# FIRST RECORD OF THE GENUS *Saccharosydne* Kirkaldy 1907 (HEMIPTERA - FULGOROMORPHA - DELPHACIDAE) IN ARGENTINA

*María F. Rossi Batiz and Ana M. M. de Remes Lenicov*

*SUMMARY*

*A new genus, Saccharosydne Kirkaldy, is reported in Argentina. This is the most economically important representative of the tribe Saccharosydnini. The geographical distribution of all species and some morphological and biological relevant data of this genus are added. This new record represents the southernmost limit of the tribe in the Americas.*

**PRIMER REGISTRO DEL GÉNERO *Saccharosydne* Kirkaldy 1907 (HEMIPTERA - FULGOROMORPHA - DELPHACIDAE) EN ARGENTINA**

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*RESUMEN*

*Se registra por primera vez el género Saccharosydne Kirkaldy en Argentina. Éste es económicamente el más importante representante de la tribu Saccharosydnini. Se agrega la distribución geográfica de todas las especies y algunos datos morfológicos y biológicos relevantes. Este nuevo registro representa el límite más austral de la tribu en América.*

**PRIMEIRO REGISTRO DO GÊNERO *Saccharosydne* Kirkaldy 1907 (HEMIPTERA - FULGOROMORPHA - DELPHACIDAE) NA ARGENTINA**

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*RESUMO*

*Registra-se por primeira vez o gênero Saccharosydne Kirkaldy na Argentina. Este é econômicamente o mais importante representante da tribu Saccharosydnini. Soma-se à distribuição geográfica de todas as espécies e alguns dados morfológicos e biológicos relevantes. Este novo registro representa o límite mais austral da tribu na América.*

## Introduction

The Delphacidae family is the largest and most economically important one amongst the Fulgoroidea, Delphacinae being the most diverse subfamily. According to Asche (1985), the subfamily groups three tribes: Delphacini, Saccharosydnini and Tropidocephalini. All the 3 genera of the Saccharosydnini tribe, *Neomalaxa* Muir, 1918, *Pseudomacrocorupha* Muir, 1930 and *Saccharosydne* Kirkaldy, 1907, are registered in tropical and subtropical regions of America and Asia (Asche, 1985), being *Pseudomacrocorupha* the only one recorded up to date in Argentina.

The intensification of new cultural practices in Argentina for productivity improvement has greatly changed the vegetal physiognomy, leading to the establishment and increment of foreign insect pest populations. Because of the finding of three possible species of tropical *Saccharosydne* in recent collections on garlic (*Allium sativum* L.), rye (*Secale cereale* L.) and foxtail (*Cortaderia spp.*) from Mendoza, San Juan and Neuquén provinces of Argentina, the purpose of this contribution is to record in the country this genus for the first time, adding the world distribution and some morphological and biological data of this economically important genus.

The Argentinean specimens were field collected using water traps and nets, and hand captured. They were preserved in the Museo de La Plata collection (MLP). Materials from the collections of MLP and the British Museum (Natural History) (BM), London, were also examined.

**Genus**: *Saccharosydne* Kirkaldy, 1907

**Genotype**: *Delphax saccharivora* Westwood, 1833: 413, by original designation.

*Saccharosydne* is distinguished mainly by slender, elongated forms; head much

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narrower than pronotum, angular in profile; vertex much extended before eyes; frons about twice as long as width with the median carinae not forked; antennae short, reaching the base of clypeus. Anal segment of male without processes.

Although all species have elongated, slightly flattened forms, with elongated fore wings and general light green-yellowish coloration, the male genitalia is further distinctive, particularly by the large development of the aedeagus. It consists of a horizontal, slightly curved tube directed posteriorly with a stout spine, curving upward distally, joined to a long lightly sclerotized whiplike filament inward directed, strongly elongated, coiled within the pygofer reaching far cephalad into the abdomen.

Muir and Giffard (1924) separated this genus and the monotypic *Neomalaxa* from all other Delphacidae by the male genitalia, and from *Stenocranus* Fieber, 1866 by the terminalia build, as well as the vertex carinae disposition.

All the seven species of this genus are distinguished from all other Delphacidae principally by the combinated characteristics of the pygofer, aedeagal complex and anal segment.

