

## A new species of larval *Leptus* Latreille from Brazil

(Acari, Prostigmata, Erythraeidae)

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*Leptus (Leptus) candangus* spec. nov., Šundić, Haitlinger & Pompermaier, (Acari: Erythraeidae) is described and illustrated from larva collected in Cerrado-Pianaltina (Brazil) with pitfall traps. It is the first report of *Leptus* species with presence of solenoidia on Bf III, in this genus.

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### Introduction

In Brazil, a total of 25 species of terrestrial Parasitengona were known hitherto (Małol & Wohltmann 2012). Up to now, 11 species of the genus *Leptus* have been recorded from Brazil: *Leptus (L.) calvoescens* (Berlese, 1888), *Leptus (L.) stieglmayri* (Oudemans, 1905), *Leptus (L.) stolae* Haitlinger, 1987, *Leptus (L.) alberti* Haitlinger, 1991, *Leptus (L.) cyryli* Haitlinger, 1991, *Leptus (L.) mariani* Haitlinger, 1991, *Leptus (L.) onnae* Haitlinger, 2000, *Leptus (L.) adaminae* Haitlinger, 2004, *Leptus (L.) fozicus* Haitlinger, 2004, *Leptus (L.) iguacuicus* Haitlinger, 2004 (Oudemans 1905, Haitlinger 1987, 1991, 2000, 2004). In this paper, we describe the larva of *Leptus (Leptus) candangus* spec. nov., collected with pitfall traps in cerrado sensu stricto fragments, a typical savanna physiognomy of Central Brazil.

### Material and methods

Three larvae were collected in cerrado sensu stricto physiognomies between Sobradinho and Planaltina (administrative regions located about 30 km northeast of Brasilia, Federal District), at the coordinates 15°36' 26.73"S 47°46'54.59"W (holotype); 15°39'14.06"S 47°44' 18.72"W (paratype 1) and 15°38'41.60"S 47°44'38.09"W (paratype 2). The specimens were collected with pitfall traps, preserved in 70 % ethanol, cleared in Nesbitt's fluid and mounted on microscopic slides using Faure's medium (Walter & Krantz 2009). All measurements are given in micrometers (µm) and calculated using Carl Zeiss Axio Scope A1 and Carl Zeiss Imager A2 with differential interference contrast and phase contrast. The terminology of structures and setal notation follows Haitlinger (1999, 2013) and Southcott (1992). All specimens were collected by V. T. Pompermaier. The holotype is deposited in the Department of Zoology at University of Brasilia (DZUB), Brazil, one paratype is deposited in the Museum of Natural History of Podgorica, Montenegro and one paratype is deposited in the Museum of Natural History, Wrocław University, Poland.

## Results

Family Erythraeidae Robineau-Desvoidy 1828  
Genus *Leptus* Latreille 1796

### *Leptus (Leptus) candangus* spec. nov. Figs 1–11

**Diagnosis.** Larva with following features: fD = 54 (54, 48 paratype), fV = 14 (14, 16 paratype), four setae between coxae II and III, palpalfemur and palpalgenu each with one setae Ti I 250–265, Ti III 333–355, Bf III with 3–4 solenidia, Tf III with 12–15 solenidia, Ge III with 11–13 solenidia, Ti III with 7–9 solenidia.

