



Alert on the red palm weevil (*Rhynchophorus ferrugineus*)

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Introduction

Causing economic losses to the tune of tens of millions of dollars per year in date palm-producing countries, the red palm weevil (*Rhynchophorus ferrugineus*) is already present in the Caribbean (Aruba and Curaçao) and in South America (Uruguay). Due to the proximity and the large number of host palm species, there is a significant risk of it spreading to all South American countries, causing damage to commercial palm crops such as coconut, oil palm, and ornamentals if this pest establishes. In any case, prevention is the most rational and economical approach to avoid its spread throughout South America. Thus, it is important to know this pest well, since a close related species, the South American palm weevil (*Rhynchophorus palmarum*), is already critical in the Americas.

Therefore, it is essential to know the characteristics of the red palm weevil for correctly combating it:



Photo: Elio Cesar Guzzo

Picture 1. Adults, larva, and pupal cocoon of the red palm weevil, *Rhynchophorus ferrugineus*.

Alert on the symptoms of attack of the red palm weevil

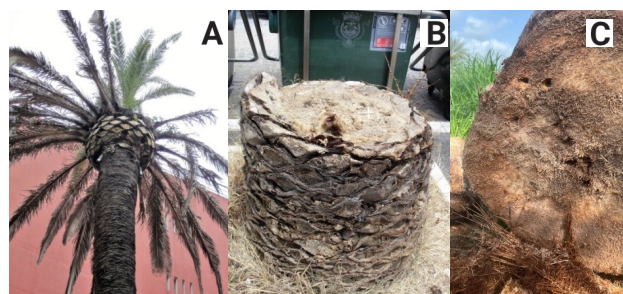
1. Symptoms of attack by the red palm weevil, *R. ferrugineus*, are difficult to detect during the early stages of infestation. The insect's entry holes in the stem may be visible due to sap exudation or the ejection of chewed-up fiber, even at ground level.



Photos: Elio Cesar Guzzo

Picture 2. Entry holes of the red palm weevil, *Rhynchophorus ferrugineus*, in date palm *Phoenix dactylifera* stem with chewed-up fiber ejection in the aerial part (Photo A) and at ground level (Photo B), in Oman.

2. Damage is caused by the larvae, which feed on the tissues inside the stem up to the palm crown, destroying the area of apical growth. Perforation holes can be seen on the stem, with the thoroughly chewed fiber inside. Severely attacked plants also emit a bad smell.

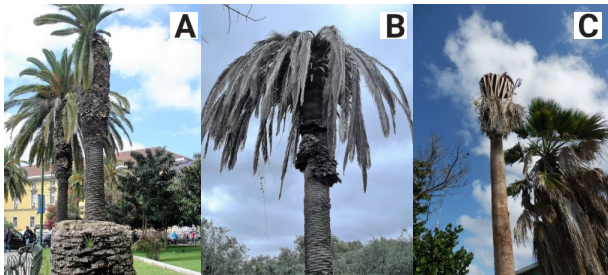


Photos: A and B - Bernhard Leo Löhrr - C - Elio Cesar Guzzo

Picture 3. *Phoenix canariensis* palm with crown damaged by the red palm weevil, *Rhynchophorus ferrugineus* (Photo A) and with perforated stem (Photo B), in Portugal; and date palm *Phoenix dactylifera* with galleries made by larvae in the stem (Photo C), in Oman.

3. In advanced stages of infestation, the crown acquires a flattened shape due to the absence of central leaves. The remaining leaves dry out and hang from the crown, with subsequent death of the palm.

Photos: Bernhard Leo Löhner



Picture 4. Palm *Phoenix canariensis* with different degrees of damage caused by the red palm weevil, *Rhynchophorus ferrugineus*, from yellowing to death of the leaves (Photos A and B), in Portugal; and palm *Washingtonia* sp. killed by the weevil attack (Photo C), in Aruba.

There are several species of host palms in South America and therefore monitoring must be constant in commercial plantations and ornamentals alike, due to weevil ability to spread through seedlings and plant movement, which makes phytosanitary inspection difficult.

Attention must be doubled across all borders!

Host palms of the red palm weevil (*Rhynchophorus ferrugineus*) and the South American palm weevil (*Rhynchophorus palmarum*).

