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**A preliminary bibliographic survey of the insects found in
poultry houses from the Neotropical Region, with remarks on
selected taxa shared with native birds' nests**

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Abstract

Species of insects associated to the habitat of *Gallus gallus* (Aves: Phasianidae) in the Neotropical Region belong to 144 identified species (42 Coleoptera; 14 Diptera; 17 Hymenoptera; 9 Siphonaptera; 1 Lepidoptera; 56 Hemiptera (one hybrid); 5 Dermaptera); 33 identified to genus (21 Coleoptera; 3 Diptera; 7 Hymenoptera; 1 Hemiptera; 1 Blattaria); 37 identified to family (23 Coleoptera; 9 Diptera; 2 Hymenoptera; 1 Lepidoptera; 2 Hemiptera); and 6 to order (2 Coleoptera; 1 Hymenoptera; 1 Siphonaptera; 1 Psocoptera; 1 Dermaptera). Most of the insects are haematophagous ectoparasites (Hemiptera; Siphonaptera; Diptera), detritivores (Coleoptera; Lepidoptera; Diptera; Blattaria), predators (Coleoptera; Diptera; Hemiptera; Dermaptera; Hymenoptera), and parasitoids (Hymenoptera). A total of 46 native American species and/or subspecies of Triatominae (Hemiptera: Reduviidae) were found in chicken houses, from which 18 were also found in birds' nests. It was recently observed that other insects from poultry houses, generally exotic species, had colonized native American birds' nests. Comments and remarks of selected taxa also found in birds' nests from Argentina and other countries are provided.

Key words: Insects, chicken houses, poultry houses, birds' nests, Neotropical Region.

Introduction

Gallus gallus (Linnaeus, 1758) [Aves: Phasianidae] is an exotic bird that lives only in a domestic state. It is reared at one small scale, near human habitations (hen houses, chicken houses, chicken coops), and in industrial scale for production of eggs and meat (poultry houses). The increasing poultry production involves the development of large-scale, man-made, highly managed production systems. High density, confined poultry production systems are stable environments with warm temperatures, high humidity, and large accumulations of poultry manure that provide an ideal habitat for arthropod pests. Because the environments of the various types of production facilities differ, the complex of arthropod pests differs among the systems (Axtell & Arends 1990).

Legner & Olton (1970) reported a worldwide survey of adult predator and scavenger insect populations of many types of domestic animal manure (including poultry), with some sampling in the Neotropical, Palearctic, Ethiopian, and Australian regions, but mostly California and the southwestern United States. Two major premise pests associated with poultry production are the house fly, *Musca domestica* (Linnaeus, 1758) [Diptera: Muscidae], and the lesser mealworm or darkling beetle, *Alphitobius diaperinus* (Panzer, 1797) [Coleoptera: Tenebrionidae]. Both insects, associated with the accumulated manure, have been implicated in the transmission of several avian diseases (Axtell & Arends 1990). Because of this, extensive literature was produced, mostly concerning their control by chemical and biological methods. Species of parasitic Hymenoptera on pupae of Diptera were introduced in several countries (Crespo *et al.* 2002).

On the other hand, it was recently observed that some insects from poultry houses, generally exotic species, had colonized native American birds' nests, and, inversely, some ectoparasites of native birds were recorded on chickens. Therefore, a preliminary bibliographic survey of the insects found in chicken coops, poultry houses, and on chickens from the Neotropical Region is necessary for further comparisons with the insect fauna found in native birds' nests.

Materials and Methods

Authors and years of species' names are separated by a comma, and bibliographic references without a comma. The fleas (Siphonaptera) that are accidental are indicated with an asterisk before their names. Localities, numbers of specimens, collections, and other details are provided when they were stated in original and posterior citations. Papers including insects captured with bait, light and/or pheromone traps inside poultry houses (Perotti 1998, Borges 2006) were not considered here.

Old mentions of larvae in some species of Triatominae (Hemiptera: Reduviidae) probably correspond to the nymphs I and II, without rudiments of pterothecae, and nymphs are referred to as the instars III, IV, and V, when the pterothecae are visible. Immature stages of Triatominae (n, nymphs) are given in roman numbers (I, II, III, IV, V). A single exemplary or more than one are abbreviated with ex. and exx., respectively.

Insect nomenclature was checked, corrected, and actualized from Arias & Delvare (2003) [Hymenoptera: Chalcididae]; De Santis (1980) [Hymenoptera: Parasitica]; Dominguez (2007) [Diptera: Fanniidae: *Fannia*]; Gibson (2009) [Hymenoptera: Pteromalidae: Spalangiinae]; Maldonado Capriles (1990) [Hemiptera: Reduviidae], Galvão *et al.* (2003), with the last modifications commented by Bargues (2009a 2009b) [Reduviidae: Triatominae]; Mazur (1997) [Coleoptera: Histeridae]; Medvedev *et al.* (2010) [Siphonaptera]; Noyes (2010) [Hymenoptera: Chalcidoidea]; Scholtz (1990) [Coleoptera: Trogidae]; Skelley *et al.* (2007), Smith & Skelley (2007), Stebnicka (2002 2003 2004 2007), Stebnicka & Lago (2005) [Coleoptera: Scarabaeidae: Aphodiinae]; Systema Dipteroorum (2010) [Diptera]; Usinger (1966) [Hemiptera: Cimicidae], with the last modification by Di Iorio & Turienzo (2008).

Other names were corrected by Fernando Willyan Trevisan Leivas (Laboratório de Sistemática e Bioecologia de Coleoptera, Universidade Federal do Paraná, Paraná, Brazil) [Histeridae], and Ernest C. Bernard (The University of Tennessee, Entomology and Plant Pathology Department) [Dermaptera; Siphonaptera]. The species of Fanniidae and Muscidae [Diptera] emerged from birds' nests of Argentina were identified by Luciano Patitucci [ANLIS], and the parasitic Hymenoptera by Daniel Aquino, through a courtesy of Norma Díaz (Parasitic Hymenoptera, Entomology Division, Museum of La Plata).

Collections mentioned in the text

ANLIS, Administración Nacional de Laboratorios e Institutos de Salud "Carlos G. Malbrán", Buenos Aires, Argentina.

BMNH, The Natural History Museum, London, UK.

CIANO, Centro de Investigaciones Agrícolas del Noroeste, Instituto Nacional de Investigaciones Agrícolas, Secretaría de Agricultura y Recursos Hidráulicos, Sonora, Mexico.

COEE, Colección Entomológica de la Oficina de Estudios Especiales, Secretaría de Agricultura y Ganadería, Distrito Federal, Mexico [= Instituto Nacional de Investigaciones Agrícolas, Secretaría de Agricultura y Ganadería].

DBUU, Departamento de Biociências, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brazil.

IBSP, Instituto Biológico, São Paulo, Brazil.

IMR, Instituto de Medicina Regional [currently ANLIS]

IOC, Instituto Oswaldo Cruz, Rio de Janeiro, Brazil.

JSMC, Coleção Entomológica "Pe. Jesus Santiago Moure," Departamento de Zoologia, Universidade Federal do Paraná, Paraná, Brazil.

MEPRA, Misión de Estudios de Patología Regional Argentina [only Reduviidae: Triatominae, currently ANLIS].

**Preliminary bibliographic survey of the insects
found in chicken houses, chicken coops, poultry houses and on the birds**

COLEOPTERA**Anobiidae**

Mezium americanum (Laporte, 1840)

BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 43 exx. [JSMC], poultry house (Bicho *et al.* 2005), IV-2002 to III- 2003, 367 exx., 0.84 % of 43945 exx. of Coleoptera, from poultry house of laying hens (Pinto 2005).

Stegobium paniceum (Linnaeus, 1758)

BRAZIL: **São Paulo**: Bauru + Cotia + Itapetininga + Pirassununga, 1985-1988, 15 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined genus

BRAZIL: **São Paulo**: Cotia + Itapetininga, 1985-1988, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Anthicidae

Omanadus floralis (Linnaeus, 1758)

CHILE: central Chile, 25-III to 5-V-1965, hen manure (Legner & Olton 1970).

Omanadus formicarius (Goeze, 1777)

CHILE: central Chile, 25-III to 5-V-1965, hen manure (Legner & Olton 1970).

Undetermined sp.

ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

Carabidae

Somotrichus unifasciatus (Dejean, 1792)

BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 1190 exx. [JSMC], in poultry house (Bicho *et al.* 2005), IV-2002 to III- 2003, 1166 exx., 2.65 % of 43945 exx. of Coleoptera, from a poultry house of laying hens (Pinto 2005), V-2002, 2 exx., VII-2002, 1 ex., VIII-2002, 2 exx., IX-2002, 4 exx., X-2002, 23 exx., XI-2002, 32 exx., XII-2002, 101 exx., I-2003, 184 exx., II-2003, 472 exx., III-2003, 337 exx. (Pinto *et al.* 2006a)

ARGENTINA: **Buenos Aires**: Capilla del Señor, 1997, E. Saini leg., numerous exx. (Cicchino & Saini 2006); Pergamino, 1997, E. Saini leg., particularly abundant in this locality (Cicchino & Saini 2006).

Undetermined genus

BRAZIL: **São Paulo**: Araçatuba + Bastos + Itapetininga + Pirassununga, 1985-1988, 9 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Cerylonidae

Euxestus sp.

BRAZIL: **São Paulo**: Itapetininga, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 394 exx. [JSMC], in poultry house (Bicho *et al.* 2005).

Cucujidae

Ahasverus advena (Waltl, 1834)

BRAZIL: **São Paulo**: Cotia, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Cryptolestes pusillus (Schonherr, 1817)

BRAZIL: **São Paulo**: Cotia + Itapetininga, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined genus

BRAZIL: **São Paulo**: Bady Bassett + Cotia + Pirassununga, 1985-1988, 26 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Curculionidae: Scolytinae*Xyleborus ferrugineus* (Fabricius, 1801)BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 1 ex. [JSMC], in poultry house (Bicho *et al.* 2005).**Undetermined genus**BRAZIL: **São Paulo**: Cotia + Itapetininga, 1985-1988, 6 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).**Dermestidae***Dermestes ater* DeGeer, 1774BRAZIL: **São Paulo**: Campinas, 1462 exx., from poultry droppings under the hen cages (Avancini & Ueta 1990); Araçatuba + Bastos + Itapetininga + Pindamonhangaba + Pirassununga, 1985-1988, 45 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Uberlândia, one of the most frequent natural enemies of larvae and pupae of *Musca domestica* in a poultry house (Menezes *et al.* 2005, 2006, following Lomônaco & Prado 1994).*Dermestes maculatus* DeGeer, 1774BRAZIL: **São Paulo**: Itapetininga + Pindamonhangaba, 1985-1988, 4 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970).

Undetermined sp.BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 3 exx. [JSMC], in poultry house (Bicho *et al.* 2005).**Dytiscidae**

[Undetermined sp.]

BRAZIL: **São Paulo**: Itapetininga, 1985-1988, 11 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).**Elateridae***Esthesopus* sp.BRAZIL: **São Paulo**: Bastos + Cotia, 1985-1988, 4 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).**Histeridae***Abraeus* sp.BRAZIL: **São Paulo**: Araçatuba + Bastos + Cotia + Guararapes + Monte Mor, 1985-1988, 18 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).*Acritus analis* LeConte, 1853BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989).*Acritrus* sp.BRAZIL: **São Paulo**: Bastos, 1985-1988, 12 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); município de Monte Mor, Granja Capuavinha, XI-1992, 14 exx., XII-1992, 3 exx., II-1993, 48 exx., III-1993, 7 exx., IV-1993, 7 exx., V-1993, 5 exx., VI-1993, 20 exx., VI-1993, 8 exx., VIII-1993, 2 exx., IX-1993, 2 exx., collected with Berlese funnel (Gianizella & Prado 1998).*Atholus confinis* (Erichson, 1834)= *Peranus confinis* (Erichson): Legner & Olton 1970.

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970).

Carcinops sp.BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 126 exx., XI-1992, 72 exx., XII-1992, 64 exx., I-1993, 190 exx., II-1993, 34 exx., IV-1993, 48 exx., V-1993, 7 exx., VI-1993, 7 exx., VII-1993, 17 exx., VIII-1993, 8 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Carcinops troglodytes (Paykull, 1811)

BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989); Bastos, 14.62% of all collected Coleoptera (Bruno *et al.* 1993, following Aagesen 1988); Araçatuba + Assis + Bastos + Bady Bassett + Bauru + Birigui + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor + Pindamonhangaba + Pirassununga + São Manuel + Sorocaba, 1985-1988, 1187 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); município de Monte Mor, Granja Capuavinha, IX-1992, 77 exx., X-1992, 194 exx., XI-1992, 606 exx., XII-1992, 248 exx., I-1993, 333 exx., II-1993, 1664 exx., III-1993, 48 exx., IV-1993, 383 exx., V-1993, 286 exx., VI-1993, 325 exx., VI-1993, 227 exx., VIII-1993, 109 exx., IX-1993, 109 exx., collected with Berlese funnel; IX-1992, 72 exx., X-1992, 104 exx., XI-1992, 134 exx., XII-1992, 280 exx., I-1993, 212 exx., II-1993, 63 exx., III-1993, 140 exx., IV-1993, 182 exx., V-1993, 207 exx., VI-1993, 194 exx., VI-1993, 5555 exx., VIII-1993, 67 exx., IX-1993, 106 exx., collected with pitfall traps (Gianizella & Prado 1998); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, 5558 exx. (70,9%), extracted with Berlese funnel (mean 52.57333), 3843 exx. (8,4%), extracted by water flotation (mean 21.53333) (Lopes *et al.* 2007b); **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 6444 exx. [JSMC], in poultry house (Bicho *et al.* 2005), IV-2002 to III-2003, 535 exx., 1.22 % of 43945 exx. of Coleoptera, from poultry house of laying hens (Pinto 2005), V-2002, 1 ex., VI-2002, 2 exx., VIII-2002, 2 exx., IX-2002, 1 ex., X-2002, 21 exx., XI-2002, 22 exx., XII-2002, 126 exx., I-2003, 54 exx., II-2003, 188 exx., III-2003, 119 exx. (Pinto *et al.* 2006b).