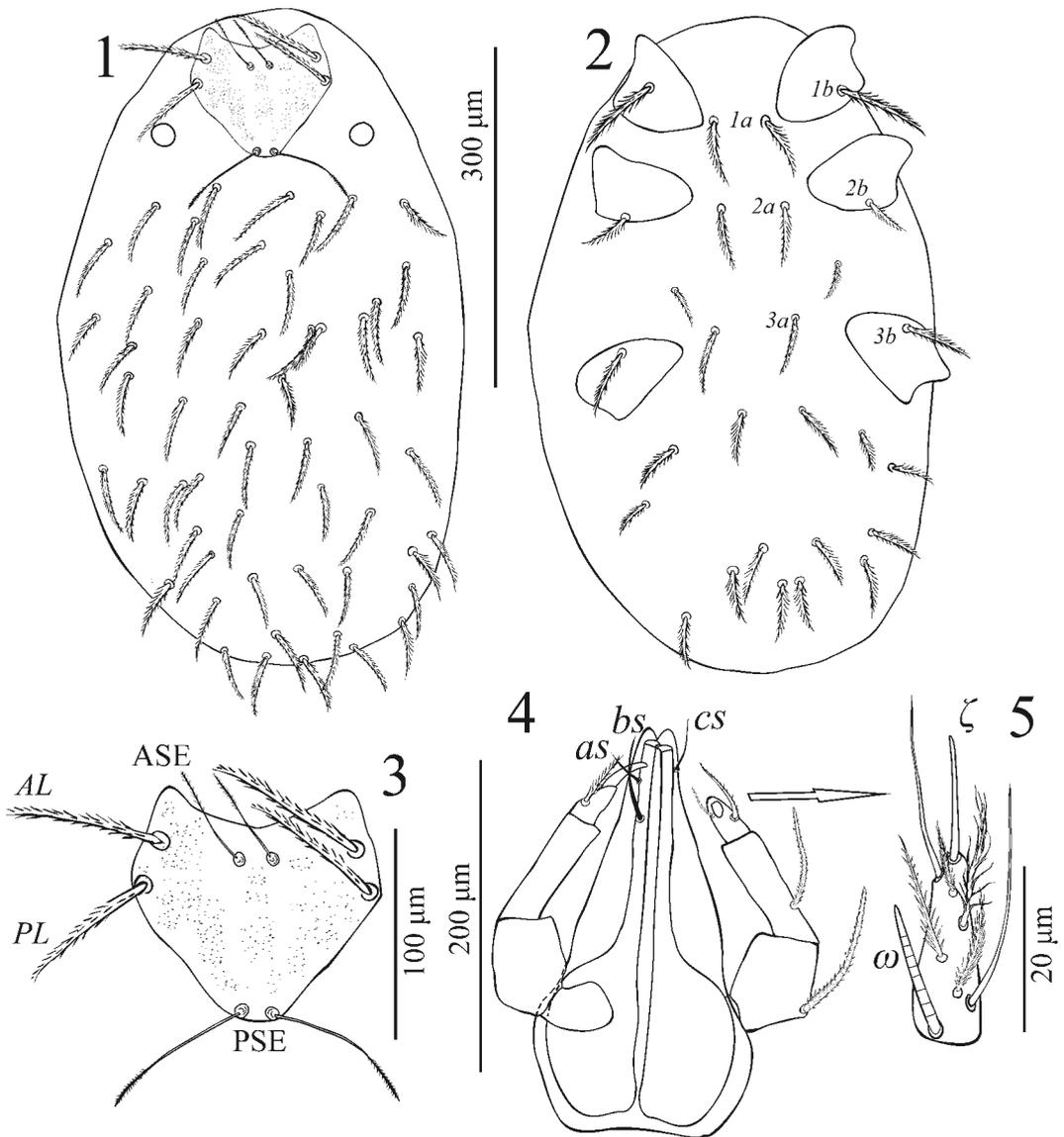
## Description

(based on holotype and two paratypes, larvae)

Idiosoma longer than wide. Dorsal surface of idiosoma with 54 (holotype), 48 (paratypes) barbed setae in irregular transverse rows, 37–49  $\mu\text{m}$  long (Fig. 1). Single eyes on circular sclerites located slightly anterior at the level of PSE bases and 16 across. Scutum wider than long, punctate, with concave anterior margin and distinctly barbed scutalae. ASE and PSE, both barbed on distal  $\frac{1}{3}$ . Posterior pair of sensillae (PSE) situated near the posterior edge of the scutum. Cuticular lines around bases of sensilla. Scutum bearing two pairs of scutalae (AL and PL) similar in length (Fig. 3); AL setae are nude in  $\frac{1}{4}$  of its entire length and PL covered with setules evenly

**Table 1.** Metric data of *Leptus (Leptus) candangus* spec. nov. from Brazil (n=3).

Character	Holotype	Paratype 1	Paratype 2	Character	Holotype	Paratype 1	Paratype 2
IL	548	363	848	$\omega_1$	43	42	45
IW	337	254	421	as	19	20	
L	106	100	121	bs	53	51	47
W	122	119	125	cs	29	28	27
AW	89	86	100	Ta I (L)	193	192	201
PW	106	107	117	Ta I (H)	33	23	22
AA	12	8	18	Ti I	265	250	259
SB	10	11	20	Ge I	163	164	169
ISD	65	64	76	Tf I	113	112	123
AP	16	20	19	Bf I	115	111	120
AL	72	75	79	Tr I	61	57	56
PL	76	79	86	Cx I	91	88	70
ASE	57	50	57	Ta II (L)	158	163	165
PSE	80	89	91	Ta II (H)	22	24	26
DS	43–46	43–45	44–53	Ti II	226	215	233
PDS	39–43	37–42	35–49	Ge II	132	128	137
1a	61	66	65	Tf II	105	103	108
2a	58	58	53	Bf II	93	95	99
3a	55	56	50	Tr II	57	56	58
1b	74	89	103	Cx II	93	91	84
2b	38	35	41	Ta III (L)	182	183	184
3b	58	54	66	Ta III (H)	19	21	20
GL	239	227	237	Ti III	346	333	355
PsFd	90	88	97	Ge III	165	160	176
PsGd	59	58	70	Tf III	152	149	154
PaFe (L)	58	56	67	Bf III	127	125	123
PaFe (W)	47	44	43	Tr III	49	49	57
PaGe (L)	79	77	76	Cx III	97	94	94
PaGe (W)	20	19	20	Leg I	1001	974	998
PaTi (L)	31	30	23	Leg II	864	851	884
PaTi (W)	16	14	15	Leg III	1118	1093	1143
LX	30	30	32	IP	2983	2918	3025
OD	27	28	28				

