

***EPICHORISTODES ACERBELLA* (WALKER) (LEPIDOPTERA: TORTRICIDAE): A NEW SPECIES IN THE FAUNA OF SERBIA**

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ABSTRACT: The south African carnation tortrix [*Epichoristodes acerbella* (Walker), 1864] is recorded for the first time in the fauna of Serbia. It originates from South Africa, Kenya, and Madagascar, but was introduced in 1960 in Germany. Later it appeared in the Scandinavian countries, Italy, France, and Spain. On the Balkan Peninsula, it is known from Bulgaria, Croatia, Romania, and Slovenia.

KEY WORDS: *Epichoristodes acerbella*, *Dianthus*, *Rosa*, ornamentals, invasive insect

INTRODUCTION

Ornamentals in international trade occasionally can be infested with quarantine pests, which are defined as pests of potential economic importance. They can cause severe losses in production of ornamentals. The south African carnation tortrix is a polyphagous pest that causes damage to a range of crops, but most importantly to *Dianthus* spp., *Chrysanthemum* spp., and *Rosa* spp. It is still on the A2Quarantine List in Serbia, Croatia, Romania, Bulgaria.

MATERIAL AND METHODS

Samples of *E. acerbella* were obtained from cut carnation (*Dianthus* sp.) flowers imported from Italy into Serbia. There were three larvae, which were reared in the Laboratory of Entomology, Faculty of Agriculture, Belgrade-Zemun. Two adults emerged, and one larva was conserved in 75% ethanol. Identification and photo documentation was done at the Faculty of Forestry, University of Belgrade.

RESULTS AND DISCUSSION

Epichoristodes acerbella (Walker) – South African carnation tortrix, South African miner moth (syn. *Epichorista ionephela* (Meyrick), *Tubula acerbella* Walker).

Distribution: It is native in South Africa, but also occurs in Kenya and Madagascar. As an alien invasive species, it is reported from Europe and the USA. The given species is well-known in greenhouses in Denmark, Norway, England, Germany, Austria, and Holland. It is established on cultivated and wild plants in Italy, France, and Spain. *E. acerbella* was introduced with reproductive material of *Dianthus* spp. and *Chrysanthemum* spp. in Germany in 1960 and later in 1964 and 1965. It quickly spread throughout the Mediterranean region. Severe damage to cultivated carnations in Southern France was reported in 1972 (PRALAVORIO & MILLOT, 1978). All types of carnations, both those grown in the open field and ones in greenhouses were found to be attacked, as were other species (such as gerberas and roses) cultivated in greenhouses; numerous wild species also served as food plants and acted as reservoirs of infestation. In 1973-1976 *E. acerbella* was studied on cultivated carnations in Pescia in the Italian Province of Pistoia (FENILI, 1977). As a pest of carnations in Spain, it was first reported in 1976 in the Province of Barcelona, (VIVES, 1980). It was found on a restricted area in Croatia (MACELJSKI, 2002). The first capture of a wild-caught adult of *E. acerbella* in Britain was reported in 2003 (NASH & CORLEY, 2003).

Host range: *Epichoristodes acerbella* is mainly a pest of various cultivars of *Dianthus* spp. (carnation). It has also been recorded on *Chrysanthemum*, *Erigeron*, *Fragaria*, *Gerbera*, *Malus*, *Medicago*, *Prunus*, *Pyrus*, *Rhamnus*, *Rosa*, *Rumex*, and *Sonchus*. It perforates young leaves and buds. Buds become desiccated and petals can be woven together by silk. Stems are frequently mined. Greenish larval excrements can be found on affected tissues.

Species overview and taxonomic description: Adult with 17-20 mm wingspan. Forewings are yellowish to reddish-brown, merging into reddish-brown or blackish toward the hind margin; lighter areas are speckled with brownish-black; hind wings are light grey.



Fig. 1 *Epichoristodes acerbella* (Walker).

Male: forewing without costal fold; elongate, barely dilated; costa gently arced throughout; apex obtuse; termen nearly straight, rather oblique (DIAKONOFF, 1960). Genitalia: uncus is long, curved; socii large, long-bristled; gnathos hooked, transtilla entire; vulva semioval, simple; sacculus short, with well sclerotized ridge; aedeagus pistol-sharped.