Euspilotus arrogans (Marseul, 1855)

BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989); Bastos (Bruno *et al.* 1993, following Aagesen 1988).

Euspilotus modestior (Marseul, 1855)

= *Euspilotus modestians* [sic] Marseul, 1845: Bruno *et al.* 1993.

BRAZIL: **São Paulo**: Bastos (Bruno *et al.* 1993, following Aagesen 1988).

Euspilotus modestus (Erichson, 1834)

BRAZIL: **São Paulo**: Bastos + Bady Bassett + Cotia + Ibiúna + Itapetininga + Mogi das Cruzes + Pirassununga + São Manuel, 1985-1988, 104 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); município de Monte Mor, Granja Capuavinha, IX-1992, 26 exx., X-1992, 19 exx., XI-1992, 21 exx., XII-1992, 9 exx., I-1993, 10 exx., II-1993, 15 exx., III-1993, 5 exx., IV-1993, 4 exx., V-1993, 2 exx., VI-1993, 2 exx., collected with Berlese funnel; IX-1992, 2919 exx., X-1992, 2922 exx., XI-1992, 1058 exx., XII-1992, 1102 exx., I-1993, 1022 exx., II-1993, 239 exx., III-1993, 98 exx., IV-1993, 154 exx., V-1993, 59 exx., VI-1993, 25 exx., VI-1993, 26 exx., VIII-1993, 56 exx., IX-1993, 747 exx., collected with pitfall traps (Gianizella & Prado 1998); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, mean 9.01333 (Berlese funnel), 42.22667 (water flotation) (Lopes *et al.* 2007b).

Euspilotus rubriculus (Marseul, 1855)

BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 213 exx. [JSMC], in poultry house (Bicho *et al.* 2005), IV-2002 to III-2003, 260 exx., 0.59 % of 43945 exx. of Coleoptera, from poultry house of laying hens (Pinto 2005).

Euspilotus sp.

= *Euspitalus* [sic !] sp.: Fernandes *et al.* 1995.

= *Euspilotus* spp.: Lopes *et al.* 2007b.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), VII-1993, 13 exx., VIII-1993, 3 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo**: município de Monte Mor, Granja Capuavinha, IX-1992, 7 exx., XI-1992, 1 ex., XII-1992, 1 ex., II-1993, 2 exx., IV-1993, 2 exx., VIII-1993, 2 exx., IX-1993, 2 exx., collected with Berlese funnel; IX-1992, 177 exx., X-1992, 470 exx., XI-1992, 205 exx., XII-1992, 52 exx., I-1993, 28 exx., II-1993, 3 exx., III-1993, 1 ex., IV-1993, 1 ex., V-1993, 2 exx., VI-1993, 3 exx., VI-1993, 7 exx., VIII-1993, 2 exx., IX-1993, 221 exx., collected with pitfall traps (Gianizella & Prado 1998); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, mean 0.16000 (Berlese funnel), 0.09333 (water flotation) (Lopes *et al.* 2007b).

Euspilotus (Neosaprinus) sp.

BRAZIL: **São Paulo**: Bastos + Bady Bassett + Ibiúna + Itapetininga + Pirassununga, 1985-1988, 67 exx., in poultry

manure accumulated in poultry farms (Bruno *et al.* 1993).

Hister dubius (Lewis, 1888)

BRAZIL: **São Paulo:** Araçatuba + Bastos + Bady Bassett + Cotia + Itapetininga, 1985-1988, 43 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); município de Monte Mor, Granja Capuavinha, X-1992, 1 ex., XII-1992, 2 exx., I-1993, 2 exx., III-1993, 4 exx., IV-1993, 1 ex., collected with Berlese funnel; IX-1992, 42 exx., X-1992, 19 exx., XI-1992, 4 exx., XII-1992, 3 exx., I-1993, 12 exx., II-1993, 3 exx., III-1993, 1 ex., IV-1993, 2 exx., VI-1993, 1 ex., VII-1993, 1 ex., VIII-1993, 1 ex., collected with pitfall traps (Gianizella & Prado 1998).

***Hister* sp.**

BRAZIL: **São Paulo:** Bastos region (Berti Filho *et al.* 1989).

Hololepta quadridentata (Olivier, 1789)

BRAZIL: **São Paulo:** Bady Bassett + Itapetininga, 1985-1988, 13 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); município de Monte Mor, Granja Capuavinha, IX-1992, 3 exx., X-1992, 19 exx., XI-1992, 29 exx., XII-1992, 3 exx., I-1993, 20 exx., II-1993, 91 exx., III-1993, 7 exx., IV-1993, 45 exx., V-1993, 8 exx., VI-1993, 16 exx., VII-1993, 7 exx., VIII-1993, 2 exx., IX-1993, 2 exx., collected with Berlese funnel; IX-1992, 13 exx., X-1992, 104 exx., XI-1992, 37 exx., XII-1992, 164 exx., I-1993, 184 exx., II-1993, 43 exx., III-1993, 140 exx., IV-1993, 199 exx., V-1993, 65 exx., VI-1993, 73 exx., VII-1993, 18 exx., VIII-1993, 7 exx., IX-1993, 10 exx., collected with pitfall traps (Gianizella & Prado 1998); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, mean 0.56000 (Berlese funnel), 0.77333 (water flotation) (Lopes *et al.* 2007b).

***Hololepta* sp.**

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 10 exx., XI-1992, 4 exx., XII-1992, 4 exx., I-1993, 5 exx., II-1993, 6 exx., IV-1993, 4 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Phelister haemorrhous Marseul, 1853

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970).

Phelister pumilus (Erichson, 1834)

= *Carcinops pumilio*: Legner & Olton 1970, Crespo & Lecuona 1996.

ARGENTINA: **Buenos Aires:** [locality not stated] (Crespo & Lecuona 1996).

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970); in poultry manure (Bruno *et al.* 1993, following Legner & Olton 1970).

***Phelister* sp.**

BRAZIL: **São Paulo:** município de Monte Mor, Granja Capuavinha, IX-1992, 1 ex., X-1992, 4 exx., XI-1992, 7 exx., XII-1992, 2 exx., I-1993, 7 exx., II-1993, 16 exx., III-1993, 82 exx., IV-1993, 40 exx., V-1993, 1 ex., VI-1993, 6 exx., VII-1993, 1 ex., VIII-1993, 2 exx., IX-1993, 2 exx., collected with Berlese funnel (Gianizella & Prado 1998)

***Teretrius* sp.**

BRAZIL: **São Paulo:** Araçatuba + Bastos + Bady Bassett, 1985-1988, 10 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined spp.

BRAZIL: **São Paulo:** Campinas, 243 individuals of another species of histerid, 131 exx. of a third species of histerid (Avancini & Ueta 1990).

ARGENTINA: **Buenos Aires:** Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

Hydrophilidae

***Dactylosternum* sp.**

BRAZIL: **Rio Grande do Sul:** Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 93 exx. [JSMC], in poultry house (Bicho *et al.* 2005).

Undetermined genera

BRAZIL: **São Paulo:** Bady Bassett + Cotia + Itapetininga + Pirassununga + São Manuel + Sorocaba, 1985-1988, 434 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Leioidae**Undetermined sp.**

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), VI-1993, 6 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Mycetophagidae

Litargus balteatus LeConte, 1856

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970).

***Litargus* sp.**

BRAZIL: **São Paulo**: Cotia + Ibiúna + Monte Mor + São Manuel, 1985-1988, 32 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Nitidulidae

Carpophilus hemipterus (Linnaeus, 1758)

BRAZIL: **São Paulo**: Bastos + Cotia + São Manuel, 1985-1988, 18 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined genera

BRAZIL: **São Paulo**: Bastos + Bauru + Ibiúna, 1985-1988, 24 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Rhizophagidae***Monotoma* sp.**

BRAZIL: **São Paulo**: Bastos + Bady Bassett + Bauru + Cotia + Ibiúna + Itapetininga + Mogi das Cruzes + Pirassununga + São Manuel + Sorocaba, 1985-1988, 247 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Scarabaeidae**Aphodiinae**

Aphodius cuniculus Chevrolat, 1864

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970)

Aphodius lividus (Olivier, 1789)

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970)

Ataenius steinheili Harold, 1869

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970)

Undetermined subfamily**Undetermined genera**

BRAZIL: **São Paulo**: Bastos + Bady Bassett + Cotia + Itapetininga, 1985-1988, 12 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Staphylinidae

Aleochara puberula Klug, 1832

BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989).

Bisnius sordidus (Gravenhorst, 1802)

= *Philonthus chilensis* (Solier, 1849): Ripa 1986.

= *Philonthus sordidus* (Gravenhorst, 1802): Berti Filho *et al.* 1989.

BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989).

CHILE: central Chile, in poultry farms (Ripa 1986).

Creophilus erythrocephalus (Fabricius, 1775)

ARGENTINA: **Buenos Aires**: [locality not stated] (Crespo & Lecuona 1996).

CHILE: central Chile, in poultry farms (Ripa 1986).

Creophilus maxillosus (Linnaeus, 1758)

CHILE: central Chile, in poultry farms (Ripa 1986).

“*Hyponigrus humeralis* (Erichson)”

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970)

Neophypnus sp.

BRAZIL: **São Paulo**: Bady Bassett + Bauru + Cotia, 1985-1988, 25 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Ontholestes sp.

BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 190 exx. [JSMC], in poultry house (Bicho *et al.* 2005).

Paederus sp.

BRAZIL: **São Paulo**: Pindamonhangaba, 1985-1988, 1 ex., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Philonthus hepaticus Erichson, 1840

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970).

Philonthus longicornis Stephens, 1832

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970).

Philontus spp.

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970).

Piestus sp.

BRAZIL: **São Paulo**: Bady Bassett, 1985-1988, 1 ex., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Scopaeus sp.

BRAZIL: **São Paulo**: 4 Bady Bassett, 5 Bauru, 1985-1988, 9 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp. [Aleocharini]

BRAZIL: **São Paulo**: Assis + Bady Bassett + Bauru + Cotia + Ibiúna + Itapetininga + Mogi das Cruzes + Pindamonhangaba + Pirassununga, 1985-1988, 612 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp. [Philontini]

BRAZIL: **São Paulo**: Bastos + Bauru + Cotia + Ibiúna + Itapetininga + Monte Mor + São Manuel + Sorocaba, 1985-1988, 171 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp. [Staphylinini]

BRAZIL: **São Paulo**: Itapetininga, 1985-1988, 9 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined genus [Oxytelinae]

BRAZIL: **São Paulo**: Bady Bassett + Bauru + Cotia + Ibiúna, 1985-1988, 44 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp. [Oxytelinae]

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970).

Undetermined genus [Xantolininae]

BRAZIL: **São Paulo**: Bady Bassett + Bauru + Cotia + Ibiúna + Itapetininga + Mogi das Cruzes + São Manuel + Sorocaba, 1985-1988, 6 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp.

BRAZIL: **São Paulo**: 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, mean 0.09333 (Berlese funnel), 0.2133 (water flotation) (Lopes *et al.* 2007b).

Undetermined spp.

BRAZIL: **São Paulo**: Campinas, 108 exx. (Avancini & Ueta 1990).

ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

Tenebrionidae***Alphitobius diaperinus*** (Panzer, 1797)

= *Alphitobius piceus* [non Olivier, 1792]: Cicchino & Saini 2006.

BRAZIL: 1989, in poultry houses (Calibeo 2002, following Filho *et al.* 1989); **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 246 exx., XI-1992, 451 exx., XII-1992, 69 exx., I-1993, 109 exx., II-1993, 106 exx., III-1993, 43 exx., IV-1993, 220 exx., V-1993, 74 exx., VI-1993, 293 exx., VII-1993, 17 exx., VIII-1993, 85 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo:** Bastos region (Berti Filho *et al.* 1989); Campinas (Avancini & Ueta 1990); Araçatuba + Assis + Bastos + Bady Bassett + Bauru + Birigui + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor + Pirassununga, 1985-1988, total of 436 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); 7 km from Município São João da Boa Vista, granja Crisdan, 2001-2002, 52532 adults (94.19%) captured with soil traps, and 995 adults (1.78%) captured with funnel of Berlese-Tullgren and 2240 adults (4.01%) captured by fluctuation in water from manure samples in a poultry of laying eggs (Lopes *et al.* 2006), I-2001 to XII-2002, 995 exx. (30.8%), extracted with Berlese funnel (mean 13.26667), 2.240 exx. (69.2%) by water flotation (mean 29.86667) (Lopes *et al.* 2007b); **Parana:** Cascavel, X-2001 to X-2002: Flock I, 13764 adults and 32,879 larvae; Flock II, 6570 adults and 63000 larvae; Flock III, 8445 adults and 125589 larvae; Flock IV, 6790 adults and 60877 larvae; Flock V, 18993 adults and 93746 larvae; Flock VI, 38527 adults and 106696 larvae, in a poultry house with approximately 21000 chickens (Chernaki-Leffer *et al.* 2007); **Rio Grande do Sul:** Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 2896 exx. [JSMC], in poultry house (Bicho *et al.* 2005), IV-2002 to III-2003, 1091 larvae, 41027 adults [93,36 % of 43945 exx. of Coleoptera], from poultry house of laying hens (Pinto 2005).