Scientific name	Common names	<i>R. palmarum</i>	<i>R. ferrugineus</i>	Scientific name	Common names	<i>R. palmarum</i>	<i>R. ferrugineus</i>
<i>Cocos nucifera</i>	Coconut, coconut palm			<i>Syagrus coronata</i>	Ouricuri, licuri		?
<i>Elaeis guineensis</i>	Oil palm, African oil palm			<i>Syagrus romanzoffiana</i>	Jeriva		?
<i>Phoenix canariensis</i>	Canary Island date palm, pineapple palm			<i>Syagrus schizophylla</i>	Aricuriroba		?
<i>Phoenix dactylifera</i>	Date palm			<i>Areca catechu</i>	Areca palm, areca nut palm, betel palm, Pinang palm	?	
<i>Sabal palmetto</i>	Cabbage palmetto			<i>Arenga pinnata</i>	Sugar palm, arenga palm, areng palm, black-fiber palm, gomuti palm	?	
<i>Washingtonia robusta</i>	Mexican fan palm, Mexican washingtonia			<i>Borassus flabellifer</i>	Toddy palm, doub palm, Palmyra palm, tala palm, wine palm	?	
<i>Acrocomia aculeata</i>	aculeata Macauba		?	<i>Brahea armata</i>	Mexican blue palm, blue hesper palm	?	
<i>Euterpe edulis</i>	Jussara		?	<i>Caryota maxima</i>	Giant fishtail palm, Chinese fishtail palm, giant mountain fishtail palm	?	
<i>Euterpe oleracea</i>	Assai		?	<i>Chamaerops humilis</i>	European fan palm, Mediterranean dwarf palm	?	
<i>Copernicia prunifera</i>	Carnauba		?	<i>Corypha elata</i>	Cabbage palm, Gebang palm	?	
<i>Mauritia flexuosa</i>	Buriti palm		?	<i>Howea forsteriana</i>	Kentia palm, Thatch palm	?	
<i>Metoxylon sagu</i>	Sago palm		?	<i>Jubaea chilensis</i>	Chilean wine palm, Chilean palm	?	
<i>Oenocarpus sp.</i>	Bacaba		?				
<i>Attalea speciosa</i>	Babassu		?				
<i>Roystonea oleraceae</i>	Caribbean royal palm, imperial palm, cabbage palm		?				
<i>Roystonea regia</i>	Royal palm, Cuban royal palm, Florida royal palm		?				

(?, ?) Potential hosts of *R. ferrugineus* and *R. palmarum*, respectively.

The red palm weevil is potentially more devastating than the South American palm weevil because if it can realize its full damage potential, the ability of resident natural enemies to suppress this pest is unknown.

See the reasons for this alert due to the differences between each species:

Comparison of biological characteristics of the red palm weevil (*R. ferrugineus*) and the South American palm weevil (*R. palmarum*) and possible consequences of its introduction into Brazil and neighboring countries.

<i>Rhynchophorus palmarum</i>	<i>Rhynchophorus ferrugineus</i>	Consequences of the arrival of <i>R. ferrugineus</i>
Larvae inside the plant	Larvae and adults inside the plant	Available control methods are ineffective
Few larvae found together in the same plant	Several larvae can live in the same plant	Greater potential for infestation (and lethality)
It usually abandons the plant where it developed before the plant dies	Several generations in the same palm until the plant is killed	Ability to kill the plant faster
Does not attack young plants in the nursery (non-flowering)	Attacks palms while still in the nursery, young and adult plants in the field	Mortality of palms even in the nursery; pest can disperse with offshoots and young palms from the nursery
Vector of the nematode and fungus that cause the red ring disease and the coconut stem bleeding, respectively	There is no report of association with nematode or fungus, but there is a possibility of becoming a vector	If found to be a vector for the diseases, it can become a severe problem (there may be up to 2,000 <i>R. ferrugineus</i> in a single plant, and in this case, many of them would be infectious)

Important information

The red palm weevil can be confused with the South American palm weevil due to **great variation in color** of the adults of the former. In case of doubt, confirmation of the species by specialists is essential.



Picture 5. Different color patterns in the red palm weevil, *Rhynchophorus ferrugineus*.

Photo: Elrio Cesar Guizzo



Picture 6. Red palm weevil (*Rhynchophorus ferrugineus*).

Photo: Bernhard Leo Löhner



Picture 7. Adult of the South American palm weevil, *Rhynchophorus palmarum*, atypically coloured, resembling *Rhynchophorus ferrugineus*, in Colombia. It is important to highlight that the South American palm weevil is almost twice as large as the red palm weevil.

WARNING!

NEVER SEND LIVE INSECTS BY MAIL OR IN ANY OTHER WAY. IN CASE OF SUSPICION, CONTACT THE INSTITUTION, AND THE SPECIALIST WILL CONTACT YOU BACK.

In case of finding adult insects similar to the red palm weevil or for more information about this pest, please contact Embrapa's Citizen Service (SAC) through <https://www.embrapa.br/fale-conosco/sac> or +55 (79) 4009-1300; or Agrosavia Colombia through atencionalcliente@agrosavia.org.co or (+57 1) 4227300.

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