

## *Aculops lycopersici* Tryon, 1917, ácaro del bronceado del tomate en el extremo norte de Chile

*Aculops lycopersici* Tryon, 1917, Tomato Russet Mite in northern Chile

Germán F. Sepúlveda-Chavera<sup>1</sup>, Felipe Salinas Vásquez<sup>1</sup>,  
Mabel Arismendi Macuer<sup>1</sup>, Wilson Huanca Mamani<sup>1</sup>

### ABSTRACT

*The Aculops lycopersici* (Tryon, 1917) (Acari: Eriophyidae) (= Tomato russet mite), was reported for the first time on tomato (*Solanum lycopersicum* L.) in Arica, Chile. Its damage was described and its geographic distribution was expanded.

**Key words:** tomato russet mite, *Aculops*, Chile

### RESUMEN

Se reporta por primera vez al ácaro del bronceado del tomate (*Aculops lycopersici* (Tryon, 1917), en Arica, Chile. Se describe el daño y se amplía la distribución geográfica.

**Palabras clave:** ácaro del bronceado del tomate, *Aculops*, Chile.

*Aculops lycopersici* was described by the first time in 1917 in Queensland, Australia (Tryon, 1917). In 1962 (Rossi, 1962) was reported in Argentina. In 1970 it was recorded in Brazil (Fletcher and Aranda, 1970). It was also recorded in Venezuela by Cermeu and collaborators in 1982. All previous records were applied on tomato. The *Aculops lycopersici* presence was reported in cucumber (*Solanum muricatum* L.) in Ovalle (30 ° South; 71°16 West) Chile, by Larraín (2002). It was considered a cosmopolitan plague present in all areas, in which tomato and other solanaceae were cultivated between the 60° North latitude and 60° South latitude (Jeppson *et al.*, 1975; Magelhaes, 1982; Perring and Parrar, 1986). Duso and col. (2010), indicates that more than 24 host plants, were

distributed in the solanaceae, convolvulaceae and rosaceae family plants (Table 1), whereas Serrano (1991) reports damages in El Salvador. Anderson (1954), described the mite biological cycle and recounted an important tomato plague in California, and it was able to damage others solanaceae.

In June, 2014 a not reported previously damage was detected in Arica, Chile, it was a russet in fruits, stems and leaves of tomato cv Naomi, cultivated in Lluta's valley. The microscopic examination revealed the presence of mite colonies *Aculops lycopersici* (Tryon 1917), growing abundantly (Figure 1). The morphometric characteristics allow us, in an assure way, to identify the causal agent of the detected damage. This report is the first about mite affecting tomato in Arica and Parinacota region.

<sup>1</sup> Universidad de Tarapacá. Avda. General Velásquez 1775, Arica-Chile.

