



Tree Protection News



Newsletter of the Tree Protection Co-operative Programme and
the DST/NRF Centre for Tree Health Biotechnology

VOL: 10

NOVEMBER 2005

FROM THE DIRECTOR'S DESK

As another year races to its conclusion, I am deeply struck by the huge number of issues that the Tree Protection Co-operative Programme has dealt with in recent times. Also how dramatically the Programme has changed to meet the increasing number of tree health issues that face the South African forestry industry. The onslaught of the pitch canker fungus in South African forestry nurseries and the prospect of potentially having to deal with a full blown pitch canker invasion was clearly a key turning point. More recently, having to assist the industry in dealing with the ravages of the Sirex wood wasp invasion has added another new dimension to the TPCP activities. Happily, we have a great industry to support our activities, outstanding University flexibility and support and a close and invaluable partnership with the ICFR, without which these new challenges would have seemed insurmountable.

The TPCP has a multiplicity of responsibilities and streams of support, not least a need to provide outstanding M.Sc. and Ph.D. training for students. Yet, the Programme has needed to deliver increasing levels of operational support for its members. This has provided an outstanding opportunity to more closely link areas of strength in the ICFR with those of the TPCP. An apt example is the carefully made decision to have the ICFR lead the various committees linked to managing the Sirex invasion in South Africa. We believe strongly that the two groups represent a logical partnership that must grow stronger in the future. In this regard, I would particularly like to thank Prof. Colin Dyer for the guidance and wisdom that he has brought to extracting optimal synergy from the TPCP and the ICFR.

By the time this newsletter reaches the press, the TPCP and the DST/NRF Centre of Excellence (CTHB) will have come to the end of their first year of partnership. Merging these two important programmes has been a fun yet challenging exercise and it is one that is far from complete. In some ways, the similar objectives in promoting Tree Health but a focus on very different domains- commercial forestry and native forests ecosystems, should make this a simple merger. But there are some very different components of the two objectives. We continue to seek areas of synergy and additional opportunities to build both programmes in a common direction. A great deal has been achieved and here I need to sincerely thank my colleagues Teresa Coutinho, Pedro Crous, Brett Hurley, Gert Marais, Wally Marasas, Jolanda Roux, Bernard Slippers and Brenda Wingfield for their energy and vision as it applies to this great new venture. As a team we also thank our colleagues in the South African Forestry Industry for promoting the opportunity to build the TPCP via the CTHB. People of smaller vision could easily have seen this as a threat rather than an opportunity and we are privileged to be able to work with a great group of people that can see the "BIG PICTURE".

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I started off this introduction to TPCP News noting some of the big challenges of the past year. I should have been more positive and started with the great achievements that the group has made during the year. As members of the TPCP will be well aware, the TPCP leadership team – Jolanda, Teresa, Brett and Brenda represent an amazing group committed to promoting the interests of the South African forestry industry. They make my task of adding steerage to the programme a singular pleasure. Their responsibilities in guiding students are fabulous and I often wonder whether students realize what a great team of leaders they enjoy. Talking of students, I must not fail to recognize a really superb group of post graduate students that are in many ways the “hands and feet” of much of the programme. I am so often asked by colleagues from around the world what makes the TPCP such a great group. The answer is simple – a “dream team” of effort and commitment. Here I am not trying to imply that we don't have our ups and downs, our fair share of problems. But the average is a distinction in every way. What more can one ask for?

Let me not forget to acknowledge the industry that the TPCP serves and from which the research team enjoys support. Our work could not be possible without great support and encouragement from our forestry colleagues. Here I refer to colleagues at every level of the industry, from members of the TPCP board to research foresters as well as field foresters and contractors who support our work on a great diversity of planes. If one seeks just one example of the team effort, this can easily be found in the activities surrounding Sirex management. Such team effort will be increasingly important in the future and as we face new and challenging disease and pest problems. But we are showing that we have the capacity and the ability to construct the needed teams to deal with new problems and I feel confident that we will succeed in doing so.

I hope that you will enjoy reading TPCP News. For those of you, unfamiliar with this document, I should perhaps mention that it is produced twice each year and distributed with the first and last issues of ICFR News. Shorter reports are incorporated into the body of the other two issues of ICFR News. Here I must thank the always helpful and (at least to us) smiling Sally Upfold for her support and assistance. TPCP News is intentionally relatively informal and seeks to share both scientific and personal impressions from the programme. The fact that the TPCP is largely comprised of young people in the early stages of their careers demands this. But we are also tremendously proud of the many accomplishments of the group and wish to share these with our members. Further information is exchanged on the TPCP list server – TREEHEALTHNET@UP.AC.ZA. Please register your inclusion on this server if you have not already done so.

Finally, as this document will reach you close the end of the year and at the start of the holiday season, the TPCP team would like to wish you and your families “Compliments of the holiday season”. For those that celebrate Christmas, we wish you a joyous festive season. To all a happy New Year, whether this starts on the 1st of January or shortly afterwards, as is true of many TPCP Team members. We also take this opportunity to thank our many colleagues and friends attached to the Forestry Industry for great support and assistance in achieving our aims of “KEEPING TREES HEALTHY

GOOD BYE AND THANK YOU TO SUSAN CHRISTIE



For more than ten years Mrs. Susan Christie designed and produced the Tree Protection Newsletter of the TPCP. She did this first while the programme was still based in Bloemfontein and thereafter even while the programme was settling in at the University of Pretoria. Susan started working at the TPCP in 1990, shortly after its inception. She remembers how she and Me. Chrissie Moolman had to duplicate the newsletter by photocopy machine and bound it themselves on weekends. Later Susan changed the layout of the newsletter and when the programme continued growing started using a local printer to print and bind the newsletter. When the TPCP moved to Pretoria, Susan and Chrissie stayed behind in Bloemfontein.

Susan took up a new job as Senior Administrative Officer at the Clinical Skills School for Medicine at the University of the Free State. However, she continued to do the layout of the newsletter for the TPCP in her spare time. Susan will, however, from this issue on not be involved in the preparation of the TPCP News anymore. We want to take this opportunity to thank her for her years of dedication to the TPCP and the newsletter and for all the positive changes she made to both. Many “older” TPCP members remember the fun times they had in the laboratory with Susan, who was always ready with a smile and/or a joke, sometimes a practical joke. To many of us she opened up her home and took care of “lost souls” who was missing their homes. Thank you Susan for being a pillar in the TPCP and helping many of us grow into better people. We, and the industry, will miss you. Congratulations also with turning 60 in September.

TWO FABIANS EXPOSED TO A ONE WEEK CHAINSAW APPRECIATION COURSE

The accurate identification of pest and disease problems of trees often require trees to be dissected and samples taken for laboratory analysis. Generally this is achieved with the use of pangas or axes, but when larger trees and larger numbers of samples need to be taken, this process can take many hours and even days. The TPCP, therefore, had four of its team members (Prof. Jolanda Roux, Brett Hurley, Hardus Hatting, Ronald Health) become proficient with the use of a chainsaw a few years ago. Recently it was decided to send two more of the TPCP and CTHB (DST/NRF Centre for Tree Health Biotechnology) team members on such a course. On Sunday 28 August, Solomon Gebeyehu and James Mehl, therefore, travelled to Sabie for a chainsaw appreciation course.



Solomon and James in their safety clothes for the chainsaw course.

