

Government and Palm Industries CRB Task Force

Press Release 1/2018

Know your enemy

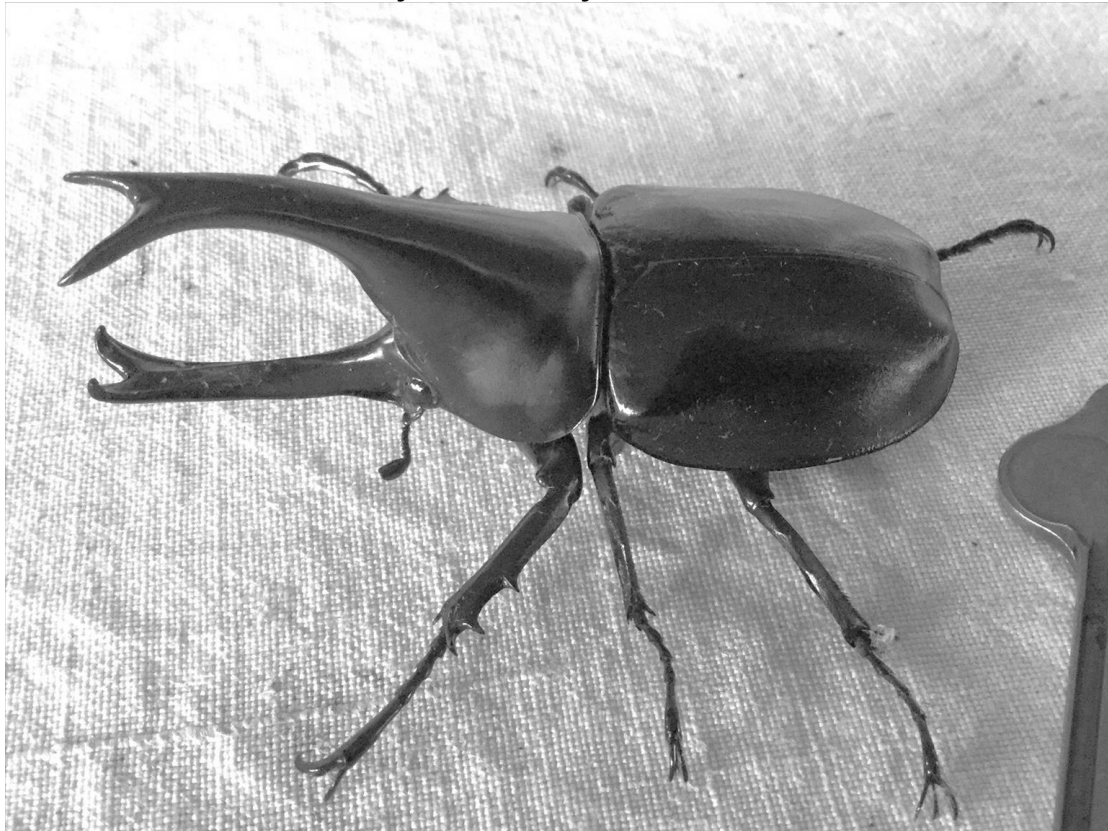
Everyone knows that the coconut rhinoceros beetle has arrived in Solomon Islands; that it has caused severe damage in Honiara and along the coast east and west; and that it has now been recorded in North Malaita, Savo and Ngela. Everyone also knows it attacks most palms but so far seems to prefer coconut and oil palm causing severe damage, loss of yield and in many cases palm death. Most people also know that it lays its eggs in rotting palms or other rotting plant material such as coconut husks, compost, sawdust and chicken manure. But many people do not know what it looks like and often confuse it with similar local beetles that are much less damaging and have different feeding and breeding habits. Here is a picture of your enemy and pictures of other beetles that mostly are not your enemy.

This is your enemy the coconut rhinoceros beetle, *Oryctes rhinoceros*, notice a single horn on the head and a scoop (not horns) behind. The female has a slightly smaller horn than the male otherwise they look similar.



These beetles are black and 3-5 cms long (usually about 4cms), they fly to light in the evening and early morning. This beetle should be killed whenever found.

These beetles are NOT your enemy:



Elephant beetle, *Xylotrupes spp.*, feeds on flame trees. There are at least three species of this beetle in Solomon Islands with varying horn sizes in the male, the female has no horns.



Melanesian coconut beetle, *Scapanes australis*. Notice the two clear horns behind the head, the horns can be of various sizes. This beetle has always been in Solomon Islands and attacks young coconuts after forest has been cleared. This is

For further information contact Bob Macfarlane, Coordinator of the CRB response at scapanes@gmail.com or +677 7135649.

a male, the female has no horns on the back and a tiny double horn on the head only.



