A close-up photograph of a Huisachillo plant stem. The stem is green and covered in fine, white, fuzzy hairs. It has several small, developing flower buds or clusters of tiny flowers. The buds are green and yellowish, with some showing a reddish tint. The background is a clear blue sky with some blurred white and brown objects, possibly other plants or structures.

Huisachillo
Trouble in
Texas?



Some people here
are looking for trouble.

A wide, unpaved dirt road stretches into the distance under a cloudy sky. The road is flanked by green, bushy trees and dry, brownish vegetation. In the center of the road, a small dog is running away from the camera. The background shows a flat, open landscape with more dirt roads and sparse vegetation.

Most residents aren't.

The green shrubby trees lining the road are largely Huisachillo (*Acacia schaffneri*).

While visiting a rancher outside of Laredo in March of 2011, we (myself & Dr. Martin Terry) were told that a “ball-moss” had recently begun “attacking” the black-brush (*Acacia rigidula*) on his property.

We did not discuss the subject beyond that but I wished that we had as we soon encountered something interesting.

It was not a ball-moss but rather a curious malformation affecting multiple plant parts.

Whether this was a fungus, from an insect or the result of something entirely different was quite unclear to us at the time.

Acacia schaffneri



An example of malformed growth

Acacia schaffneri
aka "Huisachillo"

normal growth



Compare that to
normal growth of

Acacia farnesiana
aka "Huisache"





Acacia farnesiana
aka “Huisache”
normal growth

Acacia schaffneri

aka "Huisachillo"



A photograph of a dense, bushy Acacia schaffneri plant. The branches are dark brown and woody, with many small, bright yellow flowers scattered throughout. The leaves are small, green, and appear to be bipinnate. The background is a blurred, natural outdoor setting with other vegetation and a light sky.

normal growth

Acacia schaffneri



normal growth

Acacia schaffneri



notice the abnormal growths?

Acacia schaffneri



Here is a closer view

































Abnormal types of growth, including malformations such as witches broom and galls, are known to be produced by many agents including bacteria, eriophyid mites, fungi, herbicides, insects, nematodes, phytoplasmas, radiation and viruses. My inquiries to friends who work in the world of mycology and plant pathology received a suggestion from Dr. Kelly Ivors that a *Ravenalia* species might be among the possible candidates.

In March of 2012, we returned to South Texas and located more instances of this organism along the way.

It was present in a minor but substantial portion of the *Acacia schaffneri* that we saw in Maverick County and in none of the *Acacia schaffneri* noticed in Starr County.

































