

## Oribatid Mites (Acariformes) of the Caspian Sea Coast and Islands

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**Abstract**—Seventeen habitats of Tyulenii and Nordovyi Islands in the northwestern part of the Caspian Sea and the Bryanskaya Kosa Cape on the Caspian coast of Daghestan were examined. Thirty six species of oribatid mites were identified; seven of them were recorded for the first time from the Caucasus and eight species, from Daghestan. *Oribatula (Zygoribatula) caspica* sp. n. is described. The identity of *Peloribates pilosus* Hammer, 1952 sensu Pérez-Íñigo, 1974 and the original description is discussed. A new name, *Peloribates perezinigo* nom. n., is proposed for specimens described by Pérez-Íñigo (1974).

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The oribatid fauna of Daghestan is studied rather well (Shtanchaeva and Subías, 2010); some regions, in particular, the plain coastal territories and islands of the Caspian Sea however, are examined insufficiently; therefore, the present study has been performed.

Seventeen habitats in Tyulenii and Nordovyi Islands in the northwestern part of the Caspian Sea and in Bryanskaya Kosa Cape in the north of the Caspian coast of Daghestan were examined. The territories examined are situated in the semidesert zone; this area is characterized by littoral sandy and desert vegetation, represented by saltwort-wormwood complexes (Chilikina et al., 1960), boggy lands with reed-cattail associations and reed-beds are found in river deltas and islands.

The following habitats were examined: Bryanskaya Kosa (3–12.VI and 24–25.IX 2009, 4.VI.2010, collected by A.A. Grikurova): (1) reed-bed meadows with prevalence of weeping alkali grass and juncos, (2) tamarisk communities, (3) wormwood-ephemeral and annual gramineans communities; (4) perennial saltwort communities; (5) sand dunes with thickets of milk-vetch and tamarisk; (6) wormwood annual gramineans communities with tamarisk thickets; (7) reed-bed meadows with dominating brome grass and lavender; and (8) bulrush communities.

Nordovyi Island (03.VI.2010, collected by A.A. Grikurova): (9) bulrush communities; (10) bul-

rush, tamarisk, common reed, Siberian sea rosemary; (11) bulrush, reed, water knotweed, marsh sow-thistle.

Tyulenii Island (4–15.VI.2009, collected by A.A. Grikurova): (12) Russian silverberry; (13) tamarisk association; (14) salt marsh halophytes: saltwort, sea lavender (*Limonium meyeri*); (15); bulrush association; (16) coach grass association with admixture of bulrush; (17) psammophilic vegetation on sands.

A total of 36 species of oribatid mites belonging to 31 genera and 22 families were revealed (see table); 8 of them are mentioned for the Caucasus for the first time and 7 species, for Daghestan. 36, 3, and 14 species were recorded from the Bryanskaya Kosa Cape, and Nordovyi and Tyulenii Islands, respectively.

In the material collected in biotopes of Bryanskaya Kosa Cape and Tyulenii Island, representatives of a new species, *Oribatula (Zygoribatula) caspica* sp. n. were revealed; the description of this species is given below. Measurements (mean value,  $\mu\text{m}$ ) are given for all the specimens of the type series.

*Oribatula (Zygoribatula) caspica* Shtanchaeva,  
Grikurova et Subías, sp. n.  
(figure)

**Material.** Holotype ♀ and 42 paratypes: Bryanskaya Kosa Cape: reed bed meadows with dominating alkali grass and rushes (3 spms.); wormwood-ephe-

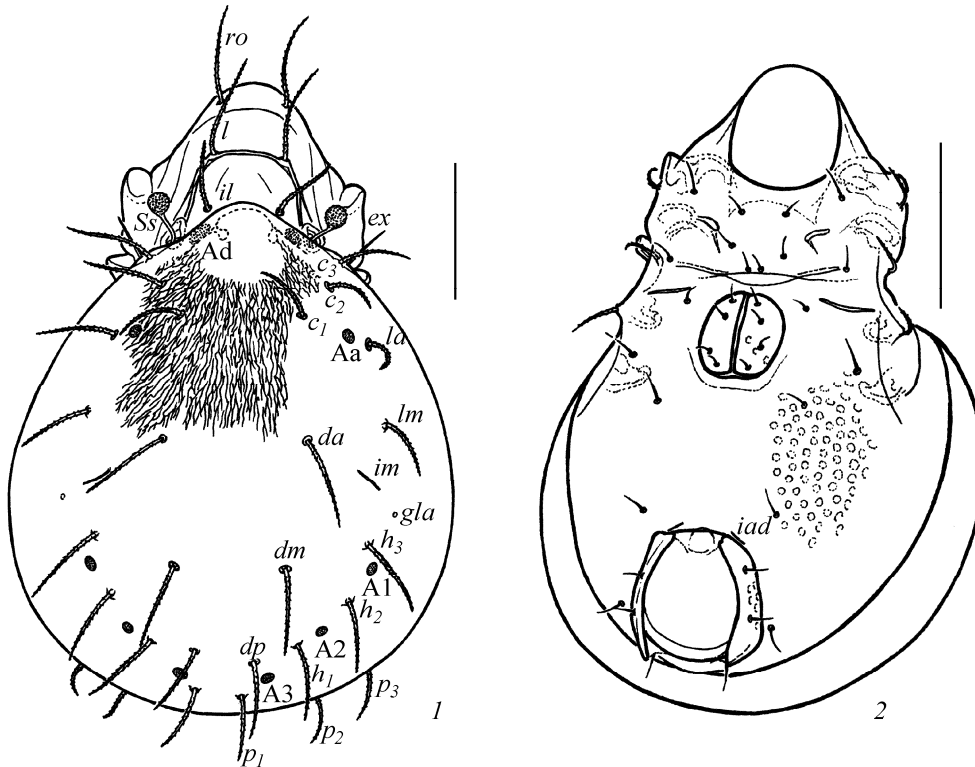
List of species of oribatid mites from the coastline and islands of the Caspian Sea