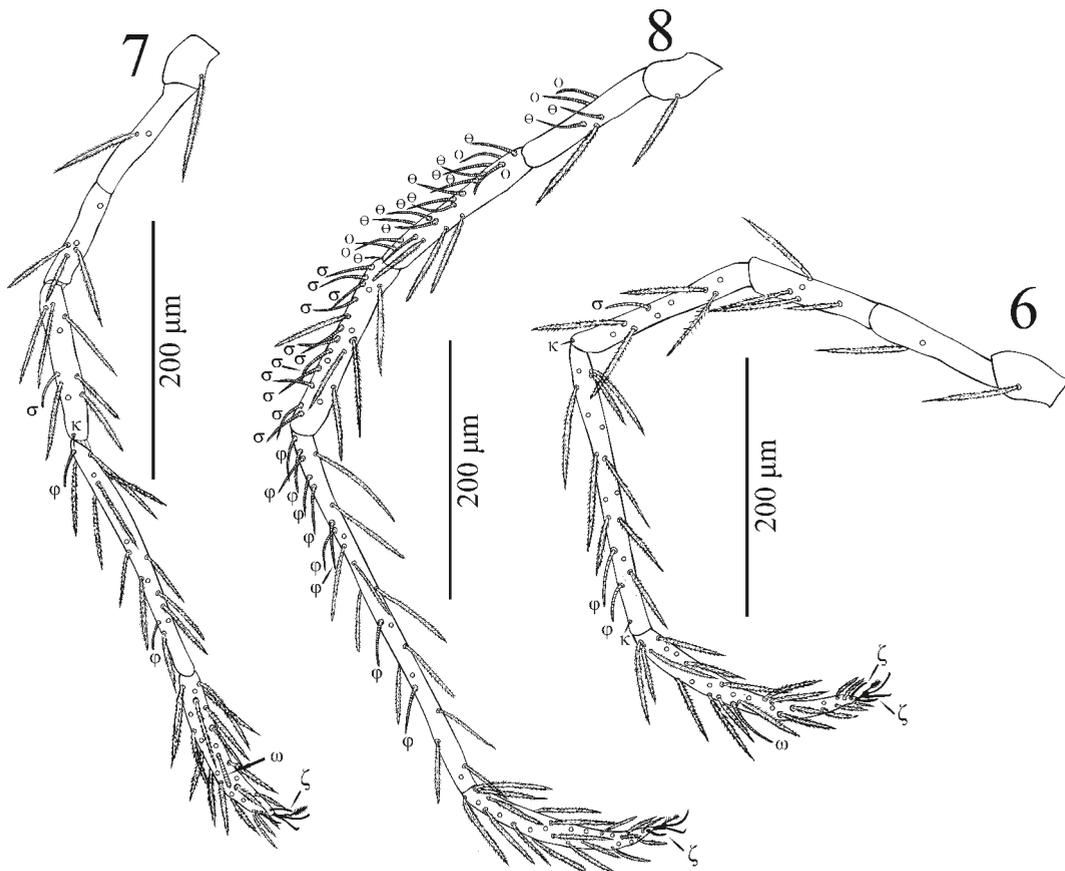


**Figs 1-5.** *Leptus (Leptus) candangus* spec. nov., larva: 1. Idiosoma, dorsal view; 2. Idiosoma, ventral view; 3. Scutum; 4. Gnathosoma, right side dorsal view, left side ventral view. 5. Palptarsus.

distributed along the entire stem. Posterior part of scutum with cuticular lines laterally.

Ventral surface of idiosoma with pair of barbed sternal setae *1a*, *2a* and *3a* ( $1a > 2a > 3a$ ) and four barbed intercoxal setae between coxae II and III. One coxala on each coxae I, II and III, coxala I the longest (Table 1). Coxalae I-III all barbed. Behind coxae III, 14 (16 paratypes) barbed setae 41-50  $\mu\text{m}$  (Fig. 2). NDV =  $54 + 14 = 68$  (holotype),  $48 + 16 = 64$  (paratypes).