## Geographical Distribution

So far, with the exception of two species in Asia, this genus is confined to America. *S. brevirostris* Muir, 1926, in Ecuador; *S. gracillis* Muir, 1926 and *S. ornatipennis* Muir, 1926, in Brazil; *S. procerus* Matsumura, 1931, in Japan, China, USSR (Maritime and Mainland Territory); *S. rostifrons* (Crawford, 1914), in Cuba; *S. saccharivora* (Westwood, 1833), in Antigua, Antillas, Barbados, Cuba, British Guiana, Grenada, Haití, Jamaica, Puerto Rico, Santo Domingo, Trinidad, USA and Venezuela (Guagliumi, 1953; Giraldo-Vanegas *et al*., 2004, 2005, 2006), Colombia (Gómez and Lastra Borja, 1995), Grenada (Westwood, 1833) and Cuba (Arocha *et al*., 2005); and *S. viridis* Muir, 1926, in British Guiana (Figure 1). The collections in Argentina extends to the south the known geographic distribution.

## Host Plants

Several grasses and graminaeous plants have been reported as hosts of the genus *Saccharosydne*. *S. brevirostris* was recorded on grass on the shore of the Napo River, Ecuador (Muir, 1926); *S. ornatipennis* on *Paspalum intermedium* Munro, from Rezende, Río de Janeiro, Brazil (Muir, 1926); *S. gracillis* off rank grass of Corcovado, Río de Janeiro, Brazil (Muir, 1926); *S. viridis* on rice and rice grass of Blairmont, British Guiana (Muir, 1926); *S. procerus* on rice fields and in neighboring water-bamboo *Zizania caduciflora* L. habitats (XiaoPing *et al*., 2005); *S. saccharivora* on sugarcane *Saccharum officinarum* L. (Westwood, 1833; Guagliumi, 1953; Giraldo-Vanegas *et al*., 2004, 2005, 2006).

## Phytosanitary Importance

Among *Saccharosydne* species, only *S. saccharivora* is well known as a sugarcane pest in Antigua, Antillas, Barbados, Cuba, British Guiana, Grenada, Haití, Jamaica, Puerto Rico, Santo Domingo, Trinidad, USA and Venezuela (Guagliumi, 1953; Giraldo-Vanegas *et al*., 2004), Colombia (Gómez and Lastra Borja, 1995) and Cuba (Arocha *et al*., 2005). It causes direct damage to the plant during feeding and oviposition, and indirect damage when the populations are big and the sugary excretes allow the development of fumagina (*Fumago sacchari* Speg.), impeding normal photosynthesis and transpiration (Guagliumi, 1953; Giraldo-Vanegas *et al*., 2004, 2005, 2006). This pest acquires more importance because of its displayed vector capacity of the Sugarcane Yellow Leaf Phytoplasma (SCYLP), causing agent of the Sugarcane Yellow Leaf Syndrome (YLS) in Cuba. This infection, characterized by a yellowing of the midrib and lamina, was first reported in the 1960s in East Africa and later in Hawaii, South Africa and Cuba. It is now widely distributed in most sugarcane-growing countries from all continents (Arocha *et al*., 2005).

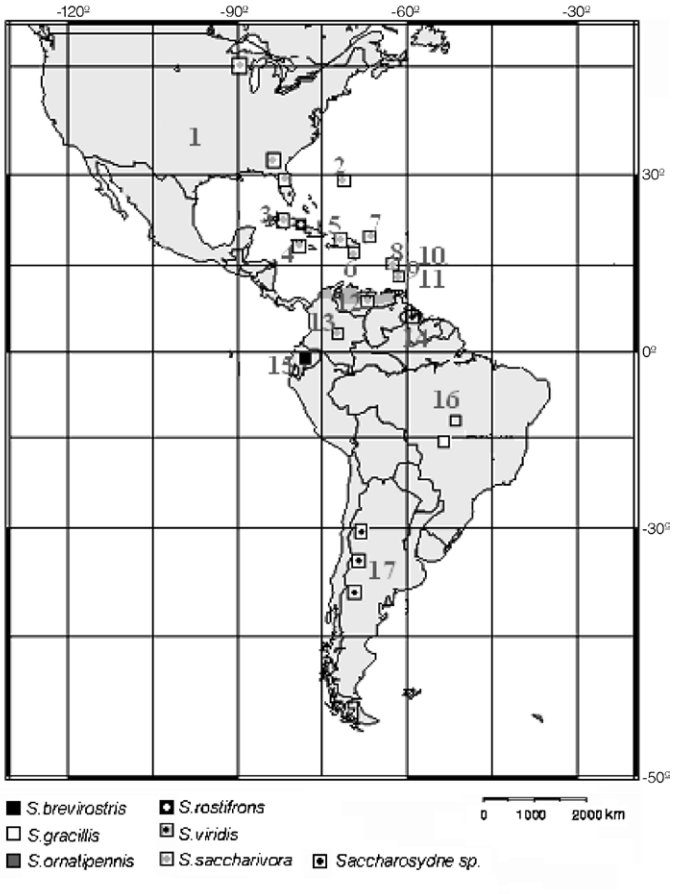


Figure 1. Distribution map of genus *Saccharosydne* in America. The countries where *Saccharosydne* species have been registered are 1: United States of America, 2: Bermudas, 3: Cuba, 4: Jamaica, 5: Haití, 6: Santo Domingo, 7: Puerto Rico, 8: Antigua, Antillas, Santa Lucía, 9: Barbados, 10: Grenada, 11: Trinidad, 12: Venezuela, 13: Colombia, 14: British Guiana, 15: Ecuador, 16: Brazil, 17: Argentina.

