1. PaDIL Species Factsheet

Scientific Name:
*Puccinia asparagi* DC.
Urediniomycetes, Uredinales

Common Name
Asparagus rust

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- CRC National Plant Biosecurity
- Plant Health Australia
- Department of Agriculture, Fisheries and Forestry
- Department of Agriculture and Food, Western Australia
2. Species Information

2.1. Details

**Specimen Contact:** Dr Jose R. Liberato - jose.liberato@nt.gov.au  
**Author:** Liberato JR, Beasley D & Shivas RG  
**Citation:** Liberato JR, Beasley D & Shivas RG (2006) Asparagus rust (*Puccinia asparagi*) Updated on 7/28/2016 Available online: PaDIL - http://www.padil.gov.au  
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2.2. URL


2.3. Facets

**Status:** Exotic Regulated Pest - absent from Australia  
**Group:** Fungi  
**Commodity Overview:** Horticulture  
**Commodity Type:** Fresh Stems  
**Distribution:** Cosmopolitan

2.4. Other Names

*Aecidium asparagi* Lasch  
*Dicaeoma asparagi* (DC.) Kuntze  
*Persooniella asparagi* (DC.) Syd.  
*Puccinia discoidearum var. asparagi* (DC.) Wallr.  
*Uredo asparagi* Lasch

2.5. Diagnostic Notes

**Symptoms:**

Puccinia asparagi is a macrocyclic and autoecious fungi. Usually symptoms are first noticeable on the growing shoots in spring/summer with a latent period of 8 to 12 days (Johnson 1990). Basidiospores, aeciospores and urediniospores can infect asparagus. The pycnia are produced about 7 days after infection by basidiospores, and subsequently produce aecia (oval yellowish spots). Urediniospores are the most common inoculum and produce blister-like pustules (uredinia), which are filled with powdery masses of spores. The primary uredinia produce by hyphal growth, successive rings of uredinia for several weeks. With the appearance of secondary uredinia, brown teliospores form among the golden urediniospores in the primary uredium. By the time the terciary uredinia appear, the primary uredinia are filled with teliospores (Lubani & Linn (1962). Infected stems begins to yellow, defoliate and die back prematurely (Irvine & Beasley 2004). Severe rust infections stunt or kill young asparagus shoots, causing foliage to fall prematurely, and reduce the ability of the plant to store food reserves in the crown (University of Illinois 1990)

The fungus: Pycnia punctiform, brownish, preceding the aecia then surrounding or amongst them. Aecia caulicolous, gregarious, cupulate or short-cylindric. Aeciospores globose to oval, 15-21 x 18-27 µm, wall nearly hyaline, 1 µm thick, finely and closely verrucose. Uredia caulicolous, powdery, cinnamon-brown. Urediospores globose to ellipsoid, 19-30 x 18-25 µm, wall golden, 2µ thick, minutely echinulate, usually 4 equatorial pores. Telia caulicolous, blackish-brown. Teliospores 30-50 x 19-26 µm, rounded above, slightly
constricted at the septum, wall chestnut-brown, to 10 µm thick at the apex, pedicel up to twice the length of the spore. Mesospores occasional, up to

2.6. References

3. Diagnostic Images

Pustules on asparagus stem (BRIP 45006)
**Host Symptoms:** Dr Jose R. Liberato  DPI&F

Pustules on asparagus stem (BRIP 42203)
**Host Symptoms:** Dr Jose R. Liberato  DPI&F

Pustule on asparagus stem (BRIP 45006)
**Host Symptoms:** Dr Jose R. Liberato  DPI&F

Pustule on asparagus stem (BRIP 45006)
**Host Symptoms:** Dr Jose R. Liberato  DPI&F

Pustules
**Host Symptoms:** Dr Dean Beasley DPI&F

Pustules
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Urediniospores (BRIP 45006)
Spores-LM: Dr Jose R. Liberato DPI&F

Teliospores (immature teliospores are unicellular) (BRIP 45006)
Spores-LM: Dr Jose R. Liberato DPI&F

Teliospores (bicellular) and urediniospores (unicellular) (BRIP 45006)
Spores-LM: Dr Jose R. Liberato DPI&F
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