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Entomofauna associated with leafy spurge: Field and laboratory studies on competition behavior between two defoliator moths (*Simyra dentinosa* Freyer and *Oxicea geographica* F.) and two gall midges (*Spurgia esulae* Gagné and *Dasineura* sp. nr. *capsulae* Kieffer)

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The introduction in the U.S. of two noctuid moths, *Simyra dentinosa* and *Oxicea geographica*, active defoliators of spuries in Eurasia, is subordinated to their possible interspecific competition with two released gall midges, *Spurgia esulae* and *Dasineura* sp. nr. *capsulae*.

Three different approaches have been used:

- i) three-year field observations in the moth collection areas, mainly in Romania and Southern Russia, to record the presence of the gall midge populations;
- ii) two-year field tests, at the gall midge collection site (Northern Italy), to study the feeding behavior of the two moth in the presence or absence of the galls; and
- iii) one-year laboratory tests, to quantify the time spent by the moth larvae on different target parts of the plant.

The field tests have been periodically inspected and the observations have been recorded with a video camera.

The laboratory tests (still in course) are carried out using an event recorder computerized program to confirm and quantify (in terms of time) the data and the behavior observed during the field experiments.

The results showed that, despite to a no-preference of the moths regarding the choice between “healthy” and galled stems, *S. dentinosa* and *O. geographica* showed preferences in the larval feeding behavior. The larvae start the nibbling on the upper part of the plant, but in the presence of the gall the larvae suddenly moved down to the leaves under the galls, where they started the real feeding.

This behavior, more evident for *O. geographica* than for *S. dentinosa* seems to be confirmed by the laboratory observations, but additional replications must be carried out, in order to significantly confirm the data.