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Harmful and potentially harmful species of eriophyoid mites in Serbia

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Abstract: Eriophyoid mites (Acari: Eriophyoidea) are the most numerous phytophagous mites and are among the most harmful mites in agriculture, forestry and urban horticulture. So far, 418 species of these obligate phytophagous mites have been recorded in the Serbian fauna. More than 20 species are considered as plant pests in agriculture, with six of them acting as vectors of plant viruses. Additionally, around 40 species are known to cause damage to forest plantations, nurseries, and ornamental plants. The most harmful eriophyoids in horticulture include: *Phyllocoptes gracilis* (Nal.) in raspberry orchards, *Acalitus phloeocoptes* (Nal.), *Aculus fockeui* (Nal. et Trt.), a complex of rust mite species, and gall forming *Eriophyes* spp. affecting stone fruit, *Epitrimerus pyri* (Nal.) and *Aculus schlechtendali* (Nal.), russet mite pests in pear and apple orchards, respectively, russet mite *Calepitrimerus vitis* (Nal.) and erineum mite *Colomerus vitis* (Pgst.) as pests in vineyards and four pest species on nut trees, *Phytoptus avellanae* (Nal.), *Cecidophyopsis vermiformis* (Nal.), *Aceria erinea* (Nal.) and *A. tristriata* (Nal.). The most harmful eriophyoids in floriculture are *Aceria tulipae* (K.), *Cecidophyopsis hendersoni* (K.), *Paraphytoptus chrysanthemi* K. and *Aceria cladophthira* (Nal.). Among the pests of urban greenery, the most important alien species are: *Aceria petanovicae* (Nal.), *Aculops gleditsiae* (K.), *Aculus ligustri* (K.), *Aculops allotrichus* (Nal.), *Reckella celtis* Bagd., *Shevtchhenkella brevisetosa* (Hodgkiss), and *Vasates quadripedes* Shimer. The recently registered *Aceria pyracanthi* (Can.), *Aceria magnoliae* (K.), *Rhyncaphytoptus platani* K., *Cecidophyes psilonotus* (Nal.) and *Aculops sophorae* Kuang are pontentionaly harmful in urban horticulture, while *Eriophyes mali* Nal., *Aceria kuko* (Kishida) and *Aceria fici* Cotte have been registered as new potential orchard pests in Serbia. In this presentation, the distribution, symptoms and harmfulness of these pests are discussed.

Key words: Eriophyoidea, horticulture, urban greenery, floriculture, pest status

Summary: Eriophyoids (Acari: Eriophyoidea) are obligate phytophagous mites and the consequences of their feeding can be crop losses, either through direct damage to their host plants or as vectors of plant viruses. Consequently, many countries have implemented quarantine regulations to control their spread (Duso et al., 2010; Navia et al., 2010). A total of 418 species are registered in the fauna of Serbia (Petanović et al., 2022). Among them, more than 20 species are considered as pests in agriculture and horticulture. Six species are vectors of plant viruses (Petanović, 2014).

Extensive studies conducted in Serbia during the late 20th century and the beginning of the new millennium have focused on understanding life cycles, damage symptoms, pest status and control measures for various harmful species. These studies encompassed mites that cause stem and leaf galls in plums, chlorotic spot in raspberries, leaf and fruit rust in pears and apples, big buds in hazelnuts, chlorotic spots and witches' broom in plums, chlorotic spots, leaf rust, shortening of internodes and witches' brooms on grapevines, as well as leaf and fruit galls on nuts. The results of these studies were summarized in Petanović (2014). The subject of these studies were the following harmful species: *Phyllocoptes gracilis* (Nal.) in raspberry orchards, *Acalitus phloeocoptes* (Nal.), *Aculus fockeui* (Nal. et Trt.), a complex of rust mite species, and gall forming *Eriophyes* spp. on stone fruits, *Epitrimerus pyri* (Nal.) and *Aculus schlechtendali* (Nal.), russet mite pests in pear and apple orchards, respectively. In vineyards, the pests of concern are the russet mite *Calepitrimerus vitis* (Nal.) and the erineum mite *Colomerus vitis* (Pgst.). As for nut trees four pest species were identified: *Phytoptus avellanae* (Nal.), *Cecidophyopsis vermiformis* (Nal.), *Aceria erinea* (Nal.) and *A. tristriata* (Nal.). In floriculture, the most harmful eriophyoids, are *Aceria tulipae* (K.), *Cecidophyopsis hendersoni* (K.), *Paraphytoptus chrysanthemi* K. and *Aceria cladophthira* (Nal.). Regarding pests in urban greenery, research by Petanović (2004) and Navajas *et al*., (2010) has highlighted species such as *Aceria petanovicae* (Nal.), *Aculops gleditsiae* (K.), *Aculus ligustri* (K.), *Aculops allotrichus* (Nal.), *Reckella celtis* Bagd, *Shevtchhenkella brevisetosa* (Hodgkiss), and *Vasates quadripedes* Shimer. Recently registered *Aceria pyracanthi* (Can.), *Aceria magnoliae* (K.), *Rhyncaphytoptus platani* K., *Cecidophyes psilonotus* (Nal.) and *Aculops sophorae* Kuang have been identified as potential threats in urban horticulture. Additionally, *Eriophyes mali* Nal., *Aceria kuko* (Kishida) and *Aceria fici* Cotte have been registered as new potential orchard pests in Serbia. Future research will be necessary to determine the impact caused by these newly discovered pest species in Serbia.

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