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DESCRIPTION OF A NEW GENUS
AND OF TWO NEW SPECIES OF PHYTOSEIID MITES
(PARASITIFORMES, PHYTOSEIIDAE), COLLECTED IN CHILE

by Salvatore RAGUSA
(Accepted July 2003)

SUMMARY: The new genus Rubuseius with its type species R. aristoteliae n. sp. as well as Typhlodromus nerudensis n. sp., are described and illustrated.

RÉSUMÉ: On donne la description et l’illustration du genus novum Rubuseius avec l’espèce type R. aristoteliae n. sp. et de Typhlodromus nerudensis n. sp.

INTRODUCTION

During a survey carried out in Chile of the phytoseiid mites associated with cultivated and wild plants (RAGUSA, VARGAS, 2002), among the known species, a new genus and two new species were also found. Those are here described and illustrated.

Materials and Methods

Specimens, collected by shaking method described by TSOLAKIS and RAGUSA (1999), were preserved in 70% alcohol, cleared in Nesbitt’s solution and mounted in Hoyer’s fluid. The mites were identified by means of an interference contrast microscope. The dorsal and ventral organotactic and insemination apparatus terminology follows ATHIAS-HENRIOT (1969, 1975). The dorsal and ventral setal notations follow ROWELL, CHANT and HANSELL (1978) and CHANT and YOSHIDA-SHAUL (1992).

RUBUSEIUS genus novum

Type species Rubuseius aristoteliae n. sp.

Insemination apparatus (Fig. 1): Receptaculum slightly differentiated; adductor duct quite long, at least more than 3.5 times the length of calyx, almost cylindrical, flaring towards receptaculum; accessus not well discernible; atrium small, inserted in the calyx; calyx oblong, bell shaped, thick walled, longer than wide; embolus prominent as well as the spermatic channel.

Related characters: Dorsal shield (Fig. 2) coriaceous, faintly ornamentated with a few ridgelets on anterior and posterior half of shield; region between setae j4, j5, z5 and j6 characterised by some rounded

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The genus *Evansoseius* SHEALS (1962), recently redescribed by CHANT and McMURTRY (2003), also has setae J1 and J4, but it differs from *Rubuseius* genus novum because the insemination apparatus has a different shape (see CHANT & McMURTRY p. 8 Fig 399) and all the related characters are, therefore, different.

**Rubuseius aristoteliae** n. sp.

Female: measurements of setae (in microns; 9 females): j1= 37 (34-39); j4, z5= 26 (24-29); j5=28 (24-31); j6= 57 (53-61); J2= 57 (51-65); J1= 57 (55-61); J4= 43 (37-50); J3= 48 (45-50); z2= 40 (38-43); z4= 62 (59-63); s4= 66 (61-69); Z1= 56 (54-58); S2= (58-62); S4, S5= 42 (37-47); Z5= 106 (101-109); Z4= 103 (100-106); r3= 27 (25-30); R1= 30 (27-33); JV5= 59 (54-64); STIV= 38 (33-41). Ratio Z5/Z4=1.02 Ratio length/width of opisthogastral shield = 1.15. Inguinal sigillum= 29 (28-30); Lva= 127 (123-132); Lva preanal= 110 (106-116); distance between the solenostomes gv3= 17 (15-20); dorsal shield= 370 (358-390).
Fig. 2: *Rubusius* n. genus *aristoteliae* n. sp. — Dorsal shield of female.
Male: smaller than female; opisthogastral shield (Fig. 4) subpentagonal, very faintly striated, with six pairs of setae; cingulum absent; spermato-stylus penile, with toe swollen, heel vestigial (Fig. 5).

Type locality and habitat: Holotype (RCH 2259 A(1) from Rubus ulmifolius at Chiloé, Chonci, February 13, 1997. Allotype male (RCH 2259 A(2) as well as three additional paratype females were collected at Valdivia, on Aristotelia chilensis, February 11, 1997. Five paratype females, same date as holotype; one paratype female collected at Chiloé, Dalcahue on Aetoxicon punctatum, February 13, 1997. All the material was collected by R. Vargas.

Derivatio nominis: the genus and the species are named after the plants on which the specimens were collected.

**Typlodromus nerudensis** n. sp.

Insemination apparatus (Fig. 6): In all collected specimens the insemination apparatus is not clearly seen as it is shrunken, therefore receptaculum and adductor duct are not discernible. Calyx elongate digit shaped, thick walled all over; atrium prominent inserted in the calyx; embolus visible as well as spermatic duct, latter very long and slender, but fragile, therefore usually seems much shorter.

