



RED TEMÁTICA EN SALUD FORESTAL:

Línea de investigación:
Plagas Forestales Exóticas

Informe 2017:

Internacionalización de la Red Temática en Salud Forestal



Coordinador General:

Dr. David Cibrián Tovar

Coordinadores de línea:

Dr. Jorge E. Macías Sámano

M.C. Rodolfo Campos Bolaños

Texcoco, Edo. de México, Diciembre de 2017



INTERNACIONALIZACIÓN DE LA RED

Dr. Jorge E. Macías Sámano
M.C. Rodolfo Campos Bolaños

Dentro de las actividades de internacionalización, se tuvo comunicación con especialista en salud forestal de Norte América, España y Centro y Sud América, los cuales tuvieron participación en el XIX Simposio Nacional de Parasitología Forestal y a raíz de este evento se incluyeron en las líneas de investigación de su interés, en especial en la Línea de Plagas Exóticas.

Se tuvieron otras actividades de promoción de la red como la que se menciona a continuación: se encontrará el reporte de viaje a la ciudad de Savannah, Georgia, EUA, cuyo objetivo fue representar a la Red Temática de Salud Forestal en el North American Invasive Species Forum realizado del 8-11 de mayo del presente año y organizado por la North American Invasive Species Network. En dicho evento participe con la ponencia “Non-native forest insect and diseases issues in Mexico”, informando de las principales acciones y especies exóticas invasoras que enfrenta México en el ámbito forestal.

REPORTE DE LA MISIÓN

Se tenía planeado llegar al Foro el día 8 de mayo, pero un vuelo fue pospuesto y en consecuencia su respectiva conexión, por lo que el comisionado arribó hasta el día 9 de mayo por la tarde, asistiendo únicamente un día al Foro, presentando la ponencia y realizando su regreso al día siguiente.

Ponencia

A continuación, se transcribe el resumen de la ponencia tal y como quedo en las Memorias del evento el día mayo 10. Se anexa a este reporte un archivo PDF con la presentación realizada en Power Point.

NON-NATIVE FOREST INSECT AND DISEASES ISSUES IN MEXICO

ABSTRACT: Formal attention of Mexico to non-native species and their impact had followed two paths, one regarding agriculture and a second on biodiversity. More recently, impacts by insect invaders on forest and forest products were formally addressed by implementing international regulations for packing material and by establishing a national monitoring program for exotic ambrosia beetles.

These efforts were born from the interactive cooperation of several government agencies (SAGARPA, CONABIO, SEMARNAT, CONAFOR) to homogenized, not only regulations, but different types of protocols to monitor, control, eradicate and establish quarantine contingencies for any non-native organism. In the case of the forestry sector, a very specific program was established with the academic sector, called Red Temática de Salud Forestal (Thematic Network of Forest Health), and whose objectives are to create different partnerships that will develop research needed to confront any issue related to forest health, including exotic insects and diseases.

Inspection of packing materials (NIMF 15) had been followed and quarantine treatments and procedures are in place. Our concerns are more on the side of not having enough inspectors to enforce it.

Most recent interceptions are: *Euwallacea fornicatus* (Coleoptera: Scolytinae) on *Casuarina* sp in urban areas at the Northwest border with United States; *Phoracantha recurva* (Coleoptera: Cerambycidae) and *Thyrinitea arnobia* (Lepidoptera: Geometridae) both in *Eucalyptus* plantations.

There are three insects, the Tea Shot Borer (*E. fornicatus*) on urban trees, the Pink Hibiscus Mealybug (*Maconellicoccus hirsutus*) and the Teak Defoliator (*Hyblaea puer*), both on teak plantations; one mite, the Red Mite (*Raoiella indica*) on coconut plantations and one disease, the

Teak Rust (*Olivea tectonae*) on teak, that are under specific prevention, control and eradication programs.

Mexico's efforts are centered in strengthen all our phytosanitary supervision, in developing national and international agreements and cooperative programs for both, native and exotic pests and to standardized and create new preventive and operational protocols a cross government agencies and on the entire country.

