

New records of mosquito species (Diptera: Culicidae) for Santa Catarina and Paraná (Brazil)

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Abstract: We provide eight new mosquito species records for Santa Catarina (*Limatus flavisetosus* Oliveira Castro 1935, *Mansonia flaveola* (Coquillett 1906), *Ma. titillans* (Walker 1848), *Psorophora forceps* Cerqueira 1939, *Sabethes xyphydes* Harbach 1994, *Toxorhynchites bambusicolus* (Lutz & Neiva 1913), *Tx. theobaldi* (Dyar & Knab 1906) and *Wyeomyia lassalli* Bonne-Wepster & Bonne 1921) and three for Paraná (*Ochlerotatus argyrothorax* Bonne-Wepster & Bonne 1920, *Uranotaenia pallidoventer* Theobald 1903 and *Wyeomyia pilicauda* Root 1928). Additionally, we list all species in these eight genera recorded previously in the two states. The known distribution and possible epidemiological implications of the new species records are discussed.

Keywords: *Ochlerotatus*, *Psorophora*, *Sabethes*, *Toxorhynchites*, *Wyeomyia*, *Mansonia*.

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Resumo: Relatamos o primeiro encontro de oito espécies de mosquitos para Santa Catarina (*Limatus flavisetosus* Oliveira Castro 1935, *Mansonia flaveola* (Coquillett 1906), *Ma. titillans* (Walker 1848), *Psorophora forceps* Cerqueira 1939, *Sabethes xyphydes* Harbach 1994, *Toxorhynchites bambusicolus* (Lutz & Neiva 1913), *Tx. theobaldi* (Dyar & Knab 1906) e *Wyeomyia lassalli* Bonne-Wepster & Bonne 1921) e três para o Paraná (*Ochlerotatus argyrothorax* Bonne-Wepster & Bonne 1920, *Uranotaenia pallidoventer* Theobald 1903 e *Wyeomyia pilicauda* Root 1928). Adicionalmente, apresentamos lista de todas as espécies destes oito gêneros com registro nos dois estados. A distribuição conhecida das espécies e sua possível importância epidemiológica são discutidas.

Palavras-chave: *Ochlerotatus*, *Psorophora*, *Sabethes*, *Toxorhynchites*, *Wyeomyia*, *Mansonia*.

Introduction

The dipteran family Culicidae includes several epidemiologically important insects, mostly related to the transmission of arboviruses and malaria parasites, but also to the annoyance caused by their bites (Consoli & Oliveira 1994). The Brazilian southern states of Santa Catarina and Paraná are included in the geographical distribution of several arboviruses (Forattini 2002), but information on the mosquito fauna is mostly restricted to those species related to malaria transmission, such as *Anopheles (Kerteszia)* spp. in Santa Catarina (e.g. Rachou & Ferraz 1951, Ferreira 1965) and *Anopheles (Nyssorhynchus)* spp. in Paraná (e.g. Guimarães et al. 1997). Knowledge of the distribution of mosquito species is essential for understanding the risks to human and animal health and the development of future control measures. The objective of the present paper is to present new records of several mosquito species of eight genera and list species in these genera previously recorded for Paraná and Santa Catarina states.

Methods

Mosquitoes were collected in nine different localities of Santa Catarina and Paraná States between 1999 and 2008 (Table 1). All localities belong to the Atlantic Forest biome, and are constituted by dense ombrophilous forest. The climate is tropical, with high temperatures (means higher than 22 °C) and high rain precipitation, well distributed thorough the year (Veloso et al. 1991). Except for Unidade de Conservação Ambiental Desterro (Florianópolis, SC), Floresta Nacional (Ibirama, SC) and Floresta do Palmito (Paranaguá, PR), all the studied localities are constituted by forest fragments smaller than 10 ha, highly influenced by human activities, either by agriculture or by the proximity of urban areas. All the forest fragments had several breeding places for mosquitoes, mostly phytotelmata (e.g. bromeliads), shallow pools on rocks and, in Ascurra, Indaial and Ibirama, marshes with aquatic plants.