In the past, Solomon had found it increasingly difficult to obtain the services of a chainsaw operator for the arduous and time-consuming task of cutting down trees for sampling, especially now with the outbreak of the cossid moth (*Coryphodema tristis*). James would, in future, have to sample from the indigenous

kiaat tree, *Pterocarpus angolensis*, a very hard wood. Whole trees would need to be cut down to determine what was killing them and a handsaw/bowsaw would prove inadequate for this purpose. Therefore, both Solomon and

James needed to be trained, both in the use of a chainsaw, and in the safety measures needed to acquire this skill.

The chainsaw training course, run by Chucks Thabethe, a very experienced instructor from Aquila Training, began at 07:00 on Monday 29 August. Solomon and James learnt the theory behind the safety features on modern chainsaws and the use of safety clothing. They were also taught how to do daily maintenance on the chainsaw and how to cut through wood, thereby gauging whether the teeth of the chainsaw needed to be sharpened.

On the following days, the trainees visited plantations where they were taught to fell and debranch trees. They were also taught how to fell trees using both single and double cuts and how to deal with tree hangups. On the last day the trainees were tested on everything they had learnt and both of them passed the test successfully.

CONGRATULATIONS!!!

The following people attached to the TPCP and DST/NRF Centre for Tree health Biotechnology graduated during the last graduation ceremony at the University of Pretoria. Congratulations to you and your families.

Magister Scientiae (MSc)

Lancelot Maphosa – Characterization of *Armillaria* species in Zimbabwe.

Carrie Brady – Taxonomy of *Pantoea* associated with bacterial blight of *Eucalyptus*.

Nonnie Geldenhuis – Studies of fungi associated with dying *Schizolobium parahybum* in Ecuador.

Philosophiae doctor (PhD)

Sabine Lezar – Assessment and development of microarray-based DNA fingerprinting in *Eucalyptus grandis* and related species.

WELCOME TO TPCP

The TPCP would like to welcome Happy Mamodise Maleme from Klerksdorp (North West Province) to the team. Happy holds a B.Sc and Honours degree from the University of Limpopo. She is currently a first year MSc student in Microbiology and Plant Pathology and she is working on the characterization and identification of *Botryosphaeria* spp. on *Eucalyptus* species planted for the Australian Koala bears in Pretoria.

Hyphal Bridges Over the Pacific

MSA/MSJ Joint Meeting, 30 July – 4 August 2005, Hilo, Hawai'i, University of Hawai'i.



Elsie de Meyer, Irene Barnes, Lieschen de Vos and Brenda Wingfield

The annual Mycological Society of America meeting was held this year in conjunction with the meeting of the Mycological Society of Japan, which is currently celebrating its 50th anniversary. The apt theme for this joint congress was “Hyphal Bridges Over the Pacific” and the venue: the exotically beautiful island of Hilo, Hawai'i.

Four representatives from TPCP/FABI were privileged to be able to attend this meeting. Accompanying Prof Brenda Wingfield were two of her Ph.D. students, Lieschen De Vos and Irene Barnes, who both received Mellon grants to attend the conference. In addition Elsie de Meyer, an MSc student of Prof. Mike Wingfield, also joined the group and this was her first ever, overseas trip. FABI's contribution to the congress included three oral presentations and six poster presentations. At the evening awards ceremony, Irene Barnes was awarded the W. C. Denison MSA Mentor Student Travel Grant.

The conference commenced on the Saturday with a pre-conference foray to Lava Tree State Park and Mackenzie Park. Busloads of eager mycologists could be seen foraging through the natural forests in search for the exotic and unknown fungal species. This was together with their marvelling at the larva tree moulds and trying to not fall down the larva tubes amidst the beautiful tree ferns, orchids and coconut groves. The group enjoyed a spectacular show of *Dictyophora cinnabarina* (stinkhorn mushroom) just waiting to be discovered as mycologists climbed off the buses at Lava Tree Park (see photo plate). Other favourites of the day were the earthstars and some *Amanita* species. Hosts for this foray were Profs. Don Hemmes, and Dennis Desjardin, co-authors of the field guide “Mushrooms of Hawai'i”. These great mycologists eagerly showed the group the hot spots of fungal diversity in the park areas and many could be seen collecting boxes of myxomycetes for undergraduate teaching purposes. The day also included trips

to the black sand beaches of Kalapana and Puna. On the Sunday, the conference was officially opened with a light reception where the locals donned their traditional clothes, showered mycologists with fresh flower leis and 'Hula-Hula'ed the night away in amidst the delegates chatter and socialising.

The congress had an exciting program filled with a week's worth of lectures, poster sessions, workshops and special symposia. There was a great diversity of topics ranging from Mycobiota of the Pacific Islands to genomics, systematics, phylogeography, mycorrhizae in forest ecosystems and cultivation of mushrooms and their use in promotion of health, but to name a few. The diversity of the delegates was just as great with 450 participants from 27 different countries.

The mid-conference foray to Hawai'i's Volcanoes National Park was another highlight of the conference. Although no actual hot lava was observed, it was still a great experience for the group to be standing on an active volcano with steam vents continuously spewing sulphuric acid into the air. Prof Brenda Wingfield introduced her students to the art of Japanese cuisine and the more acquired tastes of Sushi. Of course, the afternoon out snorkelling was also a tremendous treat and a good break from many hours sitting in lecture rooms.

There were a number of initial hiccups in getting the FABI delegation to Hawaii. The worst of these was caused by the harrowing experience of several of the team almost missing the conference due to the recent SAA strikes. In addition, one student lost her luggage and lived on minimal supplies for the duration of the trip and another had a very bad reaction to the local mosquitoes (or bed bugs?). Other than these relatively minor problems, the experience as a whole, and the conference in particular, was a great, exciting and definitely a once-in-a-life-time opportunity, deeply appreciated by all of the group.

TPCP CONTINUES RESEARCH ON THE COSSID MOTH - *CORYPHODEMA TRISTIS*

The Cossid Moth, *Coryphodema tristis* (Lepidoptera: Cossidae) was identified in July 2004, extensively damaging mature *Eucalyptus nitens* in Mpumalanga. Damage by this insect was first noted by Sappi staff and the insect was subsequently identified by Sappi Research Fellow and Entomologist, Dr. Solomon Gebeyehu and his colleagues at the TPCP. The insect is a wood borer and is also known as the Goat moth or Carpenter moth. Since its first detection on *Eucalyptus*, *Coryphodema tristis* has attracted substantial interest and concern from the forestry industry and private tree growers as well as Entomologists at TPCP. It damages trees by boring into the wood and causing loss of wood volume and quality as well as tree death.

Coryphoderma tristis is native to South Africa and has long been associated with exotic plants such as vines, apples and quince in the Western Cape. It also feeds on a few native trees in various families including Malvaceae and Combretaceae. However, its appearance on *Eucalyptus* is the first record of its association with Myrtaceae. What is more interesting about this insect is that it appears to feed only on *E. nitens* and has not been associated with any of the other commercial *Eucalyptus* species. The basis for this very selective preference for *E. nitens* is a subject of TPCP research. Research is also underway to determine the possible causes of this sudden host shift to *Eucalyptus*.