Otras actividades

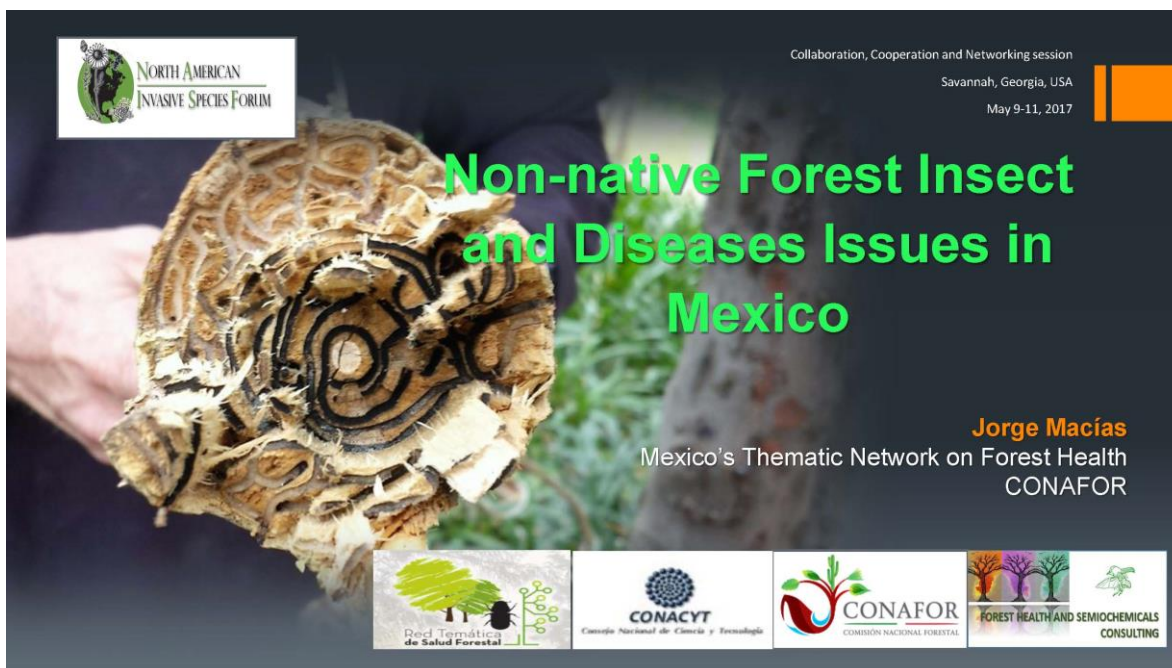
Otro objetivo de la Misión fue el establecer contactos con algunos asistentes al Foro para recoger ideas y lograr adicionar posibles miembros que colaboren con la Red Temática de México.

A continuación, se hace una lista de personas (y los temas que presentaron) con las que me entreviste:

- Manuel Elias / Barcoding in Mexico and Exotic Species
- Peter Manson / Biological control of invasive arthropod pests – meeting the challenges through collaborative science.
- Alonso Suazo / Harmonization of plant health activities in North America
- Sherry Williams / Introduction to CWMA, CISMA, PRISM, and TSN partnerships
- Patricia Koleff / Mexico's national invasive species overview
- Georgia Bohn / First steps toward an early detection and rapid response system for invasive alien species threatening biodiversity in Mexico.
- Ana Isabel Gonzalez Martinez / CONABIO

Con las últimas tres personas pertenecientes a CONABIO se planeó tener una reunión en México y vía Skype para que formen parte de la Línea de Exóticas dentro de la Red Temática.

