

# Annotated checklist, distribution, and taxonomic bibliography of the mosquitoes (Insecta: Diptera: Culicidae) of Argentina

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**Abstract:** A decade and a half have passed since the last publication of the mosquito distribution list in Argentina. During this time several new records have been added, and taxonomic modifications have occurred at the genus and subgenus level. Therefore, considering these changes, I decided to create an updated list of the 242 species present in Argentina, along with their distributions by province. Two first records for Argentina (*Culex lopesi* and *Cx. vaxus*), two old records unregistered by authors (*Cx. albinensis* and *Wyeomyia fuscipes*), 13 new provincial records for 11 species (*Cx. apicinus*, *Cx. bidens*, *Cx. eduardoi*, *Cx. lahillei*, *Cx. pipiens*, *Cx. tatoi*, *Cx. usquatus*, *Cx. imitator*, *Cx. oedipus*, *Sabethes chloropterus*, and *Wy. oblita*), and the extension of distribution of other species are presented. The list of literature references for the documents concerning mosquitos is included.

**Key words:** mosquitoes, Neotropical Region, Argentina, checklist, new records, inventory

## INTRODUCTION

Mosquitos are perhaps the most significant of the haematophagous insects impacting human and animal health. They act as vectors of numerous diseases such as dengue, yellow fever, malaria, and arboviruses responsible for encephalitis, bacteriosis, and helminthiasis.

The last update dating back more than 25 years and including all the then-available information regarding the Argentine mosquito fauna was carried out by Mitchell and Darsie (1985) and encompassed the distribution of 208 species reported for 22 provinces. Campos and Maciá (1998) completed the information gathered in those years, thereby increasing the number of species to 211.

Since 1998, the number of species and their distribution have changed significantly thus warranting a new update. Biological, ecological, taxonomic, and

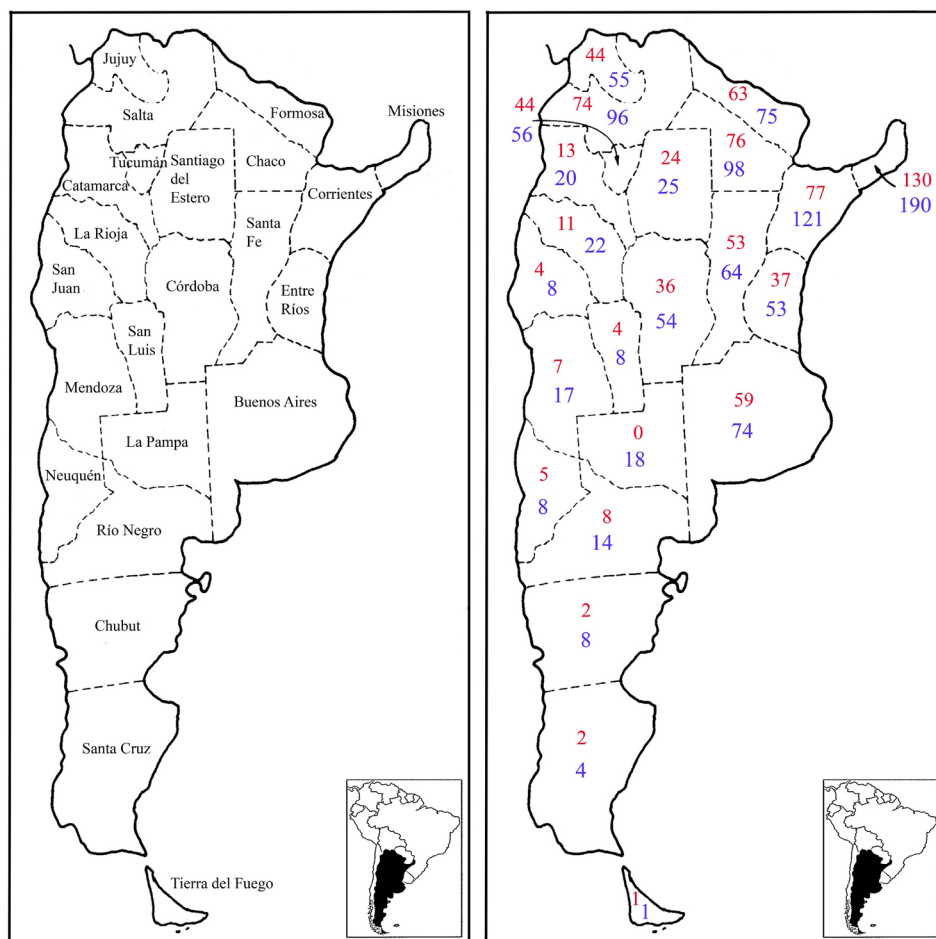
epidemiological studies have increased the number of species known from various localities, greatly expanding the information on the distribution within the country. The last reference to the number of species found in Argentina at the present, was mentioned by Visintin et al. (2010) who raised the number to 228 species.

The aim of this report is to update the list of mosquito species and their distribution in Argentina by provinces, to correct existing record errors, to note recent taxonomic changes, and to present a full bibliography for use as a tool for researchers.

## MATERIALS AND METHODS

Based on the Campos and Maciá (1998) list a data matrix was developed. The records presented here come from the collection of the Museo de La Plata (MLP), Buenos Aires, Argentina. I also considered changes in taxonomic level (i.e., the establishment and/or relocation of subgenera, synonyms, the revalidation of species) that are relevant exclusively to the Argentine fauna. Table 1 presents the list of mosquito species in alphabetical order and their distribution by province. Figure 1 present the provinces of Argentina and the number of species known from each province in 1998 and in 2014. I do not discuss the relevant literature and status changes since that information has been included by the authors in the respective publications.

The determinations were done by the author, except where indicated. The abbreviations used here are: M, male; F, female; L, larva; P, pupa; Le, larval exuviae; Pe, pupal exuviae; MG, male genitalia; and FG, female genitalia. Adults are mounted on pins and the immatures and the genitalia on Canada-balsam slides. The coordinates are given in the degree-minute-second format for the exact sampling site. In other instances (e.g., old records) the coordinates correspond to the locality and are given as degree-minutes. All coordinates correspond to the WGS 84 system. Voucher specimens are deposited in the MLP, the institutional catalogue



**Figure 1. Left:** Provinces of Argentina. **Right:** numbers of species known from each province, up to 1998 (red) and to March 2014 (blue).

number of the vouchers is indicated as (C-xxxx). The method of capture is indicated as follows: for adults, (net) for hand net, (CDC) for CDC-type traps and for immatures, (dip) dipper, with no indication of when the method is unknown.

An asterisk in the literature list indicates the publications used here. Abbreviations of genera and subgenera follow Reinert (2009), the species classification used is taken from Harbach (2014) and Wilkerson et al. (2015) for tribe Aedini.

## RESULTS

### First records for Argentina

**Culex (Melanoconion) lopesi** Sirivanakarn and Jakob, 1979. **Misiones province:** Bernardo de Irigoyen ( $26^{\circ}14'45''$  S,  $053^{\circ}38'56''$  W), 1M, 1 MG (CDC) (C-2963), 3/XII/2006, D'Oria, M. coll.; Iguazú National Park ( $25^{\circ}40'32''$  S,  $054^{\circ}26'49''$  W), 2 F, (CDC) (C-DS-08, DS-04 (provisory)), 29/V/2006, Lestani, E. coll.

**Culex (Melanoconion) vaxus** Dyar, 1920. **Corrientes province:** Ituzaingó ( $27^{\circ}34'29''$  S,  $056^{\circ}40'17''$  W), 17 M, 17 MG (C-1801/18), 22/IV/1996; Santa Tecla ( $27^{\circ}36'36''$  S,  $056^{\circ}24'21''$  W) 1 M, 1 MG (C-1711), 20/II/1996; idem, 1 M, 1 MG (C-1711), 20/III/1996; idem, 5 M, 5 MG (C-1239/40),

17/VI/1994; idem, 1 M, 1 MG (C-1290), 12/7/1994; idem, 1 M, 1 MG (C-1663), 20/III/1996, all (CDC) and G. Rossi coll.; Itá Ibaté, ( $27^{\circ}25'18''$  S,  $057^{\circ}19'35''$  W), 1 M, 1 MG (C-1124), all (CDC), G. Rossi coll. **Entre Ríos province:** Concordia, Puerto Luis, ( $31^{\circ}15'3''$  S,  $057^{\circ}57'24''$  W), 1 M, 1 MG (CDC) (C-0126), 19/2/1992, G. Rossi and J. Schanck colls. **Misiones province:** Martires stream ( $27^{\circ}21'53''$  S,  $055^{\circ}57'18''$  W), 1 M, 1 MG (C-1073), 14/II/1994; idem, 1 M, 1 MG (C-1131), 11/IV/1994; idem, 1 M, 1 MG (C-1253), 11/VI/1994, all (CDC), G. Rossi and D. Carpintero colls.; Zaiman Stream ( $27^{\circ}24'37''$  S,  $055^{\circ}53'37''$  W), 1 M, 1 MG (C-1130), 11/IV/1994; idem, 1 M, 1 MG (C-1064), 17/XI/1994, D. Carpintero coll.; idem, 1 M, 1 MG (C-931), 1/IV/1996, all (CDC), G. Rossi coll.; Corpus, Puerto Maní ( $27^{\circ}06'22''$  S,  $055^{\circ}31'19''$  W), 12 M, 12 MG (C-1713/26, 14-18/III/1996; idem, 10 M, 10 MG (C-3048/57), 11/IV/1996; idem, 2 M, 2 MG (C-1614, 1616), 24/IV/1996, all (CDC) and G. Rossi coll.; idem, 3 M, 3 MG (CDC) (C-0842/44), 19/II/1997, F. Krsticevic coll.; idem, 1 M, 1 MG, 1 H, 1 Pe, 1 Le, (dip) (C-0954/55), 16/X/1998, N. Pascual coll.; Candelaria ( $27^{\circ}26'57''$  S,  $055^{\circ}43'58''$  W), 1 M, 1 MG (C-1447), 11/XII/1995; idem, 1 M, 1 MG (C-1602), 14/III/1996, both (CDC), G. Rossi and F. Krsticevic colls.; Itaembé ( $27^{\circ}21'20''$  S,  $056^{\circ}1'57''$  W), 1 M, 1 MG, 14/VIII/1995, G. Rossi coll.; Montecarlo port ( $26^{\circ}35'57''$

S, 054°46'40" W), 1 M, 1 MG (C-1077), 14/II/1994, all (CDC), D. Carpintero coll.