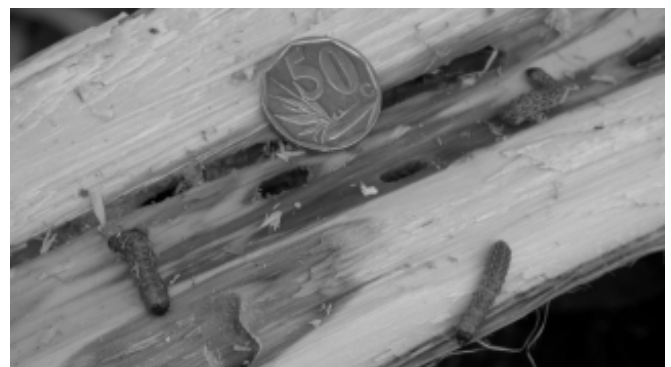
The Cossid moth has a very interesting biology. It has an extended larval stage of up to 18 months but the adult lives for a maximum of only 6 days. During this time the females lay up to 300 eggs and then they die. In the few months following hatching, the small larvae feed on the cambium of the infested trees. As they grow in size, they bore deep into the sapwood and heartwood. As the larvae mature and prepare for pupation, they establish an exit hole on the main stem or branch of the tree and then pupate inside the tunnels. As the adult is about to emerge, the pupa wriggles itself and protrudes halfway from the exit hole. Adult emergence is easily detected by the pupal case that protrudes from the exit hole. Oviposition starts on crevices and cracks on the bark soon after emergence. The eggs hatch in a few weeks.

Damage is done only by the larval stage of *Coryphodema tristis*. The adult does not feed at all. Larvae can grow up to 6cm in length. Contrary to the larval feeding behaviour on its other native and exotic hosts where it is known to be solitary, it manifests a gregarious feeding behaviour on its new host, *E. nitens*. It is common to find 50 or more mature larvae in a small section of an infested stem.

It is now known that *Coryphodema tristis* is distributed over hundreds of hectares of *E. nitens* plantations in the Mpumalanga region. Dr. Gebeyehu has been investigating various aspects of this pest including ways of managing it. During a recent field trip to infested sites to conduct area-wide surveys, it was clear that the problem is more serious than

was anticipated at the end of the last growing season. The survey revealed that the pest is distributed over a wider area, and more importantly a striking finding was that high-value seed producing trees of 25 years of age are heavily infested by the moth. Some trees have already died and the damage is extending to new trees in the orchards. Since the value of each of these seed trees is much higher than individual trees grown for pulp or wood, appropriate management of the pest warrants considerations.

Currently Dr. Gebeyehu is investigating the application of chemical attractants, also known as pheromones, for use in monitoring and controlling the Cossid moth. Pheromone traps containing potential chemical compounds have been set up in infested compartments managed by TWK in the Carolina/Lothair area. Daily checking of the traps and evaluation is being undertaken by the area foresters. The results of this test will form the basis of a monitoring and controlling strategy. In this way, other management options such as restriction of movement of infested wood to other regions can be added.



Larvae of *C. tristis* and the tunnels they make in the wood of *E. nitens*



Solomon holding a severely infested *E. nitens* log.

FISNA

Forest Invasive Species Network for Africa



In December 2005 FISNA, the Forest Invasive Species Network for Africa came into life to revitalize the old "Tree Pest Management Network for Central, Eastern and Southern Africa" at a meeting in Malawi. At this time an interim executive committee, charged with establishing the network and providing it with the momentum to continue into the future was also selected. This committee consists of representatives of the countries involved in the previous network, established in 1994 in Kenya and those present at the Malawi meeting. Dr. Clement Chilima of Forestry Research Institute of Malawi (FRIM) was selected as the interim secretariat. Others countries present at the meeting were Kenya, Uganda, Tanzania, Zambia and South Africa. For South Africa, Professor Jolanda Roux of the Tree Protection Co-operative Programme (TPCP) was present and appointed as interim representative of the country.

FISNA aims to facilitate exchange of information and provide a link for communication about forest invasive species between countries on the African continent. It also aims to increase awareness regarding invasive forest species and alert the relevant agencies about new invasive species, provide policy advice on trans-boundary movement and phytosanitary measures to the relevant agencies. One of the main modes of communication of FISNA is through their website, which is currently hosted by the FAO at the following website: <http://www.fao.org/forestry/foris/webview/fisna/index.jsp?siteId=6381&siteTreeId=26951&langId=1&geoId=0>. This website includes new alerts for recently discovered invasive species, lists of experts on the African continent that can be contacted for specialist advice and publications relating to invasive species on the continent.

On 29 and 30 August 2006, FISNA held the first meeting of their interim committee at the Sokoine Agricultural University (SUA) in Morogoro, Tanzania. The aim of this meeting was to exchange information on new invasive species on the African continent, evaluate progress of the network to date and determine actions for the next few months. Presentations on recognition and management strategies were made on *Sirex noctilio* by Prof. Roux and on the Bluegum Chalcid, *Leptocybe invasa* by Mr. Eston Mutitu of the Kenyan Forestry Research Institute (KEFRI). Problems experienced by all countries present included cypress aphid, lantana and the invasiveness of some commercial forestry tree species. The importance of careful research before the introduction of new plants were, therefore stressed. Furthermore, all countries lack the enforcement of quarantine laws and the monitoring teams to detect new invasions at an early stage. Some countries, such as Malawi had excellent permanent monitoring teams in the past, however, these teams have not been retrained in the last few years and many that have left have not been replaced. Without sound monitoring and law enforcement teams, the early detection and rapid response to new invasions are impossible and countries are left with expen-

sive management options, often when the new invasive species has already resulted in large-scale losses.

The network is open to all involved in forestry on the African continent. Contributions and information from all are welcome and may be submitted to Jolanda Roux or directly to Dr. Clement Chilima. You may also wish to add your name as an expert and offer your assistance to colleagues and foresters on the African continent. Also, if you have important points for discussions at future FISNA meetings please contact Jolanda who will raise them on your behalf. Your involvement is important, and soon new country representatives will be elected; you may be the one.



Attendees of the FISNA meeting held in September at Morogoro, Tanzania.



Drs. Denis Kayambazinto (FRIM), Gillian Allard (FAO) and Clement Chilima (FRIM) inspect and outbreak of *Leptocybe invasa* in Tanzania.

FROM RUSSIA WITH LOVE, OR NOT?

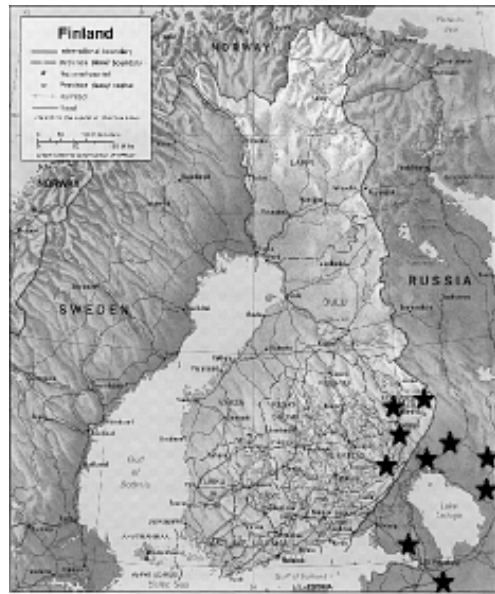
TPCP collaborates with Finland and Russia to assess the risk that bark beetles on Russian timber pose to Finnish Forests

The Finnish pulp and paper industry has relied on timber imported by rail from Russia for many decades. However, Finland is part of the EU, and as is well known, forest certification has become a major issue for EU members in recent years. The problem is that Russia is not an EU member and is now required to adhere to certification principles. For the government controlled Russian forestry industry, certification has become a major dilemma. On the other side of the border, the Fins are also worried, since they must retain the livelihood of their industry, which cannot be done based on local supply.

