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Platycorypha nigrivirga Burckhardt (Hemiptera: Sternorrhyncha:
Psylloidea), tipu psyllid, new to North America

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Abstract. The tipu psyllid, *Platycorypha nigrivirga* Burckhardt (Hemiptera: Sternorrhyncha: Psylloidea), is reported for the first time in North America (USA: California). Diagnostic characters for identification of adults and nymphs, host and damage data, and known distribution are given.

Key Words. Tipu psyllid, new record, North America, *Platycorypha nigrivirga*, *Tipuana tipu*.

Introduction

The rosewood tree, tipu, or “pride of Bolivia”, *Tipuana tipu* (Benth. 1898) (Fabaceae), a tree originating from South America (Bolivia, northern Argentina, Brazil and Uruguay), is widely grown as a landscape ornamental and shade tree in many countries. According to the International Legume Database and Information Service (2005), *T. tipu* is now present in several countries in Africa (Kenya, Malawi, South Africa, Tanzania, Uganda), Asia (India, Iraq), Australasia (Papua New Guinea), Europe (France), North America (United States), the Hawaiian Islands and northern New Zealand. In Europe, it also occurs in Spain, particularly along the Mediterranean coast (Sánchez 2008). Tipu trees are popular because they are drought and frost tolerant, have no thorns, exhibit moderate height at maturity (~10m), and have attractive pinnate green leaves, and clusters of bright yellow flowers. Seeds are winged and are similar in appearance to seed produced by maples.

In October 2008, nymphs and adults of an unknown, colorful psyllid were found feeding on tipu trees in Carlsbad, San Diego Co., California. The species was identified by us as *Platycorypha nigrivirga* Burckhardt, a pest species from South America. Identification was confirmed by Dr. D. Burckhardt (Naturhistorisches Museum, Basel, Switzerland). Subsequently, a larger infestation was found in West Hollywood, Los Angeles Co., where more than 400 tipu trees were planted on sidewalks and in city parks. Within months of our initial identification, tipu psyllid was documented from multiple locations in the coastal Los Angeles Basin.

This is the first report of *P. nigrivirga* for North America. The species was originally described in 1987 from Argentina (type-locality), Bolivia, and Uruguay and was subsequently recorded in southern Brazil (Santana et al. 2006), and Europe (Sánchez 2008).