PRESENTACIÓN DE FORO



North American Invasive Species Forum

Collaboration, Cooperation and Networking session
Savannah, Georgia, USA
May 9-11, 2017

Non-native Forest Insect and Diseases Issues in Mexico

Jorge Macías
Mexico's Thematic Network on Forest Health
CONAFOR

Red Temática en Salud Forestal

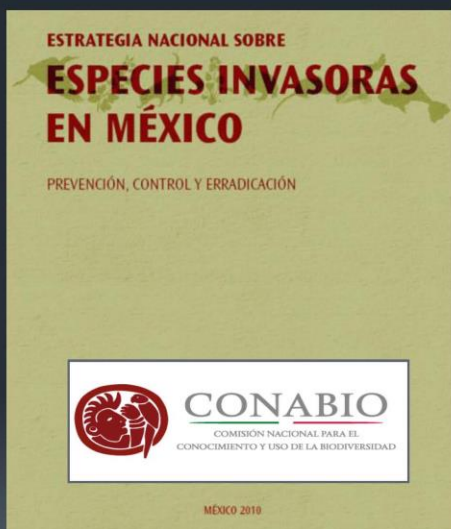
CONACYT
Consejo Nacional de Ciencia y Tecnología

CONAFOR
COMISIÓN NACIONAL FORESTAL

FOREST HEALTH AND SEMIOCHEMICALS CONSULTING

MEXICO'S COMMERCIAL TRADE

- 10 Free Trade agreements, 45 countries
- 32 agreements to promote and protect mutual investments, 33 countries
- 9 agreements of limited reach (ALADI, TPP)



- A threat to NATIVE biodiversity and to the function and production of the national ecosystems
- Aiming to have an efficient systems for prevention, alert and early warning and a legal framework to prevent, mitigate and eradicate the invader species

National Commission for Knowledge and Use of Biodiversity (CONABIO 2010)

Environmental and agriculture sectors share the same needs for detection and quarantine measures

SAGARPA – CONABIO - SEMARNAT – CONAFOR – ACADEMIA

- Protocols to monitor and tend common pests
- Monitor Systems (including technological developments and data bases)
- Phytosanitary contingencies



Inspection of packing material (NIMF 15)

- PROFEPA (SEMARNAT)
- Quarantine treatment (Methyl bromide, incineration or withdrawal)



Family	Genera	Species
<i>Bostrichidae</i>	<i>Dinoderus</i>	<i>bifoveolatus</i>
<i>Bostrichidae</i>	<i>Heterobostrychus</i>	<i>aequalis</i>
<i>Bostrichidae</i>	<i>Sinoxylon</i>	<i>anale, indicum, unidentatum</i>
<i>Lyctinae</i>	<i>Minthea</i>	<i>reticulata</i>
<i>Buprestidae</i>	<i>Belionota</i>	<i>prasina</i>
<i>Cerambycidae</i>		<i>(Larvas)</i>
<i>Curculionidae: Scolytinae</i>	<i>Xyleborus</i>	<i>similis</i>
<i>Formicidae: Formicinae</i>	<i>Camponotus</i>	<i>herculeanus</i>
<i>Mycetophagidae</i>	<i>Litargus</i>	<i>balteatus</i>
<i>Silvanidae</i>	<i>Ahasverus, Silvanus</i>	<i>advena</i>
<i>Siricidae, Staphylinidae, Trogossitidae</i>		

