

CARABODES RUGOSIOR BERLESE, 1916 AND C. ELONGATUS VAR. SUBARCTICUS TRÄGARDH, 1902 – NEW SPECIES OF MOSS MITES (ACARI: ORIBATIDA: CARABODIDAE) FOR FAUNA OF LATVIA WITH SHORT DISCUSSION OF THEIR MICROSCOPING.

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Oribatids including genus *Carabodes* C.L.KOCH, 1835 in Latvia have been well studied especially in coniferous forests by Eglitis (1954). Eight different species have been recorded in fauna of Latvia till now (Baranovska 2006). In this research four individuals from species *Carabodes rugosior* and 52 individuals from variation species *Carabodes elongatus* var. *subarcticus* were collected. Both taxa are new in the Latvian fauna.

Sampling took place in various types of habitats (see table 1) at Talsi region, Kolka, territory of Slitere National Park (SNP). Ten samples (two meter distance from one and other) were taken in each habitat. Material collected from soil by using soil borer and extracted on Tullgren funnels (Dunger u al. 1997). *Carabodes* were coated with 20 nm Au-Pd and observed under the scanning electron microscope (SEM) (Griffiths et al. 1971). Identification was performed using keys of E.M. Bulanova-Zachvatkina (1967), J. Balogh (1972), M.C. Gilyarov (1975), and G. Weigmann (2006).

Habitat	Geographic coordinates		Error (m)	Number of sampled mites	
	N	E		<i>C. rugosior</i>	<i>C. elongatus</i> var. <i>subarcticus</i>
<i>Dry pine forest</i>	57°39'06"	22°15'41"	9		46
<i>Pine forest</i>	57°45'10"	22°35'59"	40	1	1
<i>Raised bog</i>	57°39'22"	22°16'06"	5,5		5
<i>Spruce forest</i>	57°37'47"	22°17'12"	30	3	

Table 1

Geographic coordinates and description of habitats where *Carabodes rugosior* and *C. elongatus* var. *subarcticus* were sampled in territory of Slitere National Park (SNP) rounded in June, 2007: N – degrees of latitude; E – degrees of longitude

Carabodes rugosior BERLESE, 1916 is separated from other *Carabodes* genus mites by ruffly ridged sculptures and short (10-16 µm) spiniform setae on the notogaster. Body length 520 – 650 µm. *C. rugosior* differs from similar species *C. femoralis* on its less foveate than more covered with wrinkles like structures on notogaster. Holarctic species found in Northern, Western European countries. Mostly inhabits soil cover near the tree bases (Sellnick, Forsslund 1952; Weigmann 2006).

Carabodes elongatus var. *subarcticus* TRÄGARDH, 1902 can be distinguished by pitted notogastral sculptures of different size and shape and elongated, glabrous interlamellar setae. Body length up to 486 µm (Sellnick, Forsslund 1952). Palaearctic species, typically found in coniferous forests of Northern Europe (Sellnick, Forsslund 1952; Gilyarov 1975; Weigmann 2006).

One of several possible reasons of why these taxa have not been registered yet in fauna of Latvia is shortly discussed further. For precise identification of oribatid mites two reliable microscopy methods can be used. The first is observation under the light microscope (including preparation) that has been used mostly (Bulanova-Zachvatkina 1967; Gilyarov 1975; Weigmann 2006). In this method precise identification more depends on how precisely and accurate the preparation work is done (Evans *et al.* 1968; Krantz 1978). During the ecological research it is difficult to do precise identifications because of big numbers of individuals and long time taking preparations. Besides identification under the light microscope of this genus is highly difficult because of the dark cuticle (Krantz 1978; Weigmann 2006) that makes most of the morphostructures invisible. Second method by observing under Electron Scanning Microscope (SEM) is more used in nowadays oribatology, asks no precise preparation and gives more detailed images (Griffiths *et al.* 1971). In previous research of oribatids from Latvia no SEM observations have been done what explains the paradox of var. *subarcticus* being in such big numbers in one sampling district and still being new for fauna of Latvia.

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