Species, subspecies	Bryanskaya Kosa	Tyulenii Island	Nordovyi Island
<i>Aphelacarus acarinus</i> (Berlese, 1910)	+		
<i>Haplochthonius sanctaeluciae</i> Bernini, 1973*	+		
<i>Sphaerochthonius pallidus</i> Munoz-Mingarro, 1987*	+		
<i>Epilohmannia cylindrica cylindrica</i> (Berlese, 1904)	+		
<i>Papillacarus pseudoaciculatus</i> Mahunka, 1980*	+		
<i>Neoliodes ionicus</i> Sellnick, 1931*	+		
<i>Ramusella puertomontensis</i> Hammer, 1962	+	+	
<i>Discoppia (Cylindropopia) cylindrica</i> (Pérez-Íñigo, 1965)	+	+	
<i>Micropopia minus</i> (Paoli, 1908)		+	
<i>Lauropopia similifallax</i> Subías et Mínguez, 1986**		+	
<i>Oppiella nova</i> (Oudemans, 1902)		+	
<i>Suctobelbella (S.) acutidens duplex</i> (Strenzke, 1950)		+	
<i>Suctobelbella (S.) subcornigera</i> (Forslund, 1941)	+		
<i>Suctobelbella (Flagrosuctobelba) nasalis</i> (Forslund, 1941)		+	
<i>Tectocephus velatus sarekensis</i> Tragardh, 1910	+	+	
<i>Scutovertex sculptus</i> Michael, 1879	+		
<i>Bipassalozetes (Passalobates) linearis</i> (Higgins et Woolley, 1962)*		+	
<i>Passalozetes africanus</i> Grandjean, 1932	+		
<i>Oribatella tridactyla</i> Ruiz, Subías et Kahwash, 1991*	+		
<i>Tectoribates ornatus</i> (Schuster, 1958)	+		
<i>Trichoribates (Latilamellobates) naltschicki</i> (Shaldybina, 1971)	+		
<i>Zetomimus (Protozetomimus) acutirostris</i> (Mihelcic, 1957)**			+
<i>Chamobates (Xiphobates) rastratus</i> (Hull., 1914)**		+	
<i>Punctoribates (Minguezetes) hexagonus</i> Berlese, 1908	+		
<i>Podoribates longipes</i> (Berlese, 1887)**	+		
<i>Oribatula (O.) interrupta</i> (Willmann, 1939)	+		
<i>Oribatula (O.) saljanica</i> Kulijev, 1962**		+	
<i>Oribatula (Zygoribatula) caspica</i> sp. n.*	+	+	
<i>Oribatula (Z.) undulata</i> Berlese, 1916**	+		+
<i>Hemileius (Simkinia) ovalis</i> Kulijev, 1968	+		
<i>Scheloribates barbatulus</i> Mihelcic, 1956**	+		
<i>Scheloribates laevigatus</i> (Koch, 1835)	+		
<i>Scheloribates pallidulus latipes</i> Koch, 1844)		+	
<i>Protoribates capucinus</i> Berlese, 1908	+	+	
<i>Peloribates perezinigo</i> nom. n.*	+		+
<i>Galumna lanceata</i> (Oudemans, 1900)	+		
Total number of species	26	14	3

Notes: \* Species recorded from the Caucasus for the first time (8). \*\* Species recorded from Daghestan for the first time (7).

meric and annual-graminean communities (16 spms.); perennial saltwort communities (11 spms.); sand dunes with thickets of milk-vetch and tamarisk (1 spm.); reed

bed meadows with dominating brome grass and sea lavender (6 spms.), collected by A.A. Grikurova, 4.VI.2010; Tyulenii Island: salt marshes with prevail-



*Oribatula (Zygoribatula) caspica* sp. n.: (1) dorsal side; (2) ventral side. Setae: (*ro*) rostral; (*l*) lamellar; (*il*) interlamellar; (*c*<sub>1</sub>, *c*<sub>2</sub>, *c*<sub>3</sub>, *da*, *dm*, *dp*, *la*, *lm*, *lp*, *h*<sub>1</sub>, *h*<sub>2</sub>, *p*<sub>1</sub>, *p*<sub>2</sub>, *p*<sub>3</sub>) notogastral; (*Ss*) trichobothria; (*Ad*, *Aa*, *A1*, *A2*, *A3*) porous areas; (*im*, *iad*) lyrifissurae; (*gla*) glandulae. Scale 100  $\mu$ m.

ing halophytes (saltwort and sea lavender (*Limonium meyeri*)) (1 spm.); psammophilic vegetation on sands (5 spms.), collected by A.A. Grikurova, 06.VI.2009. The holotype and paratypes of the new species are deposited at the Daghestan State University and at the Complutense University of Madrid.