ARGENTINA: Buenos Aires: [locality not stated] (Crespo & Lecuona 1996); Merlo, 1° week, 29.87 ± 17.36 larvae I, 23.75 ± 16.97 larvae II, 23.37 ± 7.35 larvae III, 291.00 ± 232.20 adults; 3° week, 83.37 ± 84.33 larvae I, 11.87 ± 10.63 larvae II, 4.75 ± 3.57 larvae III, 8.87 ± 6.79 adults; 5° week, 34.50 ± 32.67 larvae I, 30.75 ± 42.97 larvae II, 24.50 ± 35.75 larvae III, 26.75 ± 27.31 adults from lateral sectors of 8 poultry houses; 1° week, 5.62 ± 4.31 larvae I, 8.75 ± 6.27 larvae II, 8.87 ± 5.96 larvae III, 36.87 ± 24.89 adults; 3° week, 70.75 ± 30.70 larvae I, 444.37 ± [SD not stated] larvae II, 20.87 ± 11.54 larvae III, 12.37 ± 11.90 adults; 5° week, 48.50 ± [SD not stated] larvae I, 39.87 ± 28.78 larvae II, 28.25 ± 21.81 larvae III, 7.62 ± 6.43 adults under the mangers of 8 poultry houses (Cecco *et al.* 2005); Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

CHILE: Metropolitan Region: Santiago, large numbers, identified by C.A. Triplehorn (University of Ohio), in a poultry house (Peña G. 1973); 1973, in poultry farms (Calibeo 2002, following Peña G. 1973).

***Blapstinus* sp.**

BRAZIL: São Paulo: Bauru, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Cynaesus angustus (LeConte, 1851)

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970).

Gnathocerus cornutus (Fabricius, 1798)

BRAZIL: São Paulo: Bady Bassett + Bauru + Cotia + Itapetininga, 1985-1988, 9 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); **Rio Grande do Sul:** Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 947 exx. [JSMC], in poultry house (Bicho *et al.* 2005), IV-2002 to III-2003, 590 exx., 1.34 % of 43945 exx. of Coleoptera, from poultry house of laying hens (Pinto 2005).

Palorus subdepressus (Wollaston, 1864)

BRAZIL: Rio Grande do Sul: Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 27 exx. [JSMC], in poultry house (Bicho *et al.* 2005).

Tribolium castaneum (Herbst, 1797)

ARGENTINA: Buenos Aires: Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

Tribolium confusum (Duval, 1868)

BRAZIL: Minas Gerais: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), I-1993, 2 exx., II-1993, 100 exx., IV-1993, 275 exx., V-1993, 218 exx., VI-1993, 9 exx., VII-1993, 37 exx., VIII-1993, 11 exx.

[DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

***Tribolium* sp.**

BRAZIL: **São Paulo:** Bastos + Pirassununga, 1985-1988, 7 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined genera

BRAZIL: **São Paulo:** Bady Bassett + Bauru + Cotia + Itapetininga, 1985-1988, 6 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp.

= Lagriidae sp. 1: Fernandes *et al.* 1995

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), VII-1993, 1 ex., VIII-1993, 1 ex. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

***Zophobas opacus* (Sahlberg 1823)**

PERU: **Loreto:** Iquitos, larvae and adults, in poultry houses (Morote D. & Vásquez Bardales 2005).

Trogidae

***Omorgus (Omorgus) suberosus* (Fabricius, 1775)**

BRAZIL: **São Paulo:** Campinas, Monte Mor, Granja Capuavinha, X-1991 to IX-1993, 6752

adult beetles, “associados a locais onde havia grande quantidade de ração, ovos quebrados e penas que eram freqüentemente derrubadas pelos animais, misturada com fezes de consistência pastosa” [larvae were never found] (Gianizella & Prado 1999); granja Crisdan, 7 km from Município São João da Boa Vista, 2001-2002, 2303 adults (99.17%) captured with soil traps, 12 adults (0.51%) captured with funnel of Berlese-Tullgren, and 7 adults (0.30%) captured by fluctuation in water, from manure samples in a poultry of laying eggs (Lopes *et al.* 2007a), I-2001 to XII-2002, 19 exx. from 600 kg of poultry manure [larvae were not found], mean 0.16000 (Berlese funnel), 0.09333 (water flotation) (Lopes *et al.* 2007b).

Undetermined sp.

= *Trox* sp.: Avancini & Ueta 1990, Bruno *et al.* 1993.

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), VII-1993, 2 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo:** Campinas (Avancini & Ueta 1990); Bastos + Bauru + Guararapes + Itapetininga + Mogi das Cruzes, 1985-1988, 21 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Trogossitidae

***Tenebroides mauritanicus* (Linnaeus, 1758)**

BRAZIL: **Rio Grande do Sul:** Pelotas, Conjunto Agrotécnico Visconde da Graça (31° 34' S, 52° 23' W), VIII-1998 to VII-1999, 8 exx. [JSMC], in poultry house (Bicho *et al.* 2005).

Undetermined family

Undetermined sp. 1

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), V-1993, 9 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Undetermined sp. 2

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), XII-1992, 5 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

DIPTERA

Calliphoridae

***Chrysomya megacephala* (Fabricius, 1775)**

BRAZIL: **São Paulo:** Campinas (Avancini & Ueta 1990); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, larvae, mean 0.30667 (Berlese funnel), mean 0.46667 (water flotation); pupae, mean 1.76000 (water flotation) (Lopes *et al.* 2007b).

Chrysomya putoria (Wiedemann, 1830)

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 163 exx., XI-1992, 1231 exx., XII-1992, 292 exx., I-1993, 32 exx., II-1993, 71 exx., III-1993, 707 exx., IV-1993, 1120 exx., V-1993, 121 exx., VI-1993, 23 exx., VII-1993, 1230 exx., VIII-1993, 528 exx. [DBUU], total of 5818 exx. (20.60%), in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo**: Uberlândia, one of the most abundant fly species (6.47%) in a poultry house (Menezes *et al.* 2005, following Lomônaco & Prado 1994); Campinas (Avancini & Ueta 1990); Bastos + Birigui + Ibiúna + Mogi das Cruzes + Monte Mor + Pindamonhangaba + São Manuel, 1985-1988, 92 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 2608 pupae (41.2%), extracted with a soil trap, III-1991, 6501 larvae, 45 pupae, 38 adults, IV-1991, 680 larvae, 34 pupae, 7 adults, V-1991, 3431 larvae, 22 pupae, 3 adults, VI-1991, 1742 larvae, 33 pupae, 15 adults, VII-1991, 1294 larvae, 16 pupae, 9 adults, VIII-1991, 1082 larvae, 1 pupa, 1 adult, IX-1991, 1808 larvae, 32 pupae, 1 adult, X-1991, 395 larvae, 1 adult, XI-1991, 640 larvae, 13 pupae, 8 adults, XII-1991, 3511 larvae, 346 pupae, 1 adult, I-1992, 9270 larvae, 256 pupae, 19 adults, II-1992, 4061 larvae, 45 pupae, 12 adults, III-1992, 645 larvae, 20 pupae, 13 adults, IV-1992, 7290 larvae, 216 pupae, 19 adults, extracted with funnel of Berlese-Tullgren from bird manure in a poultry farm (Monteiro & do Prado 2006).

Drosophilidae***Drosophila repleta*** (Wollaston, 1858)

BRAZIL: **Rio Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça, IV-2002 to III-2003, 19 exx., in a poultry house of laying hens (Pinto 2005).

Drosophila sp. (repleta group)

MEXICO: **Veracruz**: Cotaxtla, 26-II, in poultry manure (Gibson & Carrillo S. 1959).

Undetermined sp.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 2 exx., XI-1992, 49 exx., XII-1992, 43 exx., I-1993, 860 exx., II-1993, 5480 exx., III-1993, 6593 exx., V-1993, 3 exx., VII-1993, 3170 exx., VIII-1993, 2623 exx. [DBUU], total of 18823 exx. (66.65%), in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Fannidae***Fannia albitarsis*** Stein, 1911

ARGENTINA: **Mendoza**: [locality not stated], recognized as a plague of poultry houses (Domínguez *et al.* 2007).

Fannia canicularis (Linnaeus, 1761)

BRAZIL: **São Paulo**: Bastos (Bruno *et al.* 1993, following Aagesen 1988); Ibiúna, 1985-1988, 1630 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993);

Fannia pusio (Wiedemann, 1830)

BRAZIL: **São Paulo**: Bastos, 1985-1988, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 344 pupae (5.3%), extracted with soil traps, III-1991, 600 larvae, 40 pupae, 181 adults, IV-1991, 480 larvae, 3 pupae, 29 adults, V-1991, 40 pupae, 34 adults, VI-1991, 235 pupae, 21 adults, VII-1991, 65 pupae, 318 adults, VIII-1991, 100 larvae, 572 pupae, 964 adults, IX-1991, 1000 larvae, 256 pupae, 127 adults, X-1991, 1541 pupae, 152 adults, XI-1991, 361 pupae, 4 adults, XII-1991, 89 pupae, 8 adults, I-1992, 39 larvae, 3 pupae, 20 adults, II-1992, 15 pupae, 52 adults, III-1992, 16 pupae, 584 adults, IV-1992, 14 pupae, 525 adults, extracted with funnel of Berlese-Tullgren from bird manure in a poultry farm (Monteiro & do Prado 2006).

Fannia sp.

MEXICO: **Veracruz**: Cotaxtla, IX, larvae, in fowl manure (Gibson & Carrillo S. 1959).

CHILE: central Chile, in several poultry farms (Ripa 1986).

Fannia spp.

BRAZIL: **São Paulo**: 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, larvae, mean 7.38667 (Berlese funnel), mean 0.13333 (water flotation); pupae, mean 0.04000 (Berlese funnel), mean 3.12000 (water flotation) (Lopes *et al.* 2007b).

Fannia trimaculata (Stein, 1898)

BRAZIL: **São Paulo**: Jabotical + Monte Mor, in poultry manure Bastos (Bruno *et al.* 1993, following Ribeiro & Prado 1989); Assis + Bastos + Bady Bassett + Bauru + Cotia + Guararapes + Ibiúna + Itapetininga + Pindamonhangaba + Pirassununga + São Manuel + Sorocaba, 1985-1988, 2297 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, 42.4% of all sampled population (Lopes *et al.* 2007b).

Undetermined sp. 1

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 10 exx., XI-1992, 2 exx., XII-1992, 12 exx., I-1993, 1 ex., IV-1993, 42 exx., V-1993, 232 exx., VIII-1993, 2 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Undetermined sp. 2

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), XII-1992, 1 ex., IV-1993, 1 ex. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Hippoboscidae*Stilbometopoda legtersi* Bequaert, 1955

BRAZIL: **Parana**: Fazenda Rio Grande, V-2002, S.M. dos Santos leg., 1 female [DZUP], on the bird (Gracioli & Barros de Carvalho 2003).

Muscidae*Musca domestica* Linnaeus, 1758

MEXICO: **Veracruz**: Cotaxtla, 11-VI, 27-VI, 1-VII, adults, in fowl manure, IX, larvae, in fowl manure (Gibson & Carrillo S. 1959).

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 251 exx., XI-1992, 146 exx., XII-1992, 103 exx., I-1993, 425 exx., II-1993, 10 exx., III-1993, 195 exx., IV-1993, 1041 exx., V-1993, 257 exx., VI-1993, 85 exx., VII-1993, 508 exx., VIII-1993, 230 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); Montes Claros (Alves *et al.* 2007); **São Paulo**: Campinas, 1030 individuals (Avancini & Ueta 1990); Bastos (Bruno *et al.* 1993, following Aagesen 1988); Araçatuba + Assis + Bastos + Bady Bassett + Bauru + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor + Pindamonhangaba + Pirassununga + São Manuel, 1985-1988, 1630 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988, 46.3 % pupae, 25-V-1988, 49.9 % pupae, 8-VI-1988, 48.2 % pupae, 23-VI-1988, 9.8 % pupae, 6-VII-1988, 41.0 % pupae, 20-VII-1988, 37.2 % pupae, 3-VIII-1988, 55.2 % pupae, 25-VIII-1988, 0.3 % pupae, 7-IX-1988, 8.2 % pupae, 20-IX-1988, 0.0 % pupae, 11-X-1988, 1.2 % pupae, 3-XI-1988 1.9 % pupae, 18-XI-1988, 2.6 % pupae, 14-I-1989, 16.8 % pupae, 31-I-1989, 18.5 % pupae, 13-II-1989, 20.8 % pupae, 4-III-1989, 10.3 % pupae, 17-III-1989, 10.7 % pupae, 31-III-1989, 3.3 % pupae, 16-IV-1989, 7.4 % pupae, 1-V-1989, 22.1 % pupae, 11-V-1989, 1.1 % pupae, 19-V-1989, 3.2 % pupae, all collected from manure of laying hens (Costa *et al.* 2004); Uberlândia, the most abundant fly species (91.82%) in a poultry house (Menezes *et al.* 2005, following Lomônaco & Prado 1994); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 1508 pupae (23.9%), extracted from bird manure samples collected in a poultry farm (Monteiro & do Prado 2006); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, 12141 (41,2%) larvae + pupae; larvae, mean 111.16000 (Berlese funnel), 28.09333 (water flotation); pupae, mean 1.92000 (Berlese funnel), 20.70667 (water flotation) (Lopes *et al.* 2007b).

ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry house (Cicchino & Saini 2006).

CHILE: Easter Island (3,790 km west of continental Chile, 27° 09' S), in the accumulated manure of 2,000 birds in a caged layer operation (Ripa 1986).

Muscina stabulans (Fallén, 1817)

BRAZIL: **São Paulo**: Campinas (Avancini & Ueta 1990); Echaporã, most abundant species (Bruno *et al.* 1993, following Costa 1989); Bauru + Cotia + Itapetininga + Sorocaba, 1985-1988, 117 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988 19.5 % pupae, 25-V-1988, 20.2 % pupae, 8-VI-1988, 18.0 % pupae, 23-VI-1988, 74.6 % pupae, 6-VII-1988, 23.3 % pupae, 20-VII-1988, 41.9 % pupae,

3-VIII-1988, 41.6 % pupae, 25-VIII-1988, 99.7 % pupae, 7-IX-1988, 91.8 % pupae, 20-IX-1988, 97.3 % pupae, 11-XO-1988, 98.8 % pupae, 3-XI-1988, 92.6 % pupae, 18-XI-1988, 94.4 % pupae, 14-I-1989, 76.5 % pupae, 31-I-1989, 17.9 % pupae, 13-II-1989, 23.4 % pupae, 4-III-1989, 71.0 % pupae, 17-III-1989, 44.0 % pupae, 31-III-1989, 83.9 % pupae, 16-IV-1989, 61.3 % pupae, 1-V-1989, 76.3 % pupae, 11-V-1989, 98.3 % pupae, 19-V-1989, 95.1 % pupae, all collected from manure of laying hens (Costa *et al.* 2004); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 1727 pupae (27.3%), extracted from bird manure samples collected in a poultry farm (Monteiro & do Prado 2006)

Philornis angustifrons (Loew, 1861)

ARGENTINA: **Tucumán**: Monte Bello, XII-1942, García & Abalos leg., larvae from a chicken (myiasis), 30-I-194[3], 3 males, 1 female [reared from the larvae] (García 1952); (Couri 1985); (Teixeira 1999).

Stomoxys calcitrans (Linnaeus, 1758)

BRAZIL: **São Paulo**: Campinas (Avancini & Ueta 1990); Assis + Bauru + Cotia + Ibiúna + Sorocaba, 1985-1988, 214 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); Assis, Echaporã. 11-V-1988, 34.2 % pupae, 25-V-1988, 29.9 % pupae, 8-VI-1988, 33.8 % pupae, 23-VI-1988, 15.6 % pupae, 6-VII-1988, 35.7 % pupae, 20-VII-1988, 20.9 % pupae, 3-VIII-1988, 3.2 % pupae, 25-VIII-1988, 0.0 % pupae, 7-IX-1988, 0.0 % pupae, 20-IX-1988, 2.7 % pupae, 11-XO-1988, 0.0 % pupae, 3-XI-1988, 5.6 % pupae, 18-XI-1988, 3.0 % pupae, 14-I-1989, 6.8 % pupae, 31-I-1989, 63.6 % pupae, 13-II-1989, 55.8 % pupae, 4-III-1989, 18.7 % pupae, 17-III-1989, 45.3 % pupae, 31-III-1989, 12.9 % pupae, 16-IV-1989, 31.3 % pupae, 1-V-1989, 1.6 % pupae, 11-V-1989, 0.6 % pupae, 19-V-1989, 1.8 % pupae, all collected from manure of laying hens (Costa *et al.* 2004).

Sarcophagidae

Undetermined genera

BRAZIL: **São Paulo**: Bady Bassett + Bauru + Itapetininga + São Manuel, 1985-1988, 1630 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined spp.

MEXICO: **Veracruz**: Cotaxtla, 12-VI, in fowl manure (Gibson & Carrillo S. 1959).

Sepsidae

Undetermined sp.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 2 exx., XII-1992, 14 exx., IV-1993, 1 ex., V-1993, 7 exx., VII-1993, 7 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 145 pupae (2.3 %), extracted with soil traps, III-1991, 0 larvae, 0 pupae, 0 adults, IV-1991, 0 larvae, 0 pupae, 0 adults, V-1991, 0 larvae, 0 pupae, 0 adults, VI-1991, 100 larvae, 0 pupae, 0 adults, VII-1991, 0 larvae, 4 pupae, 3 adults, VIII-1991, 0 larvae, 0 pupae, 0 adults, IX-1991, 0 larvae, 4 pupae, 0 adults, X-1991, 0 larvae, 0 pupae, 36 adults, XI-1991, 0 larvae, 0 pupae, 2 adults, XII-1991, 0 larvae, 7 pupae, 0 adults, I-1992, 0 larvae, 0 pupae, 0 adults, II-1992, 0 larvae, 0 pupae, 0 adults, III-1992, 0 larvae, 0 pupae, 8 adults, IV-1992, 0 larvae, 0 pupae, 0 adults, extracted with funnel of Berlese-Tullgren, from from bird manure in a poultry farm (Monteiro & do Prado 2006); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, larvae, mean 6.54667 (Berlese funnel), 1.61333 (water flotation); pupae, mean 0.02667 (Berlese funnel), 30.21333 (water flotation) (Lopes *et al.* 2007b).

Sphaeroceridae

Undetermined sp.

BRAZIL: **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991, 15 adults, IV-1991, 109 adults, V-1991, 7 adults, VI-1991, 193 adults, VII-1991, 297 adults, VIII-1991, 32 adults, IX-1991, 82 adults, X-1991, 1261 adults, XI-1991, 80 adults, XII-1991, 81 adults, I-1992, 11 adults, II-1992, 17 adults, III-1992, 186 adults, IV-1992, 85 adults, extracted with funnel of Berlese-Tullgren (Monteiro & Prado 2006).

Stratiomyidae

Hermetia illucens (Linnaeus, 1758)

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 15 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo**: Bastos region (Berti

Filho *et al.* 1989); Bastos + Bady Bassett + Birigui + Cotia + Itapetininga + Pindamonhangaba + São Manuel, 1985-1988, 544 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, larvae, mean 2.02 (Berlese funnel), 0.26 (water flotation); pupae, mean 1,77333 (water flotation) (Lopes *et al.* 2007b).

ARGENTINA: **Buenos Aires**: Capilla del Señor; Pergamino (Cicchino & Saini 2006).

Undetermined sp.

BRAZIL: **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991, 2 larvae, IV-1991, 7 larvae, V-1991, 5 larvae, VI-1991, 1 larva, VII-1991, 24 larvae, VIII-1991, 1 larva, [IX-1991, 0 larvae], [X-1991, 0 larvae], XI-1991, 2 larvae, XII-1991, 25 larvae, I-1992, 20 larvae, II-1992, 11 larvae, III-1992, 829 larvae, IV-1992, 68 larvae, extracted with funnel of Berlese-Tullgren (Monteiro & do Prado 2006).

Syrphidae

Ornidia obesa (Fabricius, 1775)

MEXICO: **Veracruz**: Cotaxtla, 11-IX & 26-IX, in fowl manure, 24-X, under manure in chicken coop (Gibson & Carrillo S. 1959).

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), XII-1992, 1 ex. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo**: Bastos + Cotia + Itapetininga + Mogi das Cruzes + Pindamonhangaba, 1985-1988, 519 larvae, in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp.

MEXICO: **Sonora**: Valle del Yaqui, 3 larvae (alcohol), # 2818 [CIANO], from mud near poultry manure, 9 adults (pinned), # 1002 [CIANO], emerged from larvae reared in laboratory (Pacheco M. 1978).

BRAZIL: **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991, 163 larvae, IV-1991, 188 larvae, V-1991, 178 larvae, VI-1991, 160 larvae, VII-1991, 220 larvae, VIII-1991, 2 larvae, IX-1991, 15 larvae, 3 adults, X-1991, 19 larvae, XI-1991, 3 larvae, XII-1991, 16 larvae, I-1992, 21 larvae, II-1992, 23 larvae, III-1992, 140 larvae, IV-1992, 114 larvae, extracted with funnel of Berlese-Tullgren (Monteiro & Prado 2006); 7 km from São João da Boa Vista, granja Crisdan, I-2001 to XII-2002, larvae, mean 2.04 (Berlese funnel), 3.09 (water flotation) (Lopes *et al.* 2007b).

HYMENOPTERA

Braconidae

Aphaereta laeviuscula (Spinola, 1851)

BRAZIL: **São Paulo**: Bastos + Ibiúna + Itapetininga, 25-VII-1985 to 5-XII-1988, 1.6 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 0.6 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], from manure of laying hens (Bruno *et al.* 1992).

Undetermined sp.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), XI-1992, 1 ex. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Diapriidae

Diapria conica (Fabricius, 1775)

ARGENTINA: **Buenos Aires**: [locality not stated] (Crespo & Lecuona 1996).

Trichopria grenadensis Ashmead, 1896

BRAZIL: **São Paulo**: Bady Bassett + Cotia + Itapetininga, 25-VII-1985 to 5-XII-1988, 1, ex., 0.1 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 1 ex., 30.0 % *Stomoxys calcitrans* [from 10 parasitized of 32 pupae], 1 ex., 0.6 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], 100.0 % *Hermetia illucens* [from 14 parasitized of 284 pupae, range 9-131 specimens per pupa], from manure of laying hens (Bruno *et al.* 1992).

Trichopria sp.

BRAZIL: **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 25 pupae of *Chrysomya putoria*, extracted from bird manure in a poultry farm (Monteiro & Prado 2006)

Trichopria* sp. + *Spalangia endius

BRAZIL: **São Paulo**: Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 15 exx. *Trichopria* sp. + 1 ex. *Spalangia endius*, emerged from 1 pupa of *Chrysomya putoria*, from bird manure in a poultry farm (Monteiro & Prado 2006).

Encyrtidae***Tachinaephagus zealandicus* Ashmead, 1904**

BRAZIL: **Minas Gerais**: Lavras, most abundant species on *Musca domestica*, [in poultry houses] (Bruno *et al.* 1992, following Pinheiro & Bueno 1989); **São Paulo**: Bastos + Bauru + Itapetininga + São Manuel, 25-VII-1985 to 5-XII-1988, 8.1 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 5.5 % *Muscina stabulans* [from 73 parasitized of 439 pupae], from manure of laying hens (Bruno *et al.* 1992); Santa Cruz de Conceição, in a poultry house (Almeida *et al.* 2000); Assis, Echaporã, 11-V-1988, 386 (21.7 %) parasitized pupae of *Musca domestica*, from 22 collections of pupae, 332 (17.65 %) parasitized pupae of *Stomoxys calcitrans*, from 14 collections of pupae, 1459 (56.6 %) parasitized pupae of *Muscina stabulans*, from 23 collections of pupae, in manure of laying hens (Costa *et al.* 2004); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 3 pupae of *Musca domestica*, 41 pupae of *Chrysomya putoria*, 258 pupae of *Muscina stabulans*, from soil traps, 6 exx, extracted with funnel of Berlese-Tullgren, from bird manure in a poultry farm (Monteiro & Prado 2006); Santa Cruz de Conceição, in a poultry farm (Geden & Moon 2009).

Eurytomidae***Eurytoma* sp.**

BRAZIL: **São Paulo**: Bauru + Ibiúna + Itapetininga, 25-VII-1985 to 5-XII-1988, 0.4 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 5.4 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], from manure of laying hens (Bruno *et al.* 1992); Assis, Echaporã, 11-V-1988, 1 (0.1 %) parasitized pupae of *Musca domestica*, from 1 collection of pupae, 2 (0.11 %) parasitized pupae of *Stomoxys calcitrans*, from 2 collections of pupae, 16 (0.6 %) parasitized pupae of *Muscina stabulans*, from 7 collections of pupae, in manure of laying hens (Costa *et al.* 2004).

Figitidae***Neralsia splendens* (Borgmeier, 1935)**

BRAZIL: **São Paulo**: Bady Bassett + Bauru, 25-VII-1985 to 5-XII-1988, 62.5 % [from 8 parasitized of 28 pupae] Sarcophagidae, in manure of laying hens (Bruno *et al.* 1992).