The Rhino beetle, *Trichogompus fairmairei*. Little is known about this beetle but it has always been in Solomon Islands, notice the multiple horns behind the head. The female has no horns.

Black beetles that look similar to these but are **less than 3 cms** long are usually a pest of taro or similar crops or seedling palms. They are not usually pests of palms more than one year old. These are called *Papuana* spp. and there are more than 10 kinds in Solomon Islands.

The young of all the above beetles look very similar, they are short and fat and lay in the shape of a letter 'C', the only difference that can easily be seen is size



and that varies with age, species and food supply. They are found in or under rotting vegetation and can all be killed whenever found or better still fed to the chickens or pigs.

Please report to Agriculture Extension or Biosecurity immediately you see coconut rhinoceros beetles or their damage for the first time in your place. If possible collect the adult and bring it with you.

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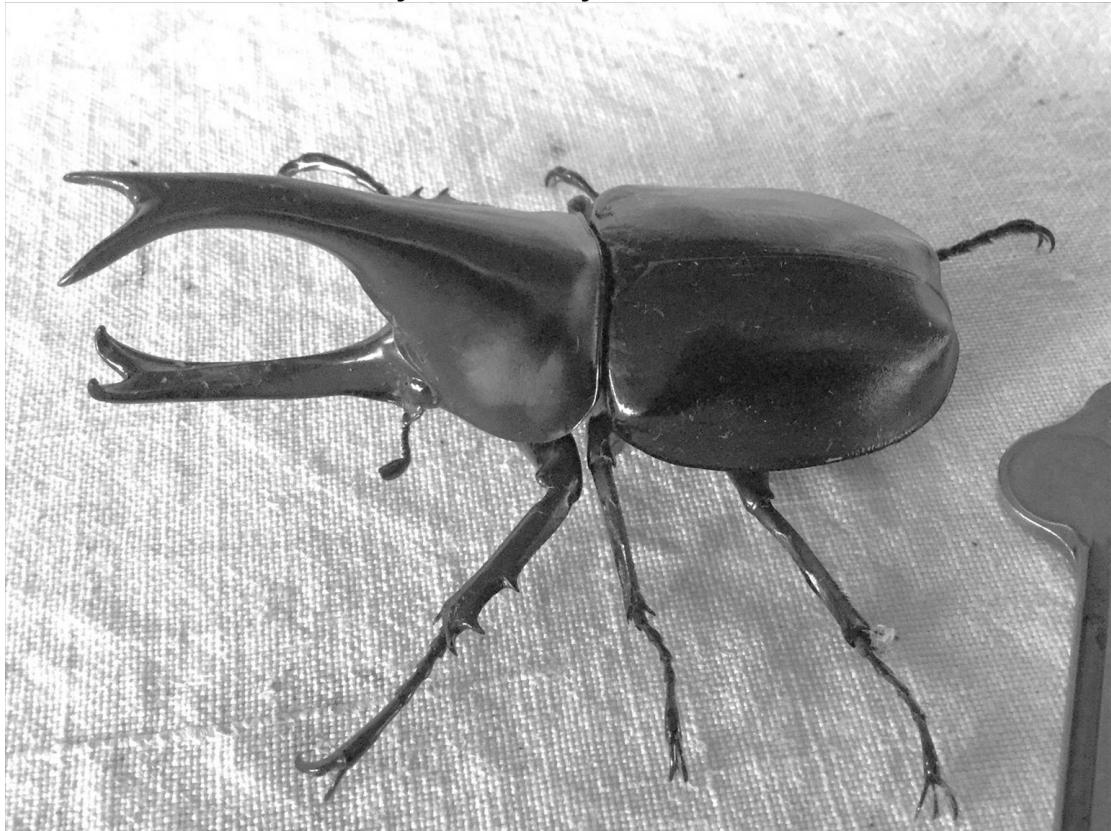
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Press Release 2/2018

Rhinoceros Beetle - What can I do?

The coconut rhinoceros beetle recently arrived in Solomon Islands and is causing serious damage to coconut palms on Guadalcanal, Savo, North Malaita and Ngela. Many people are asking, "What can I do about this new pest?"



Figure 1. This is your enemy, *Oryctes rhinoceros*. Note single horn on the head and only a scoop behind.

Government has already begun work with technical experts in Solomon Islands and overseas on scientific solutions to the pest but there are many things ordinary farmers and people can do to help. The main two recommended actions are: stopping movement to new Provinces (spread) and destroying breeding sites (sanitation).

