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Man’s best friends to be used for the detection of longhorn beetles

The longhorn beetles *Anoplophora glabripennis* (Asian long-horned beetle, ALB) and *A. chinensis* (citrus long-horned beetle, CLB) are among the most damaging invasive tree pest insects in Europe and North America. Once an infestation is detected in an area, a large number of trees must be felled for eradication of the pest and an intensive and very costly monitoring program has to be carried out. Inspection of imported plants for longhorn beetles requires destructive sampling, which is costly and time consuming. Reliable detection of infested trees is necessary for eradication measures in outbreak areas of ALB and CLB. Visual inspection from ground and by tree-climbers is the standard procedure but additional methods are desirable.



The ANOPLORISK-II project aims to refine and validate a number of techniques that will help with detection and diagnosis of ALB and CLB; in particular the use of detection dogs for the detection of longhorn beetles, a method developed in the previous Euphresco project ANOPLORISK, is further developed and tested.

ALB detection dogs have been trained for several years at the ‘Federal Research and Training Center for Forest, Natural Hazards and Landscape’ (Austria). A first evaluation of the sensitivity was carried-out on a total of 14 dog/ handler-dog teams with different levels of experience. Depending on test situation, dogs showed a sensitivity of 75.0% to 88.1% (i.e. correct positive indications per total positive samples) towards living ALB larvae hidden in woodchips, ALB wood shavings hidden on the base of trees or in crevices of older trees at ca. 1.7 m height. The rate of false positives ranged between 4.4% and 14.7%. The best five teams had sensitivity > 90% and false positives < 9% in all tests. The results of these studies will be the basis for the optimization of training programs and for the development of guidelines for use of detection dogs. Specialized dogs could successfully be employed in routine inspection of wood packaging material, imported plants or infested areas (i.e. natural environments).

Project ID: Further development of risk management for the EC listed *Anoplophora* species, *A. chinensis* and *A. glabripennis* (Anoplorisk II).