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NEW MORPHOLOGICAL DATA ON *Balaustium nikae* LARVAE AND NEW RECORDS OF MITES (ACARI: PROSTIGMATA: ERYTHRAEIDAE) FROM SPECIMENS COLLECTED IN SERBIA AND MONTENEGRO

SUMMARY

New morphological data on larvae of *Balaustium nikae* Haitlinger, 1996 is given. New metric data for *Balaustium nikae*, collected from herbaceus plants from Ivanjica, Serbia, are provided. *Balaustium medardi* Haitlinger, 2000 and *Balaustium florale* Grandjean, 1947 are reported for the first time in Montenegro.

Key words: *Balaustium nikae*, larva, new morphological data, new metric data, new records.

INTRODUCTION

Subfamily Balaustiinae Grandjean 1947, comprise ten genera: Balaustium von Heyden, 1826, Mypongia Southcott, 1961, Pollux Southcott, 1961, Italustium Haitlinger, 2000, Palenqustium Haitlinger, 2000, Guatustium Haitlinger, 2000, Bursaustium Haitlinger, 2000 Fozustium Haitlinger, 2005, Lomeustium Haitlinger, 2006 and Moldoustium Haitlinger, 2008 (Southcott 1961; Haitlinger 2000a, b, 2005, 2006, 2008). J. G. Mayoral and P. Barranco (2009) adduce 15 species on the larval stage, distributed throughout the world, from which 8 species are from Europe (Grandjean 1947, Haitlinger 1996, 2004, Mayoral J. G. and Barranco P., 2009).

Balaustium nikae was described by Haitlinger (1996), based on the one larva collected in Rogalinek, Poland. Therefore, in this paper new figures and measurements are given for *Balaustium nikae* (Table 1). During the June 2012 a survey was carried out to collect and identify terrestrial Parasitengona mites from grass in Ivanjica, south Serbia by senior author. This species was known from Croatia, Czech Rep., Greece, Poland, Slovakia, Ukraine (Beron, 2008).

MATERIAL AND METHODS

The larvae of mites were collected in Serbia from herbivores plants, on 15 June, 2012. The specimens were collected by a sweep net on grasses and preserved in 70% ethanol. Mite specimens were cleared in Nessbitt's solution and mounted in Faure medium (Walter & Krantz, 2009). All measurements are given in micrometres (μm) and calculated using a Carl Zeiss Axioscope A1 microscope and Carl Zeiss Axio Imager A2 with differential interference contrast and phase contrast. The terminology and abbreviations follow Haitlinger (1999, 2013).

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RESULTS AND DISCUSSION

Taxonomy

Family Erythraeidae Robineau-Desvoidy, 1828

Subfamily Balaustiinae Grandjean, 1947

Genus Balaustium von Heyden, 1826

Balaustium medardi Haitlinger, 2000

Material examined: 2 larva, Montenegro, Plavnica, Liverovići Lake from herbaceous plants, 10 June 2011.

Distribution: Bolivia, Peru (Haitlinger, 2000c; Beron, 2008).

Balaustium florale Grandjean, 1947

Material examined: 15 larva, Montenegro, Plavnica, Nikšić, Virpazar, Bjelopavlići, Tuzi, Grbavci, from herbaceous plants, 15-30 June 2011.

Distribution: Corsica, Mallorca (Beron, 2008).

Description (based on manuscript of *Balaustium nikae* Haitlinger, 1996 Wiadomosci Parazytologiczne, with additional data from Serbian specimens) - LARVA- Idiosoma longer than wide. Dorsum with 54-59 barbed setae uniform in shape and in small platelets. Posterior setae are somewhat longer than anterior ones. Single eyes, slightly anteriorly located at the level of crista metipica, 11 μm in diameter, and without ocular sclerites. Borders of scutum unvisible (Fig. 1). Crista metopica is distinctly visible with extending in bases of ASens and PSens. Two pairs of trichobothria (ASens and Psens) slightly ciliated distally. Four pairs of slightly barbed non-sensillary setae at each side of the crista metopica (Fig. 3).