Formicidae***Camponotus* sp.**

BRAZIL: **São Paulo**: Bauru + Itapetininga, 1985-1988, 108 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

***Mylanderia* sp.**

BRAZIL: **São Paulo**: Cotia, 1985-1988, 33 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

***Pheidole* sp.**

BRAZIL: **São Paulo**: Cotia, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

***Ponera opacipes* Mayr, 1887**

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970)

***Ponera* sp.**

TRINIDAD: 2-VIII-1963 to 12-IX-1963, in hen manure (Legner & Olton 1970)

***Solenopsis* sp.**

BRAZIL: **São Paulo**: Bady Bassett + Cotia + Itapetininga, 1985-1988, 75 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

***Tetramorium simillimum* (F. Smith, 1851)**

BRAZIL: **São Paulo**: Bauru, 1985-1988, 1 ex., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Undetermined sp.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), XI-1992, 1 ex. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

Pteromalidae**Muscidifurax raptor** Girault & Sanders, 1910PUERTO RICO: Aibonito, 23-VIII-1963, 11 exx., from 72 collected pupae *Musca domestica* [36 pupae emerged] (Legner 1965).BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989).ARGENTINA: **Buenos Aires**: [locality not stated] (Crespo & Lecuona 1996).CHILE: central Chile, emerged from pupae of *Fannia* sp., in several poultry farms (Ripa 1986).**Muscidifurax raptoroides** Kogan & Legner, 1970BRAZIL: **São Paulo**: Bastos + Birigui + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor, 25-VII-1985 to 5-XII-1988, 45.4 % *Musca domestica* [from 1009 parasitized of 7431 collected pupae], 19.2 % *Muscina stabulans* [from 73 parasitized of 439 pupae], 41.0 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], 20.0% *Chrysomya putoria* [from 20 parasitized of 173 pupae], from manure of laying hens (Bruno *et al.* 1993); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 1 pupae of *Musca domestica*, 1 pupae de *Chrysomya putoria*, 1 pupae de *Muscina stabulans*, 3 pupae of *Fannia pusio*, extracted with soil traps, 1 ex, extracted with funnel of Berlese-Tullgren, from bird manure in a poultry farm (Monteiro & Prado 2006).**Nasonia vitripennis** (Walker, 1836)BRAZIL: **São Paulo**: Itapetininga + Mogi das Cruzes, 25-VII-1985 to 5-XII-1988, 0.2 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 10.0 % *Chrysomya putoria* [from 20 parasitized of 173 pupae], from manure of laying hens (Bruno *et al.* 1993); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 1 pupa de *Chrysomya putoria*, from bird manure in a poultry farm (Monteiro & Prado 2006).**Pachycrepoideus vindemmiae** (Rondani, 1875)BRAZIL: **São Paulo**: Bastos region (Berti Filho *et al.* 1989); Bastos + Bady Bassett + Bauru + Cotia + Guararapes + Ibiúna + Itapetininga + Monte Mor + Pindamonhangaba + São Manuel + Sorocaba, 25-VII-1985 to 5-XII-1988, 28.4 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 46.6 % *Muscina stabulans* [from 73 parasitized of 439 pupae], 28.0 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], 35.0 % *Chrysomya putoria* [from 20 parasitized of 173 pupae], 37.5 % Sarcophagidae [from 8 parasitized of 28 pupae], from manure of laying hens (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988, 5 (0.3 %) parasitized pupae of *Musca domestica*, from 3 collections of pupae, 8 (0.43 %) parasitized pupae of *Stomoxys calcitrans*, from 5 collections of pupae, 25 (1.0 %) parasitized pupae of *Muscina stabulans*, from 9 collections of pupae, in manure of laying hens (Costa *et al.* 2004); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 1 pupae from *Musca domestica*, 2 pupae from *Muscina stabulans*, 1 pupae from *Fannia pusio*, extracted with soil traps, 8 exx, extracted with funnel of Berlese-Tullgren, from bird manure samples in a poultry farm (Monteiro & Prado 2006).ARGENTINA: **Buenos Aires**: [locality not stated] (Crespo & Lecuona 1996).**Spalangia cameroni** Perkins, 1910BRAZIL: **Minas Gerais**: Lavras, from pupae of *Musca domestica*, in poultry houses (Bruno *et al.* 1992, following Pinheiro & Bueno 1989); **São Paulo**: Assis + Bastos + Bady Bassett + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor + Pindamonhangaba + São Manuel, 25-VII-1985 to 5-XII-1988, 8.3 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 19.9 % *Muscina stabulans* [from 73 parasitized of 439 pupae], 9.0 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], 25.0 % *Chrysomya putoria* [from 20 parasitized of 173 pupae], from manure of laying hens (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988, 30 (1.7 %) parasitized pupae of *Musca domestica*, from 11 collections of pupae, 130 (6.91 %) parasitized pupae of *Stomoxys calcitrans*, from 12 collections of pupae, 97 (3.8 %) parasitized pupae of *Muscina stabulans*, from 16 collections of pupae, in manure of laying hens (Costa *et al.* 2004); Bastos region (Berti Filho *et al.* 1989); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 8 pupae of *Musca domestica*, 8 pupae of *Chrysomya putoria*, 11 pupae of *Muscina stabulans*, 6 pupae of *Fannia pusio*, 1 pupa of Sepsidae, all extracted with soil traps, 6 exx, extracted with funnel of Berlese-Tullgren, from bird manure in a poultry farm (Monteiro & Prado 2006).ARGENTINA: **Buenos Aires**: [locality not stated] (Crespo & Lecuona 1996).

Spalangia drosophilae Ashmead, 1887

BRAZIL: **São Paulo: São Paulo:** Assis, Echaporã, 11-V-1988, 3 (0.16 %) parasitized pupae of *Stomoxys calcitrans*, from 2 collections of pupae, in manure of laying hens (Costa *et al.* 2004).

Spalangia endius Walker, 1839

= *Spalangia muscidarum* var. *stomoxysiae* Girault, 1916: Gibson 2009: 56 [syn.; refs.]

= *Spalangia stomoxysiae* Girault, 1916: Legner 1965.

PUERTO RICO: Aibonito, 14-III-1963, identified by B.D. Burks, emerged from manure with pupae of *Musca domestica*, in poultry house (Legner 1965).

BRAZIL: **Minas Gerais:** Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 1 ex., V-1993, 2 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995); **São Paulo:** Bastos region (Berti Filho *et al.* 1989); Assis + Bastos + Bady Bassett + Cotia + Guararapes + Ibiúna + Itapetininga + Mogi das Cruzes + Monte Mor + Pindamonhangaba + São Manuel + Sorocaba, 25-VII-1985 to 5-XII-1988, 4.8% *Musca domestica* [from 1009 parasitized of 7431 pupae], 17.8 % *Muscina stabulans* [from 73 parasitized of 439 pupae], 30.0 % *Stomoxys calcitrans* [from 10 parasitized of 32 pupae], 12.4 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], 10.0 % *Chrysomya putoria* [from 20 parasitized of 173 pupae], from manure of laying hens (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988, 7 (0.4 %) parasitized pupae of *Musca domestica*, from 5 collections of pupae, 105 (5.58 %) parasitized pupae of *Stomoxys calcitrans*, from 12 collections of pupae, 31 (1.5 %) parasitized pupae of *Muscina stabulans*, from 12 collections of pupae, in manure of laying hens (Costa *et al.* 2004); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 2 pupae of *Musca domestica*, 3 pupae de *Chrysomya putoria*, 9 pupae de *Muscina stabulans*, 2 pupae of *Fannia pusio*, extracted with soil traps, 4 exx, extracted with funnel of Berlese-Tullgren, from bird manure in a poultry farm (Monteiro & Prado 2006).

ARGENTINA: **Buenos Aires:** [locality not stated] (Crespo & Lecuona 1996).

CHILE: central Chile, emerged from pupae of *Fannia* sp., in several poultry farms (Ripa 1986).

Spalangia gemina Boucek, 1963

BRAZIL: **São Paulo:** Bastos region (Berti Filho *et al.* 1989); Cotia + Ibiúna + Mogi das Cruzes, 25-VII-1985 to 5-XII-1988, 0.4 % *Musca domestica* [from 1009 parasitized of 7431 pupae], 20.0 % *Stomoxys calcitrans* [from 10 parasitized of 32 pupae], 2.1 % *Fannia trimaculata* [from 331 parasitized of 2840 pupae], from manure of laying hens (Bruno *et al.* 1993); Assis, Echaporã, 11-V-1988, 28 (1.6 %) parasitized pupae of *Musca domestica*, from 9 collections of pupae, 15 (0.80 %) parasitized pupae of *Stomoxys calcitrans*, from 7 collections of pupae, 39 (1.2 %) parasitized pupae of *Muscina stabulans*, from 10 collections of pupae, in manure of laying hens (Costa *et al.* 2004); Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, emerged from 5 pupae of *Musca domestica*, 2 pupae de *Chrysomya putoria*, 27 pupae de *Muscina stabulans*, 8 pupae of *Fannia pusio*, extracted from soil traps, 2 exx, extracted with funnel of Berlese-Tullgren, fom bird manure in a poultry farm (Monteiro & Prado 2006).

Spalangia haematobiae Ashmead, 1894

BRAZIL: **São Paulo:** Monte Mor, granja Capuavinha (30 km from Campinas), III-1991 to IV-1992, 5 exx, extracted with funnel of Berlese-Tullgren (Monteiro & Prado 2006).

Spalangia nigroaenea Curtis, 1839

BRAZIL: **São Paulo:** Assis, Echaporã, 11-V-1988, 2 (0.11 %) parasitized pupae of *Stomoxys calcitrans*, from 1 collection of pupae, in manure of laying hens (Costa *et al.* 2004).

ARGENTINA: **Buenos Aires:** [locality not stated] (Crespo & Lecuona 1996).

Spalangia nigroaenea [or] *Spalangia endius*

PUERTO RICO: Aibonito, 28-VIII-1963, 1 ex, from 72 pupae of *Musca domestica* [36 pupae emerged], from manure in poultry house (Legner 1965).

Undetermined family**Undetermined sp.**

BRAZIL: **São Paulo:** 2.3 % parasitism on *Musca domestica* [from 1009 parasitized of 7431 pupae], collected from manure of laying hens (Bruno *et al.* 1992).

SIPHONAPTERA

Ceratophyllidae

Ceratophyllus gallinae (Schrank, 1804)

CHILE: [locality not stated] (Alcaino & Gorma 1999, following Tagle 1966).

Pulicidae

**Ctenocephalides canis* (Curtis, 1826)

PERU: Huacho, Macchiavello [obs.] (Macchiavello 1948).

CHILE: Antofagasta, Macchiavello [obs.] (Macchiavello 1948).

**Ctenocephalides felis felis* (Bouché, 1835)

PERU: Huacho, Macchiavello [obs.] (Macchiavello 1948).

Echidnophaga gallinacea gallinacea (Westwood, 1875)

MEXICO: **Mexico**: San Martín de las Pirámides, 7-VIII, [COEE], on chickens [also on turkeys]; **Tlaxacala**: El Carmen, 5-IX, [COEE], on chickens (Gibson & Carrillo S. 1959).

PERU: Huacho, “abundante sobre aves de corral” (Macchiavello 1948); (Johnson 1957).

CHILE: [locality not stated], found by its laboratory, record not previously published (Alcaino & Gorma 1999).

Hectopsylla eskeyi Jordan, 1933

PERU: Huacho, “en gran cantidad (M. inéd.),” “sobre gallinas” (Macchiavello 1948).

Hectopsylla psitacii Fraunfeld, 1860

PERU: **Lima**: E. Ribeyro, Dr. Ramon leg., 1 male, 2 females, plus many females, # 1920.136 [MACN], from chickens (Hopkins & Rothschild 1953).

ARGENTINA: **Buenos Aires**: Chivilcoy, 2-II-1936, J.M. De la Barrera leg., 2 females, 2 males, plus many females, # 1942.98 [BMNH], from hen (Hopkins & Rothschild 1953), 2 females [BMNH], ex “hen” (Hastriter & Méndez 2000); Chivilcoy, 2-VI-1936, ex “hen,” S.J.M. de la Barrera leg, 2 females [BMNH] (Blank *et al.* 2007).

Note: Apparently both females are the same, mentioned with different months.

URUGUAY: **Montevideo**: Montevideo, insects with black and white transverse bands in the abdomens, which are characteristic in the females of *H. psitacii* when their abdomens are distended by the eggs, fixed to the head of the fowls, in one chicken house (Wolffhügel 1912); (Wolffhügel 1916); Montevideo, 1940, very high numbers in the heads of the birds, some of the birds were dead, massive infestation in a chicken house (Riet 1941).

Note: the first identification (Wolffhügel 1912) was tentative, corroborated by Wolffhügel (1916).

CHILE: [locality not stated] (Alcaino & Gorma 1999, following Tagle 1966).

**Pulex irritans irritans* Linnaeus, 1758

ECUADOR: Ambato, Macchiavello [obs.] (Macchiavello 1948).

PERU: Huacho, Macchiavello [obs.] (Macchiavello 1948).

CHILE: Antofagasta, Macchiavello [obs.] (Macchiavello 1948).

ARGENTINA: **Buenos Aires**: Villa Ballester, in a henhouse, identification confirmed by Wolffhügel (Wolffhügel 1911).

**Xenopsylla cheopis* (Rothschild, 1903)

PERU: Huacho, Macchiavello [obs.] (Macchiavello 1948).

Tungidae

**Tunga penetrans* (Linnaeus, 1758)

PERU: Huacho, Macchiavello [obs.] (Macchiavello 1948).

Undetermined family

Undetermined sp.

VENEZUELA: **Barinas** + **Portuguesa** + **Cojedes**: fleas in 2 of 520 examined chicken nests (Tonn *et al.* 1982).

LEPIDOPTERA

Pyalidae

Pyralis farinalis Linnaeus, 1758

ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry houses (Cicchino & Saini 2006).

Undetermined sp.

BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 18 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).

HEMIPTERA**Anthocoridae****Undetermined genera**

BRAZIL: **São Paulo**: Assis + Bastos + Bady Bassett + Bauru + Birigui + Guararapes + Ibiúna + Itapetininga + Pindamonhangaba + São Manuel + Sorocaba, 1985-1988, 660 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Xylocoris sordidus (Reuter, 1871)

ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry house (Cicchino & Saini 2006).

***Xylocoris* spp.**

CHILE: central Chile, 25-III to 5-V-1965, in hen manure (Legner & Olton 1970).

Cimicidae

Cimex hemipterus (Fabricius, 1803)

JAMAICA: St. Ann's Bay, on poultry and in poultry houses (Usinger 1966, following Horvat 1912); (Marinkelle 1967, following Usinger 1966).

VENEZUELA: **Barinas + Portuguesa + Cojedes**: mean 3.7 bugs per nest, range 1-200, in 10 (1.9%) from a total of 520 examined chicken nests (Tonn *et al.* 1982).