SPREAD

Everyone travelling from an infested place to a non-infested place has a duty to make sure the beetle is not travelling with them. Do not move soil, compost, dead palms, or decaying plant material including chicken manure, between Provinces; all these can hide eggs and larva of the beetle. Make sure the adult beetle has not got mixed with your personal baggage or with your cargo. The adult beetle flies at dusk and dawn and is attracted to lights. Ship's owners and crew have a responsibility to check their ships are free of the beetle before they depart and certainly before they arrive at any port.

The beetle has not been reported from RenBel, Makiara, Temotu, Ysabel, Western (except Shortlands) or Choiseul yet. It is everyone's responsibility to make sure it does not arrive there. Government and Provinces are being encouraged to investigate legal methods of stopping spread.

SANITATION

The adult beetle feeds on living palm plants but it lays its eggs in dead palms, decaying plant material or compost including chicken manure. It is very hard to treat a living palm but we can destroy the breeding sites.

Damaged palms that are still alive and standing can recover so we do not advise cutting those. However, we do advise cutting down any palm that is already dead with no fronds. The beetle loves to lay its eggs in standing rotting palms; these must be cut down and broken up. The healthy wood can be used for buildings etc. or charcoal and firewood, just don't leave it lying around to rot.

All heaps of rotting plant materials must be removed, spread out or destroyed, including piles of coconut husks, piles of cocoa pods, dead leaves and branches. Compost should be turned over every 4 weeks or so to expose any larvae and eggs to birds and chickens.



Sanitation is the single most important thing that farmers and ordinary people can do to help control this pest. Even rotting plant material around your house should be removed and if possible destroyed.

Figure 2. All larvae that look like this should be killed.

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Government and Palm Industries CRB Task Force

Press Release 3/2018

Rhinoceros Beetle - What is happening?

The coconut rhinoceros beetle recently arrived in Solomon Islands and is causing serious damage to coconut palms on Guadalcanal, Savo, North Malaita and Ngela. Many people are asking, "What is happening to control it?"

We mentioned last week that everyone can help by cleaning up and destroying the breeding sites; the beetles love piles of rotten vegetation especially dead, decaying, palms. Around town and anywhere else, dead palms should be cut down and destroyed as they are perfect breeding places. Palms which are not yet dead (they still have a growing spike) might recover and perhaps they can be left in place in case they do recover, but as soon as they are clearly dead they too should be destroyed.



Figure 1. Young oil palm damaged by coconut rhinoceros beetle.

Oil palm too is being attacked (see picture) and GPPOL, with support from Biosecurity Solomon Islands, is implementing a range of methods to try to control the pest. On young palms they are using a pesticide to kill beetles attacking the palm, but this is only suitable before the palm is ready to produce pollen and fruit. On tall palms they are using an injection technique but this is expensive and not suitable for wide scale use.

Perhaps the most interesting work that is happening at GPPOL is the work to find a virus disease to kill the beetle. The same beetle in Fiji, Tonga and Samoa was controlled in the 1960s by a virus disease found in Malaysia, but from work

done by researchers in New Zealand it seems the strain of beetle we have is not affected by the virus strain used in the South Pacific. Some other strains of the virus have been imported and some have successfully killed adult beetles in the laboratory. Work is ongoing to identify a virus strain that will control the beetle we have in Solomon Islands.



Figure 2. Adult beetle being infected with virus at the GPPOL laboratory.

Currently GPPOL staff at Ngalimbiu (Jaydita Pue and Martha Lela) are running tests to try to extract a virus strain that is effective in Solomon Islands . Soon they hope to begin releasing infected adults into the plantation. Initially this will be on a small scale but soon a new laboratory provided by the Sime Darby project (parent company of GPPOL) will arrive and it is hoped to step up the numbers considerably. This project is collaborating with another project supported by the New Zealand government to find new diseases. These projects, Biosecurity Solomon Islands and local stakeholders will be meeting in Honiara 23-25 January to plan activities for the next three years. The results of this meeting will be reported next week.

Work is also ongoing at GPPOL and at the Ministry of Agriculture and Livestock research laboratory at Henderson with a fungus disease that is known to kill the adults and larvae. The MAL Research Division is looking at new ways to bulk up the quantities of the fungus and GPPOL staff are looking at improved methods of releasing it into the beetle environment.

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Government and Palm Industries CRB Task Force

Press Release 4/2018

Rhinoceros Beetle – Why is it important?

The coconut rhinoceros beetle recently arrived in Solomon Islands and is causing serious damage to coconut palms on Guadalcanal, Savo, North Malaita and Ngela, and to oil palms on Guadalcanal. Many people are asking, “Why is it important?”