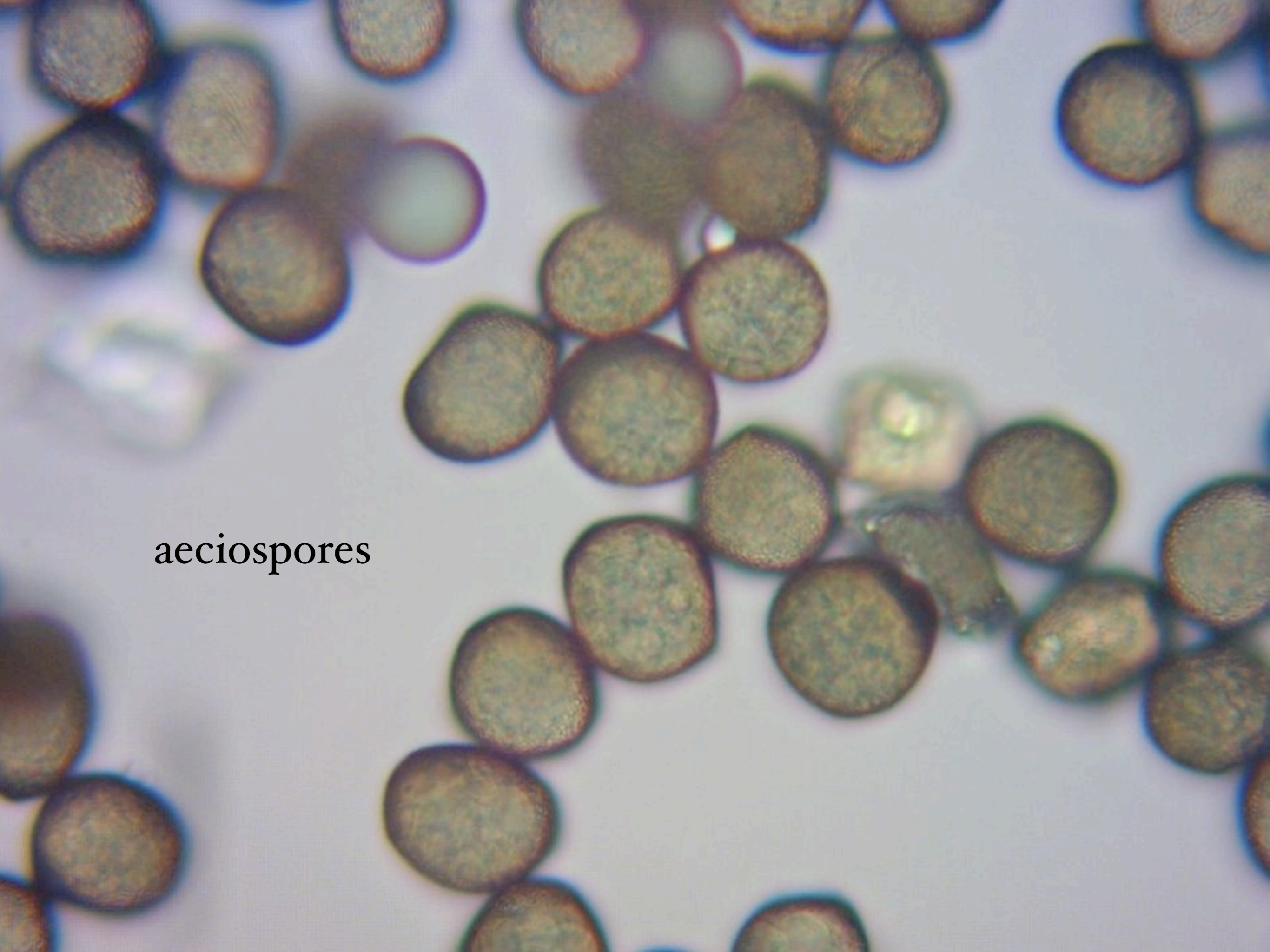


In 2012, while in Maverick County, there was opportunity for Dr. Terry to collect plant samples and submit them to Texas A&M's plant pathology lab.

The hunches voiced to us by Dr. Ivors that this could be a *Ravenalia* species were confirmed.

Ravenalia is a type of fungus that is also known as the rusts. *Ravenalia* is the most common rust genera in the tropical Americas.


The images which follow are from the analysis by the A&M phytopathology lab.