Five different methodologies were utilized for the daylight collections: Shannon trap without light, CDC-like trap baited by a hen, artificially drilled bamboo internodes, attracted by humans and collected by suction tubes and aspiration from the vegetation. Mosquitoes were identified using descriptions and keys of Lane (1953a, b), Correa & Ramalho (1956), Consoli & Oliveira (1994) and Forattini (2002). When necessary, specimens were compared with those of the Faculdade de Saúde Pública da Universidade de São Paulo (São Paulo, Brazil). All specimens were glued to card triangles on entomological pins and are located in the Departamento de Microbiologia e Parasitologia da Universidade Federal de Santa Catarina and in the Entomological Collection Padre Jesus Santiago Moure, Departamento

de Zoologia, Universidade Federal do Paraná (DZUP). Genera and subgenera of Culicidae are abbreviated according to Reinert (1975), and *Ochlerotatus* was considered a valid genus (Reinert 2000), as recommended by Marcondes (2007). The subgenus *Ochlerotatus* is abbreviated as *Och.* according to Reinert et al. (2004).

Results and Discussion

Eleven species were recorded for the first time for the states of Santa Catarina and Paraná (Table 2). These new records are distributed in eight genera. A review of the literature indicated that 89 species included in these eight genera have been previously recorded in Paraná and Santa Catarina states (Table 3).

Mansonia includes two subgenera: *Mansonia*, not recorded in the Neotropical Region, and *Mansonioides*, which had 15 species recorded from this region (Barbosa et al. 2007). From these, *Ma. titillans* (Walker, 1848) and *Ma. flaveola* (Coquillett, 1906) are widely distributed, from southern United States (Florida and Texas) to extreme south of Brazil, Argentina and Uruguay (Heinemann & Belkin 1977, Cardoso et al. 2005). *Mansonia titillans* (Walker 1848) was previously reported as vector of Venezuelan Encephalitis Virus (Méndez et al. 2001).

Ochlerotatus includes 58 species in Central and South America (Reinert et al. 2005). The larvae of *Oc. argyrorhox* Bonnet & Bonne 1920 develop in tree holes and shallow ponds on rocks (Pereira et al. 2005). *Psorophora forceps* Cerqueira, 1939 had been recorded in Mato Grosso do Sul, Espírito Santo and Rio de Janeiro states (Guedes et al. 1965). The present report from Santa Catarina considerably extends its known distribution. *Uranotaenia pallidoventer* Theobald, 1903 was reported in Amazonian Forest (Hutchings et al. 2005). It should be emphasized the absence of previous reports of *Uranotaenia* from Santa Catarina (Table 3).

Among species developing in phytotelmata, *Sa. xhyphides* Harbach, 1994 had been reported for two municipalities of Rio Grande do Sul, the most southern state of Brazil (Cardoso et al. 2005). Since the mosquitoes referred by Prado (1935) in bamboos at São Paulo state as *Sa. intermedius* (Lutz, 1904) were considered as *Sa. xhyphides* (Harbach 1994), Santa Catarina would be the third state to have this species reported.

The distribution of *Toxorhynchites (Lynchiella)* includes, besides tropical regions, also other subtropical and temperate ones, differently from the other two subgenera (Collins & Blackwell 2000). *Toxorhynchites theobaldi* (Dyar & Knab 1906), besides occurring in bamboo internodes, can also be found in tree holes (Silva & Lozovei 1999).

The present report adds to the recent reports by Paterno & Marcondes (2004), Marcondes et al. (2003, 2006) and Müller &

Table 1. Localities of Santa Catarina and Paraná states where mosquitoes were collected.

Tabela 1. Localidades dos Estados de Santa Catarina e Paraná onde os mosquitos foram coletados.

