NAME OF THE ORGANISM: Rhynchophorus ferrugineus (RHYCFE)

GENERAL INFORMATION ON THE PEST

Name as submitted in the project specification (if different to the preferred name):

Pest category:

Insecta **1- Identity of the pest/Level of taxonomic listing:**
Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?

Yes
Is the pest defined at the species level or lower?:

Yes
Can listing of the pest at a taxonomic level higher than species be supported by scientific reasons or can species be identified within the taxonomic rank which are the (main) pests of concern?

* Not relevant: Ornamental sector

Is it justified that the pest is listed at a taxonomic rank below species level?

Not relevant
Conclusion:

* Candidate: Ornamental sector

**2 – Status in the EU:**

Is this pest already a quarantine pest for the whole EU?

No
Presence in the EU:

Yes
List of countries (EPPO Global Database):

Cyprus (2011); France (2013); Greece (2012); Greece/Kriti (2011); Italy (2011); Italy/Sicilia (2015); Italy/Sardegna (2012); Malta (2013); Portugal (2008); Spain (2016); Spain/Islas Canárias (2013); Spain/Islas Baleares (2011)
Conclusion:

candidate
Justification (if necessary):

Data of the presence of this pest on the EU territory are available in EPPO Global Database (<https://gd.eppo.int/>).

HOST PLANT N°1: Areca catechu, Arenga pinnata, Bismarckia, Borassus flabellifer, Brahea armata, Brahea edulis, Butia capitata, Calamus merrillii, Caryota maxima, Caryota cumingii, Chamaerops humilis, Cocos nucifera, Copernicia, Corypha utan, Elaeis guineensis, Howea forsteriana, Jubea chilensis, Livistona australis, Livistona decora, Livistona rotundifolia, Metroxylon sagu, Phoenix canariensis, Phoenix dactylifera, Phoenix reclinata, Phoenix roebelenii, Phoenix sylvestris, Phoenix theophrasti, Pritchardia, Ravenea rivularis, Roystonea regia, Sabal palmetto, Syagrus romanzoffiana, Trachycarpus fortunei, Washingtonia. () for the Ornamental sector.

Origin of the listing:

EU COM
Plants for planting:

Plants intended for planting, other than seeds, having a diameter of the stem at the base of over 5 cm **3 - Is the pest already listed in a PM4 standard on the concerned host plant?**

No
Conclusion:

Evaluation continues **4 - Are the listed plants for planting the main\* pathway for the "pest/host/intended use" combination? (\*: significant compared to others):**

?
Conclusion:

Candidate

Justification:

The pest can be spread over long distances in infested plants for planting of host palms (date palms, coconut and areca palms and many other palm species). Palms can be grown outdoors or in protected environments (greenhouses, screenhouses) either in pots or in the soil. However, the pest cannot complete its life cycle in palms with trunks/stipes less than 5 cm wide, and these are very common in trade, and they are not considered to be an important pathway. Above this diameter the life cycle can be completed and these are usually shipped as bare rooted plants with limited growing medium attached or potted plants in various sizes for ornamental purposes (EPPO draft PM3 Rhynchophorus ferrugineus).
Spread in the environment is by adult flight and the pest can find their host plants in widely separated areas. Studies suggested that they can detect breeding sites (cut tissue, wounds etc.) at distances of at least 900 m (EPPO, 1997). Marked beetles were found five days after release up to 7km away from the place where they were released (EU, 2011). The complete life cycle from egg to adult emergence, takes an average of 82 days in India and adults live 2-3 months, with up to three generations a year possible (EPPO, 1997).
Experts concluded that there is a considerable uncertainty about the relative importance of plants for planting as a pathway compared to local spread. This is likely to be different depending on the areas. In many ways the pest is similar to P. archon for which the decision has been taken that RNQP status is not appropriate, but R. ferrugineus may be a less strong flier, and also capable of causing the death of trees more quickly, and with a more rapid build-up of population, than P. archon. Direct mortality of infested plants means there is a strong impact on their intended use. **5 - Economic impact:**
Are there documented reports of any economic impact on the host?

