

ERIOPHYOID MITES (ACARI: ERIOPHYOIDEA) FROM SEDGES (CAREX SPP., CYPERACEAE) IN SERBIA

RADMILA PETANOVIĆ¹, PHILIP CHETVERIKOV²
AND DRAGICA SMILJANIĆ¹

1 Department of Entomology and Agricultural Zoology, Faculty of Agriculture,
University of Belgrade, Nemanjina 6, 11080 Zemun, Belgrade, Serbia,
E-mail: rpetanov@agrifaculty.bg.ac.yu

2 Biological Research Institute, St. Petersburg State University,
Old Peterhof 198904, Russia,
E-mail: philipp_tchetverikov@yahoo.com

Six species of eriophyoid mites (Acari: Eriophyoidea) are recorded new to the fauna of Serbia: *Phytoptus liroi* Roivainen, 1947 and *Ph. hirtae* Roivainen, 1950 (Phytoptidae, Phytoptinae); *Novophytoptus rostratae* Roivainen, 1947 and *N. glyceriae* Skoracka & Boczek, 2000 (Phytoptidae: Novophytoptinae); *Eriophyes lentiginosus* Mitrofanov, Sharonov & Sekerskaya, 1983 (Eriophyidae: Eriophyinae); and *Leipothrix hirtus* Chetverikov, 2005 (Eriophyidae: Phyllocoptinae). No species from the monogeneric subfamily Novophytoptinae was known until now in Serbia. The plant species *Carex leporina* L. and *C. otrubae* Podp. are considered as new hosts for *N. glyceriae* and *E. lentiginosus*, respectively.

KEY WORDS: eriophyoid mites, new records, sedges, Cyperaceae, Serbia

INTRODUCTION

The Cyperaceae (sedge family) are grass-like, herbaceous plants that are distributed worldwide. Thirtyfive species of eriophyoid mites have been found on cyperaceous plants. Most of them are leaf vagrants. Only a few inhabit leaf sheaths, stalks, or inflorescences and can cause plant deformations. Of all sedge genera, most eriophoid species are known to dwell on *Carex* spp. Among them are 10 *Phytoptus* spp. (Phytoptidae: Phytoptinae); two *Novophytoptus* spp. (Phytoptidae: Novophytoptinae); one *Aceria* sp. and three *Eriophyes* spp. (Eriophyidae: Eriophyinae); and two *Leipothrix* sp., three *Neoleipothrix* spp., and one *Cupacarus* sp. (Eriophyidae, Phyllocoptinae). Until now, no species from the family Diptilomiopidae has been found. Most of the species are of Palearctic distribution, fewer of Nearctic distribution (AMRINE & STASNY, 1994; FLECHTMANN, 2004; SKORACKA *et al.*, 2004; CHETVERIKOV, 2005, 2006). Observations on eriophyoids infesting sedges in Serbia have not been undertaken to date. Only one species, *Neoleipothrix carexis* (PETANOVIĆ, 1995), has been recorded until now from Serbia. It was described as *Epitrimerus carexis* from the type locality of Carska bara (BOCZEK & PETANOVIĆ, 1995). Later recorded in Poland (SKORACKA *et al.*, 2004) and in Russia, this species was transferred from the genus *Epitrimerus* to the genus *Neoleipothrix* (CHETVERIKOV, 2006).

The aim of this paper is to present the results of observation of the eriophyoid mite fauna on *Carex* spp. in Serbia during the period of 2005–07.

MATERIALS AND METHODS

Plant samples were collected at several localities in Serbia: on the Goč Mountain and in the vicinity of Belgrade, Donji Milanovac, and Aleksandrovac. Mites were collected from plants by direct examination under stereo-microscope and/or extracted using the method described by DE LILLO (2001). Before light microscopy, the mites were cleared in lactic acid for several days and then mounted in Kieffer's F medium and studied with a phase contrast microscope. Systematic classification follows that of AMRINE *et al.* (2003) and original descriptions (ROIVAINEN, 1947, 1950; MITROFANOV *et al.*, 1983; SKORACKA & BOCZEK, 2000; and CHETVERIKOV, 2005). The examined material is housed in the collections of the Department of Entomology and Agricultural Zoology, Faculty of Agriculture, University of Belgrade, Serbia; and the Biological Research Institute, St. Petersburg State University, Russia.