### New provincial records

**Culex (Cux.) apicinus** Philippi, 1865. **Misiones province:** Iguazú (25°35' S, 054°35' W), 1 M, 2 F (C-2998/3000), X/1965, Inst. Nac. Microbiol. coll. Posadas, Villa Cabello (27°21' S, 055°55' W) and, Miguel Lanus (27°25' S, 055°52' W), more than one thousand larvae captured by *Brigada anti aegypti* (Posadas Municipality) coll., E. Gauto, G. Rossi det.

**Culex (Cux.) bidens** Dyar, 1922. **La Pampa province:** Santa Rosa, (36°37' S, 064°18' W), 2 M, 2 MG, (net) (C-2914 and 2936), V/1986, D. Carpintero coll.

**Culex (Cux.) eduardoi** Casal and García, 1968. **Corrientes province,** Santa Tecla (27°36'36" S, 056°24'21" W), 2 M, 2 MG (CDC) (C-1250-51), 17/VI/1994, G. Rossi coll.

**Culex (Cux.) lahillei** Bachmann and Casal, 1962. **Corrientes province,** San Nicolás (farm), (28°39'21" S, 057°26'04" W), 1 F (net) (C-2782), 16/IX/2009, G. Spinelli coll. **Santa Fé province,** Rosario (32°57' S, 060°37' W), 1 F, (net) (C-2993), X/1996, D. Carpintero coll.

**Culex (Cux.) pipiens** Linnaeus, 1758 (hybrids form). **Corrientes province,** Paso de los Libres (29°42' S, 057°5' W), 1 M, 1 MG, (C-2974), 19/VII/1967, J. P. Duret coll.

**Culex (Cux.) tatoi** Casal and García, 1971. **Corrientes province,** Monte Caseros, National Route 14 and the bridge over the Mocoreta river (30°37'38" S, 057°58'56" W), 1 M 1 MG (CDC) (C-0021), 18/V/1989, Marino, H., A. Maciá coll.; Santa Tecla (27°36'36" S, 056°24'21" W), 2 M, 2 MG (C-1109, 1112), G. Rossi coll.; Ituzaingo (27°34'29" S, 056°40'17" W), 1 M, 1 MG, (C-1509), 14/II/1996; idem, 6 M, 6 MG (C-1510, 1538, 1660, 1788, 1792, 1795), 24/VI/1996, all (CDC), G. Rossi coll.; Villa Olivari (27°36'11" S, 056°45'48" W), 1 M, 1 MG (C-1667), 22/V/1996; idem, 2 M, 2 MG (C-1523, 1526), 24/VI/1996, (CDC) G. Rossi coll. **Misiones province,** Candelaria, (27°26'57" S, 055°43'58" W), 5 M, 5 MG, 3 H, 3 Pe, (dip), 24/VI/1996, F. Krsticevic coll.; Corpus, Puerto Maní, (27°06'22" S, 055°31'19" W), 1 M, 1 MG, 14/III/1996, (CDC), G. Rossi coll.

**Culex (Cux.) usquatus** Dyar, 1918. **Corrientes province,** Santa Tecla (27°36'36" S, 056°24'21" W), 1 M. 1 MG (CDC) (C-1241), 17/VI/1994, G. Rossi coll.

**Culex (Mcx.) imitator** Theobald, 1903. **Salta province,** San Ramón de la Nueva Orán (23°07' S, 064°18' W) 1 M, 1 MG, (C-2923), XI/1963, H. Hepper coll.

**Culex (Mel.) oedipus** Root, 1927. **Corrientes province,** Monte Caseros, (30°15'43" S, 057°39'8" W), 7 M, 7 MG, 5 F, 11 Pe (dip, reared) (C-0038/0049), 7/IX/1989, J. Schnack coll.

**Sabethes (Sbo.) chloropterus** von Humboldt, 1819. **Santa Fé province,** Villa Guillermina (28°13' S, 059°26' W), 5 F, (C-3011 (2 spec.), C-3248 (3 spec.)) (net), 5/V/1949, Inst. Nac. Microbiol. coll.

**Wyeomyia (Mya.) oblita** (Lutz, 1904). **Tucumán province,** Horco Molle (26°46' S, 065°19' W), 1 F, (C-3012), XI/1960, Inst. Nac. Microbiol. coll.

### Extent of distribution within the provinces

**Anopheles (Nys.) albitarsis** Lynch Arribálzaga, 1878. **Buenos Aires province,** Tandil (37°20'13" S, 059°07'58" W), 1 M (lighth trap) (C-2940), II/2003, P. Dellapé coll.

**Anopheles (Ano.) annulipalpis** Lynch Arribálzaga, 1878. **Entre Ríos province,** Concepción del Uruguay (32°30' S, 58°14' W), 1 F (C-2984), V/1969, Hepper H. coll. **Misiones province:** Wanda (25°58' S, 054°36' W), 3 F (C-2981/83) MLP, VIII/1972, H. Hepper coll. **Salta province:** Tartagal (22°31' S, 063°46' W), 1 F, (C-2980), IX/1963, H. Hepper coll.

**Anopheles (Nys.) argyritarsis** Robineau-Desvoidy, 1827. **Misiones province:** Iguazú, Cabureí (25°40' S, 054°08' W), 1 F (C-3041), X/1989, D. Carpintero (Sr.) coll.

**Anopheles (Nys.) darlingi** Root, 1928. **Corrientes province:** Itá Ibaté (27°25' S, 057°19' W), 7 L (dip), (C-0924/30). X, XII/1997 and I/1998, Vallejos and Losokan (MSP) colls.

**Anopheles (Nys.) parvus** Chagas, 1907. **Misiones province:** Bernardo de Irigoyen (26°14'47" S, 053°38'56" W), 1 F (CDC) (C-2973), 3/XII/2006, M. D'Oría coll.

**Culex (Ads.) amazonensis** (Lutz, 1905). **Misiones province:** Puerto Maní, Corpus (27°06'22" S, 055°31'19" W), 1 M, 1 MG (CDC) (C-3045), 11/IV/1996, G. Rossi coll.

**Culex (Car.) soperi** Antunes and Lane, 1937. **Misiones province:** Wanda (25°58' S, 054°36' W), 1 M (C-2760), 01/VIII/1994, D. Carpintero (Sr.) coll. and det.

**Culex (Cux.) apicinus** Philippi, 1865. **Mendoza province:** Las Heras, San Ramón (32°51' S, 68°47' W) 1 F (C-2995), X/1983, D. Carpintero (Sr.) coll; **Salta Province,** Tartagal (22°31' S, 063°46' W), 1 M, 1 MG, IX/1963, H. Hepper coll.

**Culex (Cux.) brethesi** Dyar, 1919. **Corrientes province:** Rincón del Socorro farm (28°40'44" S, 057°26'06" W), 1 M, 1 MG (net) (C-2776), 5/IX/2009, G. Spinelli coll.

**Culex (Cux.) cuyanus** Duret, 1968. **Mendoza province:** Jocolí and National Route 40 (32°41' S, 068°40' W), 1 M, 1 MG (C-2294), 9/XI/1983; accessing Mendoza on National Route 40 (32°78' S, 068°74' W), 1 H C-3036), 9/XI/1983, Carpintero, D. coll.

**Culex (Cux.) chidesteri** Dyar, 1921. **Chaco province:** Tres Estacas (26°54'57" S, 061°36'50" W), 2 F (C-3005/06) (human bait), 9/VII/2011, G. Marti and A. Balsalobre colls.

**Culex (Cux.) fernandezi** Casal, García and Cavallieri, 1966. **Salta province:** Tartagal (22°31' S, 063°46' W, 478 masl), 1 F (C-2992), 1/IX/1963, H. Hepper coll.

**Culex (Mel.) serratimarge** Root, 1927. **Corrientes province:** Batel stream and bridge at route 6 (28°17'40" S, 058°01'50" W, 65 masl), 2 M, 2 MG, (net) (C-2946, 3829), 8/XII/2010, G. Spinelli, G. Rossi colls.

***Psorophora (Pso.) holmbergi*** Lynch Arribálzaga, 1891. **Buenos Aires province:** Olavarría (36°52' S, 060°18' W), 1 F (human bait) (C-2768), XI/2011, Rural Zoonosis (Buenos Aires Province) coll.

***Psorophora (Pso.) pallescens*** Edwards, 1922. **Santiago del Estero province:** Termas de Río Hondo (27°29' S, 064°50' W), 1 F (C-2929), VIII/1971, without other data.

***Wyeomyia serratoria*** Dyar and Nuñez Tovar, 1927. **Misiones province:** Bernardo de Irigoyen (26°14'47" S, 053°38'56" W), 1 F (CDC) (C-2969), 3/XII/2006, M. D'Oría coll.

### Records omitted from the literature after 1989

***Wyeomyia (Pho.) fuscipes*** (Edwards, 1922). **Misiones province:** Eldorado, Piray Guazú stream and Natinal Route 12 (26°28' S, 054°39' W), 1 F, (net), 23/VI/1965, García and Casal colls. and det.

***Culex (Mel.) albinensis*** Bonne Wepster & Bonne, 1920. **Santa Fe province:** Vera Dept.: Vera, (29°28' S, 60°13' W) 25/XI/80, (CDC), 1 M, 1 MG; Las Colonias Dept.: marsh, Esperanza (31°28' S, 060°47' W), 15/XI/80, (CDC), 1 M, 1 MG, M. Sabattini and J. Daffner colls, S. Sirivanakarn det.

### DISCUSSION

Forattini and Sallum (1993) considered *Cx. vaxus* a valid species in its own right and removed it from synonymy with *Cx. educator*. According to those authors *Cx. vaxus* occupied the area between Suriname and Argentina but was not present in Central America, though they recommended a review of the museum specimens to establish the distribution of both species. I reviewed the material of the MLP collection corresponding to the provinces of Corrientes and Misiones (Rossi et al. 2002) and concluded that they corresponded those cited by Forattini and Sallum. For this reason in those provinces the assignment of *Cx. educator* should be replaced by *Cx. vaxus*. The mention made of *Cx. educator* in the Formosa province by Darsie et al. (1991) and Hoyos et al. (2011), in Córdoba and Chaco provinces by Visintin et al. (2009, 2010, respectively), and in Misiones province by Duret (1953, 1954) and Castro (1959) should be reviewed since those sightings could possibly have corresponded to *Cx. vaxus*.

