

Blunder from Down Under?



The Case:

“As you know, two natural Australian predators of paperbark, snout beetles and psyllids, have been introduced in Florida with some success,” Betsy began, as she scanned the USDA Agricultural Research Service group. “However, both of these biocontrol agents are only partially effective here and I’m afraid we’re still losing the battle with invasive paperbark. Any other ideas?”

Jose offered, “I was just reading about a gall fly that is causing problems for paperbark in Australia. The presence of galls reduces the plant’s resources for growth and generating seeds.”

“Interesting,” Betsy replied, “How does this fly cause galls on the plants?”

“When these flies lay their eggs on the flower and leaf buds, they also deposit nematodes that form a gall on the plant.” Jose explained. “The fly larvae eat the gall as they grow; meanwhile the nematodes infect all the female larvae to repeat the cycle.”

Darrell added, “I think I saw that paper. Weren’t there several species of flies and paperbark in that report?”

Jose nodded his head and said, “You’re right. The researchers were using systematics and biogeography to determine the parasite – host relationships.”

“Well, that sounds like another potential biocontrol agent,” Betsy announced. “We’ve done this before with the snout beetles, so you know the drill.”

Jose chimed in, “OK, first we’ll have to determine if the gall fly will present any threat to plants other than the paperbark. Who would like to help with this project?”

Case Analysis:

What is this case about?

What do you know?	What do you need to know?

What do you need to know about the tree? The fly? The nematode?

What do you need to know about the tree/fly/nematode interaction?

What do you need to know about the environment?

What do you need to know about other native plants and animals?