## Natural Enemies

As natural enemies of *S. saccharivora* are mentioned several species of insects: egg parasitoids (two species of Hymenoptera); nymphs and adults parasitoids (one species of Hymenoptera and one species of Strepsiptera) (Guagliumi, 1953; Terán, 1980; Giraldo-Vanegas *et al*, 2004); predators of eggs, nymphs and adults (one species of Diptera, six of Coleoptera, five of Neuroptera, three of Hemiptera, one species each of Dermaptera and Orthoptera), and the pathogen fungii *Metarrhizium* sp. and *Fusarium* sp. (Guagliumi, 1953). *Anagrus* spp. (Hymenoptera) has been mentioned as eggs parasitoid of *S. procerus* and *S. rostifrons* (XiaoPing, 2000; Triapitsyn, 2002). No predator or evident parasitoid has been found to date in the material from Argentina.

## Remark

Among the Argentinean specimens three morphospecies can be distinguished taking into account the relative body measurements, the shape of the posterior margin of pygofer, parameres and aedeagus. These are very similar to *S. gracillis,* but differ

in the anal angles of pygofer caudally produced and the apical shape of the parameres. Further studies are required in order to clarify the identity of these local specimens.

**Reference Specimens**

11 ♂♂ and 10 ♀♀, "La Consulta", Mendoza, Argentina, with water trap on garlic crop, 22/VIII, 5/IX, 26/IX and 1/X/03; 23-27/VIII, 27/IX-01/X and 04-08/X/04; 14/IX, 21/IX and 20/X/05; 20/IX and 12/X/06. Lanatti leg.

*Other examined materials from Argentina*: 1 ♀, Dto. Pocito, San Juan, 23/I/64, Torres-Ferreyra leg.; 1 ♂, 1 ♀, Dto. Pocito, San Juan, with net on rye, 13-17/IX/04, Meneguzzi leg; 9 ♂, 5 ♀ 30/IX/02; 18/VII, 22/VIII, 05/IX, 12/IX, 26/IX and 07/XI/03, 6 ♀ 9-13/VIII, 20-24/IX, 27/IX-1/X, 04-08/X, 29-03/XII and 13-17/XII/04, 4 ♂, 1 ♀ 13/IX, 15/IX, 18/IX, 02/X and 12/X/06, "La Consulta", Mendoza, with water trap on garlic, Lanatti leg.; 5 ♂, 9 ♀, 1 nymph, hand captured on foxtail, San Martín de los Andes, Neuquén, 26/II/07, Logarzo leg.

*Examined materials from the BM collection*: 1 ♂ *Oxycranus procerus* Matsumura, Nagazaki, Japan (1913), F. Muir coll., BM 1932-279; 1 ♂ *S. procerus* (Matsumura), Foochow, China (1935), MS Yang leg., Pres. by Com. Inst. Ent. BM 1948-548; 1 ♀ *S. procerus* (Matsumura), Nantou, Taiwan (1984), CT Yang col. and det.; 1 ♂ *S. viridis* Muir, paratype, (1923), on rice Blairmont, FX Williams leg., BM 1929-293; 1 ♂, 1 ♀ *S. gracilis* Muir, paratypes, Río de Janeiro, Brazil (1924), FX Williams leg., BM 1929-293; 1 ♀ *S. brevirostris* Muir, paratype, ex beach grass, Napo River, Ecuador (1923), FX Williams leg., BM 1929-293; 1 ♀ *S. ornatipennis* Muir, paratype, on grass, Rezende, Brazil (1924), FX Williams leg., BM 1929-293; 1 ♀ *S. cf. rostifrons,* Jacareacanga, Brazil (1984), M Alvarenga leg., M Asche det., BM 1971-165; 1 ♂ *S. rostifrons* on *Paspalum conjugatum*, Cayo District Central Farm, Honduras, E García leg., Pres. by Com. Inst. Ent., BM 1988-26; 1 ♂ *S. saccharivora* (Westwood), Bermuda Sandys P, Fort Scaur (1988), MR Wilson & D. J Hilburn leg., MR Wilson det.; 1 ♂ *S. saccharivora* (Westwood) on sugarcane, Grenada (1961), FD Bennett leg., MSK Ghauri det., Pres. by Com. Inst. Ent., BM 1961-6.

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