak University, Şırnak, Turkey

[3] Department of Plant Protection, Faculty of Agriculture, Ankara University, 06110 Ankara, Turkey