

## Express PRA for *Lyctus africanus*

– Interception –

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**Initiation:** Interception of wooden packaging material by the plant protection service of the Federal State Brandenburg

*Initiation for the revision: Application on the update of the risk analysis by the plant protection service of the Federal State Brandenburg*

Express Pest Risk analysis	<i>Lyctus africanus</i> Lesne 1907		
Phytosanitary risk for Germany	high <input type="checkbox"/>	medium <input type="checkbox"/>	low <input checked="" type="checkbox"/>
Phytosanitary risk for EU-Member States	high <input type="checkbox"/>	medium <input type="checkbox"/>	low <input checked="" type="checkbox"/>
Certainty of the assessment	high <input checked="" type="checkbox"/>	medium <input type="checkbox"/>	low <input type="checkbox"/>
<b>Conclusion</b>	<p>The beetle <i>Lyctus africanus</i> is endemic in Africa and so far, it does not occur in Germany and very likely not in the EU. So far, it is not listed – neither in the Annexes of Regulation (EU) 2019/2072 nor by the EPPO.</p> <p><i>Lyctus africanus</i> infests various tropical and subtropical trees and wood.</p> <p>Due to inappropriate climatic conditions and very likely the lack of host plants in Germany and Central Europe, it is assumed that <i>L. africanus</i> is not capable to establish outdoors. The establishment in south European Member States cannot be totally ruled out but the risk is assessed as low. Eventually, the establishment in protected cultivation (tropical greenhouses) would be possible. The transfer from infested wooden packaging to plants under glass seems very unlikely.</p> <p>Thus, <i>Lyctus africanus</i> is not classified as a potential quarantine pest and Article 29 of the Regulation (EU) 2016/2031 does not apply. <i>The destruction or disinfection of the infested material is recommended</i> in order to exclude a risk for tropical greenhouses one the one hand and on the other hand to guarantee that infested imported sawn wood is not processed to finished products (interior construction, mouldings etc.).</p>		
<b>Preconditions for Express-PRA fulfilled?</b>	Could be a pest, is not listed, so far, it is not established in the area covered by the reporting plant protection service.		

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<b>Taxonomy, common name, synonyms</b>	<p>Coleoptera, Lyctidae, Lyctinae, Lyctini, <i>Lyctus</i>, <i>Lyctus africanus</i> Lesne 1907</p> <p>HICKIN (1960) published an identification key for different <i>Lyctus</i>-species (adult animals). SITTICHAYA <i>et al.</i> (2009) prepared a short key for Bostrichidae on rubber trees that contains <i>L. africanus</i>, too.</p>
<b>Does a relevant earlier PRA exist?</b>	<p>No</p>
<b>Distribution and biology</b>	<p>Africa (origin), India, Madagascar, Philippines (BEESON &amp; BATHIA, 1936); Thailand (SITTICHAYA <i>et al.</i>, 2009); FAUNA EUROPAEA lists the Middle East, the afro-tropical region, North Africa and furthermore Belgium, Germany, Italy, Spain, and the Netherlands as distribution area. However, EPPO PQR (2014) does not confirm the findings in Europe. Egypt, Sudan and Great Britain are listed there. However, a request in Great Britain (MACLEOD, DEFRA, pers. comment) showed that the FERA- database lists the beetle as "absent from UK".</p> <p>Presumably, the assumed detections for Germany and Central Europe are based on publications that analysed the findings in the frame of interceptions in import controls or detections on imported wood. Often, these were titled as "introduction" and thus, are deceptive. GEIS (2002) reports under the title „Splintholz-[...] käfer nach Mitteleuropa [...] eingeschleppt" ["[...] powder post [...]beetle introduced to Central Europe"] of detections of <i>L. africanus</i> in Germany in musical instruments, pallets, carvings, door frames, roots for ornamental purposes etc., but at the same time he describes that an establishment is not possible in the "moderate European broads", due to the climatic conditions. He reports on detections in UK, IT, BE, DE (Saxony, Berlin, Hamburg, Schleswig Holstein, North Rhine Westphalia, Hesse, Baden-Württemberg, Bavaria), CH.</p>
<b>Are host plants present in the PRA-area? If so, which?</b>	<p>The powder post beetle is polyphagous. Most of the host plants listed in BEESON &amp; BATHIA (1936) are tropical plants. Out of the listed plants in the genera <i>Bambusa</i>, <i>Euphorbia</i> and <i>Quercus</i> are present in Germany. No species are cited for these genera. EPPO PQR (2014) only shows woody plants as host plants. GEIS (2002) describes that in addition to many hardwoods and types of bamboo various starch plants may also be infested in dry state.</p> <p>In Israel, mainly stored Abachi-wood was infested (90% of all infested wood species). Furthermore, infestations were found</p>