Idiosoma ventrally with nude setae *1a* and *2a* and tree pairs of coxae. All coxalae are nude. Between coxae II and III 16-18 weakly barbed setae. Between coxae III a pair of nude setae *3a*. Beyond coxae III 28-35 slightly barbed setae. Ventral setae more slender then those covering the idiosoma dorsum (Fig. 2). NDV= 28-35 + 54-59 = 82-94.

Dorsal side of gnathosoma with a pair adoral setules setae (*cs*) anteriorly, and pair supracoxal setae (*elcp*) postero-laterally. Ventral side with a pair subcapitular tiny setules setae (*bs*), and with a pair of minute setae (*as*). Cheliceral blade long (14 μm), with teeth. Palptrochanter and palpfemur each with one seta, both setules. Palp genu with two setules setae and tibia with three nude setae. Tibial claw entire with a median tooth (Fig. 4). Palptarsus with 4 nude setae, 1 solenidion and 1 eupathidium (Fig. 5).

Leg segmentation formula: 7-7-7. Leg setal formula:

Leg I: Ta 2*ζ*, 1Cp, 1*ω*, 19-20N; Ti 2*φ*, 1κ, 11-12N; Ge 1*σ*, 7-8N; Tf 5N; Bf 4N; Tr 3N (Fig. 6).

Leg II: Ta 2*ζ*, 1Cp, 1*ω*, 17-18N; Ti 2*φ*, 11N; Ge 9-10N; Tf 5N; Bf 4N; Tr 3N (Fig. 7).

Leg III: Ta 1*ζ*, 17-18N; Ti 1*φ*, 11N; Ge 7-8N; Tf 5N; Bf 2N; Tr 2N (Fig. 8).

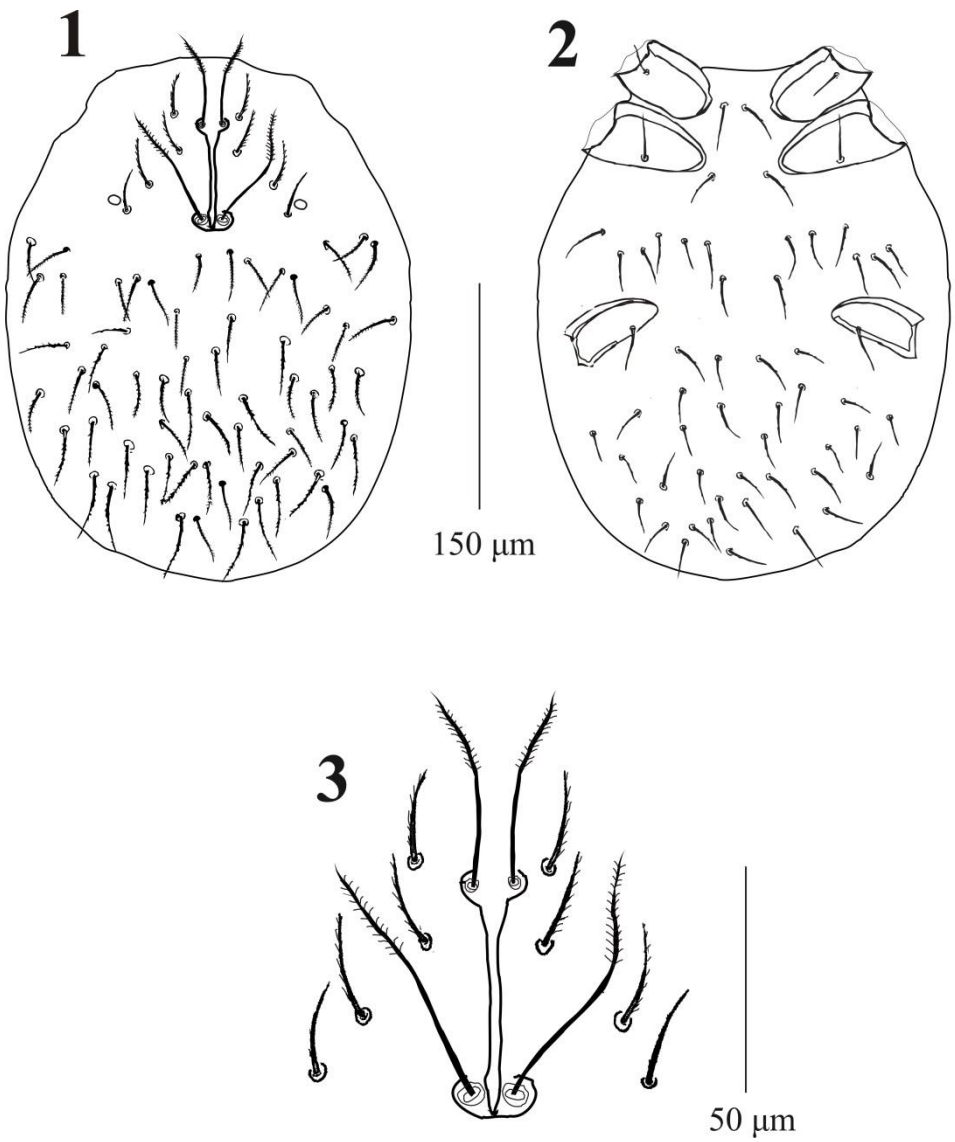
Material exsamined ─ 26 specimens of larvae were collected by author off host on grasses, 15 June 2013, in Ivanjica, Serbia. All specimens are deposited in the Acarological collection, Department of Biology, Faculty of Sciences, University of Montenegro.