Cimex hemipterus* + *Rhodnius prolixus

VENEZUELA: **Barinas + Portuguesa + Cojedes**: [localities were not stated], in 1 (0.2%) from a total of 520 examined chicken nests (Tonn *et al.* 1982).

Cimex lectularius Linnaeus, 1758

MEXICO: **Guanajuato**: 10 km N León, 25-XI, [COEE], in chicken house (Gibson & Carrillo S. 1959).

Haematosiphon inodorus (Dugés, 1882) [with host records clearly mentioned]

UNITED STATES: **New Mexico**: Las Cruces, 22-V-1891, 4 specimens taken from roosts in a hen house, "in great numbers in the hen-houses, infesting the inmates and roosts ... By day the Corucos stick to the hen-houses and roosts, awaiting the return of the hens at night" (Townsend 1893); southern New Mexico (Blatchley 1928, following Townsend 1893); Las Cruces (Lee 1955b, following Townsend 1893); Doña Ana Co. (Usinger 1966, following Townsend [year not stated]); **Arizona**: Navajo Co. (Usinger 1966, following Lee 1955a), VII-1946, J.N. Roney leg., from two chicken yards (Lee 1955b).

MEXICO: region about Guanajuato, infesting poultries (Townsend 1893, following Dugés 1892); **Durango**: Durango, 21-XI, "en gallinero," identified by R.I. Sailer [USDA, Washington D.C.] (Gibson & Carrillo S. 1959).

Ornithocoris pallidus Usinger, 1966

= *Haematosiphon inodorus* [non Dugés, 1882]: Blatchley 1928, *fide* Usinger 1966: 466.

UNITED STATES: **Florida**: Ft. Myers, 8-VIII-1942, V. Chester leg. [RLUC], in chicken nests (Usinger 1966); near [Lakeland], [15-VII-1928, J.R. Watson leg.], 6 exx., [on chickens] (Blatchley 1928; [*fide* Usinger 1966]); Lake Co., near Tavares, J.R. Watson leg., [on chickens] (Blatchley 1928, *fide* Usinger 1966); on chickens (Arends 2003); **Georgia**: Quitman, 13-V-1937, L.V. Cawley leg. [RLUC], in poultry house (Usinger 1966); on chickens (Arends 2003).

BRAZIL (Berenger *et al.* 2008, following Schaefer 2000).

Note: *O. pallidus* was introduced into the United States but how is not known (Usinger 1966). It was misidentified as *Haematosiphon inodorus* [non Dugés, 1882] by Blatchley (1928), according to Usinger (1966). The original description was made on specimens taken from a nest of *Pygochelidon cyanoleuca* (Vieillot) [Hirundinidae] from Brazil. A citation in chicken houses from Brazil posterior to 1966 was not found.

Ornithocoris toledo Pinto, 1927

BRAZIL: **Minas Gerais**: distrito de Urucânia, município Ponte Nova, intensive infestations in henhouses, hiding behind nest boxes, under boards and in cracks in the walls and roof during the day, and comes out of hiding to suck the

blood of the host only at night (Carvalho 1939); municipio Ponte Nova, specimens sent in 1937 by Carvalho for identification, “capturados em galinheiro” (Moraes 1939); Ponte Nova, 1957, J. Becker & Usinger leg., on chickens (Usinger 1966); “em galinheiros, sugando sangue” (Otto *et al.* 2008, following Moraes 1939); **São Paulo**: [locality not stated], “parasita de *Gallus gallus*”, very common in chicken houses (Pinto 1930); Limeira [type-locality] (Carvalho 1939, following Pinto 1927); Campinas, V-1976, males, females, “em *Gallus gallus* L.” (Jurberg & Milward de Azevedo 1982); “em galinheiros, sugando sangue” (Otto *et al.* 2008, following Moraes 1939); (Berenger *et al.* 2008, following Schaefer 2000); South American poultry pest (Arends 2003).

ARGENTINA: **Santiago del Estero**: Sumampa, 28-IX-1943, M.A. Alvarado leg., males, females, nymphs [IMR 47], in chicken house, IV-1951, M.A. Alvarado leg., males, females, nymphs [IMR 921], in chicken house (Wygodzinsky 1951 1959); **Córdoba**: [Córdoba city ?], IV-1945, host *G. gallus* (Ringuelet 1948); **Neuquén**: without locality, XII-1941, host *G. gallus*; Zapala, XI-1938, host *G. gallus*, XI-1939, host *G. gallus* (Ringuelet 1948).

Note: the citation of Ringuelet (1948) was overlooked by all posterior authors.

Further materials (without indication of host)

BOLIVIA: [**Chuquisaca**]: [provincia] Azero, [locality not stated], 4-I-1940, P. Echalar leg. (Usinger 1966).

BRAZIL: **Goiás**: Cana Brava, 8-X-1932, J. Blaser leg.; **São Paulo**: “Proc. Jau,” 1949, G.B. Thompson leg.; **Santa Catarina**: Nova Teutonia, 1942, 4-IX-1948, 1949, F. Plaumann leg. (Usinger 1966).

ARGENTINA: **Córdoba**: Cruz del Eje, Prosen leg. (Usinger 1966), 1 male, 1 female, # 2375 [IES] (Wygodzinsky 1951).

Miridae

Fulvius quadristillatus (Stål, 1860)

BRAZIL: **São Paulo**: Itapetininga, 1985-1988, 2 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Reduviidae

Undetermined genus

BRAZIL: **São Paulo**: Cotia, 1985-1988, 10 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Microtominae

Microtomus purcis (Drury, 1782)

ARGENTINA: **Misiones**: [locality not stated], M. Zelich leg., inside a chicken coop, together with *Triatoma infestans* (Carpintero 1981).

Piratinae

Rasahus hamatus (Fabricius, 1781)

ARGENTINA: **Entre Ríos**: Pronunciamiento, in a chicken coop, preying adults of *Triatoma infestans* and *Triatoma rubrovaria* (Carpintero 1981).

Triatominae

Eratyrus mucronatus Stål, 1859

BOLIVIA: Dto. La Paz, Apolo (14° 44' S, 68° 30' W), X-1992 & III-1993, 15 n I-IV, 14 n V, 29 males, 20 females, in 23 positive of 25 peridomestic structures [chicken coops and adobe walls surrounding houses] (Noireau *et al.* 1995).

Meccus longipennis Usinger, 1939

MEXICO: **Jalisco**: San Martín de Hidalgo municipality, “Valle de Ameca,” Los Guerrero village (20° 26' 56" N, 103° 53' 87" W), 40 exx. (mean 10.00 ± 6.37), in 4 (23.50%) of 17 chicken-coops (Walter *et al.* 2007); Municipio de Teocuitatlán de Corona, Agua Honda + Rancho Nuevo + Tehuantepec (distant 5 km one from another), February, 15 exx., in 2 chicken coops; March, 16 exx., in 2 chicken coops; April, 17 exx., in 4 chicken coops; May, 20 exx., in 4 chicken coops; June, 20 exx., in 3 chicken coops; July, 15 exx., in 2 chicken coops; August, 14 exx., in 2 chicken coops; September, 13 exx., in 2 chicken coops; November, 4 exx., in 1 chicken coop (Martínez-Ibarra *et al.* 2010).

Meccus phyllosomus [sensu lato]

MEXICO: chicken coops (Lent & Wygodzinsky 1979).

Note: a citation prior to 1979 was not found.

Mepraia spinolai (Porter, 1934)

CHILE: **IV Region** (Coquimbo), Limari valley (30° 33' S, 71° 16' W), 1981-1986, in stone-walled chicken coops (Schofield *et al.* 1998).

Microtriatoma trinidadensis Lent, 1951

BOLIVIA: **La Paz**: Alto Beni, province of South Yungas, V-1998, 2 n I, 2 n II, 1 n III, 3 n IV, 12 n V, 2 males, 2 females [2 adults IOC], in a chicken coop built with material from the palm tree *Attalea phalerata*, associated with *Rhodnius stali* Lent, Jurberg & Galvão, 1993 (De la Riva *et al.* 2001).

Pastrongylus chinai (Del Ponte, 1929)

ECUADOR ? : found to breed in chicken coops (Abad-Franch *et al.* 2001).

PERU: Valle del Santa, Hacienda Suchimán, VII-1960, 2 females, in chicken coop (Morales Ayala 1961); chicken houses (Lent & Wygodzinsky 1979); (Calderón *et al.* 1985, following Lent & Wygodzinsky 1979); chicken coops (Carcavallo *et al.* 1998).

Note: the record of Carcavallo *et al.* (1998) was taken from the work of Morales Ayala (1961) [library of Antonio Martinez].

Pastrongylus geniculatus (Latreille, 1811)

BRAZIL: **Roraima**: Projeto Passarão, I-1999 to II-2001, 5 exx., in chicken coops of 3 houses (Luitgards-Moura 2001).

Pastrongylus guentheri Berg, 1879

Frequent in chicken coops (Carcavallo *et al.* 1988).

Note: a citation prior to 1988 was not found.

Pastrongylus lignarius (Walker, 1873)

= *Pastrongylus herreri* Wygodzinsky, 1948: Lent & Wygodzinsky 1979, Calderón *et al.* 1985, Carcavallo *et al.* 1998.

Chicken coops (Lent & Wygodzinsky 1979); (Calderón *et al.* 1985, following Lent & Wygodzinsky 1979); (Carcavallo *et al.* 1998, following Lent & Wygodzinsky 1979).

Note: a citation prior to 1979 was not found (*P. herreri*).

COLOMBIA: Meta Lejano, 1 ex., in chicken house (D'Alessandro *et al.* 1981, D'Alessandro & Barreto 1985); occasionally in chicken coops (Carcavallo *et al.* 1998).

Pastrongylus lutzi (Neiva & Pinto, 1923)

BRAZIL: **Ceará**: in chicken coop (Espinola 1985, following Deane & Deane 1957); chicken coops (Carcavallo *et al.* 1998); Altaneira, I-2001 to X-2002, 1 ex., "no galinheiro" (Freitas *et al.* 2004).

Pastrongylus megistus (Burmeister, 1835)

BRAZIL: [locality not stated], very frequent in chicken houses (Chagas 1911, Lent 1935, following Chagas 1911);

Bahia: in chicken coops (Espinola 1985); **Minas Gerais**: Município de Bambuí, 1958, 10 % positive chicken houses, 1963, 6 % positive chicken houses, V-1965 to VII-1965, 14.58 % positive chicken houses (Dias 1968); Município de Araguari, Assentamento Ezequias dos Reis, Lote 12, "uma colônia no galinheiro" (Lemos *et al.* 2006); Município de Uberlândia, localidade 28 (Fazenda Nova), casa 14, 13 females, 14 nymphs, "em galinheiro"; localidade 67 (Fazenda Lage), casa 4, I-2007, 1 female, 2 nymphs, "em galinheiro" (Mendes *et al.* 2008); **São Paulo**: [localities not specified], 15-V-1950 to 30-VI-1960, 3011 exx. [4+ (0.33%) of 1212 examined], in chicken houses (Corrêa *et al.* 1963); chicken coops (Carcavallo *et al.* 1998).

Rhodnius ecuadorensis Lent & León, 1958

ECUADOR: **Sucre**: cantón Rocafuerte, two localities [not stated], 97% of the peridomestic specimens, especially in dovecotes, and other in chicken houses (Lazo 1985); **Loja**: majority of colonies breeding in peridomestic chicken coops (Abad-Franch *et al.* 2001, following Abad-Franch 2000); El Lucero (4° 10' S, 79° 30' W), mainly in peridomestic chicken coops (Abad-Franch *et al.* 2002, following Abad-Franch 2000); El Lucero, 35 n I, 72 n II, 77 n III, 7 n IV, 2 n V, 27 adults, in chicken nest # 1 [two adjacent chicken nests: 221 bugs of all stages, in a nest occupied by a hen, 3 bugs in the adjacent empty nest], 2 n I, 4 n II, 2 n III, 4 n IV, 13 n V, 10 adults, in chicken nest # 2 [two chicken nests recently treated with Malathion and the hollow tree where these nests were located] (Abad-Franch *et al.*

2002); Pindo Alto, VII-2002, 36 eggs (in 1 of 20 examined domiciliary units), 234 nymphs (in 3 of 20), 28 males (in 1 of 20), 16 females (in 1 of 20) [all stages 314 (in 3 of 20)], all exclusively found in occupied chicken nests; Jacapo, VII-2002, 1 nymph (in 1 of 19), in occupied chicken nest; Bramaderos, VII-2002, 229 eggs (in 2 of 30), 343 nymphs (in 5 of 30), 96 males (in 5 of 30), 52 females (in 4 of 30) [all stages 720 (in 5 of 30)], all exclusively found in occupied chicken nests; Playas, VII-2002, 230 eggs (in 2 of 38), 404 nymphs (in 4 of 38), 115 males (in 2 of 38), 80 females (in 3 of 38) [all stages 829 (in 4 of 38)], all exclusively found in occupied chicken nests; Naranjo Dulce, VII-2002, 152 eggs (in 4 of 31), 712 nymphs (in 10 of 31), 104 males (in 7 of 31), 97 females (in 6 of 31) [all stages 1065 (10 of 31)], all exclusively found in occupied chicken nests; Naranjo Dulce, VIII-2003, 8 eggs (in 1 of 14), 48 nymphs (in 2 of 14), 1 male (in 1 of 14), 1 female (in 1 of 14) [all stages 58 (in 4 of 14)], all exclusively found in occupied chicken nests (Grijalva *et al.* 2005).

Rhodnius nasutus Stål, 1859

BRAZIL: chicken houses (Lent & Wygodzinsky 1979); frequently in chicken houses (Espinola 1985, following Deane & Deane 1957).