Locality	Coordinate	Altitude (a.s.l.)
Ascurra, SC	26° 57' 07" S and 49° 22' 14" W	86 m
Floresta Nacional, Ibirama, SC	27° 02' 23" S and 49° 27' 29" W	330 m
Floresta do Palmito, Paranaguá, PR	25° 31' 13" S and 48° 30' 34" W	2 m
Governador Celso Ramos, SC	27° 18' 53" S and 48° 33' 33" W	40 m
Guabiruba, SC	27° 05' 09" S and 48° 58' 52" W	60 m
Indaial, SC	26° 53' 39" S and 49° 13' 34" W	82 m
Nova Trento, SC	27° 15' 49" S and 48° 55' 22" W	379 m
Unidade de Conservação Ambiental Desterro, Florianópolis, SC	27° 31' 51" S and 48° 30' 44" W	50-150 m

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Table 2. New records of Culicidae species from the Brazilian southern states of Santa Catarina and Paraná.**Tabela 2.** Novos registros de espécies de Culicidae para os Estados do sul brasileiro de Santa Catarina e Paraná.

Species	Locality	Quantity/sex	Date
Aedini			
<i>Ochlerotatus argyrothorax</i> Bonne-Wepster & Bonne, 1920	Paranaguá, PR, (FEP)	1♀	29.VI.2005
<i>Psorophora forceps</i> Cerqueira, 1939 Mansoniini	Guabiruba, SC	1♀	13.X.1998
<i>Mansonia flaveola</i> (Coquillett, 1906)	Ascurra, SC	1♀	14.XI.1999
<i>Ma. titillans</i> (Walker, 1848)	Indaial, SC	3♀	10.V.1999
	Rio do Sul, SC	2♀	20.X.1999
Sabethini			
<i>Limatus flavisetosus</i> Oliveira Castro, 1935	Ibirama, SC, (FLONA)	1♀	02.IV.2008
<i>Sabethes xyphydes</i> Harbach, 1994	Florianópolis, SC, (UCAD)	1♂, from immature forms	22.V.2005
<i>Wyeomyia lassalli</i> Bonne-Wepster & Bonne, 1921	Florianópolis, SC, (UCAD)	1♀	12.IV.2007
<i>Wy. pilicauda</i> (Root, 1928)	Paranaguá, PR, (FEP)	17♀	26.I.2005
		90♀	16.II.2005
		13♀	30.III.2005
		2♀	27.IV.2005
		2♀	23.V.2005
		2♀	24.VIII.2005
		2♀	23.IX.2005
		5♀	31.X.2005
		2♀	23.XI.2005
		12♀	29.XII.2005
Uranotaeniini			
<i>Uranotaenia pallidoventer</i> Theobald, 1903	Paranaguá, PR, (FEP)	3♀	30.X.2005
		1♀	23.XI.2005
Toxorhynchitini			
<i>Toxorhynchites bambusicolus</i> (Lutz & Neiva, 1913)	Florianópolis, SC, (UCAD)	2♂, from immature forms	25.II.2006
<i>Tx. theobaldi</i> (Dyar & Knab, 1906)	Florianópolis, SC, (UCAD)	1♂, from immature forms	14.II.2006

Table 3. Species of *Ochlerotatus*, *Psorophora*, *Mansonia*, *Limatus*, *Sabethes*, *Wyeomyia*, *Uranotaenia* and *Toxorhynchites* reported in Santa Catarina and/or Paraná states.**Tabela 3.** Espécies de *Ochlerotatus*, *Psorophora*, *Mansonia*, *Limatus*, *Sabethes*, *Wyeomyia*, *Uranotaenia* e *Toxorhynchites* registrados para os Estados de Santa Catarina e/ou Paraná.