Specimens of the province of Misiones captured by E. Lestani part of the catch for the development of his doctoral thesis, therefore *Cx. lopesi* have temporary numbers in the institutional catalogue number of the vouchers.

*An. guarani* (Table 1), has been recently revalidated from the incorrect synonymy with *An. lutzii* (Nagaki et al. 2011). That species was previously registered in the province by Duret (1950) and was more recently reported by Rossi and Lestani (2014) as present in Puerto Iguazú and Esmeralda Provincial Park in Misiones province. Specimens from San Ignacio, Corpus, Puerto Maní, Iguazú National Park, Posadas, and Puerto Rico (all

Misiones province), originally classified as *An. lutzii* and belonging to the MLP collection, were reviewed. Since their characteristics correspond to those of *An. guarani*, the latter is the species present in these localities. Appointments for other locations such as Iguazú National Park, Montecarlo, Eldorado, Puerto Piray, Colonia Caraguatay, Las Delicias, and Los Helechos (Duret, 1950) were specimens not reviewed by me and thus remain to be checked.

Darsie (1985), Mitchell and Darsie (1985), and Campos and Maciá (1998) have omitted consigning the record of *Wy. (Pho.) fuscipes* in Eldorado, Misiones registered by García and Casal (1968), in the absence of considering other records that appeared in the same publication. In fact this appointment configures the first record of the species for Argentina. *Culex. albinensis* is present in Santa Fe according to data presented by Sirivanakarn and Jakob (1981), a province that was omitted by Darsie (1985), Mitchell and Darsie (1985), and Campos and Maciá (1998) in their three publications.

Recently, Micieli et al. (2013) reported the presence of *Culex (Cux.) pipiens* form *molestus* Forskal in the Buenos Aires province, whose identity was confirmed by molecular markers (microsatellites). Being fully aware of the presence of hybrid forms between *Cx. pipiens* and *Cx. quinquefasciatus* in other provinces (Almirón et al. 1986, 1995; Morais et al. 2010; Diez et al. 2011), we decided to examine the specimens in the MLP collection and together with the aforementioned literature citations added the *Cx. (Cux.) pipiens* hybrid forms in Table 1 as separate from *Cx. pipiens* and *Cx. quinquefasciatus*. Clearly, not all specimens in the MLP collection can be differentiated with certainty. These hybrid forms are currently referred to as "Pipiens Complex". Harbach (2012) suggested that the term should be "Pipiens Assemblage" instead of "Complex" by non having the same meaning as used for species of the genus *Anopheles*.

The records of *Cx. mollis* in different provinces should be reviewed, given that species' similarity to *Cx. tatoi*. The two species can be distinguished by the male-genitalia features and by the larval habitat. The *Cx. mollis* larvae are primarily found in natural containers (holes in trees or rocks), whereas the *Cx. tatoi* larvae are found in areas of appreciable water. The *Cx. mollis* assignments of the Corrientes and Misiones provinces in Rossi et al. (2002) were subsequently replaced by *Cx. tatoi*.

For *An. albitarsis*, the city of Tandil (Buenos Aires province), most notably, marks the southernmost region where specimens have been found within the genus *Anopheles*, and an Olavarría (Buenos Aires province) sighting is the southernmost identification for *Ps. holmbergi*.

With respect to *An. annulipalpis*, Carcavallo et al. (1995) recorded the species as being present in the Salta province without providing other data.

The presence of *An. darlingi* in the Corrientes

province, clarifies that the few records referred to in the literature correspond to very small scale maps and, moreover, without any reference to the location in the text (e.g., García and Ronderos 1962; Bejarano 1972), or only to specific provinces (Mitchell and Darsie 1985). These authors mentioned as present at *An. darlingi* in Entre Ríos province as quoted by Bejarano (1959 (1960)) but this author does not mention the province in the reference's work, or other papers dealing with the subject. Thus, *An. darlingi* cannot be considered its presence on the province.

As to *Ps. pallescens*, the only sighting recorded in the province of Santiago del Estero corresponds to the location of Troncal, 40 km from Salavina (Duret 1951) and more than 200 km from Termas de Río Hondo.

The record of *Cx. fernandesi* and *Ae. (Och.) patersoni* in the Misiones province (Lestani et al. 2007) was an error in determination. These specimens, in fact, correspond to the *Cx. dolosus* Complex and to *Ae. (Och.) rhyacophilus*, respectively. Recently, Wilkerson et al. (2015) propose simplified aedine generic designations and restore the classic classification system keeping only some of the changes proposed by them. (See Table 1 for classification of argentine species).

The record of *Cx. imitator* in the Buenos Aires province (Ronderos et al. 1992) is an erroneous assignment because specimens of the collection in the MLP cannot be classified to the level of the species, may belong to the subgenus *Melanoconion* of *Culex*. Thus, *Cx. imitator* cannot be considered its presence in the province.

The following provincial records were taken from the abstracts of congresses (e.g., *Jornadas Regionales sobre Mosquitos*), but these recordings have not appeared in subsequent publications: *Cq. albicosta* (Peryassú) and *Cq. fasciolata* (Lynch A.) in the Corrientes province (Molina 2002); *Cx. apicinus* and *Cx. chidesteri* in the San Juan province (Murúa et al. 2005); and *Cx. rooti* and *Cx. mollis* in the Chaco province (Stein et al. 2002). Leguizamón (1997) mention as “present in Argentina” the subgenus *Stethomyia* of *Anopheles* and *Ctenogoeldia* of *Runchomyia* without any other comment or detail, and also *Johnbelkinia leucopus* (Dyar & Knab) “from the jungle of the Salta province (Orán)”. *Stethomyia* is not very likely to be found in northern Argentina as one of the species has been in Bolivia, and the possibility of finding representatives of *Ru. (Ctenogoeldia)* or *Jb. leucopus* (Dyar & Knab) inhabiting northern South America and Central America, respectively, is highly unlikely. Moreover, the author has not published on the subject, while the current investigators do not mention its presence despite their working in Orán, Salta (Dantur Juri, et al. 2011; Mangudo et al. 2014). For these reasons, those data are not included in the list of mosquitoes present in Argentina.

*Onirion brucei* (Del Ponte & Cerqueira) is known to

be present in the Misiones province, but Harbach and Peyton (2000), on describing the genus, mentioned one female in “Corrientes, Les Piedias, XII.66, Duret (USNM)”. This location is unknown.

Mitchell and Darsie (1985) recorded 208 species of mosquitos in Argentina, but added that they had not taken into account *Aedes aegypti* L. records, not present at that time. Campos and Maciá (1998) brought that total number up to 211 species distributed within 20 genera. Probably some publications either had been lost or had not reached the authors in time—such as Sallum et al. (1988); Rossi (1997); Rosa Freitas (1998) since the manuscript was submitted in 1997. Moreover, small errors in detail have been found in certain assignments—as one mistake subsequently corrected by Mitchell and Darsie (1985) with respect to *Ps. varipes* (Coquillett), along with typographical errors (*Sa. intermedius* in Buenos Aires, *Ps. ferox* in Santa Cruz) The real number of species in Argentina in 1998 was 217.

I have kept species in the list that are of doubtful presence, until the appropriate specimens have been reviewed, e.g., *Cx. educator/Cx. vaxus* (cf. above) and *Cx. mollis/Cx. tatoi* (cf. Casal and García, 1971).

The records that have been added here are the following: two first records for Argentina, 11 new records for different provinces, two records omitted, and an expansion of the distribution of 16 species. Consequently, including these new data, a total of 242 mosquito species, distributed over 23 provinces, are represented in Argentina (Table 1 and Figure 1).

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## LITERATURE CITED

To the reference list submitted by Mitchell and Darsie (1985) and Campos and Maciá (1998) are added any publications overlooked at that time plus those articles appearing from 1998 to present. An asterisk (\*) indicates those used in this paper.

- \*Almirón, W.R., S.G. Humeres and C.N. Gardenal. 1995. Distribution and hybridization between *Culex pipiens* and *Culex quinquefasciatus* (Diptera: Culicidae) in Argentina. *Memorias Instituto Oswaldo Cruz* 90(4): 469–473.
- Almirón, W.R. and F. Ludueña Almeida. 1998. *Aedes aegypti* (Diptera: Culicidae) en Córdoba, Argentina. *Revista Sociedad Entomológica Argentina* 57(1–4): 27–28.
- Almirón, W.R. and G.C. Rossi. 2005. Culicidae, Mosquitos. pp. 75–83. in: O.D. Salomón (ed.). *Artrópodos de Interés Médico en la*