Dorsal shield (Fig. 7) elongate-oval, with waist mediolaterally, not strongly sclerotized but showing some irregular ornamentations, almost smooth behind the line connecting the base of setae S4 — Z4; meriadien species as 5 pairs of prominent, crateriform solenostomes are present, gd1 and gd5 absent. Solenostomes gd2 almost equidistant to z3 and s4;
smooth, except for Z5 and Z4 which are serrated; insertions of setae S4 and Z4 almost transversely aligned; ratio $Z5/Z4 = 1.2$. Poroides present but not all discernible (Fig. 7); muscle marks depicted in Fig. 7. Apex of peritreme reaching bases of setae j1 (Fig. 7).

Sternal shield smooth, not strongly sclerotized, almost as long as wide, carrying two pairs of setae and two pairs of poroides; ST3 tylochorous, detached from it; posterior margin of the shield with a prominent lobe. Epigynium flask shaped, with straight posterior margin, narrower than opisthogastral shield.

Opisthogastral shield (Fig. 8) slightly elongate, with convex anterior and concave lateral margins; the shield is smooth, not strongly sclerotized and carries four pairs of preanal setae; solenostomes $g_3$ present, with a crescentic cristule forming a small tectum, prominent and posteroparaxial to JV2; preanal sigilla situated between solenostomes $g_3$.

Movable digit of chelicerae with three teeth, position of fixed digit renders counting of teeth impossible; basitarsus IV carries a short macroseta slightly knobbed or blunt.

Measurements (in microns): $j_1 = 21.5$ (20-22); $j_4 = 16.5$ (15-18); $j_5 = 17$ (16-19); $j_6 = 22$ (21-24); $J_2 = 23$ (21-25); $j_3 = 19$; $z_2 = 20$ (19-22); $z_3 = 22$ (19-25); $z_4 = 23$ (22-25); $s_4 = 25$ (22-27); $s_6 = 26$ (24-29); $S_2 = 27$ (25-30); $S_4 = 27$ (24-31); $S_5 = 19$ (17-21); $Z_5 = 44$ (38-48); $z_5 = 19$ (18-20); $Z_4 = 29$ (26-33); $r_3 = 20.5$ (20-21); $R_1 = 24$ (23-26); $J V_5 = 34$ (31-37); $S t_4 = 26$ (24-28); $L v_a = 117$ (116-120); $L v_a$ preanal = 78 (74-81); $D_s = 343$ (334-359); inguinal sigillum = 27.5 (27-28)

Male smaller than female; opisthogastral shield (Fig. 9) subtriangular, slightly striated, carrying four pairs of preanal setae; cingulum absent; spermatostylus simple reported in Fig. 10.

**Relation to other species:**

*Typhlodromus nerudensis* n. sp. closely resembles *Mumaseius evectus* Schuster (1966) and *Typhlodromus subequalis* Wu (1988). It differs from the former by having a macroseta on tarsus IV (absent in *evec-tus*), thinner and shorter setae, especially $J_2$, $j_3$. $S_5$ (see Table 1). It differs from the latter by having 5
Fig. 7: *Typhlodromus nerudensis* n. sp. — Dorsal shield of the female.
Typhlodromus nerudensis n. sp. — Opisthogastral shield of the female.

Typhlodromus nerudensis n. sp. — Opisthogastral shield of the male.

Typhlodromus nerudensis n. sp. — Spermatostylus.

**Table 1**: Biometric differences between *Typhlodromus nerudensis* n. sp. and related species.

<table>
<thead>
<tr>
<th></th>
<th><em>T. nerudensis</em> n. sp.</th>
<th><em>M. evectus</em></th>
<th><em>T. subequalis</em></th>
</tr>
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<tbody>
<tr>
<td>J2</td>
<td>21-25</td>
<td>34</td>
<td>20-22</td>
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<tr>
<td>j3</td>
<td>19</td>
<td>28</td>
<td>28</td>
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<td>S5</td>
<td>17-21</td>
<td>29</td>
<td>32-38</td>
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<tr>
<td>Z5</td>
<td>38-48</td>
<td>—</td>
<td>57-65</td>
</tr>
<tr>
<td>Z4</td>
<td>26-33</td>
<td>45</td>
<td>—</td>
</tr>
<tr>
<td>JV5</td>
<td>31-37</td>
<td>—</td>
<td>40-45</td>
</tr>
</tbody>
</table>

Pairs of solenostomes on dorsal shield, shorter macroseta and dorsal idiosomal setae, the shortest being j3, S5, Z5, JV5 (see Table 1). Moreover, the n. sp. has a smooth opisthogastral shield, three teeth on movable digit, while the shield is striated, and the movable digit has two teeth in *subequalis*. Ratio length/width = 1.5 in the n. sp. and 1.2 in *evectus* and *subequalis*. 
Type locality and habitat: Holotype (RCH 2260 A (1) on Prosopis tamarugo at Canchones on October, 27, 1999. Allotype male (RCH 2260 C (1) and twenty two paratype females, same data as the holotype; an additional paratype female was collected on Morus sp. at Catapilco on November, 23, 1999.

Derivatio nominis: the species is named in honour of Pablo Neruda, the great Chilean poet.

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