Species	Santa Catarina	Paraná	References
Aedini			
<i>Ochlerotatus (Ochlerotatus) albifasciatus</i> (Macquart 1838)	x		marcondes et al. (2003)
<i>Oc. (Och.) crinifer</i> (Theobald 1903)		x	Barbosa et al. (2003), Consolim et al. (1993), Lopes & Lozovei (1995), Lopes (2002a), Tissot & Silva (2008)
<i>Oc. (Och.) fluviatilis</i> (Lutz 1904)	x	x	Barbosa et al. (1993), Bona & Navarro-Silva (2008), Consolim et al. (1993), Guimarães et al. (2003), Lopes et al. (1993, 1995b), Lopes & Lozovei (1996), Lopes (1997b, c, 2002a, b), Marcondes et al. (2006), Silva (2002), Tissot & Silva (2008)
<i>Oc. (Och.) fulvus</i> (Wiedemann 1828)	x	x	Consolim et al. (1993), Guimarães et al. (2003), Marcondes et al. (2003), Tissot & Silva (2008)
<i>Oc. (Och.) hastatus</i> Dyar 1922		x	Tissot & Silva (2008)
<i>Oc. (Och.) hortator</i> (Dyar & Knab 1907)		x	Bona & Navarro-Silva (2008)
<i>Oc. (Och.) nubilus</i> Theobald 1903		x	Tissot & Silva (2008)
<i>Oc. (Och.) oligopistus</i> Dyar 1918		x	Tissot & Silva (2008)
<i>Oc. (Och.) pennai</i> (Antunes & Lane 1938)		x	Guimarães et al. (2003)
<i>Oc. (Och.) rhyacophilus</i> Costa Lima 1933	x	x	Marcondes et al. (2003), Santos-Neto & Lozovei (2008), Tissot & Silva (2008)
<i>Oc. (Och.) scapularis</i> (Rondani 1848)	x	x	Barbosa et al. (2003), Bona & Navarro-Silva (2008), Guimarães et al. (2003), Lopes et al. (1995b), Lopes & Lozovei (1996), Marcondes & Paterno (2005), Paterno & Marcondes (2004), Sant'Ana & Lozovei (2001), Silva & Menezes (1996), Silva (2002), Tissot & Navarro-Silva (2004)

Table 3. Continued...