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	on <i>Pycnathus angolensis</i> , <i>Shorea</i> spp., <i>Canarium schweinfurthii</i> and <i>Aucoumea klaineana</i> . The beetle was found in damaged but living plants of <i>Acacia albida</i> and <i>Moringa peregrina</i> , as well as <i>Prunus armeniaca</i> , <i>Bambusa vulgaris</i> , <i>Delonix regia</i> , <i>Eucalyptus gomphocephala</i> and <i>Grevillea robusta</i> (HALPERIN & GEIS, 1999).
<b>Transfer pest from consignment →host plant</b>	Most likely, only a local transfer to stored woods is possible in Germany and Europe. However, the beetle needs tropical temperatures and thus, this seems very unlikely.  No transfer to living trees is expected.
<b>Is a vector/further plant needed for host alternation? Which? Distribution?</b>	No
<b>Climate in distribution area comparable to PRA-area?</b>	In Germany: no. It is a tropical to subtropical species (Israel).  In Europe: possibly, in South Europe (beetle is established in North Africa and Israel).
<b>If no, are host plants present in protected cultivation?</b>	In tropical greenhouses.
<b>Damage to be expected in the PRA area?</b>	No, not on plants because an establishment seems very unlikely due to the climate conditions and the lack of host plants.  Damage might occur when storing infested (tropical) wood together with untreated wood but the temperatures are probably not sufficient for this either.  In general, the beetle may cause severe damage because it bores into wooden material. In case of massive infestation, the wood can get powdery to a depth of several centimetres („powder post beetle"). Damage caused by <i>Lyctus</i> beetles mainly becomes visible when infested wood is used in constructions, e.g. door frames. The infestation becomes visible only after extreme processing of the wood by the beetles.
<b>Is an infestation easy to eradicate?</b>	Yes, in case of an infestation, stored wood could be destroyed. A distribution seems rather unlikely so that the destruction would be small-scale.
<b>Remarks</b>	-

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Literature	<p>BEESON, C.F.C., BHATIA, B.M. (1936): On the biology of the Bostrychidae (Coleopt.). – Indian Forest Record (N.S.) 2, 11 (12), S. 223-322.</p> <p>EPPO PQR (2014): EPPO database on quarantine pests (available online). <a href="https://gd.eppo.int/taxon/LYCTAF">https://gd.eppo.int/taxon/LYCTAF</a> (accessed on 18-12-2019).</p> <p>FAUNA EUROPAEA (2015): <i>Lyctus africanus</i>. <a href="https://fauna-eu.org/cdm_dataportal/taxon/89bbef21-b6c9-4a32-bc58-e97575efdf29">https://fauna-eu.org/cdm_dataportal/taxon/89bbef21-b6c9-4a32-bc58-e97575efdf29</a> (accessed on 18-12-2019).</p> <p>GEIS, K.-U. (2002): Gebietsfremde Splint- und Bohrkäfer, nach Mitteleuropa mit Importholz und anderen Gütern eingeschleppt. Eine Bestandsaufnahme (Coleoptera: Lyctidae, Bostrychidae). Mitteilungen des Internationalen Entomologischen Vereins e.V. Frankfurt. Supplement X: 106 p.</p> <p>HALPERIN, J., GEIS, K.-U. (1999): Lyctidae (Coleoptera) of Israel, Their Damage and Its Prevention. <i>Phytoparasitica</i> 27(4):257-262.</p> <p>HICKIN, N.E. (1960): An introduction to the study of British Lyctidae. <i>Rec. 1960 Conv. Brit. Wood Pres. Ass.</i>: 57-96.</p> <p>SITTICHAYA, W., BEAVER, R.A., LIU, L-Y., NGAMPONGSAI, A. (2009): An illustrated key to powder post beetles (Coleoptera, Bostrychidae) associated with rubberwood in Thailand, with new records and a checklist of species found in Southern Thailand. <i>Zookeys</i>, 26: 33-51.</p>