One of the major concerns for the EU is the possible introduction of pests and diseases into its member states from Russia. In principle, there is nothing wrong with such a concern. However, Finland is separated from the rest of Scandinavia and Northern Europe by the Baltic Sea, and forms part of a geographical and ecological entity with the north-western part of Russia from which it imports most of its timber. Are strict quarantine measures then really necessary when Russian timber crosses the (man-made) border into Finland?

To answer this question, the Finnish Forestry Research Institute (METLA) and the University of Joensuu, have commenced with a collaborative research project with the University of St. Petersburg. The focus of the project is to compare the presence and diversity of wood-infesting insects and their associated fungi in Finnish forests with that occurring in similar boreal forests on the Russian side of the border. Given its extensive experience in dealing with forest pathogens and especially those associated with bark beetles, the TPCP and FABI was approached by the Fins to collaborate in this project. During June and July of this year, Wilhelm de Beer of FABI spent three weeks collecting bark beetles and isolating fungi in Finland and Russia. More than 500 cultures of fungi from 15 different bark beetle species were collected and will be identified as part of the M.Sc. study of a Finnish student, who will visit FABI during 2006 for a period of training.

It is known that the same bark beetle species occur in forests on both sides of the border between Russia and Finland. However, very little is known regarding the fungal associates of these beetles, especially in Russia. The results of this study will show whether the same species of fungi occur on both sides of the border and whether any of the fungi on the Russian side, pose a threat to Finnish forests. In years to come, the project will be expanded to also consider the beetles and fungi in Siberian forests, the origin of a substantial portion of Russian timber exported to Finland.



Sites in Finland and Russia where wood-infesting beetles were collected during June-July 2005.



Wilhelm de Beer digging for bark beetles in the roots of pine trees in Finland.



*The galleries of the spruce bark beetle *Ips typographus*. The white nodules in the pupal chambers are drops of spores of fungi associated with the beetle.*

TPCP Diagnostic Clinic

January to the end of August 2005

The TPCP diagnostic clinic is a service provided to the industry to assist in the identification and management of disease and pest problems. This service is available to all member companies of the TPCP. Foresters and farmers are encouraged to discuss possible samples with staff of the TPCP to determine what samples should be sent and how they should be packaged. Where required, field visits will be undertaken by TPCP staff to follow up on samples sent to the clinic. The clinic and extension team forms the core of the pest and disease monitoring team for the industry and rely strongly on reports from foresters and farmers to identify new pest and disease problems. Please feel free to contact us and discuss possible problems and ways in which we can improve our services even more.

From the beginning of 2005, the management of the TPCP Diagnostic Services was improved to provide a more reliable and rapid service to the forestry community. The clinic is still managed by Prof. Teresa Coutinho. However, a technical supervisor, Ms. Draginja Pavlic, a PhD student, manages the day-to-day running of the clinic. Four postgraduate students are appointed to analyse the samples. This year they include James Mehl, Dina Gomez, Happy Maleme and Elsie de Meyer. As part of their training these students were also taken on a field trip to the Zululand area to introduce them to forestry and expose them to the day to day running of plantation nurseries.

The Diagnostic clinic has received a total of 691 samples for the period January to the end of August 2005. Most samples were received in April [Fig. 1]. Of the samples sent, the majority were from pine (71%) [Fig. 2]. 19% of the samples received were from eucalypts and 20% were classified as other. The category "other" included insect, seed, growth media and water samples. Only two samples received were from black wattle.

Clinic Manager: Teresa Coutinho – 012 4203934/8/9
Field Extension Manager: Jolanda Roux – 012 4203938/9 or 0829093202
Entomology Extension Manager: Brett Hurley – 012 4203938/9 or 0829093211

Director TPCP/CTHB: Mike Wingfield – 012 4203938/9

Fig. 1

No. of samples received from January – August 2005

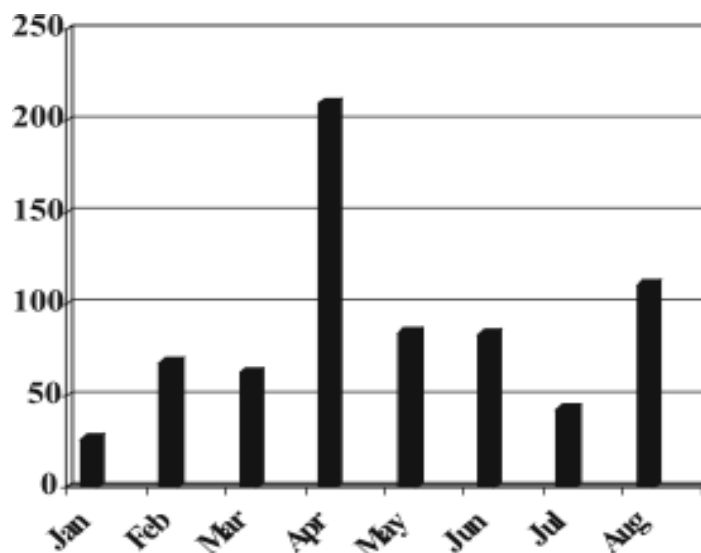
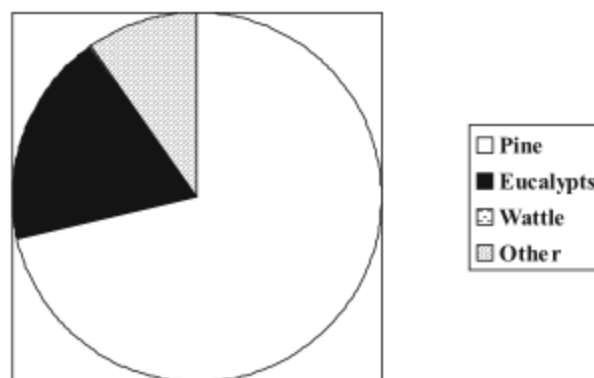


Fig. 2

No. of samples received from different hosts



Clinic team. F.l.t.R. Draginja Pavlic, Dina Gomez, James Mehl, Elsie de Meyer, Happy Maleme.

THE *EUCALYPTUS* SNOUT BEETLE:

90 YEARS IN SOUTH AFRICA

Almost 90 years ago, on 14th November 1916, the *Eucalyptus* snout beetle, *Gonipterus scutellatus* Gyllenhal (Coleoptera: Curculionidae), was found for the first time in *Eucalyptus* plantations at Cape Town, South Africa. In this situation it was causing severe defoliation and the problem was immediately recognized as serious. *G. scutellatus* has now been accidentally introduced into many other countries (see table and map) where *Eucalyptus* trees are planted. Eradication of this pest has not been possible and the only method of control has been classical biological control.

Currently, *G. scutellatus* is known in 23 countries where the main strategy for its control has been the introduction of the solitary parasitoid *Anaphes nitens* Girault (Hymenoptera: Mymaridae). This microhymenopteran is an egg parasitoid found in Australia (native area of *G. scutellatus*), by the South African entomologist Frank G. C. Tooke. Tooke first imported the wasp into South Africa in 1926, and this is one of the first examples of classical biological control of an introduced insect pest. South Africa is well recognized for this major and visionary scientific achievement.