Species	Santa Catarina	Paraná	References
<i>Oc. (Och.) serratus</i> (Theobald 1901)	x	x	Barbosa et al. (1993, 2003), Bona & Navarro-Silva (2008), Consolim et al. (1993), Guimarães et al. (2003), Marcondes et al. (2006), Paterno & Marcondes (2004), Santos-Neto & Lozovei (2008), Tissot & Navarro-Silva (2004)
<i>Oc. (Och.) stigmaticus</i> (Edwards 1922)		x	Barbosa et al. (1993)
<i>Oc. (Och.) terreus</i> (Walker 1856)	x	x	Barbosa et al. (1993), Consolim et al. (1993), Guimarães et al. (2003), Lopes (1997a, 2002a, b), Lopes et al. (2002), Marcondes et al. (2003), Santos-Neto & Lozovei (2008), Silva & Lozovei (1999), Tissot & Silva (2008)
<i>Psorophora (Grabhamia) cingulata</i> (Fabricius 1805)		x	Barbosa et al. (1993), Consolim et al. (1993), Lopes et al. (1993), Lopes & Lozovei (1996), Lopes (1997b, c, 2002a), Santos-Neto & Lozovei (2008), Tissot & Silva (2008)
<i>Ps. (Gra.) confinnis</i> (Fabricius 1805)		x	Consolim et al. (1993), Lopes & Lozovei (1996), Lopes (2002a), Silva (2002), Tissot & Silva (2008)
<i>Ps. (Janthinosoma) albipes</i> (Theobald 1907)		x	Bona & Navarro-Silva (2008), Guimarães et al. (2003), Tissot & Silva (2008)
<i>Ps. (Jan.) albigenu</i> (Lutz 1908)		x	Consolim et al. (1993)
<i>Ps. (Jan.) circumflava</i> Cerqueira 1943		x	Lopes (2002a)
<i>Ps. (Jan.) discrucians</i> (Walker 1956)	x	x	Consolim et al. (1993), Lopes & Lozovei (1996), Lopes (2002a), Marcondes et al. (2006)
<i>Ps. (Jan.) ferox</i> (Humboldt 1819)	x	x	Barbosa et al. (1993, 2003), Bona & Navarro-Silva (2008), Consolim et al. (1993), Guimarães et al. (2003), Marcondes et al. (2006), Paterno & Marcondes (2004), Tissot & Navarro-Silva (2004), Tissot & Silva (2008)
<i>Ps. (Jan.) johnstonii</i> (Grabham 1905)		x	Consolim et al. (1993)
<i>Ps. (Jan.) lanei</i> Shannon & Cerqueira 1943	x	x	Consolim et al. (1993), Marcondes et al. (2006)
<i>Ps. (Jan.) lutzii</i> (Theobald 1901)	x	x	Marcondes et al. (2003), Tissot & Silva (2008)
<i>Ps. (Jan.) pseudomelanota</i> Barata & Cotrim 1971		x	Santos-Neto & Lozovei (2008)
<i>Ps. (Jan.) varipes</i> (Coquillett 1904)		x	Barbosa et al. (1993), Guimarães et al. (2003)
<i>Ps. (Psorophora) ciliata</i> (Fabricius 1794)	x	x	Consolim et al. (1993), Marcondes et al. (2006), Tissot & Silva (2008)
<i>Ps. (Ps.) saeva</i> Dyar & Knab 1906 Mansoniini		x	Lopes (2002a)
<i>Mansonia (Mansonia) amazonensis</i> (Theobald 1901)		x	Lopes (2002a), Teodoro et al. (1995)
<i>Ma. (Man.) cerqueirai</i> (Barreto & Coutinho 1932)		x	Tissot & Silva (2008)
<i>Ma. (Man.) flaveola</i> (Coquillett 1906)		x	Teodoro et al. (1995)
<i>Ma. (Man.) fonsecai</i> (Pinto 1932)		x	Bona & Navarro-Silva (2008), Tissot & Navarro-Silva (2004), Tissot & Silva (2008)
<i>Ma. (Man.) humeralis</i> Dyar & Knab 1916		x	consolim et al. (1993), Lopes (2002a), Teodoro et al. (1995)
<i>Ma. (Man.) iguassuensis</i> Barbosa, Navarro-Silva & Sallum 2007		x	Tissot & Silva (2008)
<i>Ma. (Man.) indubitans</i> Dyar & Shannon 1925		x	Barbosa et al. (2003), Consolim et al. (1993), Lopes (2002a), Teodoro et al. (1995)
<i>Ma. (Man.) pessoai</i> (Barreto & Coutinho 1944)		x	Barbosa et al. (2003), Tissot & Navarro-Silva (2004), Tissot & Silva (2008)
<i>Ma. (Man.) pseudotitillans</i> (Theobald 1901)		x	Consolim et al. (1993), Lopes (2002a), Teodoro et al. (1995)
<i>Ma. (Man.) titillans</i> (Walker 1848)		x	barbosa et al. (2003), Consolim et al. (1993), Guimarães et al. (2003), Lopes et al. (1995b, c), Lopes & Lozovei (1996), Lopes (2002a), Teodoro et al. (1995), Tissot & Navarro-Silva (2004)
<i>Ma. (Man.) wilsoni</i> (Barreto & Coutinho 1944)	x	x	Barbosa et al. (2003), Lopes (2002a), Marcondes et al. (2006), Teodoro et al. (1995), Tissot & Navarro-Silva (2004)
Sabethini			

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Table 3. Continued...