TABLE 1: Metric data (in μm) of *Balaustium nikae*(larvae) from Serbia, (n=26) and Poland.

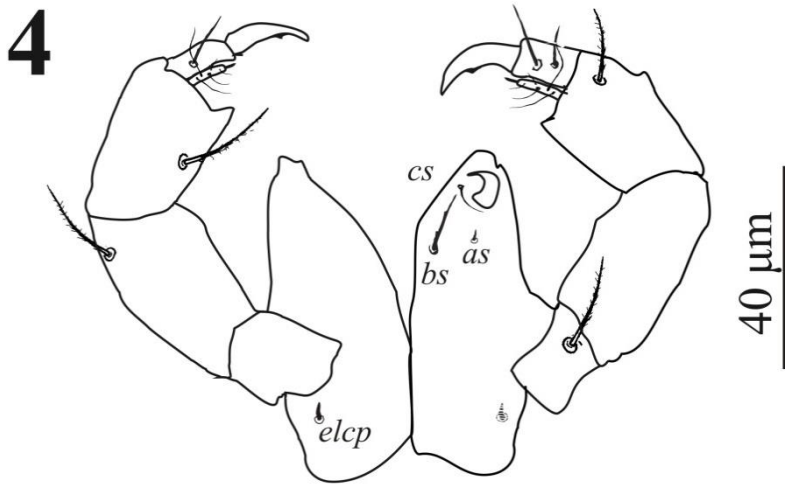
FIGURES 1–3. *Balaustium nikae* Haitlinger, 1996 (larva, specimen from