**Description.** Body length 428 (380–475), width 280 (230–330). Integument dark brown, smooth.

Dorsal surface (figure, 1). Rostrum rounded, rostral (70), lamellar (76), and interlamellar setae (53) long, pubescent. Exobothridial chaetae large (37), needle-shaped, smooth. Lamellae (60) and translamella (60) fine, cuspises absent. Bothridia partly concealed by margin of notogaster. Trichobothria (35) spherical, with long fine stem, equal in length to head (12); in some species, trichobothria looking like short clubs in lateral position; head of trichobothrium with small spines.

Hysterosoma widening posteriorly and narrowing anteriorly. Notogaster without humeral prominences, its anterior margin projecting forward reaching level of interlamellar setae. Surface of notogaster covered with sculpture looking like sinuous lines. Anterior part of notogaster with pale spot (lenticula). Notochaetae

(14 pairs) large, long (45–70), pubescent. 5 pairs of porous areas present; first pair (*Ad*) larger (18), situated on anterior margin of notogaster at level of bothridia; this pair visible only in lateral view. Other porous areas (*Aa*, *A1*, *A2*, *A3*) oval, of nearly same size (9–10). Lyrifissurae *im* long (20); small rounded orifices of opistomal glands visible near them.

Ventral side (figure, 2). Apodemae weakly developed, sternal apodema absent. Epimeral formula 3 : 1 : 3 : 3. Epimeral setae smooth, fine, chaetae *b* and *c* (18) longer than setae *a* (11). Anal-genital area covered with small pale rounded spots. Anal orifice twice as big as genital orifice. Genital, aggenital, anal, and adanal setae numbering 4, 1, 2, and 3 pairs, respectively. Length of genital and anal setae 10–12, of aggenital and adanal setae, 16–19. Folds of genital and adanal orifices also with rounded pale spots, but in significantly smaller number and expressed less distinctly. Lyrifissurae *iad* (7–9) running in parallel to anterior-lateral margin of anal folds.

Leg with 3 claws.

**Differential diagnosis.** The new species is the most structurally similar to *Oribatula (Zygoribatula) len-*

*ticulata* (Mínguez et Subías, 1986), found in Columbretes Islands in the Mediterranean, near the Spanish coast (Valencia) (Mínguez and Subías, 1986). Representatives of this species also possess lenticula on the anterior margin of the notogaster, similar shape of lamellae, and long pubescent proterosomal and dorsal setae; however, their notogastral surface is smooth, the setae are longer, and their rostrum possesses pointed rostrum. *Oribatula (Zygoribatula) caspica* sp. n. differs from all the other species of the genus in the presence of the lenticula.

**Distribution.** The species was found in meadow-bog soils, in desert and semidesert wormwood-ephemeric, annual-graminean, and perennial saltwort communities; and also on sand dunes with thickets of vetch and tamarisk.

*Peloribates perezinigo* Shtanchaeva,  
Grikurova et Subías nom. n.

In the material from the biotopes of Bryanskaya Kosa and Nordovyi Island, a species identical to *Peloribates pilosus* Hammer, 1952 sensu Pérez-Íñigo, 1974 (Pérez-Íñigo, 1974). Later, Pérez-Íñigo (1988) related these specimens found by him in Spain to the species *Peloribates europaeus* Willmann, 1935. Notogastral setae in *P. europaeus*, however, are short, smooth, and thin, whereas representatives of the species found by Pérez-Íñigo are characterized by short, rough, and pubescent setae. On the other hand, in the real *P. pilosus*, notogastral setae are long and pubescent. For this reason, Inturrondobeitia (1985) doubted, whether specimens found by Pérez-Íñigo belonged to *P. pilosus*. Since the species discussed in works of Pérez-Íñigo (to which specimens found by us correspond), differs from *P. pilosus* and *P. europaeus*, we consider this species to be an independent species *Peloribates perezinigo* nom. n. (= *Peloribates pilosus* Hammer, 1952 sensu Pérez-Íñigo, 1974).

In the Catalogue of the world Oribatida (Subías, 2004, 2011) it is mentioned that *Peloribates pilosus* possesses the Holarctic distribution (being found less frequently in southern regions), whereas *Peloribates europaeus* is distributed in the Palaeartic. *Peloribates perezinigo* nom. n. seems to be distributed in the

Mediterranean region or in the southern Palaeartic, if some records of the presence of *Peloribates pilosus* in Central Asia really concern *Peloribates perezinigo* nom. n. *Peloribates europaeus* is distributed throughout the entire Palaeartic, but mostly in its northern part.

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