# Express PRA[1] for *Eriococcus williamsi* – Occurrence –

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**Initiation:** Occurrence on a boxwood in a private garden in Baden-Württemberg

| **Express Pest Risk Analysis** | ***Eriococcus williamsi* Danzig 1987** | | |
|---|---|---|---|
| Phytosanitary risk for Germany | high ☐ | medium ☐ | low ☒ |
| Phytosanitary risk for EU Member States | high ☐ | medium ☐ | low ☒ |
| Certainty of the assessment | high ☐ | medium ☒ | low ☐ |
| Conclusion | So far, no occurrence of *Eriococcus williamsi* was known in Germany. The species is present in the EU in Georgia, Russia, Turkey, Ukraine and in Corsica and Greece. So far, *E. williamsi* is listed neither in the Annexes of Directive 2000/29/EC nor by EPPO.<br>*E. williamsi* lives on box trees (*Buxus* spp.) like the common box tree (*Buxus sempervirens*) that is endemic in Europe.<br>Due to mainly inappropriate climate conditions outdoors in Germany, it is assumed that *E. williamsi* currently only is capable to establish in very warm regions. The establishment in South European EU Member States is possible and partly, took place already.<br>Due to its low damage potential for the common box tree, *E. williamsi* poses no phytosanitary risk for Germany and other EU Member States.<br>Thus, *E. williamsi* is not classified as quarantine pest and § 4a of the Plant Inspection Order does not apply. | | |
| Taxonomy[2)] | *Class: Insecta; Order: Hemiptera; Sub-order: Sternorrhyncha (plant louses); Family: Eriococcidae (no monophyletic group); Species: Eriococcus williamsi Danzig 1987* | | |
| Common name | Buchs-Deckelschildlaus | | |
| Synonyms | ---- | | |
| Does a relevant earlier PRA exist? | No | | |
| Biology | *E. williamsi* belongs to the Acanthococcidae (family group out of several families of the scale-bugs). Representatives of the Acanthococcoidae often feed on the bark of their host plant, hidden in cracks, rarely on the leaves. Plant sap serves as nutrition. Most species have one generation per year. Two | | |

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| | generations are possible, too (GAVRILOV-ZIMIN, 2018). Mostly, Eriococcidae hibernate as adult females or eggs (MILLER, 2005).<br><br>*E. williamsi* is ovoviviparous. During the embryonic development, the eggs remain in the body of the female and are fed through a structure similar to placenta. Then, the larvae are born alive (GAVRILOV-ZIMIN, 2018). *E. williamsi* can be found on stems, branches, twigs and leaves (KOZÁR *et al.*, 2013). |
| Is the pest a vector?[3)] | No. |
| Is a vector needed?[4)] | No. |
| Host plants | Box trees (*Buxus* spp.), common box tree (*Buxus sempervirens*) (GARCÍA MORALES *et al.*, 2016), *B. colchica* (GAVRILOV-ZIMIN, 2018). *B. sempervirens* is specially protected in Germany (Protection of Species Order, 2005). |
| Symptoms[5)] | The animals can be found on stems, branches, twigs and leaves (KOZÁR et al., 2013). |
| Presence of the host plants in Germany[6)] | The common or European box tree (*Buxus sempervirens*) is present in Germany and endemic. Often, it is maintained as hedge and ornamental plant in gardens and parks. |
| Presence of the host plants in the Member States[7)] | The common box tree is distributed and endemic in Western and Southern Europe. It is often maintained as hedge and ornamental plant in gardens and parks. |
| Known infested areas[8)] | Occurrence is known from Georgia, Russia, Turkey, Ukraine as well as from Corsica and Greece in the EU (GARCÍA MORALES *et al.*, 2016). |
| Pathways[9)] | Plants for planting of *Buxus* ssp. |
| Natural distribution[10)] | Females are wingless and not very mobile. |
| Establishment and distribution to be expected in Germany[11)] | The current distribution area indicate that the species is very thermophilic, like its host plant. Currently, the establishment probably is possible only in a few warm locations in Germany. The infestation in Baden-Württemberg already exists since several years. |
| Establishment and distribution to be expected in the Member States[12)] | It is a Mediterranean species (PELLIZZARI *et al.*, 2015). Thus, the establishment in Southern Member States is possible. |
| Known damage in infested areas[13)] | So far, no damage through *E. williamsi* was documented. |

