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TWO NEW SPECIES OF CIRCOCYLLIBA (ACARI : UROPODINA) AND RANGE EXTENSIONS FOR PREVIOUSLY DESCRIBED SPECIES

BY Richard J. ELZINGA

CIRCOCYLLIBA N. SPP.
TAXONOMY
DISTRIBUTION
ARMY ANTS

ABSTRACT: Two new species of Circocylliba from neotropical army ants are described. A key to the known species is presented. Geographic ranges for three species are significantly extended.

CIRCOCYLLIBA N. SPP.
TAXONOMIE
VERBREITUNG
WANDERAMEISEN


CIRCOCYLLIBA N. SPP.
TAXONOMIE
DISTRIBUTION
FOURMIS
COMBATTANTES

RÉSUMÉS: Deux espèces nouvelles de Circocylliba trouvées sur des fourmis combattantes néotropicales sont décrites. Une clé des espèces connues est présentée. Les répartitions géographiques de trois espèces sont significativement étendues.

The genus Circocylliba was first described by SELLNICK (1926) from army ant hosts collected in southeastern Brazil. Only a single species, C. camarata, was described but "greater" and "lesser" individuals were noted. The "greater" forms were subsequently described as a new species, C. brachychaeta, by ELZINGA and RETTENMEYER (1974) and an additional 6 species were described from Central and South American collections.

Presently, all described species have dorsa moderately to extensively enlarged or arched (Fig. 1). Circocylliba with only minor arcing (Fig. 2) have been found, and two new species with this characteristic are described herein. These two "flattened" species may be separated from one another by their overall length (more than 1,000 μm in C. dulcius), by the number and morphology of the large dorsal setae, and by the anal plate dimensions.

A key is included for convenience in distinguishing the known species.

Circocylliba dulcius n. sp.

Female

Overall length 1,035 to 1,060 μm; other measurements listed in Table 1.

Dorsum: low arched (Fig. 2); punctuation weak; with 94 to 96 paired and 0 anterior unpaired large setae of moderate length (150 to 180 μm), evenly dispersed, flattened, apically notched with tines greatly unequal in length and distantly separated (Fig. 4); no greatly lengthened, unnotched setae; 31 to 32 small setae in inner submarginal row (ELZINGA & RETTENMEYER 1974) and 60 to 65 in marginal row; 2 posterior rows of mushroom setae (ELZINGA & RETTENMEYER 1974), anterior row of 4 on posterior margin of dorsal shield and posterior row of 8 behind dorsal shield margin in crescent-shaped area.

1. Contribution No. 93-7-J from the Kansas Agricultural Experiment Station; Manhattan, Kansas 66506; U.S.A.
2. Department of Entomology; Kansas State University; Manhattan, Kansas 66506; U.S.A.

### Table 1: Measurements (in μm) of new Circocylliba

<table>
<thead>
<tr>
<th>Measurements</th>
<th>C. dulcius (5 2, 4 3)</th>
<th>C. esenbecki (4 2, 2 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Specimens Measured</td>
<td>Range</td>
<td>5</td>
</tr>
<tr>
<td>Body length</td>
<td>1,035-1,050</td>
<td>975-1,005</td>
</tr>
<tr>
<td>Length anterior sternal shield to genital plate</td>
<td>60-74</td>
<td>181-193</td>
</tr>
<tr>
<td>Length anterior sternal shield to posterior genital shield</td>
<td>262-286</td>
<td>317-341</td>
</tr>
<tr>
<td>Length anterior sternal shield to posterior edge anal plate</td>
<td>654-706</td>
<td>629-676</td>
</tr>
<tr>
<td>Width sternal shield anterior to Coxae II</td>
<td>167-183</td>
<td>162-174</td>
</tr>
<tr>
<td>Length genital plate, including flange in male</td>
<td>190-219</td>
<td>55-57</td>
</tr>
<tr>
<td>Width genital plate, including flange in male</td>
<td>148-174</td>
<td>60-67</td>
</tr>
<tr>
<td>Length ventral plate</td>
<td>309-319</td>
<td>229-249</td>
</tr>
<tr>
<td>Width ventral plate</td>
<td>388-455</td>
<td>390-414</td>
</tr>
<tr>
<td>Length anal plate</td>
<td>74-98</td>
<td>83-98</td>
</tr>
<tr>
<td>Width anal plate</td>
<td>52-69</td>
<td>62-76</td>
</tr>
<tr>
<td>Length lateral plates</td>
<td>228-245</td>
<td>202-231</td>
</tr>
<tr>
<td>Width lateral plates</td>
<td>81-131</td>
<td>79-90</td>
</tr>
<tr>
<td>Dorsal setal length</td>
<td>150-180</td>
<td>136-171</td>
</tr>
</tbody>
</table>

*Venter* (Fig. 3): sternal shield as in all *Circocylliba*; genital plate broadly meeting ventral plate; ventral plate wider than long, 3rd pair of ventral setae nearly as long as lst 2 pairs; anal plate longer than wide, 3 short anal setae present; lateral plates each with 3 long setae; no reticulation on sternal, ventral, genital, lateral, or anal plates.

