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First recorded Phytoseiidae mites (Acari, Mesostigmata) from Albania

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Abstract. The mesostigmatid mite family Phytoseiidae is recorded for the first time in Albania. *Euseius finlandicus* was collected from leaves of *Tilia* sp. and *Platanus* sp., *Kampimodromus aberrans* from foliage of *Platanus* sp. and domestic plum. The third species found, *Phytoseius macropilis* was gathered from a *Tilia* sp. tree.

Keywords. Acari, Phytoseiidae, new records, Albania.

INTRODUCTION

The family Phytoseiidae is one of the most important mite groups from economical point of view, because several species are well known as natural enemies of mite and insect pests (Mc Murtry & Croft 1997, Tsolakis *et al*. 2012). This is the reason why the family Phytoseiidae, containing more than 2,100 species discovered and described so far, is studied intensively all over the world (Tixier *et al*. 2012). However, there are several countries in Europe which are poorly investigated. Albania is one of them especially because it was closed to researchers during the second part of the 20th Century. After 2000, new expeditions and surveys carried out by the Hungarian Natural History Museum (Fehér *et al*. 2004, Murányi *et al*. 2011) were organized to explore this small country, resulted in several papers on the Albanian soil dwelling mite fauna (Kontschán 2003, Mahunka & Mahunka Papp 2008, Ujvári 2010). However, the foliage inhabiting mites were so far absolutely unknown from Albania (Dhora 2009, 2010, Moraes *et al*. 2004).

During the last collection trip in 2012, several leaves were collected from different trees in Southern Albania, and the three Phytoseiidae species found are reported in this paper.

MATERIAL AND METHODS

Leaves collected were placed in a small plastic bag in the collecting sites, and later brought to the laboratory in Hungary. Mites were removed with a small brush under stereomicroscope and examined on a slide in a gelatin-lactic acid mixture. Specimens were mounted on slide in Hoyer medium and deposited in the Soil Zoology collection of the Hungarian Natural History Museum. For the identification, Karg's (1993) book was used; the distributional data and system adopted follow Moraes *et al*. (2004) catalog.

SPECIES FOUND

Family Phytoseiidae Berlese, 1916
Subfamily Phytoseiinae Berlese, 1916

Phytoseius macropilis (Banks, 1909)

(Figures 1–2)

Material examined. Two females from leaves of *Tilia* sp. Albania, Kolonjë district, Grammos Mts, Leskovik, forest brook along the road to Ersekë, E of the city 1015m, 40°09.932'N, 20°38.282'E, 13.X.2012 (/38), leg. P. Juhász, T. Kovács, D. Murányi, G. Puskás.

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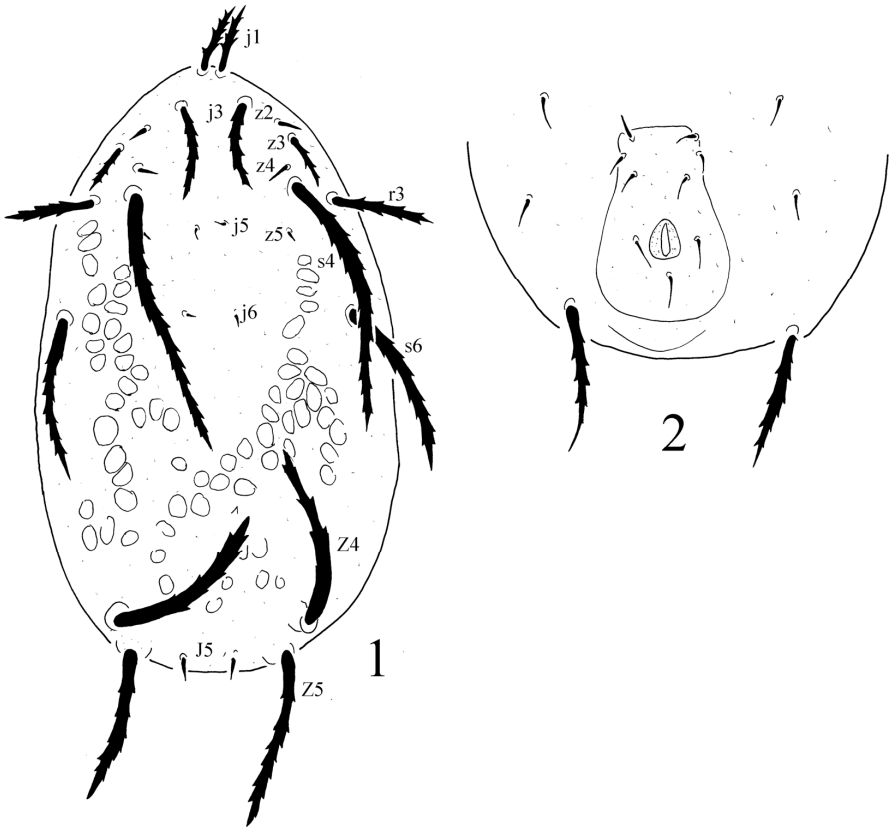


