SCIENTIFIC NOTE

Diabrotica speciosa (Ger.) (Coleoptera: Chrysomelidae): New Pest in Table Grape Orchards

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Diabrotica speciosa (Ger.) (Coleoptera: Chrysomelidae): Nova Praga em Uvas de Mesa

RESUMO – Relata-se pela primeira vez a ocorrência de *Diabrotica speciosa* (Germar.) danificando cachos em florescimento em pomares de videira no Noroeste do estado do Paraná. Em meados de setembro de 2000, os insetos foram verificados alimentado-se dos estiletes, estigmas e eventualmente de porções do ovário. Foram observados até 15 adultos por cacho. A alimentação nos estigmas determinou abortamento de flores. Em áreas com altas populações, os cachos formados apresentaram baixo número de bagas, não se prestando à comercialização.

PALAVRAS-CHAVE: Insecta, dano, surto, videira, *Vitis vinifera* L.

ABSTRACT – We report for the first time the occurrence of *Diabrotica speciosa* (Ger.) damaging blooming clusters in grapevine orchards in Northwest Paraná State. On middle September, 2000, insects were found feeding on style, stigma and eventually on ovary. Up to 15 adults per cluster were observed. Insects feeding on stigma caused flowers aborting. In high population areas, clusters showed low number of fruits and were out of market standards.

KEY WORDS: Insecta, damage, outbreak, grapevine, *Vitis vinifera* L.

Diabrotica speciosa (Ger.) is a polyphagous beetle associated with a wide range of host plants including common bean (*Phaseolus vulgaris* L.), soybean [*Glycine max* (L.) Merrill], sunflower (*Helianthus annus* L.), banana (*Musa* spp.), cotton (*Gossypium hirsutum* L.) and several host plants of Solanaceae, Cucurbitaceae, Cruciferae and Graminae, among other (Zucchi *et al.* 1993).

The *Diabrotica* neotropical genus includes two taxonomic groups. *D. speciosa* belongs to the *fucata* group in which the insects are multivoltine and the larvae are polyphagous. In opposition, the *virgifera* group species are univoltine and larvae host range includes only some grasses (Branson & Krysan 1981, Krysan 1986).

In Northwest Parana State, Brazil, viticulture is an important agriculture trade, where 'Italia' (*Vitis vinifera* L.) is the most important table grape variety cultivated. According to the statistics (Emater 1999), currently there are 3,800 hectares of table grapes in this area and Marialva city region contains 50% of this total.

As in other grape areas, pest problems are relatively scarce compared to other fruit crops and do not demand control measures. So, phytosanitary management measures have been restricted to fungus diseases as mildew (*Plasmopara viticola*) and oidium (*Uncinula necator*). *D. speciosa* occurrence is rare in grapevines. In general beetles are seen eating young leaves edges in budding onset but no serious damage occurs.

However, in middle September 2000, during blooming period, beetles were observed on flowers eating style, stigma and eventually ovary in most wineyards located in the south of Marialva city. Up to fifteen adults of *D. speciosa* were found per cluster. Beetles stigma feeding determined flower aborting and, as a consequence, clusters showed low number of fruits and became out of market standards (Fig. 1). Beetles were also observed in weeds which are usually mowing-controlled. Hence this is the first report of *Diabrotica* causing losses on table grapes in Northwest Paraná.

An 'Itália' cluster shows 600-800 bud flowers and after thinning, 60-120 fruits remain per cluster. Because fruit thinning is performed during bloom and excess flower buds are removed, significant damage, i.e., out of market clusters, were only observed in orchards where the pest outbreak was severe.

In the same field, an out of season grape yield is obtained through a second pruning performed right after the main harvesting which occurs on December-January. So growers remain concerned about the control measures to be taken to this next bloom season if new *D. speciosa* outbreaks occur again.

In this area, sugar cane and wheat crops predominated in the season. Polyphagy is an ordinary feeding behavior of

Figure 1. Out of market standart 'Italia' grape cluster due a severe outbreak of *D. speciosa* during the bloom period of 2000 season (A) and normal cluster (B).

adults of *D. speciosa,* although in general adults are found feeding on leaves. *Diabrotica* species are former pollen feeders which expanded their host range to other plant sites (Metcalf & Lampman 1989). Adults yet respond to volatile emanated from flowers of the host plants including Cucurbitaceae (Deem-Dickson & Metcalf 1995, Herbert *et al*. 1996) and corn (*Zea mays* L.) (Johnson *et al*. 1985). Besides these closely related host plants *D. speciosa* has been found in flowers of a range of other plants (e.g., cotton, sunflower, *Helianthus annuus* L. and asiatic lily, *Lilium pumilum* DC.) (Ventura M.U., unpublished data). Recently *D. speciosa* was also reported as responsive to *Cucurbita* spp. flowers volatile (Ventura *et al*. 2000). It is probable that in the absence of other better foods (leaves and pollen), insects fed on petals due to the common association of the beetles with the flowers. Normal host plants were absent due to the severe frost in the winter season probably obligating insects to look for other food.

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