Everyone knows coconuts are the most important crop in the country but few know just how important. Here are some facts taken from a 2014 World Bank, DFAT, IFAD report:

1. Solomon Islands has about 40,000 families or 80% of the population, living in the rural areas. Most of these families grow coconuts for many different uses.
2. Most Solomon Islands families, in villages and in towns, use coconuts for cooking, eating and drinking every day. This is estimated at nearly **200,000 nuts EVERY DAY for food.**
3. 2 – 3 times this amount of nuts are used daily to make copra which is the main source of income in villages. That is **4 – 600,000 nuts every day.**
4. The value of copra exports is as follows:
 - a. SI\$110 – 150 million per year as raw copra.
 - b. SI\$40 – 50 million per year as copra and virgin oil.
 - c. SI\$20 – 40 million per year as copra byproducts.
 - d. **SI\$300 – 400 million per year in total** = US\$40 – 50 million.

Remember most of this income goes directly into the village economy. That is up to SI\$10,000 per rural household per year from copra alone. The true value of coconuts is even higher as coconuts also provide income from domestic sales or local use of coconut products.

5. When the coconut rhinoceros beetle arrived in Samoa, Tonga and Fiji 100 years ago more than half the coconut palms were killed and the yield in the remaining palms was severely reduced.
6. Similar effects can be seen in Honiara and North Guadalcanal today.



Figure 1. Fiji c. 1960. The effect of coconut rhinoceros beetle attack. G.O. Bedford (2013) *Annu Rev Entomol* 58: 353–72

As the beetle spreads village people will have to make some hard decisions. They will have to choose between making copra or eating the nuts, there is unlikely to be enough nuts for both. Should they feed their family with free healthy food or should they make copra to pay school fees, food and other things.

If families choose to make copra then they will have to buy more food from the shops; this is likely to be the cheapest, but less healthy, food available. Consumption of soft drinks will go up and soon after so will the number of diabetes cases.

Other palms are also affected including oil palm, betel nut, sago and royal palms. Attacks on these will have a range of effects but the most serious will be on oil palm as this provides livelihoods for thousands of people and SI\$150 - 200 million in export earnings.

As mentioned in an earlier news story everyone can help to control the pest by cleaning up and destroying the breeding sites as the beetles love piles of rotten vegetation especially dead, decaying, palms. Around town and anywhere else, dead palms should be cut down and destroyed as they are perfect breeding places. Palms which are not yet dead (they still have a growing spike) might recover and perhaps they can be left in place in case they do recover, but as soon as they are clearly dead they too should be destroyed.

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Government and Palm Industries CRB Task Force

Press Release 5/2018

Rhinoceros Beetle – The Need for Urgent Action

Last week the New Zealand aid project “Improving Management of Coconut Rhinoceros Beetle (CRB) in Solomon Islands and PNG” led by AgResearch, New Zealand, held a meeting in Honiara to plan the next phases of their programme. The meeting was attended by senior personnel from the Ministry of Agriculture and Livestock, GPPOL and the Solomon Islands Coconut Industry Working Group, and beetle disease and pest management experts from AgResearch, PNGOPRA, SPC, the University of Queensland and NGOs.

The meeting noted that CRB attack was new and very serious. The beetle has already spread along the north coast of Guadalcanal, and has invaded north Malaita, Savo and Nggela. The beetle is attacking coconut and oil palm and hundreds of palms have already been killed, in the oil palm plantations on Guadalcanal the attack is very serious. Currently the worst effects can be seen around Honiara but if the beetle gets to village coconut plantations the impacts on copra production and village nutrition will be huge.

The meeting agreed that the priorities are to limit the spread of the beetle, bring the current damage under control and look for a long term biological solution to control the pest. Plans for a long-term solution to develop control techniques using new insect diseases are well advanced but the meeting identified two large gaps needing a rapid and thorough response. In particular if Solomon Islands is to avoid a huge disaster immediate action is needed to:

1. To raise awareness throughout the country about the seriousness of the threat and actions needed to slow its spread.
2. To work with communities to eliminate breeding sites and control the pest in those areas already invaded.

Both these tasks are outside the capacity of current Government or Provincial staff and finances and it was agreed that emergency funding based on new action plans is urgently needed to get the activities implemented quickly on the scale needed. The meeting also recognised that regional action was required to safeguard other countries from this new pest and that SPC was the logical organisation to lead this initiative.

At the end, the meeting held a de-brief session with potential donors and the media and recommended that MAL and the Solomon Islands Government approach relevant donors for urgent support.