After *Anaphes nitens* was introduced into South Africa, high levels of success were achieved in controlling *G. scutellatus* and this occurred rapidly. In May 1928, the parasitism rate was 3-13%; in summer 1929 0.1-31%; between 1929 and 1930 it reached 60-90% and by December 1930 it was recorded to rise to between 77-98%. After the establishment of *A. nitens* in South Africa, this biological control parasitoid was imported and released by other countries, using the knowledge and experience of South African entomologists. Today, this is considered an outstanding example of a successful classical biological control, where an egg parasitoid acting alone has been able to control an important insect pest successfully.

Despite the great success of *A. nitens* as a biological control agent in South Africa, *G. scutellatus* remains problematic in certain localities. The parasitoid has for example been ineffective in areas of altitude higher than 1200 m. These areas experience cold winters, resulting in high *G. scutellatus* re-infestations. In Spain for example, *G. scutellatus* attack is very severe where trees are planted under poor ecological conditions, resulting in considerable loss of tree vigor. This country suffers an annual economic loss of approximately • 7 million (ZAR 55 million) from *G. scutellatus*.

Susceptibility to *G. scutellatus* varies among eucalypt species. Planting less susceptible species reduces *G. scutellatus* infesta-

tions. However, this strategy can conflict with market demands. For example, in Spain, Portugal and Uruguay, *E. globulus* is the main eucalypt species planted due to its rapid growth and its pulp quality. This is despite *E. globulus* being highly susceptible to damage by *G. scutellatus*. In South Africa the more susceptible species planted are *E. dunnii*, *E. smithii* and *E. macarthurii*.

Integrated Pest Management (IPM) seems to be the most feasible strategy to prevent and combat damage caused by *G. scutellatus*. For those countries where the pest has not yet arrived, the first step for control should be the application of strict quarantine. Planting less susceptible *Eucalyptus* species and ensuring good silviculture, resulting in vigorous and more resistant trees, is another important step. Chemical insecticides against the larvae and adults have been used in several countries, such as Chile, U.S.A., South Africa and Australia. Results are debatable due to the disruption of the biological control programs and economically unaffordable costs. Chemical control may also be impractical because adult snout beetles disperse readily, are active during much of the year, and the host trees are very tall, widely distributed, and nearby important agricultural crops.

If chemicals are going to be used for control of *G. scutellatus*, it is important to test their effect on non target arthropods, especially natural enemies or biological control agents. In Spain for example, the only authorized insecticide against the snout beetle is flufenoxuron, which belongs to a group of chemicals known as Insect Growth Regulators (IGRs). This product seems to be relatively harmless to *A. nitens* in the field. There are also other potential natural enemies that could be included in the management of *G. scutellatus*: *A. tasmaniae* and *A. inexpectatus* for example have been reported, but also some entomopathogens such as *Beauveria bassiana*, found in Brazil and Spain, and *Bacillus thuringiensis* could be tested.

The TPCP is involved in a wide range of studies on *G. scutellatus* and its control. This work is led by a team of researchers but is specifically being carried out by Derian Echeverri (derian.echeverri@fabi.up.ac.za), a masters student at the TPCP. Derian is Colombian and has extensive experience in working with biological control agents. He has also recently undertaken a period of research in Spain, working with groups that have considerable experience in mass rearing of *A. nitens*. One of the focus areas of the TPCP research on *G. scutellatus* is to evaluate the impact of mass releases of *A. nitens* (and other biological control agents) in areas where the insect pest remains problematic to the South African Forestry Industry.

Table. World Distribution of the *Eucalyptus* snout beetle, *Gonipterus scutellatus*

Country	Estimated date of Arrival
Australia: New South Wales, Queensland, South Australia, Tasmania and Victoria (first recorded in Western Australia in 2001)	Native
New Zealand	1890
South Africa	1916
Argentina	1926
Lesotho	By 1929
Swaziland	By 1929
Malawi	1937
Kenya	1938
Mozambique	1938
Zimbabwe	1940
Mauritius	1940
Uruguay	1943
Uganda	1945
Madagascar	1948
Brazil: Parana, Rio Grande do Sul, Santa Catarina, Sao Paulo	1955
Italy	1976
France	1978
Saint Helena	1979
Spain	1991
United States of America	1994
Portugal	1995
Chile	1999
China	By 2003

Seeing Trees for Forests for People clearly in Brisbane

From a human society perspective, trees and forests are an essential part of the biological capital of most environments. Without them, the complex societies we live in, are not possible. Fascinating, if tragic, ruins all over the world remind us of once great civilizations. Why did they collapse? There are many reasons, but research shows that these civilizations often developed in an environmental Utopia, until a day when the last big trees were cut down – reminiscent of general environmental decay and with consequences no-one foresaw in the rich years – followed by ... ruins (Diamond 2005, *Collapse: How societies choose to fail or succeed*). They did not see 'the trees for the forest' or recognise their dependence on them.

Seeing the interactions of Trees, Forests and People from all perspectives is what the twelfth World Congress of the International Union for Forestry Research Organizations (IUFRO; www.iufro.org), held in Brisbane, Australia from 8-13 August 2005, was all about. The theme of the congress, 'Forests in the Balance: Linking Tradition and Technology' was an appropriate framework for the presentations and discussions of the role and findings of current forestry science. Overall, there appears to be a clear need to urgently find a balance between economic and socio-economic demands on forests, with the ecological

constraints on them. This is also reflected in the main resolutions accepted at the congress, namely: 1. 'Promoting global cooperation in forest-related research' (addressing quality, cooperation, communication, equality and relevance of forest science, within the scientific community) and 2. 'Promoting science for decision-making' (including the relevance and effective communication of forestry science to policy makers and mainstream society).

IUFRO dates back to 1892 and focusses on 'international cooperation in scientific studies, embracing the whole field of research related to forests and trees for the well-being of forests and the people that depend on them (IUFRO, Mission statement)'. The organization unites a global network of more than 15,000 scientists in nearly 700 Member Organizations from over 110 countries. Of these more than 2000 delegates from over 80 countries attended the congress in Brisbane.

Mike Wingfield, Jolanda Roux, Xudong Zhou and Bernard Slippers attended the meeting on behalf of the TPCP and FABI. Other TPCP members, Elsie de Meyer, Draginja Pavlic, Grace Nakabonge and Almuth Hammerbacher (and their co-authors), were represented by their posters. In total, the TPCP contrib-



Some of the South Africans at the IUFRO congress.

uted six posters and three talks (See abstracts). They joined more than 10 fellow South African forestry scientists to represent Forestry research in South Africa at the meeting. These included Eugene van As, the non-executive Chairman of Sappi Limited, who was one of the five main keynote speakers.

TPCP staff members contributed more than presentations and posters at IUFRO and some were elected to different management structures in IUFRO or received awards during meetings held at the conference. The work of IUFRO is divided into eight divisions. Mike Wingfield was elected as the coordinator of Division 7 (Forest Health) after serving as Deputy Coordinator for the last five years. In this capacity, he also joins the new Board of IUFRO until 2010. Within each Division, specific units or working parties coordinate the activities around a specific topic. Mike is also Coordinator for the IUFRO Unit (7.02.00) dealing with Forest Pathology, but will hand over this responsibility to Dr. Gaston LaFlamme this year. Jolanda Roux was selected as Coordinator of the Unit (7.02.07) dealing with Diseases of Tropical Forest Trees for the next term starting in January 2006. Bernard Slippers, who completed his Ph.D. as a TPCP team member, was awarded the IUFRO award for outstanding doctoral research. Tasmien Horsley (Sappi Forests) and her co-authors received a best poster award in Division 2 for their work on hybrid seed production in *Eucalyptus*.