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| Limitation of the endangered area in Germany | FFH-habitat type „box tree-shrubbery in dry-warm locations“ (LUBW, 2013), only in two locations in Germany: at the Mosel in Rhine-Land Palatinate and the Dinkelberg in Baden-Württemberg.<br><br>Private gardens and parks in warm regions in Germany. |
| Damage to be expected in endangered area in Germany[14)] | No evidence of damage through *E. williamsi* is available in literature. |
| Damage to be expected in endangered area in Member States[15)] | No evidence of damage through *E. williamsi* is available in literature. |
| Control feasibility and measures[16)] | Specific control measures against *E. williamsi* are unknown. A felty wax layer that impedes the chemical control covers the animals. |
| Detection and diagnosis[17)] | The females are app. 2.3mm long and 1.3mm wide. An identification key for the morphological identification is available (KOZÁR et al., 2013). Due to the small size of the animals and their mainly cryptic living, the finding of the species is unlikely in case of low density. |
| Remarks | Only little specific information on living and biology of *E. williamsii* is available. |
| Literature | BARTSCHV, 2005: Verordnung zum Schutz wild lebender Tier- und Pflanzenarten (Bundesartenschutzverordnung - BArtSchV). Latest amendment through Art. 10 G on 21-1-2013 I 95<br><br>GARCÍA MORALES, M., B. D. DENNO, D. R. MILLER, G. L. MILLER, Y. BEN-DOV, N. B. HARDY, 2016: ScaleNet: A literature-based model of scale insect biology and systematics. Database. doi: 10.1093/database/bav118. http://scalenet.info (accessed on: 07-08-2019)<br><br>GAVRILOV-ZIMIN, I.A., 2018: Ontogenesis, morphology and higher classification of archaeococcids (Homoptera: Coccinea: Ortezioidea). Zoosystematica Rossica, ISSN 0320-9180 (Print), 2410-0226 (Online), 264 p.<br><br>KOZÁR, F., KAYDAN, M.B., KONCZNÉ BENEDICTY, Z., & SZITA, É. 2013: Acanthococcidae and Related Families of the Palaearctic Region Hungarian Academy of Sciences Budapest, Hungary 680 |

| | LUBW, 2013: FFH-Lebensraumtyp 5110 – box tree-Gebüsche trockenwarmer Standorte. Landesanstalt für Umwelt, Messungen und Naturschutz Baden-Württemberg, Referat 24 – Flächenschutz, Fachdienst Naturschutz.<br><br>MILLER, D.R., 2005: Selected scale insect groups (Hemiptera: Coccoidea) in the southern region of the United States. Florida Entomologist, 88(4): 482-501.<br><br>PELLIZZARI, G., E. CHADZIDIMITRIOU, P. MILONAS, G. J. STATHAS, F. KOZÁR, 2015: Check list and zoogeographic analysis of the scale insect fauna (Hemiptera: Coccomorpha) of Greece. Zootaxa 4012(1): 57-77. http://dx.doi.org/10.11646/zootaxa.4012.1.3 |
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**Explanations**

1) Compilation of the most important directly available information allowing a first preliminary estimation of the phytosanitary risk. This short assessment is necessary for the decision on a notification to EU and EPPO as well as the preparation of a complete risk analysis, for the information of the countries and as a basis for the possible initiation of eradication measures. Regarding the phytosanitary risk especially the possibility of the introduction into and spread in Germany and the Member States as well as possible damage are taken into account.

2) Taxonomic classification – also subspecies; in case that the taxonomical classification is uncertain the JKI-scientist initiates the taxonomic classification, as far as possible.

3) If so, which organism (which organisms) is (are) transmitted and does it (do they) occur in Germany / the MS?

4) If so, which organism serves as a vector and does it occur in Germany / the MS?

5) Description of the pattern of damage and the severity of the symptoms/damage on the different host plants

6) Presence of the host plants in protected cultivation, open field, amenity plantings, forest.
Where, in which regions are the host plants present and to which extent?
How important are the host plants (economical, ecological,..)? Possible origin

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8) E.g. acc. to CABI, EPPO, PQR, EPPO Datasheets

9) Which pathways are known for the pest and how important are they for the possibility of introduction? Primarily the transport of the pest over long distances is meant, normally with infested traded plants, plant products or other contaminated articles. This does not comprise the natural spread resulting from introduction.

10) Which pathways are known for the pest and of which relevance are they in respect of the possibility of spread? In this case the natural spread resulting from introduction is meant.

11) under the given prevalent environmental conditions

12) under the given prevalent environmental conditions (native areas and areas of introduction)

13) Description of the economic, ecological/environmental relevant and social damage in the area of origin resp. areas of occurrence up to now

14) Description of the economic, ecological/environmental relevant and social damage to be expected in Germany, as far as possible and required, differentiated between regions

15) Description of the economic, ecological/environmental relevant and social damage to be expected in the EU/other Member States, as far as possible and required, differentiated between regions

16) Can the pest be controlled? Which possibilities of control are given? Are plant health measures conducted in respect to this pest (in the areas of current distribution resp. by third countries)?

17) Description of possibilities and methods for detection. Detection by visual inspections? Latency? Uneven distribution in the plant (sampling)?