

A NEW RUSSELLIANA SPECIES (HOMOPTERA: PSYLLIDAE)
ON ADESMIA (LEGUMINOSAE)

DANIEL BURCKHARDT¹

ABSTRACT

Russelliana adesmiae sp. n. from Chile is described and illustrated. Its relationship to other species of the genus are discussed. *Adesmia* is the first host-record of *Russelliana* spp. not belonging to Solanaceae.

RESUMEN

Se describe una nueva especie de psilido para Chile: *Russelliana adesmiae* sp. n., complementándose la descripción con figuras ilustrativas. Se discuten sus relaciones con otras especies del género y se hace notar que *Adesmia* constituye el primer registro de huésped para el género, fuera de las Solanáceas.

INTRODUCTION

The Neotropical psyllid genus *Russelliana* Tuthill so far comprises 14 species (Burckhardt, 1987; Tuthill, 1959, 1964). Recorded host plants belong to the family Solanaceae, though, based on unidentified material, Burckhardt (1987) suspected that one species-complex (*R. maculata* Burckhardt, *punctulata* Burckhardt and *vinculipennis* Burckhardt) may be trophically linked to Leguminosae. This is now confirmed by recent findings of a new species on *Adesmia microphylla* (Leguminosae) whose description is given below. Even though there is no larval material, the repeated captures of adult specimens on *Adesmia* strongly indicate that this is the true host.

Russelliana adesmiae sp. n.
(Figs. 1-7)

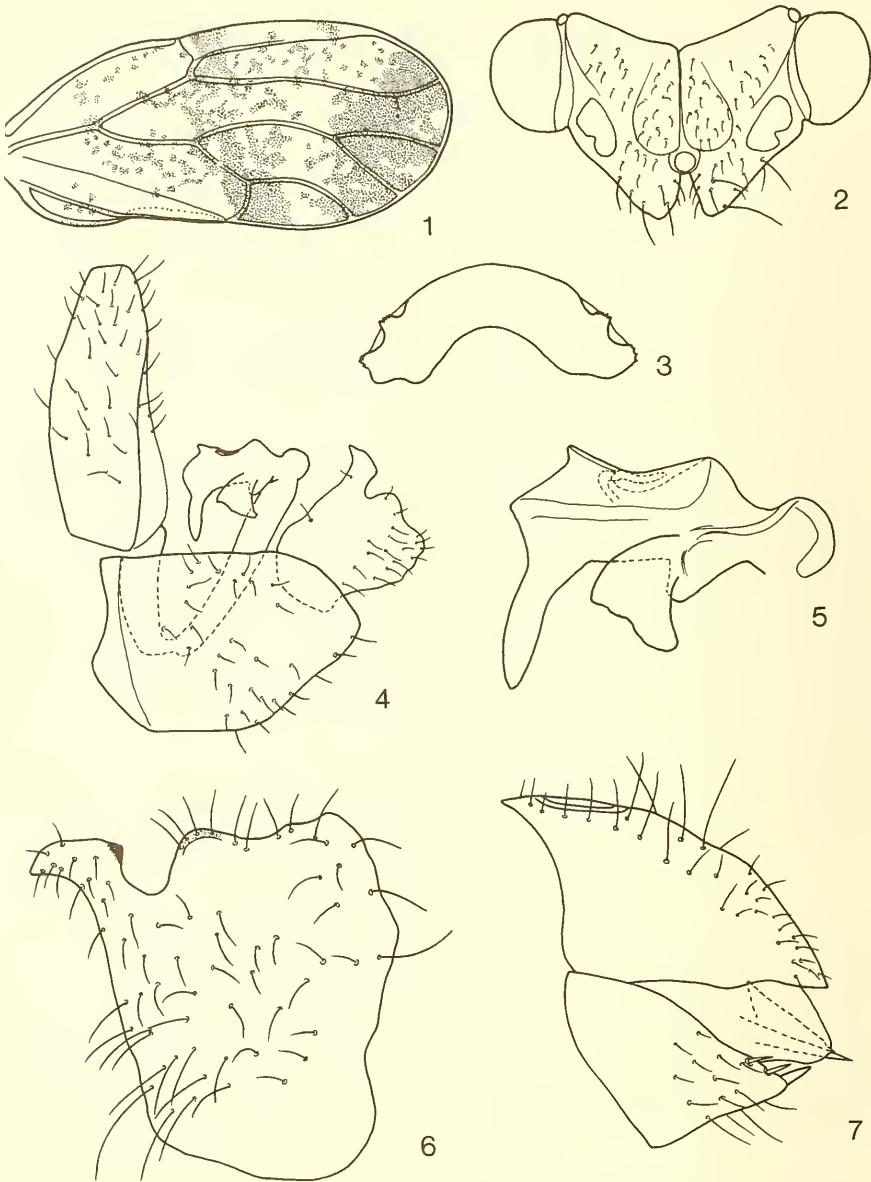
Description. *Adult.* *Coloration.* Head pale yellow with reddish brown foveae, and lateral and central parts of vertex. Coronal suture and frontal part of head almost black, genal processes pale yellow. Antennae light brown, apices of segments 3-8 and entire segments 9 and 10 black. Clypeus and labium dark brown to black. Thorax dark brown or almost black. Pronotum with 6 light spots, brown in the

middle. Mesopraescutum brown with light median, longitudinal stripe and light posterior margin. Mesoscutum with brown longitudinal stripes. Legs dark brown, tibiae slightly lighter, metacoxae ochreous apically. Forewings whitish with dark brown veins and brown, well-delimited pattern (Fig. 1) consisting of a transverse marginal band, a large patch in cell cu_{1a} , and scattered spots variable in size and arrangement. Hindwings whitish. Abdomen including terminalia dark brown to black. Teneral specimens with less expanded dark coloration.