Figures 1–2. *Phytoseius macropilis* (Banks, 1909): 1 = Dorsal shield, 2 = ventrianal region.

Short description. Setae s4 longer than s6; z2 as long as z4, J2 and R1 absent. Dorsal shield with oval sculptural pattern, ventrianal shield with three preanal pairs of setae. Peritremes extending to level of j1. Calix of spermatheca longer than its width.

Remarks. This cosmopolitan species is very common and widely distributed in Europe (Moraes *et al.* 2004).

Subfamily Amblyseiinae

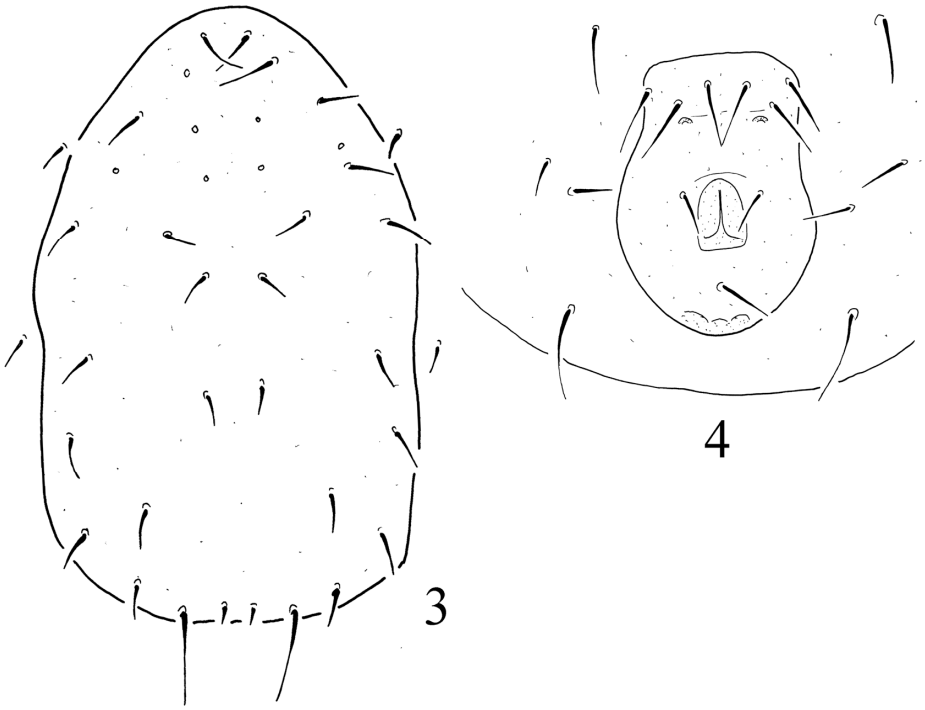
***Euseius finlandicus* (Oudemans, 1915)**

(Figs 3–4)

Material examined. Four females and two males from *Tilia* sp. Albania, Kolonjë district, Grammos Mts, Leskovik, forest brook along the road to Ersekë, East of the city 1015 m, 40°09.932'N, 20°38.282'E, 13.X.2012 (/38), leg. P. Juhász, T. Kovács, D. Murányi, G. Puskás. Two females from *Platanus* sp. Albania, Tepelenë district, Tepelenë, Uji i Ftohtë, karst springs and forest, 165 m, 40°15.009'N, 20°03.876'E. 13.X.2012 (/36), leg. P. Juhász, T. Kovács, D. Murányi, G. Puskás

Short description. Three pairs of setae anteriorly to the anal opening situated near anterior margin of ventrianal shield. Dorsal setae smooth. Fixed digit with 1–2 teeth, Mobile digit with 2–5 small teeth. Peritreme short, extend to z4. Calix of spermatheca short, atrium globular.

Remarks. This is a very common species. *E. finlandicus* has a Holarctic distribution, but it can be found in Nicaragua, Mexico, and Indonesia as well (Moraes *et al.* 2004).