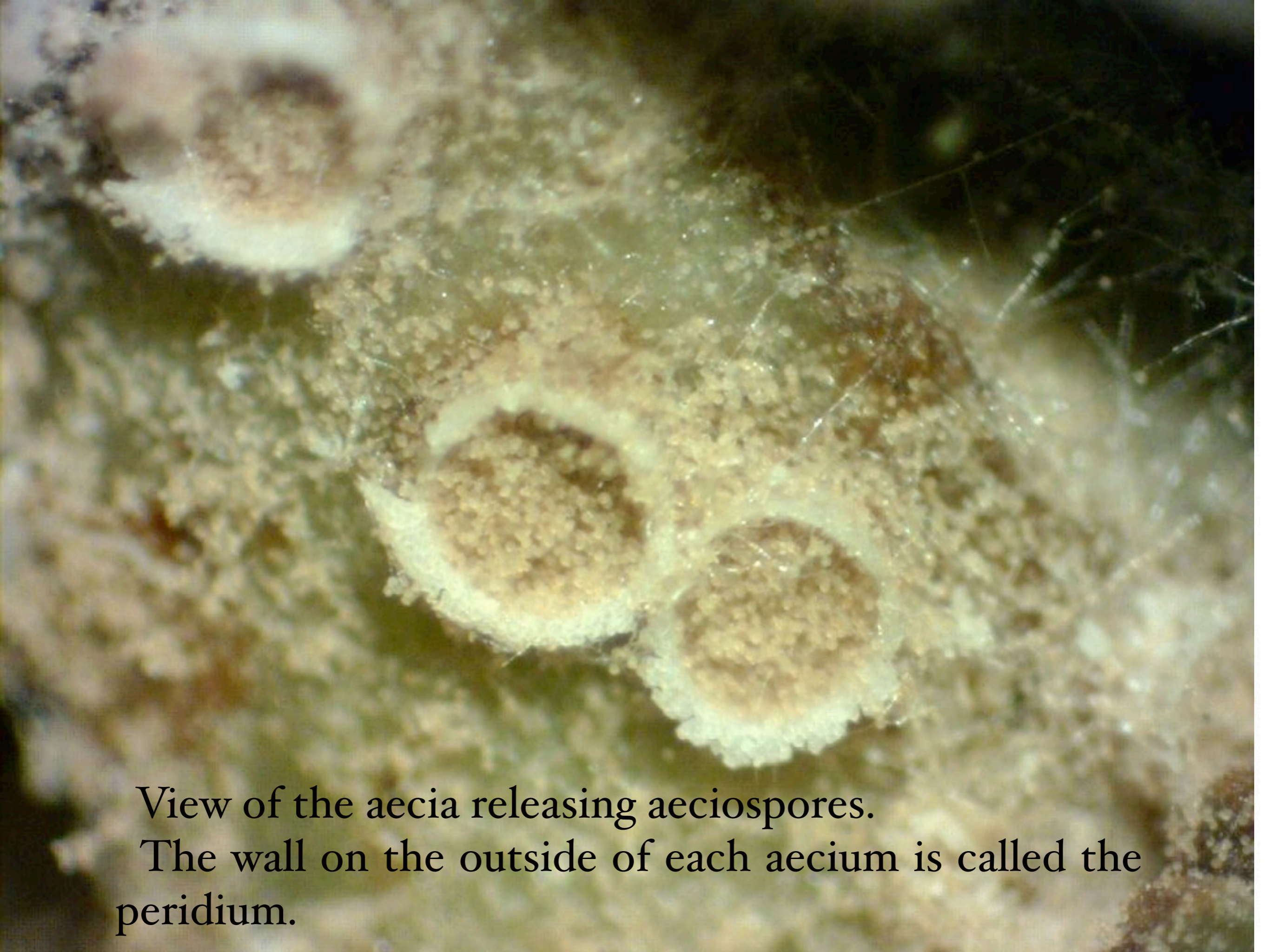
aeciospores



View of the aecia

A high-magnification microscopic image showing several aecia, which are specialized fungal structures. The aecia are roughly spherical and appear as bright, textured masses against a darker background. From the surface of these aecia, numerous small, dark, spherical aeciospores are being released, creating a cloud of spores around the structures. The overall appearance is that of a fungal fruiting body in the process of dispersing its spores.

Details of an aecium
releasing aeciospores



View of the aecia releasing aeciospores.
The wall on the outside of each aecium is called the peridium.

Rusts have complex life cycles that may involve five forms and may require up to several plants in order to complete the cycle.

Rusts, like *Ravenelia*, which can complete all of the cycle on a single host are called autoecious.

The aecial states of the rust fungi are well known for causing abnormal growths in *Acacia* species and many other plants. The plant is stimulated to produce these malformations after the rust fungi penetrate the host's meristematic tissues.

Only the aecial phase causes malformations and the uredial and telial stages form only inconspicuous spore-bearing spots on the leaves.

Initially the *Acacia* species had been misidentified (by kt) as *Acacia farnesiana*. Despite there being published accounts of eight different *Ravenalia* species on that particular *Acacia* species no instances of *Ravenalia* inhabiting *Acacia farnesiana* could be located by us in this area.

There are around 200 named rusts and only around 20 are known to cause malformations via hypertrophy.

Ravenalia species have been reported on at least ninety (90) different *Acacia* species including the common *Lophophora williamsii* companions *Acacia berlandieri*, *Acacia greggii* and *Acacia roemeriana*.

This appears to be the first such report of a *Ravenalia* species on *Acacia schaffneri* although we have learned that BRIT is actively studying some ecological aspects of this particular fungi & host.

Contact us:

KeeperTrout
@
gmail.com

See also

<http://www.largelyaccurateinformationmedia.com>