- Argentina. Enfermedades Transmisibles. Monografía N° 6. Fundación Mundo Sano, Buenos Aires.
- Arnell, J.H. 1976. Mosquito studies (D.C) XXXIII. A revision of the Scapularis Group of *Aedes* (*Ochlerotatus*). Contributions American Entomological Institute 13(3): 1-144.
- Augier, L. 1998. Presencia de *Aedes aegypti* (Diptera: Culicidae) en Tucumán, Argentina. Revista Sociedad Entomológica Argentina 57(1-4): 66.
- Augier, L. 2001. Primer cita de *Anopheles* (*Nyssorhynchus*) *rangeli* (Diptera: Culicidae) para la Argentina. Revista Sociedad Entomológica Argentina 60(1-4): 193-194.
- Augier, L.M., M.J. Dantur Juri, and G.A. Molina, (2003). Redescrpción de la larva y la pupa de *Toxorhynchites* (*Lynchiella*) *gadeloupensis* (Diptera: Culicidae). Revista Sociedad Entomológica Argentina 62(1-2): 99-106.
- Avilés, G., G. Rangeon, V. Vomdam, A. Briones, P. Baroni, D. Enría, and M.S. Sabattini. 1999. Dengue reemergence in Argentina. Journal Emerging Infectious Diseases 5(4): 575-578.
- Avilés, G., R. Cechini, M.E. Harrington, J. Cichero, R. Asís and E. Ríos. 1997. *Aedes aegypti* in Córdoba Province Argentina. Journal American Mosquito Control Association 13(3): 255-258.
- \*Bejarano, J.F.R. 1959 (1960). *Anopheles* de la Republica Argentina y su relación con el Paludismo. Primeras Jornadas entomoepidemiológicas Argentinas 1: 305-329
- \*Bejarano, J.F.R. 1972. Fluctuacion coriologica de *Anopheles* (*Nyssorhynchus*) *darlingi* Root, 1926 (Diptera: Culicidae). Revista Sociedad Entomológica Argentina 34(1-2): 11-18.
- Brewer, M., M.L. Buffa and W. Almirón. 1987. *Culex pipiens quinquefasciatus* y *Culex pipiens pipiens* en Córdoba, Argentina. Revista Peruana de Entomología 29: 69-73
- \*Brewer, M.M., W. Almirón, N. Bianchini and L. Buffa. 1991. Fauna de Culicidae (Diptera) de Córdoba, República Argentina. Boletín Academia Nacional Ciencias Córdoba 59(3-4): 239-247.
- \*Burroni, N., V. Loetti, G. Freire, O. Jensen and N. Schweigmann. 2007. New record and larval habitats of *Culex eduardoi* (Diptera: Culicidae) in an irrigated area of Patagonia, Chubut province, Argentina. Memorias Instituto Oswaldo Cruz 102(2): 237-239.
- Campos, R.E. 2010. *Eryngium* (Apiaceae) phytotelmata and their macroinvertebrate communities, including a review and bibliography. Hydrobiologia 652: 311-328.
- Campos, R.E. 2011. Expanding the distribution of two species of mosquitoes (Diptera: Culicidae) in Argentina and notes on their bionomics. Revista Sociedad Entomológica Argentina 70(3-4): 379-381.
- \*Campos, R.E. and A. Maciá. 1998. Culicidae. pp. 291-303 in: J.J. Morrone and S. Coscarón (eds.). Biodiversidad de Artrópodos Argentinos. Una perspectiva biotaxonomica. La Plata: Ed. Sur.
- Campos, R.E., G. Spinelli and M. Mogi. 2011. Culicidae and Ceratopogonidae (Diptera: Nematocera) inhabiting phytotelmata in Iguazú National Park, Misiones province, subtropical Argentina. Revista Sociedad Entomológica Argentina 70(1-2): 111-118.
- Campos, R.E., and T.J. Zavortink. 2010. Description of the larva and pupa and redescription of the adults of *Isostomyia paranensis* (Brèthes) (Diptera: Culicidae). Zootaxa 2689: 27-36.
- Carbajo, A.E., N. Schweigmann, S.I. Curto, A. De Garín and R. Bejarán. 2001. Dengue transmission risk maps of Argentina. Tropical Medicine and International Health 6(3): 170-183.
- \*Carcavallo, R.U., S.I. Curto De Casas and J.J. Burgos. 1995. Blood Feeding Diptera: Epidemiological significance and relation to the climate change. Entomología y Vectores 2(2-3): 35-60.
- Carpintero, D.J. and M.N. Leguizamón. 2004. Description of a new *Culex* (*Culex*) species (Diptera: Culicidae) from La Pampa province, Argentina, and a preliminary list of the mosquitoes of the province. Studia Dipterologica 11(2): 501-503.
- Casal, O.H. and M. García. 1966. Una nueva especie de *Wyeomyia* (*Dendromyia*) de la República Argentina. (Diptera: Culicidae). Physis 26(71): 155-162.
- Curto S.I., Boffi R., Carbajo A.E., Plastina R. and Schweigmann N. 2002. Reinfestación del territorio argentino por *Aedes aegypti*. Distribución geográfica (1994-1999); pp. 127-137: in: O.D. Salomón, Actualizaciones en Artrópodos Sanitaria Argentina, Fundación Mundo Sano, Buenos Aires.
- Dantur Juri, M.J., M. Stein and M.A.M. Sallum. 2011. Occurrence of *Anopheles* (*Anopheles*) *neomaculipalpus* Curry in north-western Argentina. Journal Vector Borne Diseases 48: 44-46.
- Dantur Juri, M.J., M. Stein, G.C. Rossi, J.C. Navarro, G. Galante, M. Zaidenberg and M.A.M. Sallum. 2012. New records of mosquito species (Diptera: Culicidae) for northwestern of Argentina. Journal American Mosquito Control Association 28(2): 111-113.
- \*Dantur Juri, M.J., M. Zaidenberg and W. Almirón. 2003. Fluctuación estacional de *Anopheles* (*Anopheles*) *pseudopunctipennis* (Diptera: Culicidae) en un área Palúdica de Salta, Argentina. Entomología y Vectores 10(4): 457-468.
- Dantur Juri, M.J., M. Zaidenberg and W. Almirón. 2005. Distribución espacial de *Anopheles pseudopunctipennis* en las Yungas de Salta, Argentina. Revista Saúde Pública 39(4): 565-570.
- \*Darsie R.F. Jr. 1985. Mosquitoes of Argentina. Part I. Mosquito Systematics 17 (3): 153-253.
- \*Darsie, R.F., J.J. Becnel, E.I. Hazard and J.J. García. 1991. A record of mosquito species collected during a larval survey in Argentina and Uruguay (Diptera: Culicidae). Mosquito Systematics 23(1): 50-52.
- D'Oría, J., D. Marti and G.C. Rossi. 2010. Culicidae, province of Misiones, northeastern Argentina. Check List 6(1): 176-179.
- Diaz-Nieto, L.M., A. Maciá, M.A. Perotti and C.M. Berón. 2013. Geographical limits of the southeastern distribution of *Aedes aegypti* (Diptera, Culicidae) in Argentina. PLoS Neglected Tropical Diseases 7(1): 1-6. doi: [10.1371/journal.pntd.0001963](https://doi.org/10.1371/journal.pntd.0001963)
- Diéz, F., V.J. Bresler, E.M. Quirán and G.C. Rossi. 2011. Nuevos registros de mosquitos (Diptera: Culicidae) en la Provincia de La Pampa, Argentina. Revista Sociedad Entomológica Argentina 70(3-4): 347-349.
- Diéz, F., V.J. Bresler, E.M. Quirán and G.C. Rossi. 2012. Hybrids forms of the *Culex pipiens* Complex (Diptera: Culicidae) in Argentina. Check List 8(2): 251-253.
- Domínguez, C. and S. Lagos. 2001. Presencia de *Aedes aegypti* (Diptera: Culicidae) en la provincia de Mendoza, Argentina. Revista Sociedad Entomológica Argentina 60(1-4): 79-80.
- \*Duret J.P. 1950. Contribucion al conocimiento de la distribucion geografica de los culicidos argentinos. (Diptera: Culicidae). Revista Sanidad Militar Argentina 49: 363-380.
- \*Duret, J.P. 1951. Contribución al conocimiento de la distribución geográfica de los culicidos argentinos (Diptera: Culicidae). Parte III. Revista Sanidad Militar Argentina 50(2): 211-227.
- \*Forattini, O.P. and M.A.M. Sallum. 1993. Taxonomic study of some species of the Educator Group of *Culex* (*Melanoconion*) (Diptera: Culicidae). Mosquito Systematics 25(2): 89-109.
- \*García, M. and O.H. Casal. 1968. Siete especies de Culicidae (Diptera) nuevas para la entomofauna Argentina. Physis 28(76): 107-109.
- \*García, M. and R.A. Ronderos. 1962. Mosquitos de la República Argentina. 1. Tribu Anophelini. (Diptera: Culicidae: Culicinae). Comisión Investigaciones Científicas, Buenos Aires. 3: 103-212.
- Goenaga, S., C. Fabbri, J. Rondán Dueñas, C. Gardenal, G.C. Rossi, M. Morales, D. Enría and S. Levis. 2012. Isolation of yellow fever virus from mosquitoes in Misiones province, Argentina. Vector Borne and Zoonotic Diseases 12(11): 1-8. doi: [10.1089/vbz.2011.0730](https://doi.org/10.1089/vbz.2011.0730)
- Grech, M., A. Visintin, M. Laurito, E. Estallo, P. Lorenzo, I. Rocca, M. Korin, F. Goya, F. Ludueña-Almeida and W. Almirón. 2012. New records of mosquito species (Diptera: Culicidae) from Neuquén and La Rioja provinces, Argentina. Revista Saúde Pública 46(2): 387-389.

