

## FIRST RECORDS OF THE RED PALM WEEVIL, *Rhynchophorus ferrugineus* (Olivier, 1790) AND THE PALM BORER, *Paysandisia archon* (Burmeister, 1880) IN CROATIA

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### ABSTRACT

Red Palm Weevil – *Rhynchophorus ferrugineus* (Olivier, 1889) and Palm Borer – *Paysandisia archon* (Burmeister, 1880) are one of the most important pests of the palm trees. They cause gradual decline of its host which results in their complete destruction. In Croatia, their most common hosts are: *Phoenix canariensis* (Canary Date Palm), *Trachycarpus fortunei* (Chusan Palm), *Washingtonia filifera* (Cotton Palm or California Fan Palm) and *Chamaerops humilis* (Mediterranean Dwarf Palm). It should be noted that most plants belonging to family Arecaceae present the potential host of these pests. In Croatia, Red Palm Weevil was first recorded on *P. canariensis* in August 2011 on the locality Turanj in Zadarska County, where there was no damage recorded (Masten Milek, Šimala, 2011, Masten Milek, Šimala, 2012a). It was caught using the feromone trap. In the same year, it was also recorded in Solaris near Šibenik, also on palm trees *P. canariensis*. Even then, significant damages were recorded. In 2012 this pest continued its further spreading, despite all the phytosanitary measures taken: in Šibensko-kninska County mostly in the Solaris area near Šibenik and it was additionally recorded in the area of Jadrija and Brodarica. In Opatija in Primorsko-goranska County, Red Palm Weevil was first recorded in 2012, also on *P. canariensis*. Palm Borer was first registered in Croatia in the area of Brnik near Split in Splitsko-dalmatinska County on palm trees *P. canariensis*, *T. fortunei* and *W. filifera* in September 2011 (Masten Milek, Šimala, 2012b). At that time, damages were also recorded. In 2012 the spreading continued in the area of Brnik near Split in Splitsko-dalmatinska County, and for the first time it was also recorded in the Kožino area near Zadar in Zadarska County. Situation in Kožino is alarming: this pest attacked most of the palm trees planted and disastrous damages were recorded by visual inspection.

**Key words:** Croatia, first records, *Paysandisia archon*, *Rhynchophorus ferrugineus*

### 1 INTRODUCTION

It is estimated that there are over one million palm trees planted in Croatia. Most of them can be found in the Mediterranean part of the country. Most common species are *Phoenix canariensis* (Canary Date Palm), *Trachycarpus fortunei* (Chusan Palm), *Washingtonia filifera* (Cotton palm or California Fan Palm) and *Chamaerops humilis* (Mediterranean dwarf palm).

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Red Palm Weevil originates from South Asia and Melanesia, where it causes great damages on the Coconut palm. From there, it spread rapidly westward in the mid-eighties. In the EPPO region, it appeared in 1992 in Egypt. After that, in 1994 in Italy and Spain, in 1999 in Israel and Jordan, in 2005 in Turkey, in 2006 on Cyprus, Greece and in France, in 2008 in Morocco, in 2009 in Georgia and Slovenia and in 2011 in Croatia. In Asia, it is widespread. It was also registered in several places in Oceania.

The Palm Borer is a Neotropical species which originates from South America. In the EPPO region, it was first found in Spain in one nursery in Catalonia. After that, it was registered on several localities along the Mediterranean coast. In the same year, it was also discovered in France. Lately, the pest was also found in Italy. Three isolated cases were registered in Great Britain (2002, 2007 and 2008). In 2008 it was registered in Slovenia.

## 2 MATERIALS AND METHODS

The pest affects stems and growing points. It is very difficult to detect the Red Palm Weevil and Palm Borer in the early stages of infestation. Generally, they are detected only after the palm has been severely damaged. Survey of the Red Palm Weevil on palms in Croatia was carried out over a 4 year period (2009–2012) by visual inspections of potentially infested plants in the open field and in nurseries which import palms. The same was done for the Palm Borer since 2011. Careful observation may reveal the following signs which are indicative of the presence of the pest: holes in the crown or trunk from which chewed-up fibres are ejected withered bud/crown. Ferrugineol-based aggregation pheromone lures have been used for mass trapping of Red Palm Weevil adults (Faleiro & Chellapan, 1999).

## 3 RESULTS AND DISCUSSION

The Red Palm Weevil was first discovered in August 2011 in the Zadar County in the area of Turanj in pheromone lure on *P. canariensis* and after that in Šibenik-Knin County in the Šibenik area. In 2012 it continued to spread further in Šibenik-Knin County and it was registered for the first time in Primorsko-Goranska County in Opatija, also on *P. canariensis* (map 1) The Red Palm Weevil is expanding rapidly. In the coming years we can expect a lot of damage in Croatia.

The Palm Borer was first registered in September of 2011 in Split-Dalmatia County in the area of Split-Brnik on *P. canariensis*, *T. fotrunei* and *W. filifera*. In 2012 the Palm Borer continued to spread in Brnik near Split, and it was first recorded in Kožino near Zadar in Zadar County (Fig. 1). The situation is alarming in Kožino: pest has invaded most of the palm trees in the area, and visual inspection has registered catastrophic damage.

## 4 CONCLUSION

In 2011, two new quarantine pests of the Croatian entomo-fauna on palm trees were discovered: the Red Palm Weevil and the Palm Borer. Both are known to be extremely hazardous palm tree pests which, in most cases, cause a complete destruction of its host. The main problem with the spreading of these pests lies mainly in the trade of the planting material. Since Croatia does not have its own palm tree production, all the planting material is being imported mostly from Spain and Italy, countries in which these pests are widespread. Besides that, since both of these pests fly, the spreading occurs very fast. Based on the latest research conducted in Spain, palm trees can be saved if the control

measures are carried out at adequate timing and with the use of adequate plant protection products.



Figure 1: Distribution of Red Palm Weevil and Palm Borer in Croatia (2009 – 2012)

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