\* Corresponding Author: gsepulve@uta.cl

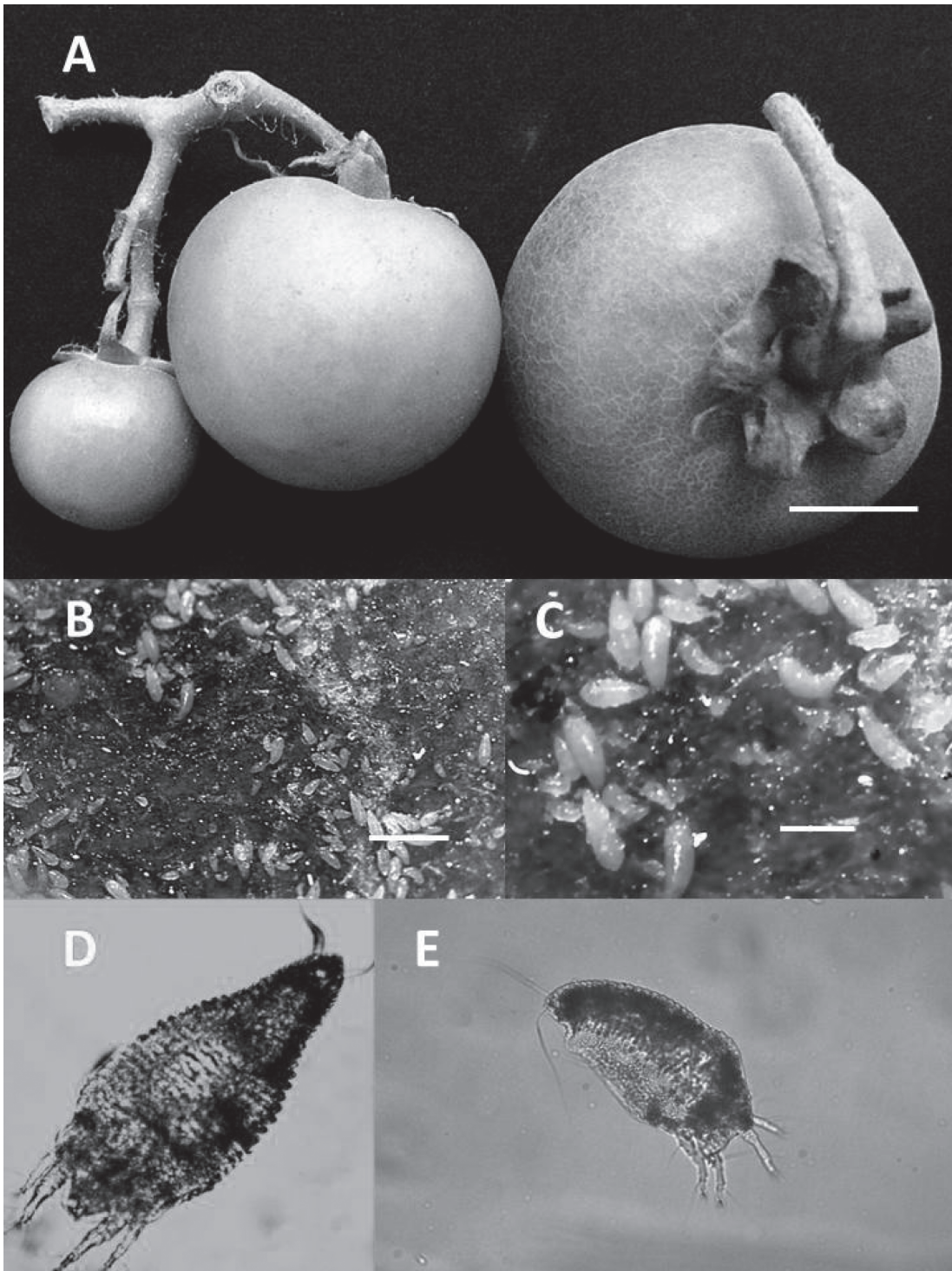


Figure 1. *Aculops lycopersici*. A: Damage (Russet) in tomato fruit. B y C: Tomato Russet Mite Colony in different development status on tomato leaf. D: Dorsal view. E: Lateral view. Barr= A: 150 mm; B: 500µ; C: 200µ; D y E: 50 µ.

Table 1. Host (Common Name), [Family], Reference.

<i>Browallia americana</i> L. (Jamaican Forget Me Not), <i>Browallia speciosa</i> Hook. (amethyst), <i>Capsicum frutescens</i> L. (hot pepper), <i>Capsicum annuum</i> L. (bell pepper), <i>Capsicum annuum</i> var. <i>annuum</i> L. (cherry pepper), <i>Datura ferox</i> L. (long-spined thornapple), <i>Datura innoxia</i> P.Mill. (thornapple), <i>Datura meteloides</i> Dunal. (tolguacha), <i>Datura quercifolia</i> Kunth (Chinese thorn apple), <i>Datura stramonium</i> L. (jimson weed), <i>Ipomoea batatas</i> (L.) (sweet potato), <i>Lycopersicon peruvianum</i> L. (wild tomato), <i>Lycopersicon pimpinellifolium</i> (L.) (red currant tomato), <i>Nicotiana tabacum</i> L. (tobacco), <i>Petunia hybrida</i> L. (Petunia), <i>Physalis peruviana</i> L. (poha (cape gooseberry)), <i>Physalis minima</i> Linn. (native gooseberry), <i>Physalis philadelphica</i> Lam. (tomatillo), <i>Solanum carolinense</i> L. (horse nettle), <i>Solanum melongena</i> L. (eggplant), <i>Solanum muricatum</i> Aiton (pepino), <i>Solanum nelsonii</i> Dunal. (popolo), <i>Solanum nigrum</i> L. (black nightshade), <i>Solanum nodiflorum</i> Jacq. (small flowered nightshade), <i>Solanum pseudocapsicum</i> L. (Jerusalem cherry), <i>Solanum sarrachoides</i> (Sendtner) (hairy nightshade), <i>Solanum tuberosum</i> L. (potato)	Solanaceae	Jeppson <i>et al.</i> , 1975; Özman-Sullivan & Öcal, 2005; Craemer 2002, Larrain, 2002
<i>Convolvulus arvensis</i> L. (field bindweed), <i>Ipomoea purpurea</i> L. (Morning Glory), <i>Pharbitis nil</i> L. (Morning Glory)	Convolvulaceae	Perring, 1996; Duso <i>et al.</i> , 2010; Anonymous, 2012, Hoy, 2011
<i>Ribes americanum</i> Mill. (tall wild blackcurrant), <i>Ribes hirtellum</i> Michx. (wild gooseberry), <i>Rubus caesius</i> L. (blackberry)	Rosaceae	Perring, 1996; Duso <i>et al.</i> , 2010

