



Professional Plant Protection
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Diaporthe passiflorae Crous & Lombard (ana. *Phomopsis passiflorae* Lue & Chi) pathogen of *Passiflora edulis* in woody ornamental nurseries of Northern Portugal

Diaporthe passiflorae Crous & Lombard (ana. *Phomopsis passiflorae* Lue & Chi) patógeno de *Passiflora edulis* en viveros de planta leñosa ornamental del norte de Portugal

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Short Scientific note - *Nota corta científica*

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Abstract

In the present paper the author describes the isolation of the pathogen *Diaporthe passiflorae* from container *Passiflora edulis* crops in ornamental nurseries of Portugal as the result of his work as an independent plant pathology consultant.

Key words: maracuja, woody ornamentals, Northern Portugal.

Resumen

En el presente trabajo el autor describe el aislamiento del patógeno *Diaporthe passiflorae* de plantas de *Passiflora edulis* cultivadas en contenedor en viveros ornamentales del norte de Portugal, como resultado de su labor como patólogo vegetal independiente.

Palabras clave: maracuja, ornamentales leñosas, norte de Portugal.

1. Introduction

Fruit species cultivated as container woody ornamental crops are increasing in surface in the last years specially in Northern Portugal. Yellow irregular leaf spots were found on container maracuja –*Passiflora edulis*– plants, at an ornamental nursery located in Northern Portugal. This plant production centre was inspected by the author diagnosing the causal agent responsible of the

disease. The phytopathological analysis were carried out at the private laboratory of the author.

2. Symptoms

Yellow or tan irregular spots without a distinct margin, 3–6 mm in diameter, were observed on the leaves of the host, at the state of 8 to 10 leaves. Sometimes light tan spots with a yellow halo

were produced. Sometimes the spots gained surface and affected the main part of the leaf. Inside the spots, mainly on the lower surface, we could observe black spots. With favourable conditions for the disease we could also see cream conidial droplets flowing from each of the black spots.

3. Isolation of the causal fungus

Fragments of the fungal structures were plated on slides with methylene blue used as staining solution. These fungal structures were observed on optical microscope.

Diaporthe species was identified following the pathogen descriptions carried out by Crous *et al.*, (2012).

4. Morphological characteristics

Conidiophores were smooth and hyaline, with 2 or 3 septa, branched, densely aggregated, cylindrical with the following dimensions: 22–30 × 2,6–3,8 µm. The conidiogenous cells were phialidic, cylindrical, terminal and lateral with slight taper apex and a visible periclinal thickening. They had the following dimensions: 7–14 × 1,5–2,3 µm. Alpha conidia were aseptate, hyaline, smooth ellipsoid with the following dimensions: 6–8 × 2,3–3,1 µm. Beta conidia were spindle-shaped, aseptate, hyaline smooth and with the following dimensions: 17–18 × 1,6–1.9 µm. Figures nº 1, nº 2 and nº 3.

5. Results & Discussion

The species was identified as *Diaporthe passiflorae* Crous & Lombard. *Phomopsis* rot of *Passiflora edulis* has traditionally been related to infections of *Phomopsis tersa* damaging leaves, fruit and twigs having been referenced before in Portugal (Sutton, 1980). According to the information obtained by the author, there are no previous references of the infection of *Diaporthe passiflora* on *Passiflora edulis* in Portugal (Farr & Rossman, 2020).

6. References

Crous, P.W., Lombard, L. & J.Z. Groenewald. 2012. *Diaporthe passiflorae* Crous & Lombard, sp. nov. *Persoonia*- Volume 28: 148-149.

Farr, D.F. & A. Y. Rossman. 2020. *Diaporthe passiflorae*. Fungal Databases. Systematic Mycology & Microbiology Laboratory. ARS. USDA. Retrieved September 1. 2020. Available online from <http://nt.ars-grin.gov/fungaldatabases>.

Sutton, B.C. 1980. *The Coelomycetes*. Fungi Imperfecti with Pycnidia, Acervuli and Stromata. CMI, Kew, 696 p.

