

BREVI NOTE / SHORT NOTE

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STRELITZIA NICOLAI (Strelitziaceae), NEW HOST PLANT FOR
RHYNCHOPHORUS FERRUGINEUS (Coleoptera Curculionidae) IN SICILY

Strelitzia nicolai (Strelitziaceae), nuova pianta ospite di *Rhynchophorus ferrugineus* (Coleoptera Curculionidae) in Sicilia

The Red Palm Weevil *Rhynchophorus ferrugineus* (Olivier, 1790) (Coleoptera Curculionidae), is considered the main palm pest in the Mediterranean basin. This species is native to Southeastern Asia and is now widely spread throughout Oceania, Africa, Europe and the Caribbean (MURPHY & BRISCOE, 1999; EPPO, 2008, 2012; CHEBBI *et al.*, 2011; RODA *et al.*, 2011). Moreover, in North America the pest was found in California, where it is now considered eradicated (CDFA, 2010; IPPC, 2015).

In Italy the first registered sightings were on nursery palms in Tuscany (SACCHETTI *et al.*, 2005, 2006) and on ornamental palms in urban areas in Sicily (LONGO & TAMBURINO, 2005; LO VERDE & MASSA, 2007). Afterwards, the pest colonized all the Italian Regions in which palms were present, including many small islets such as Lampedusa and Linosa (pers. obs).

The species was seen to be invasive and very difficult to control, due to its adaptability to develop on several palm species, to its concealed living habits and to its lack of natural enemies in the newly colonized regions. The Red Palm Weevil has been reported to attack more than 20 species of palms, which are listed in the 2010/467/EU Commission Decision regarding susceptible plants and the measures to be taken when the species is detected.

In Italy almost 40,000 palms had been infested and killed as of February 2010 (almost 20,000 in Sicily, LO VERDE *et al.*, 2011), mostly *Phoenix canariensis* H. Wildpret, 1882, a species native to the Canary Islands. This palm species is widely present in Sicily both in private gardens and public green areas (BAZAN *et al.*, 2005; BARBERA & ROMANO, 2009).

Moreover, in Sicily the Red Palm Weevil has been found in urban gardens on several other Arecaceae: *Phoenix dactylifera* L., *Washingtonia* spp., *Chamaerops humilis* L., *Syagrus romanzoffiana* (Cham.) Glassman, *Jubaea chilensis* (Molina) Baill., *Howea forsteriana* (F. Muell.) Becc., and *Livistona chinensis* (Jacq.) R. Br. ex Mart. (LONGO & COLAZZA, 2009), and most recently its presence was also recorded on *Chamaerops humilis* in natural conditions (GIOVINO *et al.*, 2012).

THE RED PALM WEEVIL INFESTATION ON *STRELITZIA NICOLAI* IN SICILY

The insect was sighted in the “Bioparco di Sicilia” (Carini, Palermo province), a large park (about 60,000 m²) containing a zoological garden and a series of exhibitions promoting the nature



Fig. 1 — Stem of *Strelitzia nicolai*, where the emerging hole of *Rhynchophorus ferrugineus* was noticed (Carini, Palermo 14.IX.2015)



Fig. 2 — Some plants of *Strelitzia nicolai* dead for the action of *Rhynchophorus ferrugineus* (Carini, Palermo 14.IX.2015)

conservation and environmental education. In the month of September 2015, some withering plants of *Strelitzia* sp. were observed and several larvae and cocoons closely resembling those of *R. ferrugineus* were collected at their base (Figs 1-2). Considering that the usual host family of the Red Palm Weevil is Arecaceae, and that the family Strelitziaceae Hutch. has not been reported in literature as host of this insect, specific identification of the adult weevils obtained from the cocoons was confirmed by examining the insects with a stereomicroscope and using the WATTANAPONGSIRI (1966) identification key.

The infested plants were also examined and identified by MS as *Strelitzia nicolai* Regel & K. Koch. (SPECIALE & DOMINA, in press).

The attack of *R. ferrugineus* on the genus *Strelitzia* has never been reported in the literature, although two sightings of infested *Strelitzia* sp. have been made in the provinces of Trapani (G. La Mantia, *pers. comm.*) and Siracusa (A. Linares, *pers. comm.*) in the past few years.

Acknowledgements — We wish to thank very much Cassandra Funsten for the language revision.