Government and Palm Industries CRB Task Force

Press Release 1/2017

Government and Palm Industry CRB Task Force Established

Work against the coconut rhinoceros beetle (CRB) is picking up pace.

A Government/Palm Industry CRB Task Force has been established to oversee the implementation of the national Response Operational Plan against the beetle. The first meeting of this Task Force was held on Thursday, 7 December, at the Ministry of Agriculture and Livestock (MAL) Head Office in Honiara. This meeting finalised the Terms of Reference for the Task Force and the design of the Operational Plan for the full national response.

Promoting a public and private partnership members of the Task Force include technical experts from the MAL and representatives from industry especially, the Commodities Export Marketing Authority (CEMA), the Coconut Industry Working Group (CIGW), Guadalcanal Plains Palm Oil Ltd. (GPPOL) and the Solomon Islands Chamber of Commerce and Industry (SICCI). The Pacific Horticultural and Agricultural Market Access (PHAMA) program also provides support to the initiative. The Task Force will initially meet every month and oversee and guide the work of the technical experts.

The Operational plan outlines the four major activities that will be undertaken to respond to the beetle outbreak, these are:

1. An intensive programme of outreach to farmers to encourage a change in plantation management, especially towards Good Plantation Management standards. Changes will include the need to destroy of all dead and dying palms and the removal of all rotting plant material from the plantation.
2. A programme of new biosecurity policies and legislation to control the movement of all shipping out of infested areas. This will be done to slow the spread of the beetle into uninfested areas.
3. A research programme to find strains of virus that will kill the new strain of beetle that we have here. Once a strain is found it will be bulked up and released. The virus is the main method of control that has worked in other countries and only affects rhinoceros beetles.
4. A programme to speed up the bulking up and distribution of a fungus disease that kills beetle larvae and adults.

Implementation of this plan has already begun but actions will intensify over coming months.

We remind readers that the coconut rhinoceros beetle is probably the most destructive insect pest of coconut palm worldwide. When it arrived in Samoa in

1910 it killed half of all coconut trees and severely reduced the yields of surviving palms. People in Honiara are already seeing similar effects there. If the beetle spreads to other provinces it will seriously affect exports of copra, coconut and palm oil and copra and palm kernel meal. Perhaps most importantly it will reduce incomes in all villages that produce copra and reduce the availability of coconut foods and building materials.

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Press Release 2/2017

Good News for the Coconut Rhinoceros Beetle Response Operational Plan

Two excellent pieces of news have been reported in the past few days that will be of enormous benefit to the Coconut Rhinoceros Beetle response in Solomon Islands. The first was the news that the New Zealand Ministry of Foreign Affairs and Trade has signed off on a project proposal for work on the pest in Solomon Islands and PNG, and the Pacific region as a whole. The second was news that the Executive Deputy Chairman and Managing Director, Sime Darby Plantation Berhad (parent company of New Britain Palm Oil and GPPOL) has agreed to a research project to seek new controls for the beetle pest. Both these projects will work closely together aiming to deliver effective controls against Rhinoceros beetle.

The New Zealand project will be managed by scientists based at AgResearch Ltd., New Zealand, who will work with experts in Solomon Islands and PNG, and specialists at the Pacific Community. Their aim will be to develop controls for the beetle in Solomon Islands and PNG and to restrict the movement of the beetle to other Pacific countries. Controls are likely to include promotion of good coconut plantation management, especially sanitation, and release of new beetle biological control agents such as virus and fungus diseases.

The Sime Darby project will be executed by the PNG Oil Palm Research Association, a NGO. They will try to find the origin of the new strain of coconut rhinoceros beetle currently causing so much damage to coconuts and oil palm in Solomon Islands and PNG. Once identified the scientists will search this region for natural enemies of the beetle. In particular the scientists will look for beetle diseases similar to the viruses and fungi that have been successful with the related beetle elsewhere in the South Pacific. All possible diseases will be examined in new laboratories in PNG and Solomon Islands with help from specialists in the NZ project.

In Solomon Islands the projects will work closely with specialists from the Extension, Biosecurity and Research Divisions of the Ministry of Agriculture and Livestock, and with staff from GPPOL. Staff will be trained in the new techniques needed and assistance will be provided to the domestic control programme to be funded under a new government budget line for the beetle response. The projects will work closely with the Solomon Islands private sector through the Government/Palm Industry Task Force that was established just a few weeks ago. The Task Force is charged with guiding the response and helping to seek support for proposed activities that are currently not funded.

Work will begin immediately and the New Zealand project will host a meeting of all participating organisations in Honiara at the end of January. This meeting will deliver a detailed plan of work for the next three years.

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