- Harbach, R.E. 1991. A new subgenus of the Genus *Sabethes* (Diptera: Culicidae). *Mosquito Systematics* 23(1): 1–9.
- Harbach, R.E. 1994. The subgenus *Sabethinus* of *Sabethes* (Diptera: Culicidae). *Systematics Entomology* 19: 207–234.
- \*Harbach, R.E. 2012. *Culex pipiens*: species versus species complex — taxonomic history and perspective. *Journal American Mosquito Control Association* 28(4s): 10–23.
- \*Harbach, R.E. 2014. Mosquito taxonomic inventory. Accessed at <http://www.mosquito-taxonomic-inventory.info>, May 2014.
- Harbach, R.E. and E.L. Peyton. 1990. Transfer of the subgenus *Davismyia* from *Wyeomyia* to *Sabethes* and description of the type species, *Miomyia petrocchia* (Diptera: Culicidae). *Mosquito Systematics* 22(3): 149–159.
- Harbach, R.E. and E.L. Peyton. 1992. A new subgenus of *Culex* in the Neotropical region (Diptera: Culicidae). *Mosquito Systematics* 24(3): 242–252.
- Harbach, R.E. and E.L. Peyton. 1993. Morphology and evolution of the larval maxilla and its importance in the classification of the Sabethini (Diptera: Culicidae). *Mosquito Systematics* 25(1): 1–16.
- \*Harbach, R.E. and E.L. Peyton. 2000. Systematics of *Onirion*, a new genus of Sabethini (Diptera: Culicidae) from the Neotropical Region. *Bulletin National History Museum* 69(2): 115–169.
- \*Hoyos, C.B., D. Banger, G.A. Jara and M. Stein. 2011. New records of mosquito species in the province of Formosa, northeastern region of Argentina. *Journal American Mosquito Control Association* 27(1): 77–78.
- Hribar, M.N. and L.J. Hribar. 2006. Location and deposition of the type specimens of *Culex scheuberi*, Carpintero and Leguizamón, *Ochlerotatus jorgi* (Carpintero and Leguizamón), and *Orthopodomyia peytoni* Leguizamón and Carpintero (Diptera: Culicidae). *Zootaxa* 1024: 37–40.
- Judd, D.D. 1996. Review of the systematic and phylogenetic relationship of the Sabethini (Diptera: Culicidae). *Systematic Entomology* 21: 129–150.
- Judd, D.D. 1998a. Exploring component Stability using life-stage concordance in Sabethine mosquitoes (Diptera: Culicidae). *Cladistics* 14: 63–93.
- Judd, D.D. 1998b. Review of a bromeliad-ovipositing lineage in *Wyeomyia* and the resurrection of *Hystatomyia* (Diptera: Culicidae). *Annals Entomological Society America* 91(5): 571–589.
- Lane, J. 1953. Neotropical Culicidae. Vol. I and II. São Paulo: University of São Paulo. 1112 pp.
- Laurito, M., A.M. Visintin and W.R. Almirón. 2008. *Culex saltanensis* morphological redescription of the immature stages. *Journal American Mosquito Control Association* 24(2): 203–210.
- Laurito, M. & W.R. Almirón. 2013. Phylogenetic relationships of *Culex* (*Culex*) species from Argentina based on morphological characters (Diptera, Culicidae). *Zootaxa* 3652: 117–155.
- Laurito, M., W.R. Almirón and G.C. Rossi. 2009. Morphological redescription of the immature and adult stages of *Culex* (*Culex*) *acharistus* Root (Diptera: Culicidae). *Zootaxa* 2263: 21–30.
- Laurito, M., W.R. Almirón and G.C. Rossi. 2011. Description of the immature stages and redescription of the adults of *Culex* (*Culex*) *lahillei* Bachmann and Casal (Diptera: Culicidae). *Zootaxa* 2915: 29–38.
- Laurito, M., W.R. Almirón and G.C. Rossi. 2011. Description of the immature stages of *Culex* (*Culex*) *ameliae* Casal and *Culex* (*Culex*) *articularis* Philippi (Diptera: Culicidae). *Zootaxa* 2778: 58–68.
- Laurito, M., A.M. Visintin, P.R. Lorenzo, C.I. Berrón, N. Diez and W.R. Almirón. 2013. New records of mosquito species (Diptera: Culicidae) from Catamarca and Santa Fe provinces, Argentina. *Revista Sociedad Entomológica Argentina* 72(3–4): 215–217
- Leguizamón, M.N. 1997. Preliminary list of Diptera Culicidae of Argentina and Uruguay. *Journal American Mosquito Control Association* 13(2): 124.
- Leguizamón, M.N. and D.J. Carpitnero. 2004. Description of a new species of *Orthopodomyia* (Diptera: Culicidae) from the Neotropical Region. *Studia Dipterologica* 11(1): 203–205.
- Leguizamón–Hribar, M.N. and L. Hribar. (2006). Location and deposition of the type specimens of *Culex scheuberi* Carpintero and Leguizamón, *Ochlerotatus jorgi* (Carpintero & Leguizamón), and *Orthopodomyia peytoni* Leguizamón & Carpintero (Diptera: Culicidae). *Zootaxa* 1204: 37–40.
- Lestani, E.A., G.C. Rossi and W. R. Almirón. 2007. Culicidofauna del Parque Nacional Iguazú y alrededores: cuatro especies nuevas para Misiones. *Biología Acuática* 23: 64.
- Lestani, E.A. and G.C. Rossi. 2012. Description of the female, pupa, and larva of *Culex Melanoconion bahiensis* Duret, and redescription of the male (Diptera: Culicidae). *Zootaxa* 3323: 57–63.
- Ludueña Almeida, F., W.R. Almirón, A. Zapata and D. Gorla. 2004. Culicidae (Diptera) del arco sur de la Laguna de Mar Chiquita (Córdoba, Argentina) y su importancia sanitaria. *Revista Sociedad Entomológica Argentina* 63(1–2): 25–28.
- Maciá, A. 1995. Ampliación de la distribución geográfica de *Haemagogus spegazzini* (Diptera: Culicidae) a la provincia de Mendoza (Argentina). *Revista Sociedad Entomológica Argentina* 54(1–4): 58.
- \*Mangudo, C., J.P. Aparicio and R.M. Gleiser. 2014. Notes on the occurrence and habitats of *Sabethes purpureus* in Salta Province, Argentina. *Journal American Mosquito Control Association* 30(1): 57–60.
- \*Micieli, M.V., A.C. Matakchiero, E. Muttis, D.M. Fonseca, M.T. Aliota and L.D. Kramer. 2013. Vector competence of Argentine mosquitoes (Diptera: Culicidae) for West Nile virus (Flaviviridae: Flavivirus). *Journal Medical Entomology* 50(4): 853–862.
- \*Mitchell, C.J. and R.F. Darsie Jr. 1985. Mosquitoes of Argentina. Part II. *Mosquito Systematics* 17(4): 279–360.
- Mitchell, C.J., R.F. Darsie, Jr., T.P. Monath, M.S. Sabattini and J. Daffner. 1985. The use of animal-baited net trap for collecting mosquitoes during Western Equine Encephalitis investigations in Argentina. *Journal American Mosquito Control Association* 1(1): 43–47.
- Mitchell, C.J., T.P. Monath, M.S. Sabattini, J.F. Daffner, C.B. Cropp, C.H. Calisher, R.F. Darsie, Jr. and W.L. Jakob. 1987. Arbovirus isolations from mosquitoes collected during and after 1982–1983 epizootic of western equine encephalitis in Argentina. *American Journal Tropical Medicine Hygiene* 36(1): 117–123.
- Molina, G. 2001. Nuevas citas de *Culex* (*Culex*) (Diptera: Culicidae) para el noroeste argentino. *Revista Sociedad Entomológica Argentina* 60(1–4): 215–216.
- \*Molina, G. 2002. Mosquitos (Diptera: Culicidae) del Parque Nacional Mburucuyá (Corrientes, Argentina). *Revista Sociedad Entomológica Argentina, Publicación Especial* 2: 52.
- \*Morais, S.A. De, C. Moratore, L. Suesdek and M.T. Marrelli. 2010. Genetic- morphometric variation in *Culex quinquefasciatus* from Brazil and La Plata, Argentina. *Memorias Instituto Oswaldo Cruz* 105(5): 672–676.
- Motta, M.A. and R.L. De Oliveira. 1995. *Wyeomyia luteoventralis* Theobald, the type species of the subgenus *Dendromyia* Theobald (Diptera: Culicidae). *Memorias Instituto Oswaldo Cruz* 90(3): 375–385.
- Motta, M.A., R.L. De Oliveira and M.A.M. Sallum. 2007. Phylogeny of genus *Wyeomyia* (Diptera: Culicidae) inferred from morphological and allozyme data. *Canadian Entomology* 139: 591–627.
- Murua, F., W. Almirón, M.L. Bilbao, M.O. Mañá, S. Díaz, A. Molina and F. Cano. 2005. Inventario de mosquitos (Diptera: Culicidae) de la ciudad de San Juan (Argentina). *Revista Sociedad Entomológica Argentina* 64(4): 566–567.
- Muzón, J., G.R. Spinelli, P. Pessacq, N. Von Ellenrieder, A.L. Estevez, P.I. Marino, P.J. Pérez Goodwyn, E.B. Angrisano, F.