REFERENCES

- BARBERA G. & ROMANO D., 2009. Le palme nel paesaggio siciliano. Pp. 29-38 in: La ricerca scientifica sul punteruolo rosso e gli altri fitofagi delle palme in Sicilia. *Regione Siciliana, Assessorato Agricoltura e Foreste, Dipartimento Interventi Infrastrutturali, Servizio XI*, 1.
- BAZAN G., GERACI A. & RAIMONDO F.M., 2005. La componente floristica dei giardini storici siciliani. *Quad. Bot. amb. appl.*, 16: 93-116.
- CDFA (California Department of Food and Agriculture), 2010. News Release (2010-10-18). Red Palm Weevil, worst known pest of palm trees, detected in Laguna Beach. Agricultural officials confirm first detection of palm tree pest in the United States. http://www.cdfa.ca.gov/egov/Press_Releases/Press_Release.asp?PRnum=10-061 (Accessed 22 November 2012)
- CHEBBI H., 2011. First record of *Rhynchophorus ferrugineus* on *Phoenix canariensis* in Tunisia. *Tunisian J. Plant Prot.*, 6: 149-153.
- EPPO, 2008. Data sheets on quarantine pests - *Rhynchophorus ferrugineus*. *EPPO Bulletin*, 38: 55-59.
- EPPO, 2012. First record of *Rhynchophorus ferrugineus* in Curaçao, Netherlands Antilles. *EPPO Reporting Service*. <http://archives.eppo.int/EPPOReporting/2009/Rse-0901.pdf>:2 (Accessed 22 November 2012).
- GIOVINO A., SCIBETTA S., GUGLIUZZA G., LONGO S., SUMA P. & LA MANTIA T., 2012. Attacks of *Rhynchophorus ferrugineus* (Olivier) (Coleoptera Curculionidae) on natural specimens of dwarf fan palm *Chamaerops humilis* L. (Arecaceae) in Sicily. *Naturalista sicil.*, 36: 427-433.
- IPPC, 2015. *Rhynchophorus ferrugineus* (Red Palm Weevil) eradicated from California. *IPPC Official Pest Report*, No. USA-41/1, FAO, Roma.
- LO VERDE G. & MASSA B., 2007. Note sul Punteruolo della palma *Rhynchophorus ferrugineus* (Olivier, 1790) in Sicilia (Coleoptera Curculionidae). *Boll. Zool. agr. & Bachic.*, 39: 131-149.
- LONGO S. & COLAZZA S., 2009. Il Punteruolo rosso delle palme e il Castnide delle palme. Pp. 7-12 in: La ricerca scientifica sul punteruolo rosso e gli altri fitofagi delle palme in Sicilia. *Regione Siciliana, Assessorato Agricoltura e Foreste, Dipartimento Interventi Infrastrutturali, Servizio XI*, 1.
- LONGO S. & TAMBURINO V., 2005. Gravi infestazioni di punteruolo rosso della palma. *Inf.re agrario*, 50: 73-74.
- LONGO S., ZIZZO G.V., GIOVINO A. & COLAZZA S., 2009. Piante ospiti del Punteruolo rosso e del Castnide delle palme in Sicilia. Pp. 85-86 in: La ricerca scientifica sul punteruolo rosso e gli altri fitofagi delle palme in Sicilia. *Regione Siciliana, Assessorato Agricoltura e Foreste, Dipartimento Interventi Infrastrutturali, Servizio XI*, 1.

MURPHY S.T. & BRISCOE B.R., 1999. The Red Palm Weevil as an alien invasive: biology and the prospects for biological control as a component of IPM. *Biocontrol News Inf.*, 20: 35-46.

RODA A., KAIRO M., DAMIAN T., FRANKEN F., HEIDWEILLER K., JOHANNIS C. & MANKIN R., 2011. Red Palm Weevil (*Rhynchophorus ferrugineus*), an invasive pest recently found in the Caribbean that threatens the region. *OEPP/EPPO Bulletin*, 41 (2): 116-121.

SACCHETTI P., CAMÈRA A., GRANCHIETTI A., ROSI M. C. & MARZIALETTI P., 2005. Prima segnalazione in Italia del curculionide delle palme, *Rhynchophorus ferrugineus*. *Notiziario Centro Sper. Vivaismo Pistoia*, 144 (5-6): 6-9.

SACCHETTI P., CAMÈRA A., GRANCHIETTI A., ROSI M. C. & MARZIALETTI P., 2006. Identificazione, biologia e diffusione del curculionide delle palme, *Rhynchophorus ferrugineus* (Olivier). *Inf.re fitopatol.*, 20 (6): 35-40.

SPECIALE M. & DOMINA G., in press. On the real identity of the *Strelitzia* cultivated in Sicily's Historic Gardens. *Webbia*.

WATTANAPONGSIRI A., 1966. Revision of the genera *Rhynchophorus* and *Dynamis* (Coleoptera: Curculionidae). *Department of Agriculture Science Bull.*, Bangkok, 1: 1-328.

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