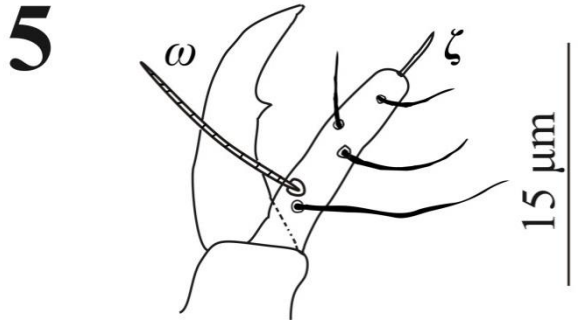
Character	Serbia n=26	Poland	Character	Serbia n=26	Poland
IL	322-378	528	Ti I	56-63	64
IW	248-300	320	Ge I	54-58	66
AA	6-7	12	Tf I	26-33	34
SB	6-8	12	Bf I	25-32	40
AW	27-30	?28	Tr I	25-29	36
PW	53-56	68	Cx I	49-54	50
AL	18-24	22	Leg I	309-346	-
PL	44-50	52	Ta II (L)	41-44	54
sc	12-13	-	Ta II (H)	15-24	22
ASens	30-37	36	Ti II	45-50	54
PSens	49-59	54	Ge II	41-45	50
ISD	44-47	52	Tf II	21-22	28
GL	86-94	~104	Bf II	21-23	26
DS	19-30	24-34	Tr II	21-23	32
1a	39-48	-	Cx II	557-61	~52
2a	23-31	-	Leg II	262-292	-
1b	32-39	40	Ta III (L)	43-45	56
2b	38-42	48	TaIII (H)	15-20	20
3b	31-38	38	Ti III	55-60	68
PsFd	30-35	32	Ge III	49-57	56
PaFe(L)	38-40	-	Tf III	29-31	36
PaFe(W)	21-23	-	Bf III	26-30	36
PaGe(L)	26-32	-	Tr III	24-27	32
PaGe(W)	21-25	-	Cx III	53-58	56
Ta I (L)	48-50	64	Leg III	294-324	-
Ta I (H)	26-27	28	IP	865-962	-