- Díaz, L.A. Fernandez, S. Mazzucconi, G.C. Rossi and O.D. Salomón. 2005. Insectos acuáticos de la Meseta del Somuncurá, Patagonia, Argentina. Inventario preliminar. Revista Sociedad Entomológica Argentina 64(3-4): 47-67.
- Muzón, J., G.R. Spinelli, G.C. Rossi, P.I. Marino, F. Díaz and M.C. Melo. 2010. Nuevas citas de insectos acuáticos para la Meseta de Somuncurá, Patagonia, Argentina. Revista Sociedad Entomológica Argentina 69(1-2): 111-116.
- Nagaki, S.S., M. de A. Motta and M.A.M. Sallum. 2010. Redescription of *Anopheles (Nyssorhynchus) antunesi* Galvão & Amaral and description of a new species of the Myzorhynchella Section (Diptera: Culicidae) from Serra da Mantiqueira, Brazil. Memorias Instituto Oswaldo Cruz 105(3): 278-285.
- \*Nagaki, S.S., A.M. Da Silva and M.A.M. Sallum. 2011. Redescription of *Anopheles (Nyssorhynchus) lutzii*, and resurrection of *Anopheles guarani* from synonymy with *An. lutzii* (Diptera: Culicidae). Annals Entomological Society America 104(3): 374-388.
- Oria, G.I., Stein, M., and J.O. Gorodner. 1999. Nuevos aportes de mosquitos (Diptera: Culicidae) de Resistencia, Chaco. Boletín del Instituto de Medicina Regional 22: 21-22.
- Oscherov, E.B., M.E. Bar, M.P. Damborsky and G. Avalos. 2007. Culicidae (Diptera) de la Reserva Provincial Ibera, Corrientes, Argentina. Boletín Malariología Salud Ambiental 47(2): 221-229.
- Pires, D., M. Laurito, W. Almirón and R. Gleiser. 2009. First record of *Culex (Melanoconion) pilosus* from Córdoba city, Argentina. Journal American Mosquito Control Association 25(2): 206-207.
- Pisano, M.B., L.I. Spinsanti, L.A. Díaz, A.A. Farías, W.R. Almirón, V.E. Ré and M.S. Contigiani. 2012. First detection of Rio Negro Virus (Venezuelan equine encephalitis complex subtype VI) in Córdoba, Argentina. Memorias Instituto Oswaldo Cruz 107(1): 125-128.
- Ramirez, V. and M. Alonso de Gorustovic, S. Gomez Molina and N. García. 1999. Registros de *Culex* en un río urbano de Salta, Argentina. IDESIA 17: 19-24.
- Reinert, J.F. 2000. New classification for the composite genus *Aedes* (Diptera: Culicidae: Aedini), elevation of subgenus *Ochlerotatus* to generic rank, reclassification of the other subgenera, and notes on certain subgenera and species. Journal American Mosquito Control Association 16(3): 175-188.
- \*Reinert, J.F. 2009. List of abbreviations for currently valid generic-level taxa in family Culicidae (Diptera). European Mosquito Bulletin 27: 68-76.
- Reinert, J.F., R.E. Harbach and I.J. Kitching. 2008. Phylogeny and classification of *Ochlerotatus* and allied taxa (Diptera: Culicidae: Aedini) based on morphological data from all life stages. Zoological Journal Linnean Society 153: 29-114.
- Reinert, J.F., R.E. Harbach and I.J. Kitching. 2009. Phylogeny and classification of tribe Aedini (Diptera: Culicidae). Zoological Journal Linnean Society 157: 700-794.
- \*Ronderos, R.A., J.A. Schnack and A. Maciá. 1992. Composición y variación estacional de una taxocenosis de Culicidae del ecotono subtropical pampásico (Insecta, Diptera). Graelsia 48: 3-8.
- Ronderos, R.A., J.A. Schnack and G.R. Spinelli. 1991. Species composition and ecology of Culicidae from areas influenced by the Salto Grande Dam Lake. Revista Brasileira Entomología 35(1): 17-28.
- Rosa Freitas, M.G. 1989. *Anopheles (Nyssorhynchus) deaneorum*: A new species in the Albitarsis Complex (Diptera: Culicidae). Memorias Instituto Oswaldo Cruz 84(4): 535-543.
- Rosa Freitas, M.G. and L.M. Deane. 1989. The neotype of *Anopheles albitarsis* (Diptera: Culicidae). Memorias Instituto Oswaldo Cruz 84(3): 289-302.
- Rossi, G.C. 1995. Culicidos nuevos para las provincias de Entre Ríos y Corrientes. Revista Sociedad Entomológica Argentina 54(1-4): 97-98.
- Rossi, G.C. 1996. Adiciones a la fauna de Culicidos de la provincia de Misiones. Revista Sociedad Entomológica Argentina 56(1-4): 111-112.
- \*Rossi, G.C. 1997. Culicidae (Diptera) nuevos para la Argentina y el Paraguay. Neotrópica 43(109-110): 46.
- Rossi, G.C. 2000. Las especies de mosquitos (Diptera: Culicidae) de la provincia de Buenos Aires, Argentina. Revista Sociedad Entomológica Argentina 59(1-4): 141-145.
- Rossi, G.C. 2002. Anophelinae (Diptera: Culicidae): actualización taxonómica y claves para hembras y larvas; pp. 115-126, in: Actualizaciones en Artropodología Sanitaria. Enfermedades Transmisibles. Monografía N° 2. Fundación Mundo Sano, Buenos Aires.
- Rossi, G.C. 2006. Occurrence of extra and anomalous setae on pupal abdominal segment VII of the Dolosus Complex of *Culex* (Diptera: Culicidae). Journal American Mosquito Control Association 22(1): 1-4.
- Rossi, G.C. 2006. Redescription of *Culex (Culex) brethesi* Dyar, 1919 (Diptera: Culicidae). Zootaxa 1312: 25-35.
- Rossi, G.C. and W.R. Almirón. 2004. Clave ilustrada para la identificación de larvas de mosquitos de interés sanitario encontradas en criaderos artificiales en la Argentina; pp. 1-53, Enfermedades Transmisibles. Monografía N° 5. Fundación. Mundo Sano, Buenos Aires.
- Rossi, G.C. and R.E. Harbach. 2008. *Phytotelmatomyia*, a new Neotropical subgenus of *Culex* (Diptera: Culicidae). Zootaxa 1879: 1-17.
- Rossi, G.C. and D. Vezzani. 2011. An update of mosquitoes of Argentine Patagonia with new distribution records. Journal American Mosquito Control Association 27(2): 93-98.
- \*Rossi, G.C., F. Krsticevic and N.T. Pascual. 2002. Mosquitos (Diptera: Culicidae) en el área de influencia de la represa de Yacretá, Argentina. Neotrópica 48: 23-35.
- Rossi, G.C., M. Laurito and W.R. Almirón. 2008. Morphological description of the pupa and redescription of the adults and larva of *Culex (Culex) apicinus* Philippi (Diptera: Culicidae). Zootaxa 1941: 31-42.
- Rossi, G.C., E.A. Lestani and J.M. D'Oria. 2006. Nuevos registros y distribución de mosquitos de la Argentina (Diptera: Culicidae). Revista Sociedad Entomológica Argentina 65(3-4): 51-56.
- \*Rossi, G.C. and E.A. Lestani. 2014. New records of Mosquitoes from Misiones province, Argentina. Revista Sociedad Entomológica Argentina 73 (1-2): 49-53.
- Rossi, G.C., J.C. Mariluis, J.A. Schnack and G.R. Spinelli. 2002. Dipteros vectores (Culicidae y Calliphoridae) de la provincia de Buenos Aires. Cobiobo / Probiota 34: 45 pp.
- Rossi, G.C., N.T. Pascual and F.J. Krsticevic. 1999. First record of *Aedes albopictus* (Skuse) from Argentina. Journal American Mosquito Control Association 15(3): 422.
- Rossi, G.C., E. Scheibler and M.C. Dominguez. 2006. Morphological description of the female, pupa, and larva of *Culex (Culex) cayanus* Duret (Diptera: Culicidae). Zootaxa 1165: 47-55.
- Rossi, G.C., M. Stein and W.R. Almirón. 2008. *Psorophora (Grabhamia) varinervis* (Diptera: Culicidae) Morphological description including pupa and fourth-stage larva previously unknown. Journal Medical Entomology 45(3): 342-346.
- Sallum, M.A.M., W.R. Almirón and O.P. Forattini. 1996. *Culex (Culex) interfor* Dyar (Diptera: Culicidae), morphological description including previously unknown life stages. Memorias Instituto Oswaldo Cruz 91(5): 563-590.
- Sallum, M.A.M., K.M. Kobayashi and O.P. Foratini. 2001. Description of immature stages of *Culex ocosa* Dyar & Knab, *Culex delpontei* Duret and *Culex pereyrai* Duret of the *Melanoconion* subgenus (Diptera: Culicidae). Memorias Instituto Oswaldo Cruz 96(7): 927-943.
- Sallum, M.A.M., K. Uramoto and O.P. Forattini 1988. Redescription and resurrection from synonymy of *Aedes (Ocherotatus)*



*rhyacophilus* Costa Lima, 1933. *Memorias Instituto Oswaldo Cruz* 83(1): 67–77.

Schweigmann, N., D. Vezzani, P. Orellano, J. Kuruc and R. Boffi. 2004. *Aedes albopictus* in an area of Misiones, Argentina. *Revista de Saude Pública* 38: 136–138.

Sirivanakarn, S. 1982. A review of the systematics and a proposed scheme of internal classification of the New World subgenus *Melanoconion* of *Culex* (Diptera: Culicidae). *Mosquito Systematics* 14: 265–333.

\*Sirivanakarn, S. and W.L. Jakob. 1981. Notes on the Distribution of *Culex (Melanoconion)* mosquitoes in Northeastern Argentina (Diptera: Culicidae) *Mosquito Systematics* 13(2): 195–200.

Stein, M., W.R. Almirón and G. Oria. 2000. Culicidae (Diptera) recolectados en la provincia del Chaco. *Resúmenes de las Primeras Jornadas Regionales sobre Mosquitos, UBA*: 76–79.

Stein, M., C.B. Hoyos, G.I. Oria, D. Bangher, D. Weinberg and W.R. Almirón. 2012. New records of mosquito species in the provinces of Chaco and Formosa, Argentina. *Journal American Mosquito Control Association* 28(4): 307–308.

Stein, M., M. Laurito, G.C. Rossi and W.R. Almirón. 2009. Morphological description of the pupa and fourth-stage larva and redescription of the adults of *Psorophora (Psorophora) pallescens* Edwards (Diptera: Culicidae). *Zootaxa* 2306: 51–58.

Stein, M., F. Ludueña-Almeida, J.A. Williner and W. Almirón. 2011. Classification of immature mosquito species according to characteristics of the larval habitat in the subtropical province of Chaco, Argentina. *Memorias Instituto Oswaldo Cruz* 106(4): 400–407.

Stein, M., Rossi, G.C. and Almirón, W.R. 2013. Description of male, pupa and larva of *Psorophora (Grabhamia) paulli* and redescription of the female (Diptera: Culicidae). *Zootaxa* 3686(3): 389–395.

Vezzani, D. and A. Carbajo. 2008. *Aedes aegypti*, *Aedes albopictus*, and dengue in Argentina: current knowledge and future directions. *Memorias Instituto Oswaldo Cruz* 103(1): 66–74.

Vinogradova, E.B. 2003. Ecophysiological and morphological variations in mosquitoes of the *Culex pipiens* Complex (Diptera: Culicidae). *Acta Societatis Zoologicae Bohemicae* 67: 41–50.

\*Visintin, A., M. Laurito, L.A. Díaz, G. Benitez-Musicant, C. Cano, R. Ramírez and W. Almirón. 2009. New records of mosquito species for central and Cuyo regions in Argentina. *Journal American Mosquito Control Association* 25(2): 208–209.

\*Visintin, A., M. Laurito, M. Stein, P. Ramírez, G. Molina, P.R. Lorenzo and W. R. Almirón. 2010. Two new mosquito species and six new provincial records in Argentina. *Journal American Mosquito Control Association* 26(1): 91–94.

Wilkerson, R.C., T.J. Parsons, T.A. Klein, T.V. Gaffigan, E. Bergo and J. Consolim. 1995. Diagnosis by random amplified polymorphic DNA polymerase chain reaction of four cryptic species related to *Anopheles (Nyssorhynchus) albitarsis* (Diptera: Culicidae) from Paraguay, Argentina, and Brazil. *Journal Medical Entomology* 32(5): 697–704.

\*Wilkerson R.C., Y.-M. Linton, D.M. Fonseca, T.R. Schultz, D.C. Price and D.A. Strickman. 2015. Making mosquito taxonomy useful: a stable classification of tribe Aedini that balances utility with current knowledge of evolutionary relationships. *PLoS ONE* 10(7): e0133602. doi: [10.1371/journal.pone.0133602](https://doi.org/10.1371/journal.pone.0133602)

Zavortink, T.J. 1979. Mosquito studies (Diptera, Culicidae) XXXV. The new sabethine genus *Johnbelkinia* and a preliminary reclassification of the composite genus *Trichoprosopon*. *Contributions American Entomological Institute* 17(1): 1–62.