RESULTS

New records of eriophyoid species in Serbia are presented in Tab. I.

Table I

Eriophyoid mites living on sedges (*Carex* spp., Cyperaceae) in Serbia.

Species (family, subfamily)	Host plant	Place	Date
<i>Phytoptus liroi</i> (Phytoptidae, Phytoptinae)	<i>Carex paniculata</i> L.	Goč Mountain	24.07.2005.
		Goč Mountain, Cvetna livada	9.07.2006.
		Aleksandrovac	13.05.2006.
		Donji Milanovac	13.05.2006.
<i>Phytoptus hirtae</i> (Phytoptidae, Phytoptinae)	<i>C. leporina</i> L.	Beograd, Makiš	18.04.2007.
		Beograd, Ostružnički most	8.05.2007.
<i>Novophytoptus rostratae</i> (Phytoptidae, Novophytoptinae)	<i>C. paniculata</i> L.	Goč Mountain	24.07.2005.
		Goč Mountain, meadow	9.07.2006.
		Novi Beograd, blok 45	17.05.2005.
<i>N. glyceriae</i> (Phytoptidae, Novophytoptinae)	<i>C. otrubae</i> * Podp.	Krnjača	22.05.2006.
		<i>C. paniculata</i> L.	Goč Mountain, Cvetna livada
<i>Eriophyes lentiginosus</i> (Eriophyidae, Eriophyinae)	<i>C. paniculata</i> L.	Goč Mountain	24.07.2005.
		<i>C. leporina</i> * L.	Beograd, Makiš
<i>Aceria</i> sp.** (Eriophyidae, Eriophyinae)	<i>C. leporina</i> * L.	Donji Milanovac, Veliki greben	13.05.2006.
<i>Leipothrix hirtus</i> (Eriophyidae, Phyllocoptinae)	<i>C. hirta</i> L.	Beograd, Ostružnički most	8.05.2007.
			10.05.2007.

* new host plants; ** collected material was not enough for mite identification.

Notes on the species found on *Carex* spp. in Serbia according to Chetverikov (personal communication):

Phytoptus liroi Roivainen, 1947

Host plants: *Carex disticha* Huds., *C. arenaria* L., *C. echinata* Murr., *C. ericetorum* Pollich., *C. colhica* subsp. *ligerica* (Gay) Egorova, *C. leporina* L., *C. distans* L., *C. flacca* Schreb, *C. panicea* L., *C. juncella* (Fries) Th. Fries, *C. paniculata* L., *Blysmus compressus* Panz.

Habit: leaf sheath, in laminar grooves.

Previously recorded occurrences: Finland, Sweden.

Phytoptus hirtae Roivainen, 1950

Host plants: *Carex hirta* L., *C. arenaria* L., *C. ligerica* Gay.

Habit: leaf sheath, in laminar grooves.

Previously recorded occurrences: Sweden, Poland.

Novophytoptus rostratae Roivainen, 1947

Host plants: *Carex rostrata* Stok., *C. flacca* Schreb, *Carex sylvatica* Huds., *Scirpus* sp.

In Northwest Russia and Ukraine, *N. rostratae* was found in air cavities of leaves, stalks, and leaf sheaths of plants from the genera *Bolboschoenus* [*B. maritimus* (L.) Palla], *Carex* [*C. acuta* L. (= *C. gracillis* Curt.), *C. appropinquata* Schum., *C. arenaria* L., *C. atherodes* Spreng., *C. canescens* L. (= *C. cinerea* Poll.), *C. cespitosa* L., *C. colchica* subsp. *colchica* Egor., *C. contigua* Hoppe, *C. diandra* Schrank, *C. distans* L., *C. disticha* Huds., *C. elata* All., *C. extensa* Good., *C. flava* L., *C. hirta* L., *C. juncella* (Fries) Th. Fries (= *C. juncea* Fries), *C. lasiocarpa* Ehrh., *C. leporina* L., *C. limosa* L., *C. nigra* (L.) Reich (= *C. goodenowii* Gay), *C. omskiana* Meinsn., *C. pallens* L., *C. panicea* L. (= *C. diversicolor* Cr.), *C. praecox* Jacq., *C. rhynchophysa* Frisch., May & Ave Lall., *C. rostrata* Stok. (= *C. inflata* Sut., *C. ampulecea* Good.), *C. secalina* Willd. ex Wahlenb., *C. stenophylla* Wahlenb., *C. vesicaria* L., *C. vulpina* L.], *Eriophorum* (*E. latifolium* Hoppe, *E. polystacium* L., *E. vaginatum* L.), *Luzula* [*L. pilosa* (L.) Willd.], *Scirpoides* [*S. holoschoenoides* (L.) Sojak.] and *Scirpus* (*S. sylvaticus* L.).