Yes
Justification:

The larvae of R. ferrugineus feeds on the growing tissue in the crown of palms, often destroying the apical growth area and causing eventual death of the palm. R. ferrugineus causes serious damage on date palm (P. dactylifera) in the Middle East (EPPO, 1997). In most European countries, the target of red palm weevil infestation is mainly the ornamental palms spoiling the aesthetic appearance of parks and roads, especially in Mediterranean coastal areas.
In Croatia significant damage was recorded and has spread to a number of areas despite continued phytosanitary measures taken (Milek & Šimala, 2013). In Sicily since 2005, it has caused extensive damage to palm trees and on its new host Phoenix canariensis Chabaud (Canary Island palms) (Lannino et al., 2016).
What is the likely economic impact of the pest irrespective of its infestation source in the absence of phytosanitary measures? (= official measures)

Major
Is the economic impact due to the presence of the pest on the named host plant for planting, acceptable to the propagation and end user sectors concerned?

No
Conclusion:

Candidate
Justification:

 **6 - Are there feasible and effective measures available to prevent the presence of the pest on the plants for planting at an incidence above a certain threshold (including zero) to avoid an unacceptable economic impact as regards the relevant host plants?**

Yes

Conclusion:

candidate
Justification:

 **7- Is the quality of the data sufficient to recommend the pest to be listed as a RNQP?**

Yes

Conclusion:

Candidate
Justification:

 **CONCLUSION ON THE STATUS:**

Recommended for listing as an RNQP: this judgment is made in the face of considerable uncertainty about the relative importance of plants for planting as a pathway compared to local spread. This is likely to be different depending on the areas. In many ways the pest is similar to P. archon for which the decision has been taken that RNQP status is not appropriate, but R. ferrugineus may be a less strong flier, and also capable of causing the death of trees more quickly, and with a more rapid build-up of population, than P. archon. Direct mortality of infested plants means there is a strong impact on their intended use. The group can appreciate that RNQP status would be more appropriate than quarantine status in areas where the pest is present. As with quarantine pest status the RNQP status, if implemented, should be subject to regular review against the criteria for RNQPs. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Zero tolerance based on the following risk management measures. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

(A) Plants produced in areas known to be free from Rhynchophorus ferrugineus.
OR
(B) (a) The plant has been grown in a place of production during a period of two years prior to marketing, during which:
(aa) It has been placed in a site with complete physical protection [see EPPO Standard] against the introduction of Rhynchophorus ferrugineus; and
(bb) No signs of Rhynchophorus ferrugineus have been observed in inspections carried out at least every three months,
and
(b) It shall be checked and found to be free from Rhynchophorus ferrugineus and without symptoms of that pest;
OR
(C) The plant has a diameter of the stem at the base under 5 cm.
Justification (if necessary):

The ornamental SEWG included limited expertise on this particular pest, and had not had opportunity to review all of the evidence, but had looked briefly at the proposed measures for Rynchophorus ferrugineus and considered that they were compatible with the approach taken for other RNQPs considered within the scope of the project. A number of amendments had been suggested, including removing reference to a treatment option for which there was little evidence of adequate effectiveness available. Areas which are free from the pest should be protected as ‘protected zones’, with additional measures needed to mitigate the risks from relevant pathways. **REFERENCES:**

* EPPO/CABI (1997) Quarantine Pests for Europe. 2nd edition. Edited by Smith IM, McNamara DG, Scott PR, Holderness M. CABI, Wallingford, UK, 1425 pp;
* EPPO (2016) draft PM3 Consignment inspection of Palm trees for Rhynchophorus ferrugineus (under preparation);
* EU (2011) The insect killing our palm trees - EU efforts to stop the Red Palm Weevil. Available at <https://ec.europa.eu/food/sites/food/files/plant/docs/ph_biosec_red_palm_weevil_brochure_en.pdf>;
* Lannino A, Sineo L, Bianco S lo, Arizza V & Manachini B (2016) Chromosome studies in North-Western Sicily males of Rhynchophorus ferrugineus. Bulletin of Insectology 2; 239-247;
* Milek TM & Šimala M (2013) First records of the red palm weevil, Rhynchophorus ferrugineus (Olivier, 1790) and the Palm Borer, Paysandisia archon (Burmeister, 1880) in Croatia. Conference paper : Zbornik Predavanj in Referatov, 11. Slovenskega Posvetovanja o Varstvu Rastlin Z Mednarodno Udeležbo (in okrogle mize o zmanjšanju tveganja zaradi rabe FFS v okviru projekta CropSustaIn), Bled, Slovenia, 5.-6. Marec 2013 2013 pp.366-368;