Structure. Head inclined, in profile set at almost 90° to longitudinal axis of body. Vertex (Fig. 2) trapezoidal, with broad, flat humps on anterior margin and raised hindmargins; genal processes subacute apically. Antennal rhinaria covered by a wreath of spines. Pronotum (Fig. 3) with 2 tubercles on either side. Metatibiae with 6-7 apical spurs. Forewings (Fig. 1) oval; surface spinules present in all cells, covering the whole surface apart from a narrow band along vein $R+M+Cu_1$ in cell $c+sc$; spaced densely and irregularly. Terminalia as in Figs. 4-7. Parameres broad, with anterior-apical process, and strongly sclerotized hump in the middle of the apical margin, posterior lobe relatively small with almost straight hindmargin. Distal segment of aedeagus with long and thick apical hook. Dorsal margin of female proctiger weakly curved; subgenital plate with narrow apical process and two thick spines on dorsal margin.

¹Département d'entomologie, Muséum d'Histoire naturelle, Case postale 434, CH-1211 Genève 6, Suisse.

(Recibido: 15 de octubre de 1986. Aceptado: 17 de octubre de 1986).



Figures 1-7. *Russelliana adesmiae* sp. n. 1, Forewing; 2, head, dorsal view; 3, pronotum, frontal view; 4, male terminalia, lateral view; 5, distal segment of aedeagus; 6, paramere, inner surface; 7, female terminalia, lateral view.

Measurements (in mm) and ratios (3♂, 3♀). Head width (HW) 0.57-0.60; antenna length including scape and pedicel (AL) 0.65-0.81; forewing length (WL) 1.58-1.69; male proctiger length (MP) 0.23-0.24; female proctiger length (FP) 0.30-0.33; paramere length 0.12-0.14; length of distal segment of aedeagus 0.10-0.11.

Genal cone length: vertex length ratio 0.48-0.55; AL: HW ratio 1.14-1.36; length of apical 2 labial segments: HW ratio 0.30-0.38, metatibia: HW ratio 0.63-0.70; WL: HW ratio 2.64-2.86; WL: forewing width ratio 2.12-2.24; basal width: height ratio of cell cu_{1a} of forewings 2.20-2.71; MP: HW ratio 0.39-0.41; FP: HW ratio 0.53-0.57; FP: circumanal ring length ratio 3.73-3.80; FP: subgenital plate length ratio 0.44-0.50; relative length of flagellar segments of antennae from base to apex 1 : 0.4 : 0.4 : 0.4 : 0.3 : 0.4 : 0.2 : 0.2.

Larva unknown.

Host plant. *Adesmia microphylla* H. et A. (Leguminosae).

Holotype ♂, Chile: IV. Región Coquimbo, Agua dulce, 22.V.1986, *Adesmia microphylla*, leg. J. Solervicens (Museo Nacional de Historia Natural, Santiago).

Paratypes. Chile: 5 ♂, 10 ♀, same as holotype; 1 ♂, same. 20.VIII.1985, *Bahia ambrosoides*; 1 ♂, 2 ♀, IV Región Coquimbo, N. Huentelauquén, 18.VII. 1985, *Adesmia microphylla*, leg. M. Elgueta; 10 ♂, 7 ♀, IV Región Coquimbo, Choapa, km 272 Panamericana Norte, 20.VIII.1985, *Adesmia microphylla*, leg. M. Elgueta; 3 ♂, 2 ♀, 1?, same, 19.XI.1985; 2 ♀, same, 12.XII.1985; 7 ♂, 6 ♀, same, 23.I.1986 (33 paratypes in Museo Nacional de Historia Na-

tural, Santiago, 12 in Universidad Metropolitana de Ciencias de la Educación, Santiago, 10 in Muséum d'Histoire Naturelle, Genève, and 2 in British Museum (Natural History), London).

Affinities. *Russelliana adesmiae* differs from all other described species of *Russelliana* in the structure of the terminalia and, to a lesser extent, in the pattern of the forewings and the arrangement of the surface spinules (Burckhardt, 1987). Based on the presence of a well-defined pattern of the forewings and the host-association to legumes, *adesmiae* belongs to the species-complex of *R. maculata*, *punctulata* and *vinculipennis*. In its broad wings, it resembles most *R. vinculipennis* from which it differs in the more extended wing-pattern, the broader parameres, the longer apical process of the distal segment of the aedeagus, and the shorter female terminalia.

ACKNOWLEDGEMENTS

I thank Dr. M. Elgueta (Santiago) for the loan of material and Miss A. Calverley (Manchester) for kindly correcting my English.

LITERATURE CITED

- BURCKHARDT, D. 1987. Jumping plant lice (Homoptera, Psyllodea) of the temperate neotropical region. Part 1. Psyllidae (subfamilies Aphalarinae, Rhinocolinae and Aphalaroidinae). Zool. J. Linn. Soc.: in press.
- TUTHILL, L.D. 1959. Los Psyllidae del Perú Central (Insecta: Homoptera). Rev. Peruana Ent. Agric., 2: 1-27.
- TUTHILL, L.D. 1964. Conocimientos adicionales sobre los Psyllidae (Homoptera) del Perú. Rev. Peruana Ent., 7: 25-32.