## Acknowledgements

We thanks Foundation for Agrarian Innovation (FIA) for their help through Project PYT-2012-0024 for financial support.

## Literature Cited

- Anonymous.  
2012. Tomato russet mite (*Aculops lycopersici*) Host plants/species affected. Available from: available at: <http://www.plantwise.org/?dsid=56111&loadmodule=plantwisdatasheet&page=4270&site=234>
- Anderson, L.  
1954. El tomate Russet acaro en los Estados Unidos. *Journal of Economic Entomology*, 47(6): 1001-1005.
- Cermeu, M.; Doreste, S.E.; Van Balen, L.  
1982. *Aculops lycopersici* (Masse 1937)(Acari:Eriophyidae) plaga del cultivo del tomate en Venezuela. *Rev. Fac. Agron.*, XII (3-4): 227-234.
- Craemer, C.  
2002. *Aculops lycopersici*, host notes. Available: [http://ecoport.org/ep?Arthropod=18684&entityType=AR\\*\\*\\*\\*&entityDisplayCategory=AR\\*\\*\\*\\*3000](http://ecoport.org/ep?Arthropod=18684&entityType=AR****&entityDisplayCategory=AR****3000)
- Duso, C.; Castagnoli, M.; Simoni, S.; Angeli, G.  
2010. The impact of eriophyoides on crops: recent issues on *Aculus schlechtendali*, *Calepitrimerus vitis* and *Aculops lycopersici*. *Journal Experimental and Applied Acarology*, 51(1-3): 151-168.
- Flechtmann, C.H.W. ; Aranda, B.R.  
1970. New record and notes on Eriophyid mites from Brasil and Paraguay, with a list of Eriophyidae from South America. *Proc. Soc. Wash.*, 72(1): 94-98.
- Jeppson, L.R.; Keifer, H.B.; Baker, E.W.  
1975. Mites injurious to economic plants. University of California Press. pp. 359-555.
- Hoy, M.A.  
2011. Agricultural acarology: Introduction to integrated mite management. CRC Press, Taylor and Francis Group, Boca Raton, London, New York.
- Larraín, P.  
2000. Incidencia de insectos y ácaros plagas en pepino dulce (*Solanum muricatum* Ait.) cultivado en la IV Región, Chile. *Revista Agricultura Técnica*, 62(1):15-26.
- Magalhaes Bastos, J.A.  
1982. Principais pragas das culturas seus controles. 2a. Ed. rev. Livraria Nobel: S.A. Sao Paulo. 210 pp.
- Özman-Sullivan, S.K.; Öcal, H.  
2005. Sebzelelerde Bulunan Eriophyoid Akarlar [Eriophyoid mites on vegetables]. GAP IV. Tarım Kongresi Bildirileri, Cilt 1, Şanlıurfa: 334-341.
- Perring, T.M. 1996. Vegetables. In: Lindquist EE, Sabelis MW, Bruin J, eds. Eriophyoid Mites - Their Biology, Natural Enemies and Control. *World Crop Pest.*, 6: 593-610.
- Perring, T.M.; Farrar, Ch. A. 1986. Historical perspective and current world status of the Tomato Russet Mite (Acari: Eriophyidae). *Ent. Soc. of Am. Misc. Publ.* 63: 19.

Rossi, N.H. 1962. *Vasates lycopersici* (Masse), parasito de la tomatara nuevo para la Argentina. Instituto de Patología Vegetal, CNIA. INTA. Publ. Teen. 125. 4 p.

Serrano, L. 1991. Detección de la presencia del ácaro (*Aculops lycopersici*) causante de bronceado del tomate (*Lycopersicon*

*esculentum*) en El Salvador, América Central. *Revista Agronomía Mesoamericana*, 2:49-55.

Tryon, H. 1917. Report of the entomologist and vegetable pathologist. Queensland Dept. Agric. and Stock Rept. Queensland: 49-63.