Habit: leaf sheaths, in laminar grooves, inside air cavities of leaves and stalks.

Previously recorded occurrences: Finland, Spain, Russia, Ukraine, and Poland.

Novophytoptus glyceriae Skoracka & Boczek, 2000

Host plants: *Glyceria maxima* (Hartman) Holmb.

Habit: the mites were found on the upper surfaces of leaves.

Previously recorded occurrences: Poland

Eriophyes lentiginosus Mitrofanov, Sharonov & Sekerskaya, 1983

Host plants: *Carex* sp., *Carex arenaria* L., *C. colchica* subsp. *ligerica* Egor., *C. contigua* Hoppe, *C. praecox* Jacq., *C. colchica* subsp. *colchica* Egor., *C. appropinquata* Schum., *C. elata* All., *C. brizoides* L.

Habit: vagrant on upper leaf surfaces.

Previously recorded occurrences: Ukraine, Poland, Russia

In contrast to the material from Poland (SKORACKA *et al.*, 2004) and that from Russia and Ukraine (CHETVERIKOV, 2006), mites of the species *E. lentiginosus* from Serbia and those from the type locality (MITROFANOV *et al.*, 1983) have no lines on the dorsal shield. Only chaotically dispersed dots can be seen.

Leipothrix hirtus Chetverikov, 2005

Host plants: *Carex hirta* L., *C. atherodes* Spreng.

Habit: vagrant on shoots and lower leaf surfaces.

Previously recorded occurrences: Ukraine, Russia

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ЕРИОФИДЕ (ACARI: ERIOPHYOIDEA) НА ОШТРИЦАМА (CAREX SP., CYPERACEAE) У СРБИЈИ

РАДМИЛА ПЕТАНОВИЋ, ФИЛИП ЧЕТВЕРИКОВ
И ДРАГИЦА СМИЉАНИЋ

ИЗВОД

На оштрицама (Cyperaceae) је забележено 35 врста ериофида, а на врстама из рода *Carex* до сада су описане 22 врсте. Већина врста је палеарктичког порекла. Фауна Eriophyoidea на оштрицама у Србији није проучавана. До сада је била позната само једна врста - *Neoleipotorix carexis* (Petanović), описана 1995. године са типског локалитета на Царској бари.

У раду су приказани резултати истраживања фауне Eriophyoidea на оштрицама из рода *Carex* спроведена од 2005. до 2007. године на неколико локалитета у Србији: на планини Гоч и у околини Београда, Доњег Милановца и Александровца. Регистровано је 6 врста из две фамилије и 4 подфамилије, све нове за фауну Србије: *Phytoptus liroi* Roivainen, 1947, *Ph. hirtae* Roivainen 1950 (Phytoptidae, Phytoptinae); *Novophytoptus rostratae* Roivainen, 1947; *N. glyceriae* Skoracka & Boczek, 2000 (Phytoptidae: Novophytoptinae); *Eriophyes lentiginosus* Mitrofanov, Sharonov & Sekerskaya, 1983 (Eriophyidae: Eriophyinae) и *Leiophthrix hirtus* Chetverikov, 2005 (Eriophyidae: Phyllocoptinae). Поред тога, забележена је и једна врста из рода *Aceria* (Eriophyidae: Eriophyinae) која на основу расположивог материјала није могла бити идентификована до специјског нивоа. Ни једна врста моногенеричне подфамилије Novophytoptinae није до сада била позната у Србији. Биљне врсте *C. otrubae* Podp. и *Carex leporina* L. су нови домаћини врстама *N. glyceriae* односно *E. lentiginosus*.

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