Gnathosoma narrow and cone-shaped, 227-239 long with smooth and pointed galealae (*cs*) and two pairs of nude hypostomalae. Posterior hypostomalae (*bs*) with fine setules. Anterior hypostomala (*as*) smooth, simple and pointed. Palp femur and palp genu each with one setulose seta. Palp tibia with two barbed setae and one smooth spine-like seta located close to odontus base. Palptarsus with seven setae, four setae nude (including  $\omega$  and  $\zeta$ ) and four setae barbed (Fig. 4-5).



Figs 6-8. *Leptus (Leptus) candangus* spec. nov., larva: 6. Leg I; 7. Leg II; 8. Leg III.

fPp = 0-B-B-BBB-4B2N + solenidium and eupathidium.

Leg segmentation formula: 7-7-7.

Leg setal formula:

Leg I (paratypes in paranthesis): Ta 1 $\omega$ , 2 $\zeta$ , 27 (27, 26)B; Ti 2 $\phi$ , 1 $\kappa$ , 14B; Ge 1 $\sigma$ , 1 $\kappa$ , 8B; Tf 5B; Bf 2B; Tr 1B; Cx 1B (Fig. 6).

Leg II: Ta 1 $\omega$ , 1 $\zeta$ , 25B; Ti 2 $\phi$ , 15 (14, 15)B; Ge 1 $\sigma$ , 1 $\kappa$ , 8B; Tf 5B; Bf 2B; Tr 1B; Cx 1B (Fig. 7).

Leg III: Ta 1 $\zeta$ , 26 (25)B; Ti 9 $\phi$  (7, 7) (right leg), 7 $\phi$  (7, 8) (left leg), 15 (14, 15)B; Ge 11 $\sigma$ , (12 right leg, 13 left leg, 11)8B; Tf 15 $\theta$  (12 right leg, 14 left leg, 13) 4B; Bf (right leg) 4 $\theta$  (left leg) 3 $\theta$ , (3, 3)1B; Tr 1B; Cx 1B (Fig. 8).

IP = 1001 + 864 + 1118 = 2983 (holotype), IP = 974 + 851 + 1093 = 2918 (paratype 1); IP = 998 + 884 + 1143 = 3025 (paratype 2).

Measurements for the holotype and paratypes are given in Table 1.

**Etymology.** The specific epithet *candangus* refers to “candango”, the name given to the workers that contributed to Brazilian federal district construct.

**Remarks.** *Leptus (Leptus) candangus* spec. nov. belongs to the group of *Leptus* species with presence of multiple solenidia on the genua III. This feature can be found only in two species of the genus *Leptus*: *Leptus (L.) comosus* Southcott, 1991 and *Leptus (L.) multisolenidia* Mayoral & Barranco, 2011 (Southcott 1991, Mayoral & Barranco 2011). Moreover, this species has unique features among other *Leptus* species in presence of solenidia on Bf III. It differs from *Leptus (L.) comosus* by Bf I-III (2-2-1 vs. 3-2-2), number of solenidia on Ge I-III (1-1-(11-13) vs. 2-4-6), number of solenidia on Tf I-III (0-0-(12-15) vs. 3-4-7), number of solenidia on Bf III (3-4 vs. absent), by the longer W (119-125 vs. 95-105), AL (72-79 vs. 52-61), PL (76-86 vs. 43-52), Ge I (163-169 vs. 96-107), Ti I (250-265 vs. 118-138), Ta I (192-201 vs. 106-125), Ge II (128-137 vs. 84-98), Ti II (215-233 vs. 108-125), Ta

II (158–165 vs. 93–115), Ge III (160–176 vs. 90–113), Ti III (333–355 vs. 158–186); from *L. (L.) multisolenidia* by number of solenidia on Ti III (7–9 vs. 5–6), Ge I–III (1, 1, 11–13 vs. 2, 2–3, –7–9), number of solenidia on Tf III (12–15 vs. 6–7), number of solenidia on BFe III (3–4 vs. absent), by the longer Ti III (333–355 vs. 285–321), *1a* (61–66 vs. 54), *3a* (50–56 vs. 45), by PSE (80–91 vs. 108), fV (14–16 vs. 19–20), *cs* (27–29 vs. 22), AP (16–20 vs. 27–29), GL (227–239 vs. 243–247), palptarsus with 4B2N vs. 3B3N.

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