FIGURES 1–3. Balaustium nikae Haitlinger, 1996 (larva, specimen from

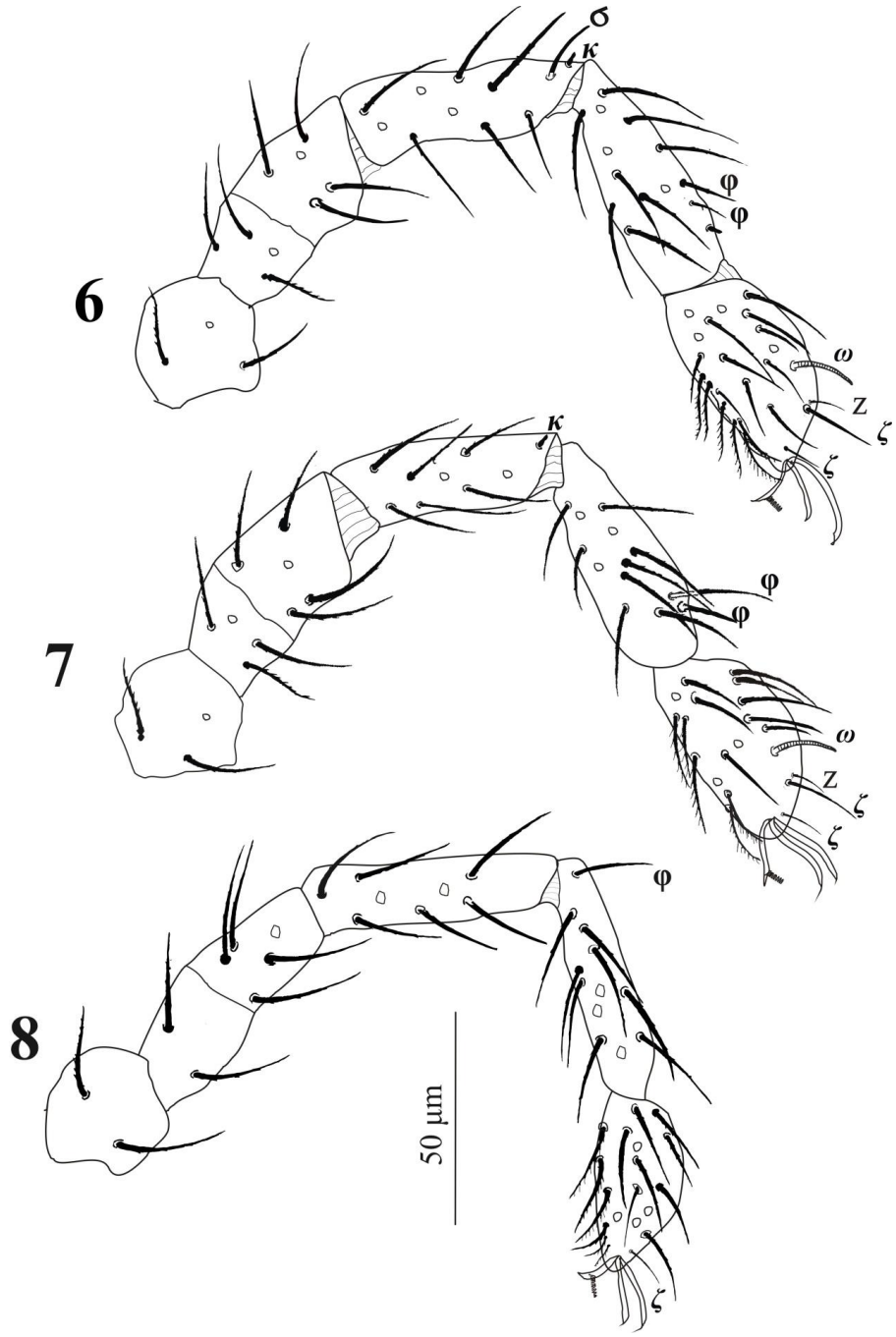


FIGURES 1–3. *Balaustium nikae* Haitlinger, 1996 (larva, specimen from Serbia). 1, idiosoma, dorsal view; 2, idiosoma, ventral view; 3, setae in scutal area.





FIGURES 4–5. *Balaustium nikae* Haitlinger, 1996 (larva, specimen from Serbia). 4, gnathosoma, dorsalview - left side, ventral view - right side; 5, palptarsus and tibial claw.



FIGURES 6–8. *Balaustium nikae* Haitlinger, 1996 (larva, specimen from Serbia). 6, leg I, trochanter-tarsus; 7, leg II, trochanter-tarsus; 8, leg III, trochanter-tarsus.

CONCLUSIONS

Balaustium nikae (Haitlinger, 1996) is described based on single specimen, (specimens from Poland and Serbia are conspecific), but it is very likely that this species is a synonym of some existing species from Balaustium genus. Taxonomic situation of this species is the results mainly from the limited biology (ecology) knowledge and insufficient knowledge of intraspecific variation of morphological characters. *Balaustium murorum* is species with the most common features with *Balaustium nikae*. Pertains of the number of solenidia on tibia I (*B. murorum* - 3 solenidia, *Balaustium nikae* - 2 solenidia), and fD formula is only clear difference between these two species. Separating of this species would be possible only through experimental rearing, because semple size of 26 specimens was not so high. Actual variability range should be assessed based on more specimens and formal synonymization can be justified after laboratory rearing all active in stars. Until this does not happen, this species remain separate.

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NOVI MORFOLOŠKI PODACI O LARVAMA *Balaustium nikae* (ACARI: PROSTIGMATA: ERYTHRAEIDAE) I NOVI NALAZI JEDINKI GRINJA SAKUPLJENIH U SRBIJI I CRNOJ GORI

REZIME

Rad se odnosi na nove morfološke i merističke podatke za vrstu *Balaustium nikae* (Haitlinger, 1996). S obzirom da je ova vrsta opisana na osnovu jedne jedinke, bilo je neophodno dati njen dodatni opis u cilju boljeg taksonomskog pozicioniranja. Morfometrijske vrijednosti vrsta *Balaustium nikae* i *Balaustium murorum* se u mnogome podudaraju i preklapaju, ali konačno odvajanje vrsta ili njihova sininimizacija će biti moguća samo kroz laboratorijsko gajenje svih aktivnih instarsa. Jedinke *Balaustium nikae* sakupljene u Poljskoj i Srbiji su se pokazale kao konspecifične. *Balaustium medardi* (Haitlinger, 2000) i *Balaustium florale* (Grandjean, 1947) su nove za faunu Crne Gore.

Ključne riječi: *Balaustium nikae*, larva, novi morfološki podaci, novi metrički podaci, novi nalazi vrsta