

Epitrix (flea beetle) species, life cycles and detection methods (Epitrix II)



Funding

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Research consortium

SASA (GB), MAFF (DK), ANSES (FR), NVWA (NL), INIAV (PT)

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Goals

Epitrix Foudras 1860, is a genus of flea beetles that has a worldwide distribution and consists of nearly 180 species. Most of the species occur in the neotropics (South and Central America) and only 12 and 10 species are known from North America and Europe, respectively. Neotropical species are poorly documented compared to the species found in the Holarctic. However, some of them (such as *E. yanazara*) are well-known potato pests in South America and could also be of concern for European phytosanitary authorities. Therefore, there is a need for developing knowledge on South American *Epitrix* species.

Epitrix species are very similar in their external morphology and difficult to distinguish in the field or in the lab even by specialists. Therefore there is a need for development of morphological identification keys and quick molecular detection methods for the benefit of the plant inspection services.

Key outputs and results

The project should yield the following products:

- Further validation of generic assay. Design and validation of real-time PCR assay for the species, *E. tuberosa*, *E. subcrinita* and *E. hirtipennis*.
- Morphological and molecular characterization of some South American species feeding on potato and improvement of the reference collection.
- Detailed information of the life cycle of at least the two flea beetles established in Portugal and Spain (*E. papa* and *E. cucumeris*). Determining whether beetles could overwinter under conditions commonly found in different European countries (North and South).
- Identification of insecticides & biologicals which are effective in controlling the *Epitrix* species.
- Pheromone traps for monitoring and early warning of *Epitrix* spp.