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**A NEW SPECIES OF *CARABOACARUS* (ACARI:  
CARABOACARIDAE) FROM *CALOSOMA ARGENTINENSE*  
(CARABIDAE) FROM CHILE**

Robert W. Husband<sup>1</sup>

ABSTRACT

*Caraboacarus calosomae* n. sp. is described from *Calosoma argentinense* Csiki collected in Santiago, Chile. This is the first record of this genus in South America. The genus is recorded from North America, Europe, Asia, and Guadalcanal Island in the Pacific Ocean.

In the process of examining beetles for parasitic mites of the family Podapolipidae, an undescribed species of *Caraboacarus* was discovered. *Caraboacarus calosomae* n. sp. is described from *Calosoma argentinense* Csiki (Carabidae) collected in Santiago, Chile. *Caraboacarus* spp. were discussed in Husband and Husband (1984). There are no previous records of this genus in South America.

Mites were examined with the aid of a Wild-Heerbrug phase-contrast microscope with a drawing attachment. All measurements are given in micrometers. Terminology follows that of Lindquist (1976, 1977).

*Caraboacarus calosomae* **new species**

Female (Figs. 1,2). Gnathosoma length 38, width 66. Dorsal setae 23, antero-ventral setae 8, postero-ventral setae 10 (bent). Midventral gnathosomal setae stout and pointed, length 6. Palps inconspicuous, palpal setae always bent, basal segment seta about 30, distal segment seta about 22. Cheliceral stylets 20 (at angle).

Idiosoma. Length 263, width 180.

Dorsum. Prodorsal plate broader than long, setae  $v_1$  32,  $sc_1$  52. Bothridial setae club-like and smooth (no spines), 24. Conspicuous stigmata lateral and ventral to setae  $v_1$ .

Plate C divided, median plate wider than long, setae  $c_1$  about 35 (broken);  $c_2$  133, on separate lateral plates. Setae  $d$  33 (broken). Plates E, F fused, setae  $c$  10 (broken), setae  $f$  33 (broken). Plate H with two pairs of setae, setae  $h_1$  and  $h_2$  about 18.

Venter with apodemes well developed. Coxae I with large indistinct circular concavities,  $la$  setae 14. Coxae 2a pointed and stout 10, 2b 38. Setae 3a 23, 3b 20 (broken), 3c pointed and stout 9. Setae 4a pointed and stout 7, 4c blunt and stout 8, setae 4b thin 32. Adgenital setae 11. Opisthosoma extending well beyond base of tibiotarsus IV.

Legs. Leg segment setal numbers as in Table 1. Leg I slightly shorter and thinner than legs II-IV, without conspicuous ambulacrum or claws. Femur I setae  $v'$  pointed and stout. Tibia seta  $\Phi$  12, adjacent seta  $k$  5. Tarsus solenidion  $\omega$  9. Leg II with a thick blunt femur  $l'$  seta, seta  $\Phi$  shorter and more slender than seta  $\omega$ . Claws and ambulacrum well developed. Leg III with trochanter setae 27, setae  $\Phi$  5, claws and ambulacrum well

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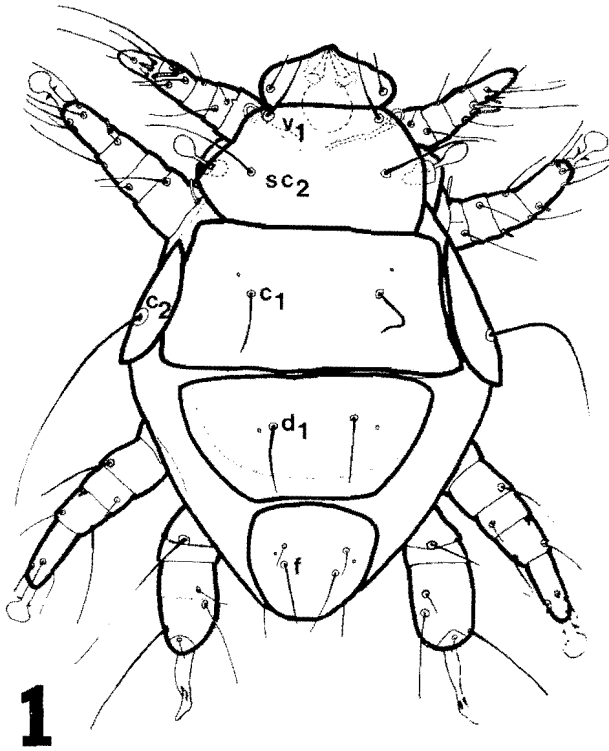


Fig. 1. *Caraboaecarus calosomae* n. sp., dorsal aspect.

developed. Leg IV with tibia and tarsus fused, no solenidium but with a broad blade-like seta 88 in length. Ambulacrum developed but claws not well developed.

Type data: Holotype, non-gravid female: Chile, Santiago, September 1968, from *Calosoma argentinense* Csiki (Carabidae) collector unknown. Deposited in the Museum of Zoology, University of Michigan, Ann Arbor, Michigan, U.S.A. (RWH096885-1).