Abstracts of all the posters and talks presented at the congress were published in the *International Forestry Review*, which is freely from the IUFRO website (www.iufro.org).

TPCP contributions:

Posters

- Fungi causing utility pole decay in South Africa. - De Meyer, E.M., De Beer, Z.W., Wingfield, M.J., Couto, M.
- Modelling the effect of *Fusarium cincinnatum* spore concentration, wound type and environment on disease development. - Hammerbacher, A., Coutinho, T.A., Wingfield, B.D., Wingfield, M.J.
- Population structure of the fungal pathogen *Cryphonectria eucalypti* from Australia and South Africa. - Nakabongwe, G., Gryzenhout, M., Wingfield, M.J., Roux, J., Burgess, T., Hardy, G.

- *Botryosphaeria* spp. that co-infect native *Syzygium* and introduced *Eucalyptus* trees in South Africa: implications for disease management. - Pavlic, D., Slippers, B., Coutinho, T.A., Wingfield, M.J.
- Distribution and importance of *Botryosphaeria* spp. on native and introduced *Eucalyptus* trees in Australia, Africa and South America. - Slippers, B., Ahumada, R., Gezaghne, A., Mohali, S., Nakabonga, G., Rodas, C., Roux, J., Coutinho, T.A., Wingfield, B.D., Wingfield, M.J.
- *Ophiostoma* spp. associated with the bark beetle, *Ips grandicollis*, on native and exotic *Pinus* spp. - Zhou, X.D., de Beer, Z.W., Wingfield, M.J., Carnegie, A.J., Portales, J.M., Klepzig, K.

Talks

- Invasive insects and diseases threaten World forests. - Haack, R.A., Wingfield, M.J.
- Potential impact of climate change on plantation pest and disease problems in southern Africa. - Roux, J., Wingfield, M.J.
- Pathogen management as a driver in *Eucalyptus* genetic management and deployment strategies. - Wingfield, M.J., Roux, J., Wingfield, B.D.



Bernard Slippers receiving his certificate and trophy for his outstanding Ph.D. Research.

NORWAY-SOUTH AFRICA RESEARCH PROJECT

TPCP STUDENTS VISIT NORWAY

Recently two masters' students of the Tree Protection Co-operative Programme (TPCP), Gilbert Kamgan Nkuekam and Joha Grobbelaar had the privilege of visiting Norway to work with the Norwegian Forestry Research Institute (Skogforsk) in Ås. This opportunity arose from a bilateral agreement between the Governments of Norway and South Africa. For Gilbert, this was his first time to visit and work in a country in the Northern Hemisphere and to leave the African continent. The aim of this trip was to collect fungal pathogens from broad leaf trees such as *Populus*, *Betula*, *Salix*, and *Quercus*. This was also to expand on a previous survey conducted by Prof. Jolanda Roux in 2004. The fungi of interest in this project are broadly known as Ophiostomatoid fungi and include the genera *Ceratocystis* and *Ophiostoma*, genera that include species of important tree pathogens and that also cause sap stain and degradation of lumber.

Forests in Norway cover approximately 37% of the country's total surface area. The most important tree species include Norway spruce (47%), Scots pine (33%) and birch (18%). Species such as *Alnus*, *Salix*, *Aspen*, *Sorbus* and *Quercus* also occur naturally and are widespread around the country. However, very little research has been done regarding the biodiversity and pathogenicity of Ophiostomatoid fungi on broad leaf trees in Norway. Previous reports in this country are confined to conifers. Well-known examples include *Ceratocystis polonica* and *Ceratocystis resinifera* that are pathogens of Norwegian spruce (*Picea abies*).

During the first week of his stay in Norway, Gilbert inoculated, in their natural environment, some aspen and birch trees with fungi collected by Jolanda in 2004. This inoculation experiment was followed by field work over a two week period. Jolanda's previous surveys were restricted to a few communes near Ås and the border with Sweden. During this visit, Gilbert, Joha and Prof. Halvor Solheim surveyed both the Southern and the Northern part of Norway. Samples were collected from log piles at sawmills ready for processing as well as from stumps of recently felled oak, birch and aspen trees. In the south they visited Tresnes, Øydna, Salthaug and Lyngdal, while in the North; many localities in the Tromso County were visited. Gilbert and Joha collected 640 samples from which they isolated three groups of Ophiostomatoid fungi.

Gilbert and Joha, apart from field work, spent the remaining period of their time in the laboratory (2 months in total for Gilbert and 10 wks for Joha). Gilbert extracted DNA from some isolates and did DNA sequencing while Joha made single spore cultures from *Pesotum quercus* for population genetic studies that she will continue later. In addition, Gilbert isolated fungi from insects collected with the guidance of Dr. Paal Krokene.

During the last week of August Joha attended the Baltic Forest Pathology congress held in Norway. Delegates from Norway, Sweden, Finland, Iceland, Lithuania, Estonia and Latvia were present as well as two from the Southern hemisphere, from FABI!, namely Joha and Dr Bernard Slippers. One and a half days were dedicated to presentations on forest research and diseases and managing major pathogens such as *Heterobasidion* and *Armillaria*, and a day was set aside for a field trip into a nearby national park. The setting was beautiful, pristine nature, forests as far as the eye can see and a conference centre in the



Gilbert, Joha and Prof. Halvor Solheim collecting fungi from stumps.



Joha and Gilbert in the North of Sweden, enjoying time to appreciate the unique and beautiful scenery.

mountains overlooking Norway's largest lake. In the evenings the delegates were treated to traditional food and drink and spontaneous singing from the Swedes and Norwegians.

The research visit to Norway by Gilbert and Joha was not confined to only field and lab work. It was also a privilege for these two students from Africa to visit and enjoy the country of the indigenous Sami people with its beautiful scenery. They found time to visit tourist places in Oslo, such as the Munch museum, the Viking ship museum and the royal palace of the king of Norway in Oslo. It was wonderful for Joha and Gilbert to spend time in Norway and they are very grateful for the warm reception they had in Ås and from the Norwegian people. In particular their thanks and appreciation go to Prof. Halvor Solheim for his guidance and patience and for taking the time on the field trips to show them the surrounding area and some popular tourist spots. Thanks also go to Dr. Paal Krokene and to the forest department of Bardufoss in the North for their assistance in the field. Last but certainly not least, the TPCP acknowledges the South African and Norwegian governments for supporting the project that adds substantial value to the overall aims of the programme.

PEST ALERT

Blue Gum Chalcid

The Blue Gum Chalcid, *Leptocybe invasa* Fisher & LaSalle, (Hymenoptera: Eulophidae) is a new genus and species of insect that was first recorded in the Middle East in 2000 and has spread to most Mediterranean countries and to many of the *Eucalyptus* areas in northern and eastern Africa. It was detected in Uganda and Kenya in December 2002 and is reported to spread fast and cause serious damage to young plantations and nursery seedlings. It has not yet been reported in South Africa but it poses a potential threat to the country as it is rapidly spreading south, having in August been found in Tanzania near Dar es Salaam.