Rhodnius nasutus* + *Triatoma brasiliensis* + *Triatoma pseudomaculata

BRAZIL: **Ceará:** Jaguaruana municipality [Coberto + Currais do Felipe + Figueiredo do Bruno + Figueiredo], XI-2000 to IV-2002, coexistence in henhouses covered with straws [*R. nasutus* was prevalent] (Sarquis *et al.* 2004).

Rhodnius neglectus Lent, 1954

BRAZIL: **Goiás:** Municipio de Formosa, between JK and Vila Boa (crossing River Canabrava and Route BR-020), 1974-1979, 5 exx. [1+], from 14 chicken houses (Mello 1981); **Minas Gerais:** Municipio de Bambuí, V-1965 to VII-1965, 1 ex., in a chicken house (Dias 1968); **São Paulo:** Guaira, Bairro João Preto, 5 nymphs, 1 adult, in “ninho de galinha dependurado em árvore” (Forattini *et al.* 1971b).

Rhodnius pallescens Barber, 1932

PANAMA: [several localities not discriminated], 23 exx. [3+], in 7 of 52 examined chicken houses, “chicken houses were attractive to the reduviid bugs, particularly *R. pallescens*. Of the 2, chicken houses were found to harbor bugs slightly more often (7 of 52 as compared to 4 of 35 checked)” (Pipkin 1968); chicken houses (Lent & Wygodzinsky 1979); (Cedillos *et al.* 1985, following Sousa 1972, Méndez & Souza 1979); **Panama Province:** El Aguacate + Cauchal + Filipina, I-1979 to IV-1979, 30 exx., from chicken coops (Christensen & Vasquez 1981).

Note: Tonn (1985a) mentions *R. pallescens* as found in chicken houses following Lent & Wygodzinsky (1979), but the record is not from Belice.

Rhodnius pictipes Stål, 1872

COLOMBIA: in chicken houses (Ryckman 1986, following D’Alessandro *et al.* 1971).

FRENCH GUIANA: [locality not stated], 1983, J.P. Chippaux leg., few specimens, in chicken coops (Julien-Laferriere *et al.* 1989).

Rhodnius prolixus Stål, 1859

COLOMBIA: Oriental region, at the easternmost tip of Colombia, few nymphs and adults, from a chicken house on a farm (D’Alessandro *et al.* 1971); Meta Lejano, Comisaría de Vichada, Municipio de Puerto Carreno, in chickenhouse (D’Alessandro *et al.* 1981).

VENEZUELA: **Barinas + Portuguesa + Cojedes:** mean 15.6 bugs per nest, range 1-100, in 52 (10%) from a total of 520 examined chicken nests (Tonn *et al.* 1982); **Portuguesa:** Terronal, 2001, 1 ex., in chicken hut; San Bartolo, 2002, 13 exx., in chicken hut; Casarena, 2003, 2 exx., in chicken hut; Laurianito, 2003, 21 exx., in chicken hut; **Barinas:** Cascabel, 2003, 20 exx., in chicken hut; Laguna Hermosa, 2003, 20 exx., in chicken hut; Río Bravo II, without date, 17 exx., 2003, 6 exx., in chicken hut; 19 de Abril, 2003, 23 exx., in chicken hut (Fitzpatrick *et al.* 2008).

Note: Chicken hut was originally mentioned by Fitzpatrick *et al.* (2008), probably with walls of plastered mud, like to rural human houses.

BRAZIL: **Minas Gerais:** Município de Uberlândia, localidade 78 (Fazenda Boa Esperança), casa 5, VI-2004, 1 ex. (Mendes *et al.* 2008).

Rhodnius prolixus* + *Triatoma maculata

VENEZUELA: **Guarico**: municipio Valle de la Pascua, 749 exx. *R. prolixus* + 4195 exx. *T. maculata*, in 102 (29.5%) positive chicken houses of 346 positive houses (Group 1), 287 exx. *R. prolixus* + 2291 exx. *T. maculata*, in 69 (37.3%) positive chicken houses of 185 positive houses (Group 2) (Gamboa C. & Perez Ríos 1965); **Barinas** + **Portuguesa** + **Cojedes**: in 1 of a total of 520 examined chicken nests (Tonn *et al.* 1982).

Rhodnius stali Lent, Jurberg & Galvão, 1993

BOLIVIA: **La Paz**: Alto Beni, province of South Yungas, 5+ of 20 examined chicken coops (De la Riva *et al.* 2001, following Dujardin *et al.* 2000); Alto Beni, province of South Yungas: Palos Blancos, 4 exx., in peridomestic site [chicken coop + cereal stores], from 5 infested of 59 examined houses; Entre Rios, 3 exx., in peridomestic site [chicken coop + cereal stores], from 1 infested of 11 examined houses; Ingavi, 22 exx., in peridomestic site [chicken coop + cereal stores], from 1 infested of 16 examined houses; Nuevos Horizontes, 27 exx. in peridomestic [chicken coop + cereal stores], from 2 infested of 33 examined houses (Matias *et al.* 2003); Alto Beni, Iniqua, 1 adult, from a chicken coop (Justi *et al.* 2010).

Triatoma barberi Usinger, 1939

MEXICO: **Oaxaca**: Sola de Vega, I-VIII-1960, R.E. Ryckman, A.E. Ryckman & C.P. Christianson, leg., 33 nymphs, between adobe bricks next to a small thatched chicken house [the adobe wall of the chicken house was also the back wall of an inhabited dwelling] (Ryckman *et al.* 1965); chicken houses (Lent & Wygodzinsky 1979); Magdalena Apazco (21 km NE Oaxaca city), 2 n II, 8 n III, 10 n IV, 20 n V, 25 males, 22 females, from chicken roosts, the 2nd most frequent source of bugs (Zárate *et al.* 1980); **Jalisco** + **Nayarit** [localities not discriminated], most adults [from a total of 94 specimens], found in chicken roosts (Martínez-Ibarra *et al.* 2008).

Triatoma brasiliensis Neiva, 1911

BRAZIL: **Ceará**: Jaguaruana municipality [Coberto, Currais do Felipe, Figueiredo do Bruno, and Figueiredo], XI-2000 to IV-2002, found mainly in hen-houses (Sarquis *et al.* 2004); **Bahia**: Curaça, IX-2002 to XI-2002, 33 exx., from roosts in trees of 92 domiciliary unit infestation visited, 10 exx., from chicken coops of other kind in 25 domiciliary units visited [10.0% chicken coops of the 80 capture sites] (Walter *et al.* 2005).

Triatoma brasiliensis + *Triatoma pseudomaculata*

BRAZIL: **Ceará**: Jaguaruana municipality [Coberto, Currais do Felipe, Figueiredo do Bruno, and Figueiredo], XI-2000 to IV-2002, frequently found in the roofs of hen-houses, always with prevalence of *T. brasiliensis* (Sarquis *et al.* 2004).

Triatoma carrioni Larrousse, 1926

Chicken coops (Carcavallo *et al.* 1998).

ECUADOR: **Loja**: Jacapo, VII-2002, 4 n II, in a chicken nest (Grijalva *et al.* 2005); in chickens nests in the roofs of houses [domiciliary habitat] (Cuba Cuba *et al.* 2007).

Triatoma delpontei Romaña & Abalos, 1947

ARGENTINA: **Córdoba**: Dto. San Justo, Dto. Río Primero & Dto. Río Segundo, [circa 1955-1956], regularly found in chicken houses (Undiano 1957); north of the province, few specimens, in chicken houses (Cichero *et al.* 1967); (Cichero *et al.* 1984).

Triatoma dimidiata (Latreille in Humboldt & Bonpland, 1811)

MEXICO: in chicken cops (Zeledón 1985).

HONDURAS: **Dto. Franciso Morazán**: Santa Lucia, 66 exx., in a chicken house (Ponce & Zeledón 1973).

COSTA RICA: **Alajuela**: San Rafael de Ojo de Agua, 1964-1968, 40 exx. in hen houses (Zeledón *et al.* 1975); **San José**: Rio Oro (near Santa Ana), 3 nymphs, 2 adults, chicken coop for about 20 chickens (Zeledón *et al.* 2001); **Heredia**: San Rafael, 3 km NE Heredia, Focus 4 (houses 34 y 35), 2001, 371 insects [0+], 2002, 95 insects [0+], all from chicken coop (wood piles); Focus 5 (House 44), 2001, 3 insects [0+], 2002, 59 insects [10+, 16.9%], in a chicken coop (wood piles) (Zeledón *et al.* 2005).

GUATEMALA: El Progreso, Tulumaje (14° 05' N, 90° 03' W), XII-2001, 1 male in one chicken coop; IV-2002, 1 male, in a different chicken coop (Monroy *et al.* 2004); Departamento de Jutiapa, Municipio de Quezada, El Tule, 13 exx., in chicken houses; La Brea, 23 exx., in chicken houses (Hernández *et al.* 2006).

COLOMBIA: **Boyaca**: municipality of Boavita, Rio de Abajo, 27 insects from the peridomicile [area located 10 m

away from the house, which included the chicken houses and an old kitchen made of stone where food for animals is stored] (Ramírez *et al.* 2005).

ECUADOR: Guayaquil, in chicken coops (Zeledón *et al.* 2005).

Triatoma dimidiata hegneri Mazzotti, 1940

MEXICO: **Quintana Roo**: Cosumel Island, Rancho Nuevo, 4/5-VII-1965, 1 male, 1 female, 12 undetermined nymphs, in a chicken house under debris consisting of palm leaves, stones and old boards, 21-VII-1965, 3 females, 11 nymphs, in association with stones at the base of a chicken house (Gonzalez-Angulo & Ryckman 1967); chicken coops (Carcavallo *et al.* 1998).

Triatoma dimidiata maculipennis (Stal, 1859)

MEXICO: **Quintana Roo**: Cosumel Island, Rancho Nuevo, 4/5-VII-1965, 2 males, in a chicken house under debris consisting of palm leaves, stones and old boards [the wing spot on both males were “mancha chica”], 21-VII-1965, 1 female (“mancha chica”), between stones in the foundation of a chicken house; Cosumel Island, San Miguel, 23-VII-1965, 1 female (“mancha chica”), 5 nymphs, in a pile of stones where chickens roosted; **Yucatan**: Ticul, 18-VII-1965, 9 males, 3 females (“mancha chica”), 3 males, 1 female (“mancha grande”), 81 nymphs, in the huts of natives and chicken houses, 19-VII-1965, 7 males, 4 females (“mancha chica”), 5 males, 1 female (“mancha grande”), 24 nymphs, in a building used for rearing young chickens, 5-8-VIII-1965, 52 males, 30 females (“mancha chica”), 21 males, 14 females (“mancha grande”), 72 nymphs, in native huts and chicken houses; Tekax, 14-VII-1965, 1 male, 1 female (“mancha chica”), 3 females (“mancha grande”), 25 nymphs, in a chicken house; 3 mi N Muna, 15-VII-1965, 1 male, 2 females (“mancha chica”), 7 nymphs, between the rocks and boards in a chicken house contiguous to a native house [and in a pile of rocks in a cow stable] (Gonzalez-Angulo & Ryckman 1967).

Triatoma gerstaeckeri (Stål, 1859)

UNITED STATES: **Texas**: in some rather unusual hosts and habitats, i.e., chicken houses (Ryckman 1986, following Elkins 1951 and/or Packchianian 1939); chicken coops (Carcavallo *et al.* 1998).

Note: Ryckman (1986) does not discriminate habitats and hosts between Elkins (1951) and Packchianian (1939).

Triatoma guasayana Wygodzinsky & Abalos, 1949

ARGENTINA: **Santiago del Estero**: Colonia Dora, IX-1948, M. Gómez leg., 54 females, 56 males, # 714-716 [IMR], in chicken coops [+ goat yard] (Abalos & Wygodzinsky 1956, Wygodzinsky & Abalos 1950); “en gallineros” (Wygodzinsky & Abalos 1959); (Traversa after 1960, following Abalos & Wygodzinsky 1951); (Martínez & Cichero 1972); (Carcavallo *et al.* 1988); Amama, Trinidad, Mercedes, Villa Matilde and Pampa Pozo, 5 exx. in 5 chicken coops, mean 1.0 [+ 9 exx. in 6 trees with chickens], V-1996, *T. guasayana* alone in 1 chicken coop, previously positive for *T. garciabesi* [+ 3 trees with chicken roosts, one chicken roost tree previously positive for *T. garciabesi*] (Canale *et al.* 2000); Amama, 1993–2002, 10 exx. in 7 (3.2%) of 222 examined chicken coops (Vazquez-Prokopec *et al.* 2005); **Santiago del Estero**: Atamisqui and/or **Cordoba**: Quilino: encountered occasionally in the chicken coops (Lopez *et al.* 1999); **Córdoba**: Charbonier, 5 nymphs, in a henhouse (House # 25) [330 days after insecticide treatment made 13/20-IV-1971] (Martínez *et al.* 1975b); (Cichero *et al.* 1984); (Martínez *et al.* 1985).

Triatoma guasayana + *Triatoma infestans*

ARGENTINA: **Córdoba**: Obispo Trejo, 13/16-XII-1971, 1 n II *T. guasayana* + 1 n I *T. infestans*, in a henhouse [40 days after insecticide treatment made 4/8-XI-1971] (Martínez *et al.* 1975b).

Triatoma infestans Klug in Meigen, 1834

= *Eutriatoma oswaldoi* (Neiva y Pinto, 1923) Pinto, 1931: Mazza 1943b: 1-8 [distr.; hosts; refs.]