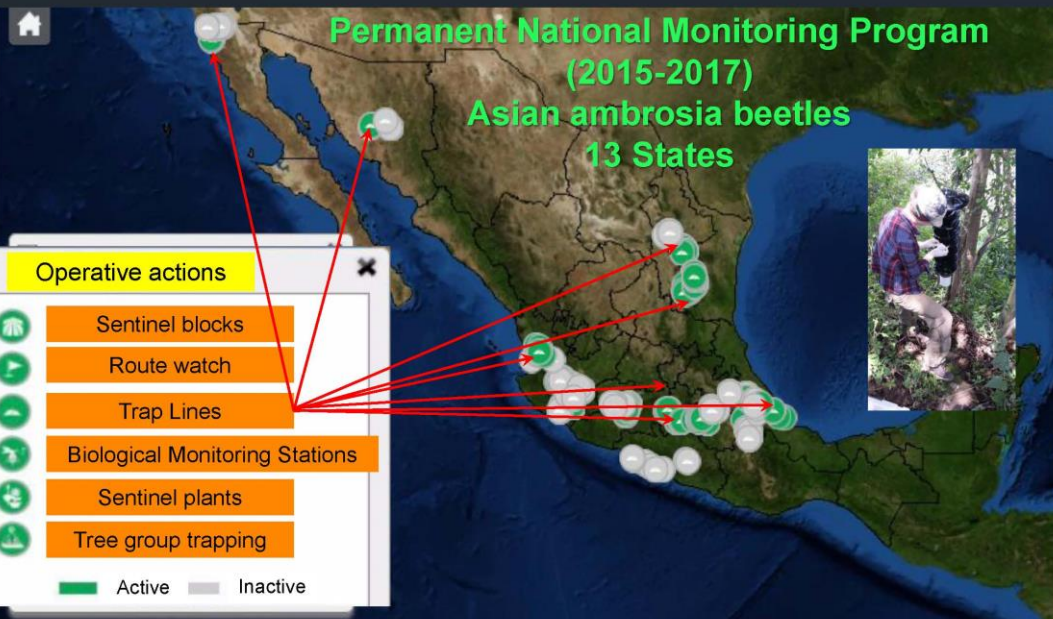




National Monitoring (2015- 2017) Asian ambrosia beetles

8,580 data

Only 80 were accounted as suspicious



Tea shot borer *Euwallacea furcatus* 1.8 ha



Over 200 species of known host plants in the LA area.

1. Box elder (*Acer negundo*)
2. Big leaf maple (*Acer macrophyllum*)
3. Evergreen maple (*Acer paxii*)
4. Trident maple (*Acer buergerianum*)
5. Japanese maple (*Acer palmatum*)
6. Castor bean (*Ricinus communis*)
7. California sycamore (*Platanus racemosa*)
8. Red willow (*Salix laevigata*)
9. Avocado (*Persea americana*)
10. Mimosa (*Albizia julibrissin*)
11. English Oak (*Quercus robur*)
12. Coast live oak (*Quercus agrifolia*)
13. London plane (*Platanus x acerifolia*)
14. Cottonwood (*Populus fremontii*)
15. White Alder (*Alnus rhombifolia*)
16. Titoki (*Alectryon excelsus*)
17. Engelmann Oak (*Quercus engelmannii*)
18. Cork oak (*Quercus suber*)
19. Valley oak (*Quercus lobata*)
20. Coral tree (*Erythrina coralodendron*)
21. Blue palo verde (*Cercidium floridum*)
22. Palo verde (*Parkinsonia aculeata*)
23. Moreton Bay Chestnut (*Castanosperrum australe*)
24. Brea (*Cercidium sonora*)
25. Mesquite (*Prosopis articulata*)
26. Weeping willow (*Salix babylonica*)
27. Chinese holly (*Ilex cornuta*)
28. Camelia (*Camellia semiserrata*)
29. Acacia (*Acacia spp.*)
30. Liquidambar (*Liquidambar styraciflua*)
31. Red flowering gum (*Eucalyptus ficifolia*)

Source: <http://eskalenlab.ucr.edu/avocado.html>



Tea shot borer *Euwallacea furcatus*

ACTIONS Containment



Pink Hibiscus Mealybug *Maconellicoccus hirsutus* Teak plantations and many fruit crops



ACTIONS

Pink Hibiscus Mealybug *Maconellicoccus hirsutus*

- Monitoring of insect populations
- Plantation management practices
- Mechanical treatments
- Soaps
- Biological control agents
 - Predators: *Cryptolaemus montrouzieri*
 - Parasitoids: *Anagyrus kamali*



Red mite *Raoiella indica* Coconut plantations and native palms



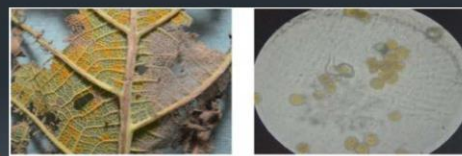
ACTIONS

Red mite *Raoiella indica*

Aerial applications of acaricides
> 10 000 ha (2013-2016)