Damage

The insect forms galls on the mid-ribs, petioles and stems of new growth of young trees, young coppice as well as nursery seedlings, thereby stunting growth. Galls induced by this wasp can cause substantial injury to young trees and may eventually seriously weaken the tree. In an outbreak situation wasp pressure is intensive and all new growth may be damaged. The impact of the wasp on the development of an adult tree is not yet clear, although galls can be found on most leaves if the wasp occurs in large numbers.

Distribution and host range

Although this wasp is probably native to Australia, its Australian distribution is still unknown. Presently, the wasp is reported from Algeria, Iran, Israel, Italy, Jordan, Kenya, Morocco, Spain, Syria, Tanzania, Turkey and Uganda. Suitable hosts for this insect include *E. camaldulensis*, *E. globulus*, *E. gunii*, *E. grandis*, *E. botryoides*, *E. saligna*, *E. robusta*, *E. bridgesiana*, *E. viminalis* and *E. tereticornis*.

Description of the insect

The female is a small wasp with average length of 1.2mm. The head and body are brown in colour with a slight to distinct blue to green metallic shine. Only females have emerged from rearing procedures and not a single male has been recorded.

Symptoms and gall development

Wasps insert their eggs in the epidermis of the upper sides of newly developed leaves, on both sides of the midrib, in the petioles of young leaves and in the parenchyma tissue of twigs. The attack takes place within 1-2 weeks of the bud break out. There are 5 stages of gall development reported on *E. camaldulensis* in Israel.

Stage 1 begins 1-2 weeks after oviposition, with the first symptoms of cork tissue appearing at the egg insertion spot. This stage is characterized by a small change in the morphology of the attacked tissue, the cork scar becomes bigger and the section of the midrib that carries the eggs often changes its colour from green to pink.

Stage 2 is characterized by development of the typical bump shape and the galls reach their maximum size of about 2.7mm wide.

Stage 3 is characterized by the fading of the green colour on the surface that tends to change to pink while retaining its typical gloss.

Stage 4 is characterized by the loss of glossiness of the gall surface, with colour changes to light or dark red according to whether the galls are present on the leaves or on the stem.

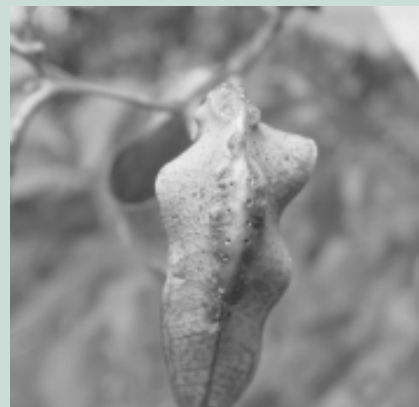
Stage 5 is characterized by emergence holes of the wasps where the colour changes to light brown on the leaf and red on the stem.

Currently no control measures are available against this insect. Researchers in Israel and Australia are looking into the possibility of finding biological control agents. Foresters in South Africa are asked to keep their eyes open for any type of gall formation, deformation of leaves etc. on young *Eucalyptus* growth. Please report any such symptoms to the TPCP. Please be very careful in what type of plant material is moved from countries north of our borders.



Leptocybe invasa

Photos by:
Zvi Mendel, Agri. Res. Org., Israel



Multiple galls and insect exit holes on a severely damaged leaf



Deformed leaves and shoots

TPCP - *Fusarium circinatum* screening facility

Fusarium circinatum, the cause of pine pitch canker in the USA, has been known in South Africa since the early 1990s. The fungal pathogen has caused considerably loss to pine nurseries and also at transplanting and is currently considered one of the most important constraints to *P. patula* establishment in the country (See TPCP pamphlets). It has been shown by researchers at the TPCP that great variation exists within *Pinus* spp. in South Africa with regards to their susceptibility to *F. circinatum*, supporting results obtained by researchers in the USA. The TPCP, therefore, developed a screening technique to more rapidly evaluate the susceptibility of breeding stock at the nursery stage.

At the beginning of 2005, Kgosi Mangwaketsi was appointed to manage the TPCP *Fusarium circinatum* Screening Facility at the University of Pretoria. Kgosi is a BSc graduate from the University of KwaZulu/Natal. Apart from these responsibilities he will also be conducting research projects of relevance to the screening facility. These projects are determined by the steering com-



Kgosi looking after "his" pine trees for inoculations

mittee. The current members of this committee are Dr. Arnulf Kanzler from Sappi, Eric Kietzka from Mondi Business Paper, Chris Wentzel from KLF and Prof. Teresa Coutinho from the TPCP. Chris chairs the committee.

Approximately 5000 pine seedlings/cuttings were screened on behalf of Sappi at the beginning of the year. In November, plants will be screened for Mondi Business Paper, Sappi and KLF. Plants are expected to arrive from the three companies in mid-October and allowed to

acclimatize in our facility for a month. Thereafter, they will be inoculated with a spore suspension of *Fusarium circinatum* and the plants will be evaluated 8 weeks later.

This service is funded equally by Mondi Business Paper, Sappi and KLF. If other companies are interested in having their pine species/families evaluated, the cost per plant is R7-00. However, as the facility has limited space, companies wishing to use this service will need to negotiate with the steering committee.



A drop of inoculum is added to the cut surface of a pine tree



*After 8 weeks die-back caused by *F. circinatum* is measured*

Sirex woodwasp: Inoculations 2005

It has been a very busy year for those involved in the Sirex programme. Nearly 5000 trees were inoculated this year and these were widespread throughout the country. This translates to almost 500 million nematodes reared at FABI and couriered to various destinations throughout South Africa. To add to this, many, many weeks have been spent by forestry staff and contractors in identifying Sirex infested trees and felling, debranching and inoculating these trees. Much work has been done to investigate possible reasons for the poor parasitism results after the first inoculations in 2004 and also to increase quality control of the inoculations. All this effort expended to ensure effective inoculations in the 2005 season.

The success of the 2005 inoculations will only be known early next year, when Sirex wasps have emerged from inoculated logs and dissections of these wasps have been completed. This is a huge undertaking, but the results will be of great interest and importance. The good news is that preliminary investigations indicate this year's inoculation success should certainly be higher than that for last year. We are very optimistic about the future of this management strategy, but are also mindful of its complexity and that optimal results will take time to achieve.

Analysis of wood samples has shown that nematodes survive in wood from 15-50% moisture content. This dispels earlier concerns that nematodes were not surviving in the often dry inoculated trees. Dissection of Sirex larvae from inoculated logs confirmed that the nematodes were parasitising the Sirex larvae. In some trees percentage parasitism of the larvae was found to be as high as 60%. Examination of larvae confirmed that nematode entry holes on the larvae can be used to give rapid and accurate estimates of percentage parasitism. This means that larval parasitism checks can be used in future quality control measures for the inoculations.

Much praise and thanks is needed for those involved in the Sirex Technical Committee and KZN Operational Group. This team has invested great effort to ensure that conditions for the nematodes are optimal from when they are harvested at FABI to when they are inoculated into the Sirex-infested trees. Apart from the various quality control measures put in place, one of the tangible outputs of this work has been the design of a new inoculation hammer, an effort led by Phillip Croft of Mondi. This hammer is designed to overcome the shortcomings of the hammers used in last year's inoculations. Such seemingly small details are key elements that will ensure success of the inoculation programme.