PERU: [**Arequipa** ?]: Quishuarani, between Estación de Vitor & Uchumayo, abundant, it can be obtained in chicken houses; Valle de Siguan, San Luis, XII-1943 to I-1944, 2 positive of a total of 9 examined chicken houses; Irrigación de Vitor (contiguous to the Estación de Vitor), “El Cruce,” XII-1943 to I-1944, 2 positive of a total of 7 examined chicken houses (Herrer & Ayulo 1944); **Ica**: city of Ica, eggs, adults, in one chicken coop (Ayulo Robles 1946); southwestern of the country, mean 13.0 bugs per site in 31 (28.7%) of 108 inspected chicken houses (Del Ponte 1959, following Herrer 1955).

BOLIVIA: **Santa Cruz**: Dto. Cordillera, Gutierrez, XII-1977, 8 n I, 18 n II, 63 n III, 252 n IV, 642 n V, 491 a, in a chicken coop 3 months old (Bermudez *et al.* 1978), a total of 1524 exx., found in one chicken house (Tonn 1983,

Wisnivesky-Colli 1993, following Bermudez *et al.* 1978); **Potosí**: Entre Rios de Ajnapa, in 3 chicken houses (Guillen *et al.* 1997); **Chuquisaca**: Zurima (18° 45' 00" S, 65° 04' 60" W), 2 n I, 1 n II, 2 n III, 1 n V, chicken-coop; Serrano (19° 06' 00" S, 64° 22' 00" W), 1 n III, 1 n IV, 1 n V, chicken-coop; Carbajal (19° 21' 40" S, 65° 18' 14" W), 2 males, 2 females, chicken-coop (Pizarro *et al.* 2007); **Tarija**: Palmar Chico, Quebrada Busuy, 8 females, 7 males, from one chicken coop (Abrahan *et al.* 2008).

BRAZIL: **Goia's**: Patrimonio Baixo, 37 n I, 51 n II, 77 n III, 43 n IV, 121 n V, 97 males, 162 females in chichensouse "PB" [30+ (6.2%) of 481 examined]; Gruta de Agua 2, 95 n I, 155 n II, 220 n III, 122 n IV, 105 n V, 78 males, 112 females in chichensouse "G. De A.2" [2+ (0.4%) of 504 examined]; Mambai Town, 1 n I, 2 n II, 4 n III, 1 n IV, 8 n V, 5 males, 3 females in chichensouse "UnB 4" [0+ of 24 examined] (Marsden *et al.* 1979); **Minas Gerais**: Municipio de Bambuí, 1958, 4 % positive chicken houses (Dias 1968).

[CHILE] in chicken houses (Schenone *et al.* 1985, following Neghme & Schenone 1962).

ARGENTINA: **Jujuy**: San Salvador de Jujuy, "gallineros" (Mazza, Basso & Basso 1936); **Salta**: Luracatao, 1933, "gallineros" (Mazza 1936); Salta city, "gallineros" (Mazza, Basso & Basso 1936); **Catamarca**: Catamarca city, 11 nymphs, 21 adults, from 6 chicken houses (Mazza *et al.* 1938); Catamarca [city], XI-1945, host *G. gallus* (Ringuelet 1948); **Santiago del Estero**: occasionally enter [in] chicken houses (Usinger *et al.* 1966); near Santiago del Estero city, maximum obtained of 632 exx. in one chicken coop (Bejarano *circa* 1978); Amamá, 2 nymphs, chicken coop (Cecere *et al.* 1996, 1997); Amamá + Trinidad + Mercedes, II-2001, 218 exx., in 1-3 chicken houses and roosting places (Ceballos *et al.* 2002); Amamá, 39 males, 444 females; Mercedes, 12 males, 8 females; Trinidad, 4 males, 2 females, in chicken coops (Schachter-Broide *et al.* 2004); Trinidad-Mercedes, X-1993 to XI-1997, 1 ex. in 1 (2.0%) of 43 examined chicken coops (Cecere *et al.* 2006); **Santiago del Estero**: Atamisqui + **Córdoba**: Quilino, in 20 chicken coops (Lopez *et al.* 1999); **Chaco**: Pampa Avila, 10 females, 8 males, from one chicken coop (Abrahan *et al.* 2008); Pampa del Indio, X-2007, in 13 % of chicken houses from a total of 364 examined rural houses (Gurevitz *et al.* 2009); Pampa del Indio, 2009, 7 n II-III-IV, 12 n V, 16 females, 32 males, in chicken coops [10 de Mayo, House # 38, 6 n II-IV, 6 n V, 6 females, 6 males, in chickenhouse; Campo Los Toros, House # 20, 11 n V, 11 females, 11 males, in chickenhouse; Fortín Brown, House # 19, 31 n II-IV, 31 n V, 31 males, 31 females, in chickenhouse] (Ordóñez Krasnowski 2009); Pampa del Indio, 3 nymphs, 1 adult [fig. in page 18], in a chicken coop (Petherick 2010); **Corrientes**: Dto. San Luis del Palmar, 2 nymphs, 1 adult, in "Nidal de gallinas"; Dto. Empedrado, 1 adult [male], in "Corral de aves" (Bar *et al.* 1997, Damborsky *et al.* 2001); Dto. San Roque, Colonia Laurel, 1 [operculated egg], in a chicken house (Bar 2001, Bar *et al.* 2005); **La Rioja**: 5 larvae [1+], 15 nymphs, 26 adults [7+], in chicken houses from 5 houses; San Antonio, 3 larvae, 13 nymphs [1+], 14 adults [2+], in chicken houses from 4 houses; Chilecito, 2 larvae [1+], 7 nymphs [1+], 4 adults [3+], in chicken houses from 5 houses; La Rioja city, Escuela Mitre, 8 nymphs [2+], 8 adults [2+], in chicken houses from 4 houses; La Rioja city, Escuela Castro Barros, 3 nymphs, 4 adults [2+], in chicken houses from 2 houses; La Rioja city, Escuela Barrio de la Vega, 2 larvae, 7 nymphs, 13 adults [1+], in chicken houses from 2 houses; El Milagro, 20 larvae, 9 nymphs, 4 adults, in [one] chickenhouse from 1 [examined] house (Mazza *et al.* 1938); Dto. General Belgrano, San Antonio (35 km from Chepes), numerous specimens, in a chicken coop (Mazza 1943b, following Mazza *et al.* 1938); Alto Bayo, 9 females, 10 males, in one chicken coop (Abrahan *et al.* 2008); **Córdoba**: Charbonier, Casa # 16, 2 n V, in henhouse; Casa # 18, 3 n V, in henhouse; Casa # 22, 2 n V, in henhouse; Casa # 23, 1 n V, in henhouse; Casa 35, 2 n IV, 2 a, in henhouse; Casa # 40, 1 n IV, in henhouse; Casa # 47, 1 n IV, in henhouse; Casa # 55, 1 n, 1 a, in henhouse; Casa # 58, 1 a, in henhouse [90 days after insecticide treatment made 4/8-XI-1971] (Martínez *et al.* 1975a); Rio Cuarto, 21 peridomiciliary foci associated to chicken houses and wood ovens in 17 of 223 houses (Chassagnade *et al.* 2004, following Chassagnade *et al.* 2000), 7 exx. in chicken houses (Chassagnade *et al.* 2004); **San Juan**: San Juan city, adjoining area south of Villa San Francisco, XI-XII-1993, 2 n I-III, 19 n IV-V, 13 f, 10 m, in chicken coops of 12 examined houses; House of 4 Palms, XII-1994, 1 n III, 2 n V, 1 f, 1 m, in one chicken coop (Vallvé 1997); **San Luis**: Dpto. Ayacucho, San Francisco del Monte de Oro, X-2003 to III-2004, 18,7 ± 16,3 captured insects per hour/ man, in 6 positive from a total of 11 examined chichicken coops (Chartier & Crocco 2007); **Entre Ríos**: common in poultry houses of the area, following a communication from the Estación Experimental Agropecuaria of Concordia (Viana *et al.* 1977-1978); Villa Elisa, in chicken coops (Carpintero 1978); **Mendoza** (Mazza 1936); **Buenos Aires**: Pdo. General Madariaga, 4 km from General Madariaga,

2 nymphs, 1 adult, in one chicken coop; Pdo. General Pinto, General Pinto, 10 “larvae” [2+], “4 nymphs [1+], adults, # 42023 [MEPRA] (Mazza & Jorg 1944); Pdo. Florencio Varela, La Esmeralda, 29-VI-1998, 73 males, 90 females, 96 n V, 3 n IV, 45 n I-III; 6-VII-1998, 222 males, 214 females, 527 n V, 180 n IV, 189 n I-III; 13-VIII-1998, 91 males, 52 females, 336 n V, 119 n IV, 175 n I-III; 20-VIII-1998, 99 males, 177 females, 160 n V, 50 n IV, 32 n I-III, all in a commercial laying hen building, hidden in the space left between the back of the shelter and the wall, in the angles of the brooding cubes and inside crevices of the wood (approximate mean density 9 triatomines per m²); XI-1998, only 12 bugs found after insecticide spraying (Gajate *et al.* 2001); **Río Negro**: San Antonio Oeste, 45 adults, 13 nymphs, in one chicken coop (Mazza & Miyara 1939).

URUGUAY: **Soriano**: [locality not stated], in chicken coop, Fig. 14.II.16 (Salvatella *et al.* 1998).

Note: a total of 52 chicken coops were prospected for triatomines in the city of Buenos Aires, but results were negative (Manso Soto & Prosen 1951).

Triatoma infestans* + *Triatoma platensis

ARGENTINA: **Santiago del Estero**: Puente Negro, 10 exx. [*T. infestans* + *T. platensis*], IMR 168b (Abalos 1948); Puente Negro, 23-III-1944 [IMR 121], 24-III-1944 [IMR 124], 19-IV-194 [IMR 132], 16-VI-1944 [IMR 168b], 26-IX-1944 [IMR 217], Abalos & Laserna leg., numerous exx. *T. platensis*, together with *T. infestans* (Romaña & Abalos 1947, Abalos & Wygodzinsky 1951); (Usinger *et al.* 1966, following Abalos 1948); in chicken coops, co-inhabiting with *T. platensis* (García 1999, following Abalos 1948).

Triatoma infestans* x *Triatoma platensis [hybrid]

ARGENTINA: **Santiago del Estero**: Puente Negro, [16-VI-1944], 2 exx. [IMR 168b] + *T. infestans* + *T. platensis* (Abalos 1948).

Triatoma maculata (Erichson in Schomburgk, 1848)

ARUBA: in chicken pens built of mud heavily infested (Petana 1978, following Van der Kuip 1966).

VENEZUELA: **Guarico**: municipio Valle de la Pascua, 4195 exx. [+749 exx. *R. prolixus*], in 102 (29.5%) positive chicken houses of 346 positive houses (Group 1), 2291 exx. [+287 exx. *R. prolixus*], in 69 (37.3%) positive chicken houses of 185 positive houses (Group 2) (Gamboa C. & Perez Ríos 1965); **Cojedes**: 76.1% relative importance of chicken houses; **Portuguesa**: 70.2% relative importance of chicken houses; 901 exx. captured in 18 positive sites, mean 50.1 exx. per site (Tonn *et al.* 1978); chicken houses (Lent & Wygodzinsky 1979).

BRAZIL: **Roraima**: Projeto Passarão, I-1999 to II-2001, 375 exx. in chicken coops of three houses (Luitgards-Moura 2001); most numerous species found in chicken houses in the peridomicile, presenting a peridomiciliary infestation index of 16.7 (number of annexes with triatomines/number of annexes x 100), and a crowding index of 12500 (number of triatomines captured/number of houses x 100) represented by the peridomiciliary collection of 375 specimens in chicken annexes of only three houses (out of 48 investigated houses); 125 triatomines per chicken house found living in chicken nests, underneath cardboard boxes, wood pieces, stones and bricks (Luitgards-Moura *et al.* 2005b, following Luitgards-Moura *et al.* 2005a); Normandia, Bonfim and Uiramutã Municipalities, many specimens collected in chicken houses (Luitgards-Moura *et al.* 2005b).

Triatoma melanosoma Martinez, Olmedo & Carcavallo, 1987

Chicken coops (Carcavallo *et al.* 1998).

Note: Original record not found.

Triatoma nigromaculata (Stål, 1859)

VENEZUELA: occasionally in chicken houses (Lent & Wygodzinsky 1979, Torrealba *et al.* 1985); Guaraque (8° 30' S, 71° 35' W), in the nest of a setting hen, of which bugs 47 had ingested blood (Scorza *et al.* 1994); chicken coops (Carcavallo *et al.* 1998).

Triatoma nitida Usinger 1939

GUATEMALA: **Dto. Chiquimula**: Las Palmas, Olopa, 1 n IV, 2 n V in the first chicken coop; 1 n II, 10 n III, 9 n IV, 17 n V, 22 females, 19 males [2+ nymphs and 3+ adults from 38 dissected insects] in a second chicken coop (Monroy *et al.* 2003), 18 males, 17 females, chicken coop (Bustamante *et al.* 2004); **Dto. Quiché**: Canillá, Tuxtunep, 2002, 2 n III, 6 n IV, 10 n V, 5 females, 5 males, in chicken coop # 1; 1 n II, 2 n III, 6 n IV, 7 n V, 2 males in chicken coop # 2; 2 males in chicken coop # 3; 1 n II in chicken coop # 4 (Monroy *et al.* 2003).

Triatoma patagonica Del Ponte, 1929

ARGENTINA: in chicken coops (Abalos & