International Sirex Symposium and Workshop

Pretoria and Pietermaritzburg, South Africa

Kevin Dodds and Noel Schneeberger
US Forest Service, NA State & Private Forestry, FHP

Background:

The invasive woodwasp, *Sirex noctilio*, was detected in New York in 2004. This insect has caused widespread losses in commercial pine plantations in southern hemisphere countries where it has been introduced. Consequently, *Sirex* has been the focus of much research and management efforts throughout the southern hemisphere and is now a growing concern in North America. While our ecosystems are different than commercial plantations of North American pines seen throughout the southern hemisphere, important lessons could be learned from interacting with scientists working on *Sirex*. Our intention was to gain a better understanding of *Sirex* biology and management with the hope this would aid in developing IPM plans for this insect in North America.

International Sirex Symposium, South Africa, May 9-16, 2007

The objective of the International *Sirex* Symposium Workshop in South Africa was to bring together scientists from around the world to discuss their experience and efforts working on *S. noctilio*. This meeting could not have occurred at a more opportune time for those of us working on the recent introduction of *S. noctilio* in North America. We were fortunate to interact with international experts who have been dealing with *S. noctilio*, some for decades, and gain important insights into developing management plans for North America. Scientists from 19 countries were present at the meeting that had over 60 people in attendance. This meeting was a combination of scientific sessions, field trips, and a workshop discussing the situation in South Africa in detail.

Attendees at the International Sirex Symposium in Pretoria, South Africa.

May 10-11, Pretoria, South Africa

The first two days of the meeting included talks from scientists working on *S. noctilio* throughout the world. Scientists representing Australia, Denmark, Sweden, Japan, Brazil, Chile, Argentina, United States, Canada, South Africa, Zimbabwe, Tanzania, and Italy presented information on *S. noctilio* and their representative countries. Topics varied, but included information on the biology, management, survey, fungi, parasitoids, nematodes, and potential impacts of *S. noctilio* in different countries. The two full days of presentations and discussions provided a wealth of information and global perspective on the biology and management of *S. noctilio* and its associated fungus. Specific talks from US Forest Service personnel included:

- Dennis Haugen, "Sirex management in response to the Green Triangle outbreak: Lessons for other countries."
- Noel Schneeberger, "Response to the recent find of *Sirex noctilio* in the USA."
- Nathan Schiff, "Siricid diversity, biology and tools for identification."
- Kevin Dodds, "*Sirex noctilio* detection and behaviour in North America pine ecosystems."
- Kier Klepzig, "Competitive interactions among forest insect associated fungi: Implications to biology, population dynamics, and control."

May 12-13, Kruger National Park, South Africa

After two days of intense scientific sessions, we departed for Kruger National Park. Kruger is one of the largest national parks in South Africa at approximately 1,963,300 ha (4,851,420 acres), and is home to lions, leopards, elephants, rhino, zebra, giraffe, and many other mammal species. We spent two full days touring the park, observing wildlife, and further discussing *Sirex* with other Symposium participants. The two days in the park provided ample time to interact with participants from other parts of the world and hear their experiences with *Sirex* management.

May 14, Drive from Kruger NP to Pietermaritzburg, South Africa

On our drive from Kruger National Park to Pietermaritzburg we saw some of the vast plantations of pine planted in South Africa. These stands were extremely large blocks of pure even-aged pines. While we did not visit any of the pine stands on this day, we had a field visit to a Eucalyptus plantation that was suffering unusual damage from *Coryphodema tristis* (Lepidoptera: Cossidae). The Eucalyptus plantations we visited were commercial stands that were being attacked by *C. tristis*, a native South African insect that had not been seen colonizing Eucalyptus until recently.

Left: Large plantations of pine forests on the way to Pietermaritzburg. Below left: Eucalyptus plantation infested with cossid moths. Below right: Cossid moth larval galleries in Eucalyptus.

May 15, KwaZulu-Natal Midlands, South Africa

We visited several pine stands during our field trip on May 15. The day started off with an orientation to forestry in the area by members of the forestry company Sappi. They discussed forest management, *Sirex* impacts, and their management plans to date. We walked through a sawtimber sized *Pinus patula* (Mexican Weeping Pine) stand and observed *Sirex* damage throughout the stand. These stands were relatively overstocked and suffering from moderate levels of *Sirex* damage. Discussions involved salvage logging areas impacted by *Sirex* and a biological control demonstration. Workers from the company demonstrated how they inoculate the biological control nematode into infested trees. Next we visited another site (owned by Mondi Shanduka Newsprint (MSN)) that had *Sirex* activity in the stand and further discussed biological control and stand management options for this area. After having lunch at a MSN site, we visited a silvicultural thinning study area where scientists are attempting to determine what influence thinning has on stand susceptibility to *Sirex*. This was a large study that will provide valuable information for South African foresters, but also provide much needed information for other countries dealing with *Sirex*. Our final destination of the day was

the large-scale MSN *Sirex* rearing facility at Linwood that was set up to investigate the success of the biological control nematode.

Nematode inoculation demonstration of Sappi Forests land.

Rearing containers set up to collect emerging Sirex. Adults are dissected to determine if they are infected by the biological control nematode

May 16, Sirex Workshop, Pietermaritzburg

The final day of the Sirex Symposium was a day-long meeting focused on discussing the *Sirex* situation in South Africa. Participants included Sirex Symposium attendees, other South African university members, and timber industry scientists and managers. There were three objectives to this meeting: (1) to summarize *Sirex* impacts in other countries and management options for this insect, (2) review the South African *Sirex* situation and discuss recent management attempts, and (3) to gain insights into the relatively low success rate of *Sirex* control techniques in South Africa. This meeting was very interactive with much discussion about how to move forward in managing *Sirex* in South Africa. Outcomes from discussions during this meeting will help shape the future *Sirex* program in South Africa.