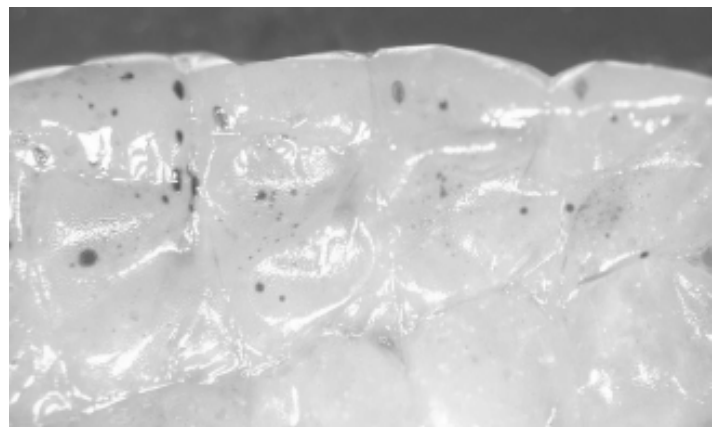
There are various significant challenges ahead for the National Sirex Control Programme. One of the biggest challenges is to drastically increase the inoculation programme that is needed to manage the Sirex population in as short a period as possible. From next year, the capacity at FABI to rear the nematodes and the in-field capacity to inoculate trees will be extended and stretched to the very limits. Part of increasing the inoculation programme is to ensure reliable delivery of virulent nematodes to the points of application. The TPCP has invested in a liquid nitrogen system for the long-term storage of virulent nematodes and a CO₂ incubation system used to assess the virulence of nematodes. Work is also being done to decrease contamination and increase yield in the nematode rearing process. Exciting and busy times are guaranteed for the years ahead as we move towards the effective management of the Sirex woodwasp in South Africa



Forestry worker inoculating Sirex-infested trees with the nematode at North Eastern Cape Forests (NECF).



Inoculation hammers. From left to right: South African designed hammer used in 2004, Australian designed hammer, new South African designed hammer used in 2005



Underside of parasitised Sirex larvae showing nematode entry holes

Sirex Travels to the USA

The Sirex woodwasp, *Sirex noctilio*, has been intercepted at ports of entry in the USA many times. But it was only last year (2004) that *Sirex* was detected in USA forests. This pest was confirmed to represent an established population this year. Despite much effort and strict quarantine measures, one of the USA's most dreaded forestry pest invasions has thus become a reality. The recent introduction of *Sirex* into Fulton, New York State, USA, was the primary reason for a two-week visit to the USA by Brett Hurley, responsible for Sirex management in the TPCP.

APHIS (Animal and Plant Health Inspection Services) has been involved in setting up a variety of traps to determine the distribution of *Sirex* in the USA. These traps use general kairomone attractants. Kairomones are compounds released by the tree that attract insects. APHIS is currently involved in research to develop more Sirex-specific attractants/kairomones, and these are of particular interest to the TPCP. The technique used to identify such attractants is called GC-EAD (gas chromatography electroantennographic detection). This technique involves passing known or unknown volatile compounds across the antennae of the insect and monitoring its response to these various compounds. This allows for the rapid identification of the compounds that stimulate the antennae and thus have potential use as attractants. The TPCP will be involved in testing these new attractants in South Africa during the coming year. If the attractants are found to be effective, such traps will be a valuable tool for detecting new *Sirex* infestations and for monitoring *Sirex* populations.

Apart from Brett's time in New York State, he also spent time at the Forest Insect Research Station at Pineville, Louisiana and the APHIS-Otis laboratory at Cape Cod, Massachusetts. Dr. Kier Klepzig, a friend and collaborator of the TPCP, heads the Forest Insect Research Station. The research of this group focuses primarily on the Southern Pine Beetle (*Dendroctonus frontalis*), which is a very serious pest of pines in the south eastern United States. They use the GC-EAD technique extensively and this is where Brett received 'basic training' in this technique. The APHIS facility at Cape Cod is led by Vic Mastro and is responsible for all work involving potential and actual invasive forestry pests in the USA. Some of the pests they are currently working on are the Emerald Ash Borer (*Agilus planipennis*), the Asian Longhorn Beetle (*Anoplophora glabripennis*) and the Gypsy Moth (*Lymantria dispar*).

This visit to the USA provided a great opportunity for Brett and the TPCP to deepen existing understanding of various forest pest problems. It also allowed the group to establish new collaborations and to master new techniques that will be important to Forest Protection in South Africa in the future. The TPCP thus extends its thanks to our USA colleagues for their support and hospitality.

Vic Mastro (left) and other APHIS staff preparing traps for *Sirex* in Oswego, New York State, in an effort to determine the distribution of *Sirex* in the USA



Activities of the Pine *Fusarium* Working Group (PFWG) for 2005 A message from the Chairman

The PFWG has already met twice in 2005 and the last meeting is scheduled for the end of November 2005. This year has been an eventful one, especially with the resurgence of the Pitch Canker Fungus (PCF) in the southern Cape.

The outbreak of PCF in the southern Cape and the general lack of awareness of the disease (especially at the forester level) was brought to the attention of the PFWG via Cassie Carstens of MTO. A few members of the Working Group (Mike Kruger - SGASA, Teresa Coutinho - FABI, Paul Viero - ICFR) as well as Brett Hurley - FABI Sirex went to the region to give presentations and consult with the affected parties. Willie Louw (lecturer at Saasveld) organised the day as an SAIF event which was well attended and constructive. The visit to the nursery concerned was also well received, and the constructive advice given was subsequently implemented with impressive improvements being made over a relatively short space of time.

The Nursery Certification Scheme run by SGASA was successfully implemented during 2005. Credit must be given to Mike Kruger and Kobus Serfontein for efforts made here, notwithstanding the valuable contribution made by all members of the PFWG during the finalisation of Section 19 (PCF section) of the certification document - well done to all concerned! As a result of this process there has been a sincere effort made on behalf of industry to encourage producers of pine seedlings to become certified as a prerequisite to purchasing seedlings. There has also been concerted effort and initiative taken by some of the larger private nurseries in becoming certified, thereby leading the industry. This needs to be commended and serves as inspiration to those companies not yet certified.

At the last working group meeting Kobus Serfontein discussed the past year's auditing of nurseries for SGASA certification and raised a number of issues that need to be addressed in the future. This is a positive step and serves as an indication that the certification process is moving forward.

The implementation of the PCF monitoring plots on company land holdings has not gone as smoothly as anticipated for various and valid reasons. It was subsequently proposed that a technician be employed at the ICFR to assist with PCF plot implementation and data capture. This person would work across all landholdings ensuring consistency with trial layout and data capture. It was also suggested that this person be shared with the Sirex programme as the periods/seasons required by each programme do not necessarily overlap. This will be taken up further with the Forestry Industry.

Lastly there has been concern indicated within the working group over the current poor quality of composted pine bark in South Africa and the effect this has had on stressing pine seedlings in nurseries, creating favourable conditions for the re-appearance and spread of PCF. The group agreed in principle that an expert such as Dr. Handreck should be approached to give a seminar at a suitable venue (e.g. the Seedlings Growers Annual Symposium) as well as present a series of talks at other venues aimed at improving the current situation.

Our working group has always been an open forum and we welcome participation from any private and corporate pine seedling producers as well as the end users, namely the growers.

Chairman of PFWG
Paul Viero