Female: forewing markings barely discernible or absent. Genitalia: sterigma broad, lamella postvaginalis weak. Antrum long, tubular. Signum smooth, obtuse (Fig. 2). Variation in characteristics of the forewings deserve attention. The darker dorsal blotch on the forewings can also be barely discernible or absent in males.

Larva 15 mm long, green to yellowish, with dark green dorsal and subdorsal lines and whitish pinacula; head greenish brown, marked with brownish black; prothoracic plate green-marked, with black along the lateral margin and above the prothoracic spiracle (ALFORD, 1991).

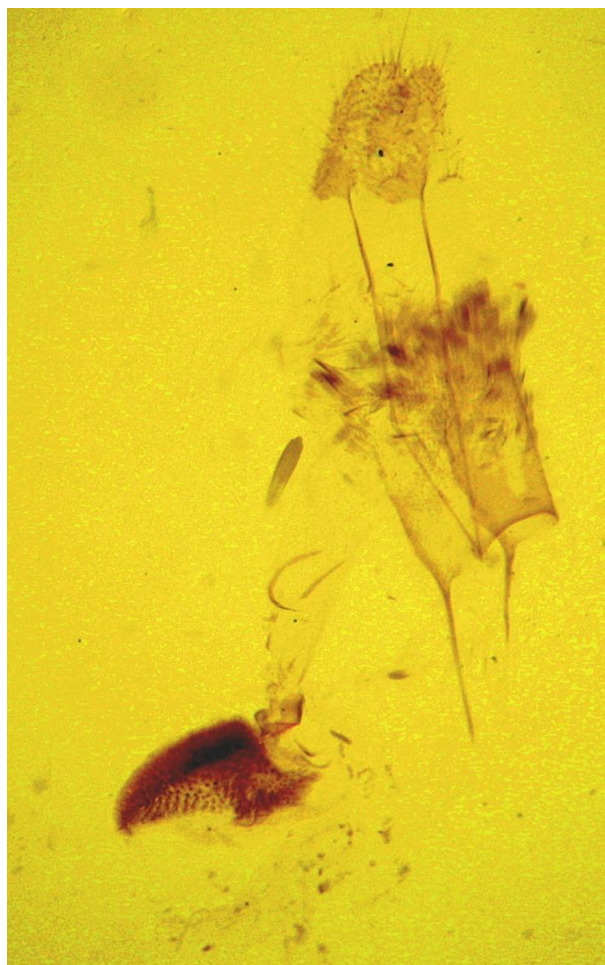


Fig. 2 *Epichoristodes acerbella* - female genitalia.

Pupa dark brown, in silken cocoon spun between leaves.

Life history: Eggs are laid on leaves in elongate clusters with about 25 eggs. Each female produces 200-240 eggs during her life span. Embryonic development lasts about ten days. Larvae feed for 4-8 weeks (in indoor conditions) or longer, depending on the temperature. The larvae are sheltered within rolled leaves which they spin together with silk (ALFORD, 1991). They frequently infest carnation flower buds and open flowers and feed on the most central part of the buds. The species can be a serious threat, especially in areas where it can survive and reproduce outdoors. It is also a pest on *Chrysanthemum*, but never attacks the stem. In addition to this presents a threat to fruit crops (apples and pears). Larvae feed on foliage and on the surface of the fruit.

CONCLUSION

As a polyphagous insect pest, *E. acerbella* can cause damage to a range of crops. The most endangered are *Dianthus*, *Chrysanthemum*, and *Rosa*. Mediterranean cultivars are more susceptible than American ones. Economic losses can be great. It can also present a threat to fruit crops in the sub-Mediterranean and Mediterranean region, as well as in indoor horticultural production.

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***EPICHORISTODES ACERBELLA* (WALKER) (LEPIDOPTERA,
TORTRICIDAE), НОВА ВРСТА У ФАУНИ СРБИЈЕ**

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Јужноафрички каранфилов савијач [*Epichoristodes acerbella* (Walker), 1864] је први пут евидентиран у Србији на каранфилу увезеном из Италије. Он потиче из Јужне Африке, Кеније и Мадагаскара, али је унет 1960. године у Немачку. Касније је проширио ареал до скандинавских земаља, Италије, Француске и Шпаније. Евидентиран је и у региону Балкана и то из Бугарске, Хрватске, Румуније и Словеније.

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