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**Table 1.** Distribution by province of mosquitoes present in Argentina. The provinces represented by the numbers: 1: Buenos Aires, 2: Catamarca, 3: Chaco, 4: Chubut, 5: Córdoba, 6: Corrientes, 7: Entre Ríos, 8: Formosa, 9: Jujuy, 10: La Pampa, 11: La Rioja, 12: Mendoza, 13: Misiones, 14: Neuquén, 15: Río Negro, 16: Salta, 17: San Juan, 18: San Luis, 19: Santa Cruz, 20: Santa Fe, 21: Santiago del Estero, 22: Tierra del Fuego, 23: Tucumán.

| Species   | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|   | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Aedeomyia (Aedeomyia) squamipennis</i> (Lynch Arribalzaga, 1878) | *         |   |   |   |   |   |   |   |   |    |    |    |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Aedes (Geograigius) fluviatilis</i> (Lutz, 1904)                 |           |   | * |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Howadina) aurivittatus</i> Cerqueira, 1943                |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Howadina) martinezi</i> Berlin, 1969                      |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Howadina) pseudodominicci</i> Komp, 1936                  |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Howadina) vanemdeni</i> Martini, 1931                     |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) albifasciatus</i> (Macquart, 1838)          | *         | * | * | * | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) crinifer</i> (Theobald, 1903)               | *         | * | * | * | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) fulvus</i> (Wiedeman, 1828)                 |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) hastatus</i> Dyar, 1922                     |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) jorgi</i> Carpintero & Leguizamón, 2000     |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) meprai</i> Martínez & Prosen, 1953          |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) milleri</i> Dyar, 1922                      |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) nubilis</i> Theobald, 1903                  |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) oligopistus</i> Dyar, 1918                  |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) patersoni</i> Shannon & del Ponte, 1927     |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Aedes (Ochlerotatus) pennai</i> Antunes & Lane, 1938             |           |   |   |   | * | * | * | * | * |    |    | *  | *  |    |    |    |    |    |    |    |    |    | *  |

Continued

Table 1. Continued.

| Species  | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|  | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Aedes (Ochlerotatus) raymondi</i> Del Ponte, Castro & García, 1951        |           |   |   |   |   |   |   | * |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes (Ochlerotatus) rhyacophilus</i> Da Costa Lima, 1933                 |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes (Ochlerotatus) scapularis</i> (Rondoni, 1848)                       | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Aedes (Ochlerotatus) serratus</i> (Theobald, 1901)                        | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Aedes (Ochlerotatus) stigmaticus</i> Edwards, 1922                        |           |   |   |   |   |   |   | * |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes (Ochlerotatus) synchyttus</i> Arnell, 1976                          |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes (Stegomyia) aegypti</i> (Linnaeus, 1762)                            | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Aedes (Stegomyia) albopictus</i> (Skuse, 1895)                            |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes subgenus uncertain casali</i> Schick, 1970                          |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Aedes subgenus uncertain terreus</i> (Walker, 1856)                       |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) annulipalpis</i> Lynch Arribalzaga, 1878            |           |   |   |   |   |   |   | * |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) apicimacula</i> Dyar & Knab, 1906                   | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Anopheles) evandroi</i> Da Costa Lima, 1937                    | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Anopheles) fluminensis</i> Root, 1928                          |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) intermedius</i> (Peryassú, 1908)                    |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) maculipes</i> (Theobald, 1903)                      | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Anopheles) mediopunctatus</i> (Theobald, 1903)                 |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) minor</i> Da Costa Lima, 1929                       | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Anopheles) neomaculipalpus</i> Curry, 1931                     |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) pseudopunctipennis</i> Theobald, 1901               |           |   |   |   |   |   |   | * |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Anopheles) punctimacula</i> Dyar & Knab, 1906                  | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Anopheles) tibiamaculatus</i> (Neiva, 1906)                    |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Kerteszia) bambusicolus</i> Komp, 1937                         |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Kerteszia) cruzi</i> Dyar & Knab, 1908                         |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Kerteszia) laneanus</i> Correa & Cerqueira, 1944               |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) albitarsis</i> Lynch Arribalzaga, 1878          | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Anopheles (Nyssorhynchus) antunesi</i> Galvao & Amaral, 1940              |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) argyritarsis</i> Robineau-Desvoidy, 1827        |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) braziliensis</i> (Chagas, 1907)                 |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) darlingi</i> Root, 1928                         |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) deaneorum</i> Rosa-Freitas, 1989                |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) evansae</i> (Brethes, 1926)                     |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) galvaoui</i> Causey, Deane & Deane, 1943        |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) guarani</i> Shannon, 1928                       |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) lutzii</i> Cruz, 1901                           |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) nigritarsis</i> (Chagas, 1907)                  |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) nuneztovari</i> Gabaldon, 1940                  |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) oswaldoi</i> (Peryassú, 1922)                   |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) parvus</i> (Chagas, 1907)                       |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) pictipennis</i> (Philippi, 1865)                |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |
| <i>Anopheles (Nyssorhynchus) rangeli</i> Gabaldon, Cova-García & López, 1940 |           |   |   |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    |    |    |    |    |    |

Continued

Table 1. Continued.

| Species   | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|   | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Anopheles (Nyssorhynchus) rondoni</i> (Neiva & Pinto)                    | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Anopheles (Nyssorhynchus) strodei</i> Root, 1926                         | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Anopheles (Nyssorhynchus) triannulatus</i> (Neiva & Pinto, 1922)         | *         |   | * |   | * | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Chagasia fajardi</i> (Lutz, 1904)  |           |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) albicosta</i> (Peryassú, 1908)           |           |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) albifera</i> (Prado, 1931)               | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) chrysonotum</i> (Peryassú, 1922)         | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) fasciolata</i> (Lynch Arribalzaga, 1891) | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) hermanoi</i> (Lane & Coutinho, 1940)     |           |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) juxtamazonia</i> (Chagas, 1907)          |           |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) neivai</i> (Lane & Coutinho, 1940)       |           |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) nigricans</i> (Coquillett, 1904)         |           |   | * |   | * | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) shannoni</i> (Lane & Antunes, 1937)      |           |   | * |   | * | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Coquillettidia (Rhynchoataenia) venezuelensis</i> (Theobald, 1912)       | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Culex (Aedinus) amazonensis</i> (Lutz, 1905)                             | *         |   | * |   |   | * | * | * | * |    |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  |
| <i>Culex (Allimanta) tramazaiguesi</i> Duret, 1954                          |           |   | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Anoediopora) cananensis</i> Lane & Withman, 1943                  |           |   | * |   |   | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Anoediopora) chaguanco</i> Casal, García & Fernandez, 1968        |           |   | * |   |   | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Anoediopora) originator</i> Gordon & Evans, 1922                  |           |   | * |   |   | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Anoediopora) soperi</i> Antunes & Lane, 1937                      |           |   | * |   |   | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) acharistus</i> Root, 1927                                  | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) ameliae</i> Casal, 1967                                    |           |   | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) apicinus</i> Philippi, 1865                                | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) articularis</i> Philippi, 1865                             |           |   | * |   | * | * | * | * | * |    | *  |    |    | *  |    |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) bidens</i> Dyar, 1922                                      | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) brethesi</i> Dyar, 1919                                    | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) chidesteri</i> Dyar, 1921                                  | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) coronator</i> Dyar & Knab, 1906                            | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) cuyanus</i> Duret, 1968                                    |           |   | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) declarator</i> Dyar & Knab, 1906                           |           |   | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) dolosus</i> (Lynch Arribalzaga, 1891)                      | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) eduardoi</i> Casal & García, 1968                          | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) fernandezi</i> Casal, García & Cavallieri, 1966            | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) interfor</i> Dyar, 1928                                    | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) lahillei</i> Bachmann & Casal, 1962                        | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) levicastilloi</i> Lane, 1945                               |           |   | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) maxi</i> Dyar, 1928  | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) mollis</i> Dyar & Knab, 1906                               | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) pipiens</i> Complex Linnaeus, 1758                         | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) pipiens molestus</i> Forskal, 1775                         | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) pipiens</i> Linnaeus, 1758                                 | *         | * | * |   | * | * | * | * | * |    | *  |    |    |    | *  |    |    | *  | *  | *  | *  | *  | *  |

Continued

Table 1. Continued.

| Species  | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|  | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Culex (Culex) quinquefasciatus</i> Say, 1823                            | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) riojanus</i> Duret, 1968                                  |           |   |   |   |   |   |   |   |   | *  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Culex) saltanensis</i> Dyar, 1928                                | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) scheuberi</i> Carpintero & Leguizamón, 2004               |           |   |   |   |   |   |   |   | * |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Culex) spinosus</i> Lutz, 1904                                   | *         |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) tatoi</i> Casal & García, 1971                            | *         |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) usquatissimus</i> Dyar, 1922                              |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Culex) usquatius</i> Dyar, 1918                                  |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) albinensis</i> Bonne-Wepster & Bonne, 1920         |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) aliciae</i> Duret, 1953                            |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) bahiensis</i> Duret, 1969                          |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) bejaranoi</i> Duret, 1953                          |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) clarki</i> Evans, 1924                             | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) delpontei</i> Duret, 1969                          | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) dummi</i> Dyar, 1918                               |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) dureti</i> Casal & García, 1968                    |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) educator</i> Dyar & Knab, 1906                     |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) elevator</i> Dyar & Knab, 1906                     |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) glyptosalpinx</i> Harbach, Peyton & Harrison, 1984 |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) idottus</i> Dyar, 1920                             | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) inadmirabilis</i> Dyar, 1928                       |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) intricatus</i> Brethes, 1916                       | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) lopesi</i> Sirivanakarn & Jakob, 1979              |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) lucifugus</i> Komp, 1936                           |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) martinezi</i> Casal & García, 1968                 |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) misionensis</i> Duret, 1953                        |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) ocosa</i> Dyar & Knab, 1919                        |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) oedipus</i> Root, 1927                             | *         | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) orfilari</i> Duret, 1953                           |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) pavlovskiyi</i> Casal & García, 1967               |           |   |   |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) pedroi</i> Sirivanakarn & Belkin, 1980             |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) pilosus</i> (Dyar & Knab, 1906)                    |           |   | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) plectopterae</i> Root, 1927                        |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) rabellii</i> Forattini & Sallum, 1987              |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) ribeirensis</i> Forattini & Sallum, 1985           |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) roofi</i> Rozeboom, 1935                           |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) serratimarge</i> Root, 1927                        |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) taeniopus</i> Dyar & Knab, 1907                    |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) theobaldi</i> (Lutz, 1904)                         |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) vaxus</i> Dyar, 1920                               |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| <i>Culex (Melanoconion) bastagarius</i> Dyar & Knab, 1906                  |           |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |

Continued

Table 1. Continued.

| Species   | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|   | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Culex (Microculex) davisi</i> Kumm, 1942                           |           |   | * |   |   | * |   |   |   |    |    |    | *  |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Culex (Microculex) imitator</i> Theobald, 1903                     |           |   | * |   |   | * |   | * |   |    |    |    | *  |    |    |    |    |    |    |    | *  |    |    |
| <i>Culex (Microculex) neglectus</i> Lutz, 1904                        |           |   | * |   |   | * |   |   |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Microculex) pleuristriatus</i> Theobald, 1903               |           |   | * |   |   | * |   |   |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Phenacomyia) airozai</i> Lane, 1945                         |           |   | * |   |   | * |   |   |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Phenacomyia) corniger</i> Theobald, 1903                    |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    |    |    |    |    |    |    |    |    |
| <i>Culex (Phytotelmatomyia) castroi</i> Casal & Garcia, 1967          | *         |   |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Culex (Phytotelmatomyia) hepperi</i> Casal & Garcia, 1967          | *         |   |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Culex (Phytotelmatomyia) renatoi</i> Lane & Ramalho, 1960          | *         |   |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Haemagogus (Conopostegus) leucocelaenus</i> (Dyar & Shannon, 1924) |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Haemagogus (Haemagogus) janthinomyis</i> Dyar, 1921                |           | * |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Haemagogus (Haemagogus) spegazzini</i> Brethes, 1912               |           | * |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    | *  |    |    |    |    | *  |
| <i>Haemagogus (Haemagogus) capricornii</i> Lutz, 1904                 |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Isoptomyia espini</i> (Martini, 1914)                              |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Isoptomyia paranensis</i> (Brethes, 1910)                          | *         |   |   |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Limatus durhamii</i> Theobald, 1901                                | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Lutzia (Lutzia) bigoti</i> Bellardi, 1862                          |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    |    |    |    | *  |
| <i>Mansonia (Mansonia) flaveola</i> (Coquillett, 1906)                | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Mansonia (Mansonia) humeralis</i> Dyar & Knab, 1916                | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Mansonia (Mansonia) indubitans</i> Dyar & Shannon, 1925            | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Mansonia (Mansonia) pseudotitillans</i> (Theobald, 1901)           | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Mansonia (Mansonia) titillans</i> (Walker, 1848)                   | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Onirion brucei</i> (del Ponte & Cerqueira, 1938)                   |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Onirion personatum</i> (Lutz, 1904)                                |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Orthodomyia peytoni</i> Carpintero & Leguizamón, 2005              |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Orthopodomyia fasciipes</i> (Coquillett, 1906)                     |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Orthopodomyia sampaii</i> Da Costa Lima, 1935                      |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Grabhamia) cingulata</i> (Fabricius, 1805)             | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Grabhamia) confinis</i> (Lynch Arribalzaga, 1891)      | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Grabhamia) dimidiata</i> Cerqueira, 1943               |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Grabhamia) paulli</i> Paterson & Shannon, 1927         |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Grabhamia) varinervis</i> Edwards, 1922                |           |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) albigena</i> (Peryassú, 1908)            | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) albipes</i> (Theobald, 1907)             | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) cyanescens</i> (Coquillett, 1902)        | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) discrucians</i> (Walker, 1856)           | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) ferox</i> (von Humboldt, 1819)           | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Janthinosoma) lutzii</i> (Theobald, 1901)              | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Psorophora) ciliata</i> (Fabricius, 1794)              | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Psorophora) cilipes</i> (Fabricius, 1805)              | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |
| <i>Psorophora (Psorophora) holmbergi</i> Lynch Arribalzaga, 1891      | *         |   | * |   |   | * |   | * |   |    |    | *  |    |    |    | *  |    |    |    | *  |    |    | *  |

Continued

Table 1. Continued.

| Species   | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|---|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
|   | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |
| <i>Psorophora (Psorophora) ochripes</i> (Macquart, 1850)                  | *         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Psorophora (Psorophora) pallidus</i> Edwards, 1922                     | *         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Psorophora (Psorophora) saeva</i> Dyar & Knab, 1906                    | *         |   | * |   | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | * |
| <i>Runchomyia (Runchomyia) reversa</i> (Lane & Cerqueira, 1942)           |           |   | * |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Runchomyia (Runchomyia) frontosa</i> Theobald, 1903                    |           |   | * |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Davismyia) petrocchiae</i> (Shannon & Del Ponte, 1927)       |           |   | * |   |   |   |   | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | * |
| <i>Sabethes (Peytonulus) identicus</i> Dyar & Knab, 1907                  |           |   |   |   | * |   |   |   |   |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Sabethes (Peytonulus) soperi</i> Lane & Cerqueira, 194                 |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Peytonulus) undosus</i> (Coquillett, 1906)                   |           |   | * |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Peytonulus) aurescens</i> (Lutz, 1905)                       |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethes) albiprivus</i> Theobald, 1903                      |           |   |   |   |   | * |   |   | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethes) belisarioi</i> Neiva, 1908                         |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethes) cyaneus</i> (Fabricius, 1805)                      |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethes) purpureus</i> (Theobald, 1907)                     |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    | *  |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethinus) intermedius</i> (Lutz, 1904)                     |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethinus) melanonymph</i> Dyar, 1924                       |           |   | * |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Sabethes (Sabethoides) chloropterus</i> (von Humboldt, 1819)           |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Shannoniana fluvialis</i> (Theobald, 1903)                             |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Toxorhynchites (Ankylorhynchus) purpureus</i> (Theobald, 1901)         |           |   |   |   |   | * |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Toxorhynchites (Lynchiella) bambusicola</i> (Lutz & Neiva, 1913)       |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Toxorhynchites (Lynchiella) cavallerii</i> García & Casal, 1967        |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Toxorhynchites (Lynchiella) guadeloupeensis</i> Dyar & Knab, 1906      |           |   | * |   |   | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Toxorhynchites (Lynchiella) h. separatus</i> (Lynch Arribalzaga, 1891) |           |   |   |   |   | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Toxorhynchites (Lynchiella) solstitialis</i> (Lutz, 1904)              |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Toxorhynchites (Lynchiella) theobaldi</i> (Dyar & Knab, 1906)          |           |   | * |   |   |   |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Trichoprosopon castroi</i> Lane & Cerqueira, 1942                      |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Trichoprosopon compressum</i> Lutz, 1905                               |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Trichoprosopon obscurum</i> Lane & Cerqueira, 1942                     |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Trichoprosopon pallidiventer</i> (Lutz, 1905)                          |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Trichoprosopon simile</i> Lane & Cerqueira, 1942                       |           |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Uranotaenia (Uranotaenia) apicalis</i> Theobald, 1903                  |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    |    |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) davisi</i> Lane, 1943                        |           |   |   |   |   |   |   | * | * |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| <i>Uranotaenia (Uranotaenia) ditaenionota</i> Prado, 1901                 |           |   | * |   |   | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) geometrica</i> Theobald, 1901                |           |   | * |   |   | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) lanei</i> Martínez & Prosen, 19532           |           |   | * |   |   | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) leucoptera</i> Lutz, 1907                    |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) lowii</i> Theobald, 1901                     |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) nataliae</i> Lynch Arribalzaga, 1891         |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Uranotaenia (Uranotaenia) pulcherrima</i> Lynch Arribalzaga, 1891      |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Wyeomyia serratoria</i> Dyar & Nuñez Tovar, 1927                       |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |
| <i>Wyeomyia (Dendromyia) luteoventralis</i> Theobald, 1901                |           |   | * |   | * | * |   | * | * |    |    |    |    |    |    | *  |    |    |    |    |    |    |    | * |

Continued

Table 1. Continued.

| Species   | Provinces |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-----------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|   | 1         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| <i>Wyeomyia (Menolepis) leucostigma</i> Lutz, 1904                    | *         |   |   |   |   |   |   |   | * |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) codiocampa</i> Dyar & Knab, 1907                |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) limai</i> Lane & Cerqueira, 1942                |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) lutzii</i> (Da Costa Lima, 1930)                |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) oblita</i> (Lutz, 1904)                         |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    | *  |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) sabethea</i> Lane & Cerqueira, 1942             |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Miamiya) serrata</i> (Lutz, 1905)                        |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Nunezia) lateralis</i> Petrocchi, 1927                   |           |   |   |   |   |   |   |   | * |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) flabellata</i> (Lane & Cerqueira, 1942)      |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) fuscipes</i> Edwards, 1922                   |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) muehlensii</i> Petrocchi, 1927               |           |   | * |   |   |   |   | * |   |    |    |    | *  |    |    |    |    |    | *  |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) pilicauda</i> Root, 1928                     |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) quasilonigrostris</i> (Theobald, 19807)      |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) tripartita</i> (Bonne-Wepster & Bonne, 1921) |           |   | * |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Phoniomyia) diabolica</i> (Lane & Forattini, 1952)       |           |   | * |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Spilonympha) mystes</i> Dyar, 1924                       |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Triomyia) aporonomia</i> Dyar & Knab, 1906               |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Wyeomyia) arthro stigma</i> Dyar, 1924                   |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    | *  |    |    |    |    |    |    | *  |
| <i>Wyeomyia (Wyeomyia) medioalbipes</i> Lutz, 1904                    |           |   |   |   |   |   |   |   |   |    |    |    | *  |    |    |    |    |    |    |    |    |    | *  |
| <i>Wyeomyia melanocephala</i> Dyar & Knab, 1906                       |           |   | * |   |   |   |   |   | * |    |    |    | *  |    |    | *  |    |    |    |    |    |    | *  |