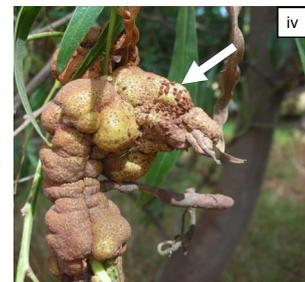
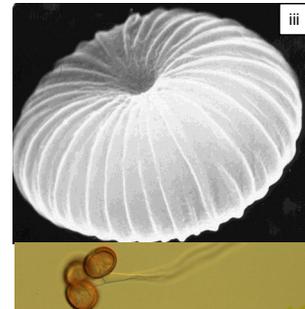


The gall-inducing rust fungus, *Uromycladium tepperianum* (Sacc.) McAlpine, was released as a biological control agent against Port Jackson (*Acacia saligna* (Labill.) H.L. Wendl.) infestations in South Africa in 1987. It is well established wherever Port Jackson occurs, and significantly reduces the density, canopy cover and seed production of trees.

#### DESCRIPTION

The rust fungus originates from Australia where it naturally attacks Port Jackson. It causes large, irregularly sized galls (i) on the phyllodes (leaf-like modified stems) and stems, as well as witches' brooms (ii). The single-celled, brown teliospores (iii) are produced on pedicels (stalks), 3 teliospores to a pedicel. These are approximately 0.02 mm in diameter and ridged. The teliospores are produced in mass on the surface of the galls, appearing as a dry brown powder that is easily brushed off (iv).



#### LIFE CYCLE

The teliospores are spread by the wind. After germinating, they infect young phyllodes, stems and flower buds, causing the plant to grow abnormally into the galls or witches' brooms. Teliospores are produced from May to about August. Germination occurs when there is available water on the plant surface (overnight dew or light rain), and the temperature is 10-20°C. In the Western Cape, these conditions are prevalent in spring when the plants are most actively growing and flowering.

#### DISEASE SYMPTOMS

The branches, phyllodes or flowers of infected Port Jackson trees are covered in conspicuous, knobby, red-brown galls, or witches' brooms. New galls are produced at any time of the year, but usually develop in late spring.

#### DAMAGE TO PLANTS

The fungus uses the plants nutrients, thereby reducing its growth and seed production. Heavy gall loads impair the plant's ability to cope with environmental stress, especially drought, and the plant dies. Like all rust fungi, the acacia gall rust fungus can only survive inside a living host plant. Once the plant dies, the fungus dies with it.

#### IMPACT ON PORT JACKSON

Before the introduction of the fungus, Port Jackson was rapidly invading new areas and forming large, dense infestations in the lowlands of the Western and Eastern Cape Provinces. However, since its release, the density of trees in invaded areas has declined dramatically (except immediately after fires and poorly executed clearing operations). Also, the spread of the weed has almost halted. This allows the indigenous vegetation to continue living in the area, whereas previously it was crowded out by the dense infestations. With time, it is expected that invaded areas will become open woodland, with indigenous plants and grasses interspersed between scattered Port Jackson trees.



environmental affairs

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