Figures 3–4. *Euseius finlandicus* (Oudemans, 1915): 3 = Dorsal shield, 4 = ventrianal region.

***Kampimodromus aberrans* (Oudemans, 1930)**

(Figs 5–7)

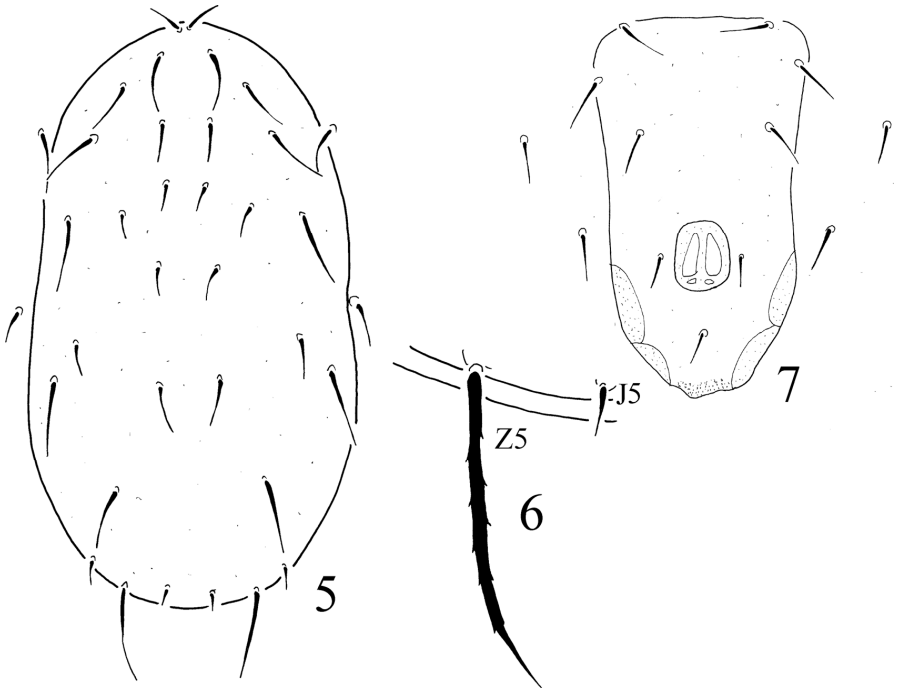
Material examined. Four females on *Platanus* sp.. Albania, Tepelenë district, Tepelenë, Uji i Ftohtë, karst springs and forest, 165 m, 40° 15.009'N, 20°03.876'E, 13.10.2012 (/36), leg. P. Juhász, T. Kovács, D. Murányi, G. Puskás. Five females from *Prunus domestica*. Albania, Tepelenë district, Tepelenë, Uji i Ftohtë, karst springs and forest, 165 m, 40°15.009'N, 20°03.876'E, 13.10.2012 (/36), leg. P. Juhász, T. Kovács, D. Murányi, G. Puskás.

Short description. Setae S4 absent, anterior end of peritremes reach to setae j3 Dorsal setae with fine serrated margins. Four solenostomes present. Ventrianal shield narrow with three pairs of preanal setae. Fixed digit with one tooth, mobile digit without teeth. Calix of spermatheca short.

Remarks. This is a very common species in Europe and it could rarely be collected in North-Africa and North-America as well (Moraes *et al.* 2004).

ASSOCIATION WITH OTHER MITES

The Phytoseiidae species found occurred in association with other plant inhabiting mites. *Euseius finlandicus* was found together with *P. macropilis* and with an unidentified *Eotetranychus* species on *Tilia* sp. (the family Tetranychidae has not been recorded so far from Albania). The *Eotetranychus* sp. can be one of their most important preys, but on the other hand, the species of the genus *Euseius* usually feed on pollens as well. *Euseius finlandicus* can also be found together with *K. aberrans*, they live on the abaxial part of *Platanus* foliages. Their prey can be an unidentified *Cenopalpus* species (Acari: Tenuipalpidae) which was observed in high densities on the abaxial side of the leaves. The genus *Cenopalpus* is very common in the Balkan Peninsula; several endemic species were discovered and described from Greece (Hatzinikolis & Papadoulis 1999, Hatzinikolis *et al.* 1999a, b), but tenuipalpids have not been recorded from Albania so far.



Figures 5–7. *Kampimodromus aberrans* (Oudemans, 1930): 5 = Dorsal shield, 6 = setae J6 and Z5, 7 = ventrianal region.

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