*Legs*: setae on trochanter I not plumose; ventrolateral terminus of tarsus I sharply pointed.

*Gnathosoma*: largest trochanteral seta of palp with 5 ventral barbs; distal hypostomal setae with 3 barbs, 2nd with 5 to 6 barbs, 3rd elongate and with 5 to 7 barbs; gnathosomal setae short, with 10 to 13 barbs; 1 row of deutosternal teeth, 6 in number.

**Male**

Body similar to female but slightly smaller, 975 to 1005 μm; other measurements in Table I.

**Types**


This species is named after the host species of army ant.

*Circocylliba esenbecki* n. sp.

Measurements are recorded in Table I. Agrees with the description of *C. dulcius* except as follows:

**Female**

*Dorsum*: with 116 to 118 paired dorsal setae, shorter in length (60 to 120 μm) and wider than *C. dulcius*, tips with one tine only slightly displaced from tip (Fig. 5); 74 to 77 short marginal setae.

*Venter*: with sternal shield disproportionally wide just anterior to coxae II; genital plate more narrowed at posterior base (about 3/4 maximal plate width); ventral plate wider than long; anal plate enlarged and wider than long (Fig. 6); lateral plate size smaller.
Legs: ventral terminus of tarsus I not pointed.

Gnathosoma: largest trochanteral seta of palp with 7 to 9 barbs; hypostomal setae shortened, 3rd seta with 4 to 7 barbs; gnathosomal seta with 9 to 12 barbs.

**Male**

Similar to female but slightly smaller.

**Types**


The species is named after the host species of army ant.

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**KEY TO THE SPECIES OF *CIRCOCYLLIBA***

1. Anterior notch present; size less than 500 µm; from *Labidus* **minuta** Elzinga & Rettenmeyer
   Anterior end uniformly rounded; size more than 700 µm .......................... 2

2. Greatly elongate dorsal setae present .......... 3
   Greatly elongate dorsal setae absent .......... 5

3. Body length more than 1,100 µm; more than 10 setae per lateral plate .......................... 4
   Less than 1,000 µm in length; each lateral plate with 3 setae ........... *oligochaeta* Elzinga & Rettenmeyer

4. More than 250 dorsal setae present; 5 setae on anal plate ........... *crinita* Elzinga & Rettenmeyer
   Fewer than 200 dorsal setae; 3 setae on anal plate .......... *equadoriensis* Elzinga & Rettenmeyer

5. Body flattened (Fig. 2) .................. 6
   Dorsum moderately arched (Fig. 1) ............ 7

6. Anal plate longer than broad (Fig. 3); fewer than 100 large dorsal setae; tines of dorsal setae distinctly separated (Fig. 4) ........... *dulcis* n. sp.
   Anal plate enlarged, wider than long (Fig. 6); 116 large dorsal setae; tines of dorsal setae not distinctly separated (Fig. 5) ........... *esenbecki* n. sp.

7. Body length 850 to 990 µm ........................

   ........... *brachychaeta* Elzinga & Rettenmeyer
Fig. 3-4: *Circocyliba dulcis* n. sp., female venter (3); tip of dorsal paired seta (4).

Fig. 5-6: *Circocyliba esenbecki* n. sp., tip of dorsal paired seta (5); female anal and lateral plates (6).
Body length less than 800 μm...................... 8
8. Anal plate subequal to longer than broad; more than 60 small marginal setae................. 9
    Anal plate broader than long; less than 60 small marginal setae ...................... camarata Sellnick
9. With 125 large setae; 57 to 60 marginal setae; 3 ventral barbs on largest trochanteral seta of palp..... weberi Elzinga & Rettenmeyer
With 106 or fewer large dorsal setae; 63 to 66 marginal setae; 5 ventral barbs on largest trachanteral seta of palp....... ectionis Elzinga & Rettenmeyer

RANGE EXTENSIONS OF DESCRIBED CIRCOCYLLIBA

The following localities represent range extensions for three species of Circocylliba, all from the army ant carrier host Eciton hamatum, except as indicated (collectors' names are in parentheses). C. ectionis is now known from as far north as MEXICO: Oaxaca (T. C. SCHNEIRLA); MEXICO: Vera Cruz, with E. burchelli as host (T. C. SCHNEIRLA); GUATEMALA: Tikal (D. H. & A. C. KISTNER); to as far south as PERU: Tambopata Wildlife Reserve (D. H. Kistner); ECUADOR: Limoncocha, with E. rapax and E. mexicanum also as hosts (C. W. & M. E. RETTENMEYER). C. equadoriensis is now known from as far east as BRAZIL: Para, with E. burchelli as the host carrier (N. DEGALLIER). C. weberi is now known from as far west as ECUADOR: RIO Palenque (D. H. & A. C. KISTNER).

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