Species	Santa Catarina	Paraná	References
<i>Limatus durhamii</i> Theobald 1901	x	x	Consolim et al. (1993), Guimarães et al. (2003), Lopes et al. (1987, 1993, 1995a), Lopes (1997a, b, c, 1999, 2002a), Marcondes et al. (2006), Paterno & Marcondes (2004), Silva (2002), Tissot & Navarro-Silva (2004), Tissot & Silva (2008)
<i>Li. flavisetosus</i> Oliveira Castro 1935		x	Tissot & Silva (2008)
<i>Sabethes (Peytonulus) aurescens</i> (Lutz 1905)	x	x	Lozovei (1998, 2001), Marcondes & Mafra (2003), Marcondes et al. (2006), Paterno & Marcondes (2004), Tissot & Silva (2008), Zequi & Lopes (2001)
<i>Sa. (Pey.) undosus</i> (Coquillett 1906)		x	Tissot & Silva (2008)
<i>Sa. (Sabethes) albiprivus</i> Lutz 1903	x	x	Guimarães et al. (2003), Paterno & Marcondes (2004)
<i>Sa. (Sab.) batesi</i> Lane & Cerqueira 1942		x	Lozovei (1998, 2001)
<i>Sa. (Sab.) belisarioi</i> Neiva 1908	x	x	Consolim et al. (1993), Marcondes et al. (2006)
<i>Sa. (Sab.) purpureus</i> (Theobald 1907)		x	Barbosa et al. (2003), Guimarães et al. (2003), Tissot & Silva (2008)
<i>Sa. (Sabethoides) chloropterus</i> (Humboldt 1820)		x	Guimarães et al. (2003)
<i>Sa. (Sabethinus) identicus</i> Dyar & Knab 1907	x	x	Guimarães et al. (2003), Lopes (2002a), Marcondes et al. (2006), Zequi & Lopes (2001)
<i>Sa. (Sbn) indiogenes</i> (Harbach 1994)		x	Lopes (2002a)
<i>Sa. (Sbn) intermedius</i> (Lutz 1904)		x	Tissot & Silva (2008)
<i>Sa. (Sbn) melanonymphe</i> (Dyar 1924)	x	x	Lozovei (1998, 2001), Lopes (2002a), Marcondes et al. (2003, 2006), Zequi & Lopes (2001)
<i>Sa. (Sbn) xhyphydes</i> Harbach 1994		x	Tissot & Silva (2008)
<i>Wyeomyia (Dendromyia) personata</i> (Lutz 1904)		x	Lozovei (1998, 2001)
<i>Wy. (Exallomyia) tarsata</i> Lane & Cerqueira 1942	x		marcondes et al. (2003)
<i>Wy. (Phoniomyia) antunesi</i> Lane & Guimarães 1937		x	Tissot & Silva (2008)
<i>Wy. (Pho.) bourrouli</i> Lutz 1905	x		marcondes et al. (2003), Paterno & Marcondes (2004)
<i>Wy. (Pho.) davisii</i> (Lane & Cerqueira 1942)	x	x	Bona & Navarro-Silva (2008), Muller & Marcondes (2006), Paterno & Marcondes (2004)
<i>Wy. (Pho.) edwardsii</i> Lane & Cerqueira 1942	x	x	Marcondes et al. (2003), Muller & Marcondes (2006), Tissot & Silva (2008)
<i>Wy. (Pho.) fuscipes</i> Edwards 1922	x		paterno & Marcondes (2004)
<i>Wy. (Pho.) galvaoi</i> (Correa & Ramalho 1956)	x	x	Bona & Navarro-Silva (2008), Paterno & Marcondes (2004), Tissot & Silva (2008)
<i>Wy. (Pho.) incaudata</i> Root 1928	x	x	Bona & Navarro-Silva (2008), Marcondes & Paterno (2005), Muller & Marcondes (2006), Paterno & Marcondes (2004)
<i>Wy. (Pho.) lopesii</i> (Correa & Ramalho 1956)		x	Bona & Navarro-Silva (2008)
<i>Wy. (Pho.) mystes</i> Dyar 1924	x	x	Guimarães et al. (2003), Paterno & Marcondes (2004), Tissot & Silva (2008)
<i>Wy. (Pho.) pallidiventer</i> (Theobald 1907)	x	x	Muller & Marcondes (2006); Paterno & Marcondes (2004); Tissot & Silva (2008)
<i>Wy. (Pho.) palmata</i> (Lane & Cerqueira 1942)	x		paterno & Marcondes (2004)
<i>Wy. (Pho.) pilicauda</i> (Root 1928)	x		Muller & Marcondes (2006), Paterno & Marcondes (2004)
<i>Wy. (Pho.) quasilingirostris</i> (Theobald 1907)	x	x	Barbosa et al. (2003), Guimarães et al. (2003), Marcondes et al. (2003), Tissot & Navarro-Silva (2004), Tissot & Silva (2008)
<i>Wy. (Pho.) splendida</i> Bonne-Wepster & Bonne 1919	x		paterno & Marcondes (2004)
<i>Wy. (Pho.) theobaldi</i> (Lane & Cerqueira 1942)	x	x	Bona & Navarro-Silva (2008), Paterno & Marcondes (2004)
<i>Wy. (Pho.) tripartita</i> (Bonne-Webster & Bonne 1921)	x		marcondes et al. (2003), Muller & Marcondes (2007)
<i>Wy. (Prosopolepis) confusa</i> (Lutz, 1905)		x	Guimarães et al. (2003)
<i>Wy. (Wyeomyia) abebela</i> Dyar & Knab 1908		x	Bona & Navarro-Silva (2008)