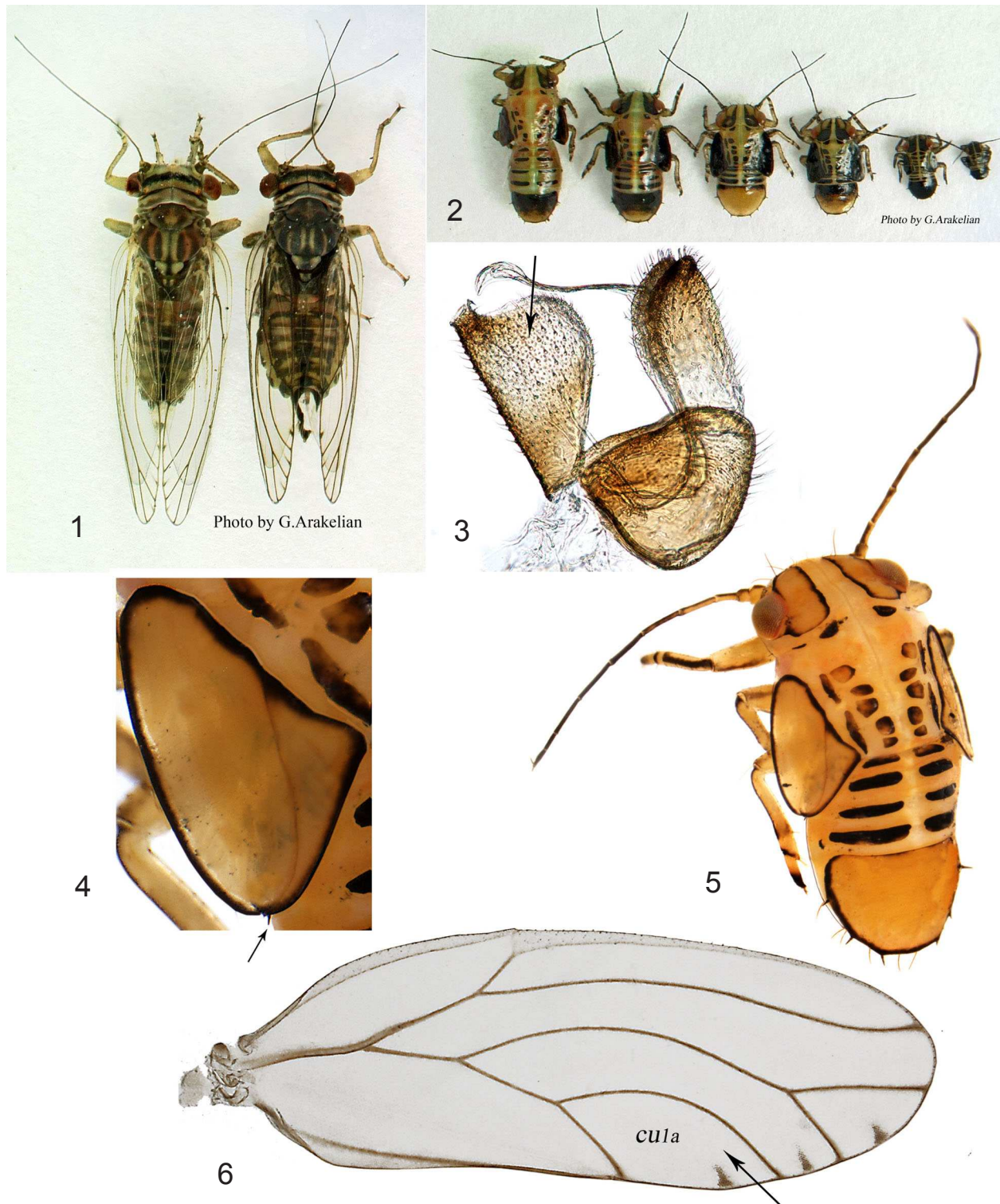


Figure 1-4. Digital photographs of *Platycorypha nigrivirga* Burckhardt. 1) Adult male and female, dorsal view. 2) Nymphs, dorsal view. 3) Male genitalia, lateral view. 4) Enlargement of the wing pad of the nymph. 5) Nymph, dorsal view. 6) Wing of the adult.



Figure 7-9. Digital photographs of damage caused by *Platycorypha nigrivirga* Burckhardt at infestation area in West Hollywood, Los Angeles Co. **7)** Host (defoliated tree on the right). **8)** Closer look at infestation, with adults and nymphs. **9)** Car covered with honeydew from infestation.

Host and damage (Fig. 7-9). *Platycorypha nigrivirga* seems to be restricted to one host, tipu tree (*Tipuana tipu*). The damage is similar to that of many other psyllids, and includes leaf curling, staining and premature dropping of leaves. Nymphs produce pelletized wax-like residue (Fig. 8) and nymphs and adults produce copious amounts of honeydew which fosters the growth of black sooty mold on leaves and branches. The wax pellets produced by nymphs are similar to those produced by the eugenia psyllid, an exotic pest from Australia that attacks *Syzygium paniculatum* Gaertn, *S. samarangense* (Blume) and *Metrosideros excelsa* Sol. in California. Tipu psyllids feed exposed, without the protection of flocculent waxes or pit-like depressions in leaves (Fig. 8). All life-stages can be found infesting new growth, stems

and leaves (Santana et al. 2006). This insect has recently emerged as a serious pest of tipu trees in Curitiba (Brazil), where pest populations are high, trees are being defoliated, and excessive honeydew excretion is fouling concrete sidewalks and vehicles parked under the host trees (Santana et al. 2006). Relatively similar levels of damage to tipu trees are observed in West Hollywood, California (see Fig. 7, 9). Although Santana et al. (2006) verified the presence of predators in Brazil, these were not observed in California. Therefore, in the absence of natural enemies (e.g., predators, parasites, or pathogens) or insecticidal controls, the establishment of tipu psyllid in California represents a significant threat to the health and value of tipu tree plantings in California landscapes.