7. Figures & Photographs

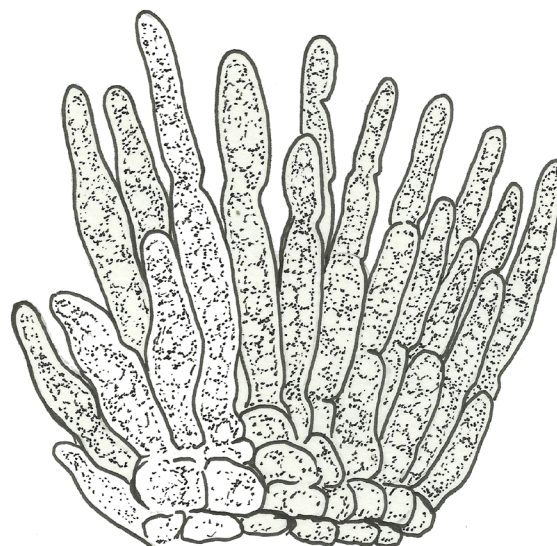


Figure 1. Conidiogenous cells of *Diaporthe passiflorae*

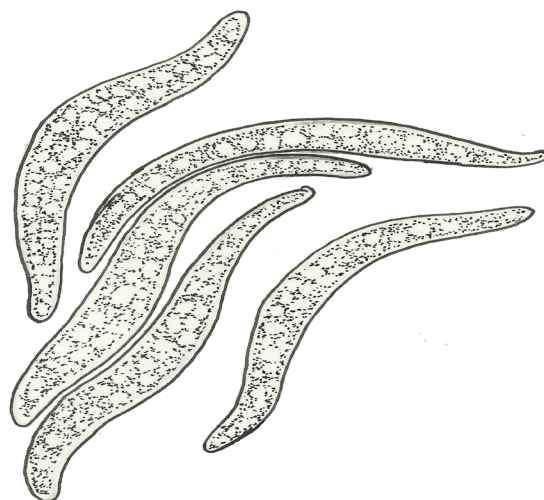


Figure 2. Beta conidia of *Diaporthe passiflorae*

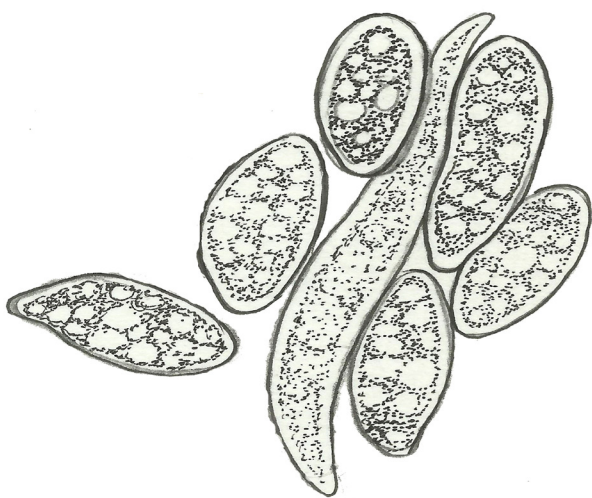


Figure 3. Alpha conidia of *Diaporthe passiflorae*



Photo 2. Leaf spots on the lower leaf surface of *Passiflora edulis* produced by *Diaporthe passiflorae*



Photo 1. Leaf spots on the upper leaf surface of *Passiflora edulis* produced by *Diaporthe passiflorae*

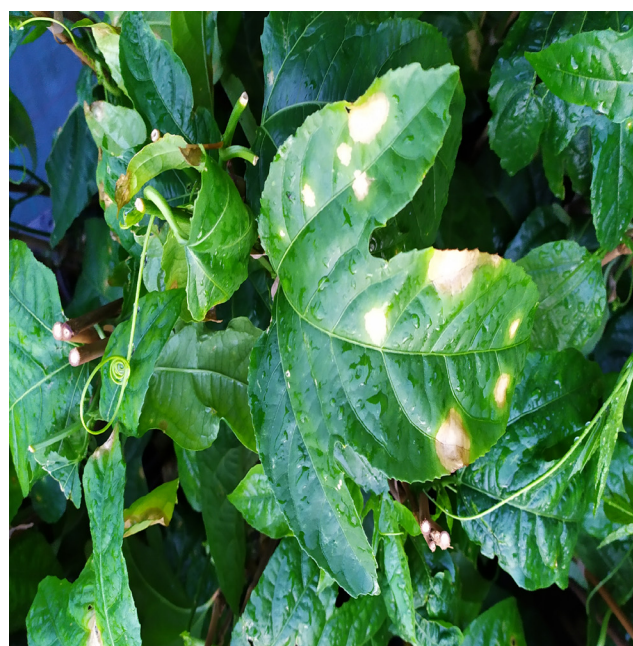


Photo 3. Leaf spots on the lower leaf surface of *Passiflora edulis* produced by *Diaporthe passiflorae*