Paratype, non-gravid female, same host data as holotype. Deposited in the collections of Adrian College, Adrian, Michigan (RWH096885-2).

**Diagnosis.** *C. calosomae* has pointed setae 2a and 3c whereas these setae are blunt and rounded in *C. stammeri*, *C. karenae* and *C. towsleyi*. The idiosoma of *C. calosomae* is larger than any described *Caraboaecarus*. Setae  $c_2$  are distinctly longer than  $c_1$  setae of other species. The club of the bothridial seta is without spines. Additional differences in proportions and setal lengths are noted in Table 2.

**Discussion.** *Caraboaecarus* was erected by Krczal (1959) for *Caraboaecarus stammeri*. Mahunka (1970) erected the family Caraboaecaridae to include *C. stammeri*. Nickel and Elzinga (1969) described the second species, *C. karenae* from Michigan and Kansas. Kurosa (1980) reported *C. stammeri* from Japan. Husband and Husband (1984) reported *C. stammeri* from China and described *C. towsleyi* from Guadalcanal Island. The record of *C. calosomae* from S. America, the first record from this continent, is an indication that the genus may be worldwide in distribution in association with Carabidae. Only the adult female stage of *Caraboaecarus* spp. has been collected.

Table 1. Total setae and solenidia on leg segments of *Caraboacarus calosomae*.

	Coxa	Trochanter	Femur	Genu	Tibia	Tarsus
Leg I	1	1	4	3	7	11
solenidion					1	1
Leg II	2	1	3	3	4	7
solenidion					1	1
Leg III	3	1	2	3	4	7
solenidion					1	0
Leg IV	3	1	2	2	Tibiotarsus IV	
solenidion					11	0

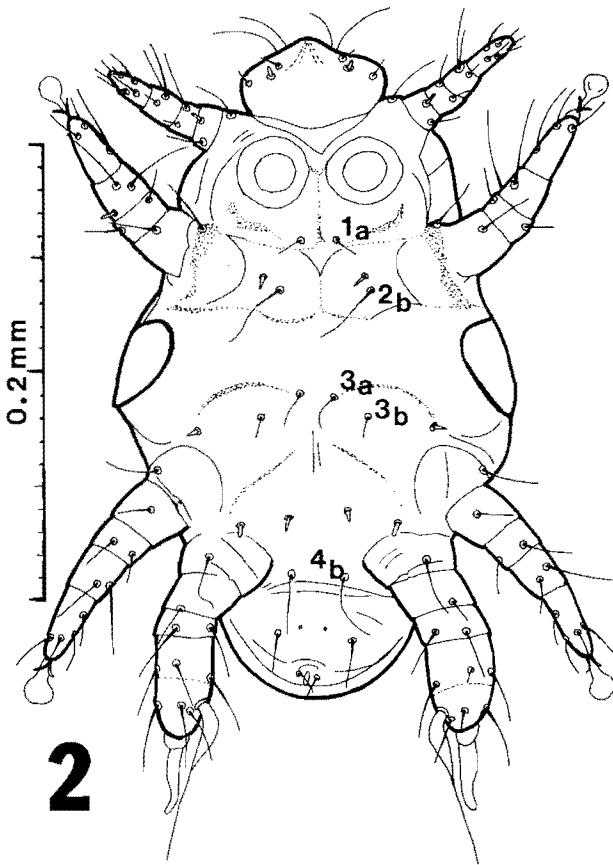


Fig. 2. *Caraboacarus calosomae* n. sp., ventral aspect.

Table 2. Comparison of measurements of *C. calosomae* with *C. stammeri*, *C. townsleyi* and *C. karenae*.

	<i>C. calosomae</i>	<i>C. stammeri</i>	<i>C. karenae</i>	<i>C. townsleyi</i>
Idiosoma Length	258.5	170	188.8	163.8
Idiosoma Width	173	124	132.6	114
Gnath. Width	65.5	64	61.2	62
Gnath. Length	37.5	30	30.2	24.8
Chel. Length	19 <sup>a</sup>	25	27.3	22
Dors. Gn. Setae	21.5 <sup>a</sup>	26	23.8	18.5
Bothridial Setae	24	27	22.8	18
Setae V <sub>1</sub>	32	28	25.5	17.8
Setae SC <sub>1</sub>	50	46	42.5	21.5
Setae C <sub>1</sub>	35 <sup>b</sup>	34	31	18
Setae C <sub>2</sub>	136	104	93.8	48
Setae d	33 <sup>b</sup>	37	32.6	19.5
Setae f	33 <sup>b</sup>	33	29	21
Coxae 1a Setae	14	12	12.6	7
Coxae 2b Setae	38	23	21.3	10.6
Coxae 3a Setae	23	22	21.2	8
Coxae 3b Setae	20 <sup>b</sup>	20	20.4	8.4
Coxae 4b Setae	32	18	20	10
Troch. III Setae	33	30	263	15.2
Tarsus IV	88	64	58.5	36.4
Longest Setae				
Tibia I	12	12	11	8
Solenidion $\phi$				

<sup>a</sup>Structure not flat, at an angle<sup>b</sup>Part of setae broken off

## ACKNOWLEDGMENT

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