Distribution. So far, *P. nigrivirga* has been collected from the localities listed below. Geographical coordinates for cities other than California cities were obtained with the help of Google Earth. Material analyzed by the authors is deposited in the California State Collection of Arthropods (CSCA), Sacramento, and the Orange County AG Commissioner Entomology Laboratory (herein abbreviated as OCAg), (Orange). **Argentina:** Buenos Aires, Ramos Mejia 4°39'17" S 58°33'13" W (type-locality, Burckhardt 1987); San Fernando 34°26'35" S 58°33'28" W (Burckhardt 1987); Chaco, Resistancia, 26°35'8" S 60°57'14" W (Burckhardt 1987); Salta, Pampa Grande, La Viña, 25°30' S 65°33' W (Burckhardt 1987); Tucumán, 26°56'48" S 55°16'9" W (Burckhardt 1987). **Bolivia:** Cochabamba, Villa Montes, 17°24'43" S 68°8'46" W (Burckhardt 1987). **Brazil:** Paraná, Colombo, 25°17'35" S 49°13'24" W (Santana et al. 2006); Curitiba, 25°25'42" S 49°16'24" W (Santana et al. 2006); Guarapuava 25°23'37" S 51°27'22" W (Santana et al. 2006). **Spain:** Island of Mallorca, 39°41'43" N 3°1'24" W (Burckhardt 2007); Andalucía, Cádiz, Jerez de la Frontera, 36°41'11" N 6°9' W (Sánchez 2008); Sevilla, Barrio de Heliópolis, 37°23'2" N 5°59'47" W (Sánchez 2008). **Uruguay:** Montevideo, 34°55' S 56°15'4" W (Burckhardt 1987). **USA:** California, Orange Co., Anaheim, 33°50'10" N 117°53'23" W, 1400 S. Harbor Blvd., 26 VI 2009, Rob Gomes (adults and nymphs, OCAg, CSCA); 2100 E. Katella Ave., 23 VII 2009, Nick Nisson (nymphs; OCAg); Los Angeles Co., West Hollywood, 34°5'33" N 118°20'46" W, 11 III 2009, G. Arakelian (males, females and nymphs; CSCA); San Diego Co., Encinitas, 354 Santa Fe Drive, 33°2'11" N 117°17'2" W, 31 III 2009, T. Ellis, D. Kellum, and C. Duffy (males, females and nymphs; CSCA). There are also two, unconfirmed reports of populations of this species in Orange Co, Costa Mesa, 17 VII 2009, (Shelly Bruce, pers. com) and Los Angeles Co., Venice 13 VI 2009 (Rochelle Siegel, personal com.).

Identification. The genus *Platycorypha* belongs to the family Psyllidae. White and Hodkinson (1985) and Burckhardt (1987) classify it in the subfamily Acizzinae. Currently, two other genera are recognized for the Acizzinae (Burckhardt 1987). In the New World, the Acizzinae have a predominantly tropical distribution and component species are associated with Fabaceae (Burckhardt 1987). *Platycorypha* is exclusively Neotropical with six described species feeding on papilionid legumes: *P. amabilis* (Caldwell), *P. fibris* Burckhardt, *P. erythrinae* (Lizer), *P. nigrivirga*, *P. magnifrons* Crawford, and *P. princeps* Tuthill. Of these, only *P. nigrivirga* is known to use *T. tipu* as a host. There is no comprehensive key to the species of *Platycorypha*, but a key to the temperate Neotropical region can be found in Burckhardt (1987) and a key to the species of Panama can be found in Brown and Hodkinson (1988). Adults of *P. nigrivirga* are yellowish or green and have a dark transverse stripe on the head (Fig. 1) which is diagnostic for the species. Dark markings are also present on the thorax (see Fig. 1). No other North American psyllid displays this color pattern, a distinction which simplifies the identification of *P. nigrivirga* on this continent. Additional diagnostic characters for separating this species are the shape of the wing cell cu_{1a} , not strongly arched, flat, and more than 1.7 times wider than high (Fig. 6), and the shape of the male genitalia (Fig. 3). Nymphs of *Platycorypha* are unique among the Neotropical Acizzinae by having a pointed seta on the hindwing-pad (Fig. 4) (White and Hodkinson 1985). In summary, the unique pattern of body color and host association are sufficient to identify adults of *P. nigrivirga* in North America.

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