Table 3. Continued...

Species	Santa Catarina	Paraná	References
<i>Wy. (Wyo) limai</i> Lane & Cerqueira 1942	x	x	Lozovei (1998, 2001), Lopes (2002a), Marcondes & Mafra (2003, 2006), Tissot & Silva (2008), Zequi & Lopes (2001)
<i>Wy. (Wyo) lutzii</i> (Costa Lima 1930)	x	x	Lozovei (1998, 2001), Marcondes et al. (2003)
<i>Wy. aporonoma</i> Dyar & Knab 1906		x	Guimarães et al. (2003)
<i>Wy. argenteostris</i> (Bonne-Wepster & Bonne 1920)	x		marcondes et al. (2003)
<i>Wy. cesari</i> Del Ponte & Cerqueira 1938	x		marcondes et al. (2003)
<i>Wy. rooti</i> (Del Ponte 1939)		x	Lopes (2002a), Zequi & Lopes (2001)
Uranotaeniini			
<i>Uranotaenia (Uranotaenia) apicalis</i> Theobald 1903		x	Lopes (2002)
<i>Ur. (Ura.) calosomata</i> Dyar & Knab 1907		x	Santos-Neto & Lozovei (2008)
<i>Ur. (Ura.) geométrica</i> Lutz 1901		x	Lopes (2002a), Lopes et al. (2002)
<i>Ur. (Ura.) lowii</i> Theobald 1901		x	Silva (2002), Tissot & Silva (2008)
<i>Ur. (Ura.) nataliae</i> Lynch-Arribalzaga 1891		x	Santos-Neto & Lozovei (2008), Silva (2002);
<i>Ur. (Ura.) pulcherrima</i> Lynch-Arribalzaga 1891		x	Lopes & Lozovei (1995), Lopes (2002a)
Toxorhynchitini			
<i>Toxorhynchites (Ankylorhynchus) catharinensis</i> (Costa Lima, Guitton, & Ferreira 1962)	x		Marchon-Silva et al. (1996)
<i>To. (Linchiella) bambusicolus</i> (Lutz & Neiva 1913)		x	Lozovei (1998, 2001)
<i>To. (Lyn.) pusillus</i> (Costa Lima 1931)		x	Lozovei (2001)
<i>To. (Lin.) theobaldi</i> (Dyar & Knab 1906)		x	Silva & Lozovei (1996, 1999)

Marcondes (2006) eight species new for Santa Catarina, besides three others for Paraná, which has been better studied, showing that the fauna of these southern Brazilian states is diversified and poorly known. This is specially marked for *Wyeomyia (Phoniomyia)*, since 14 of the 21 known species were already reported from Santa Catarina. This group, which had only one new species (*Wy. deanei* Lourenço de Oliveira, 1983) described since 1956, certainly deserves a more thoroughly study. For instance, Anhembi arbovirus was isolated from *Wy. pilicauda* (Root 1928) in the littoral of São Paulo state (Souza Lopes et al. 1975).

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