Teak rust *Olivea tectonae*



Teak defoliator *Hyblaea puera*

20 000 ha of Teak plantations
Potentially dangerous to mangroves
Affecting 15 000 ha of Teak in two states



ACTIONS

Teak defoliator *Hyblaea puera*

Aerial applications of chemical and Bt-based insecticides



Latest Exotic Insect Interceptions

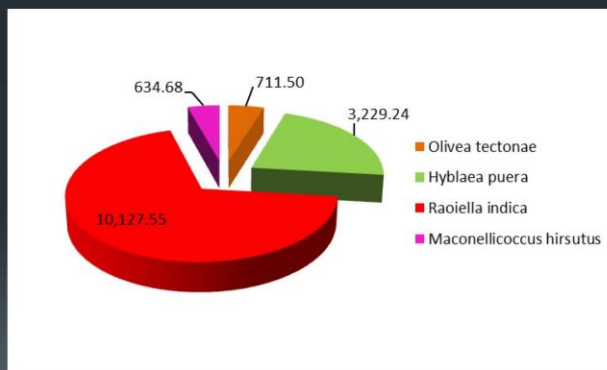
- *Phoracantha recurva* (Coleoptera: Cerambycidae) in Mexico, Michoacan and Aguascalientes states. On *Eucalyptus* sp.
- *Thyrinteina arnobia* (Lepidoptera: Geometridae) in Veracruz state. On *Eucalyptus* sp.



Preventive and control measures by the Forestry Sector (CONAFOR)

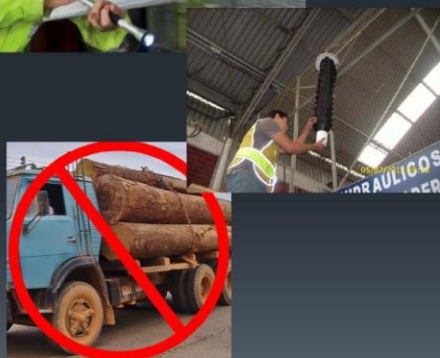
Asian ambrosia beetles
> \$ 2 million Pesos

Other pests and diseases
> \$ 17 million Pesos



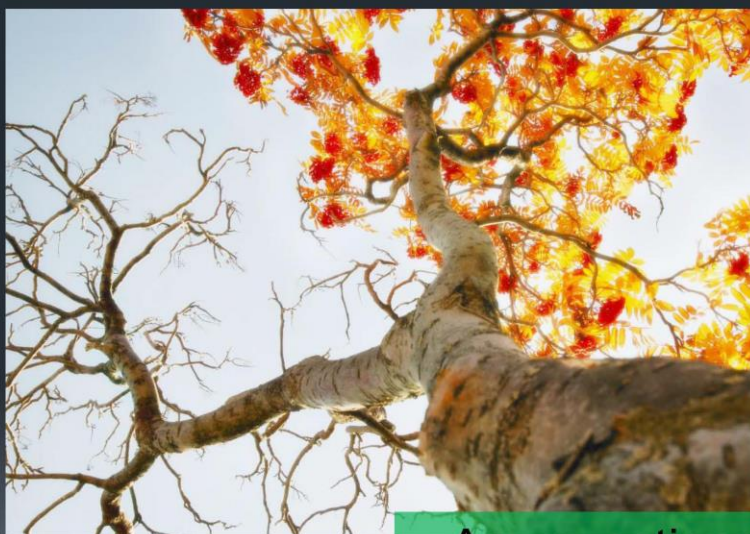
Actions for the immediate future

- Strengthen phytosanitary inspections under urban and natural environments
- Continue phytosanitary agreements with trade partners
- Continue generating and standardizing preventive and operational procedures across government agencies





Supporting and
Developing strategic
lines of research



Any questions?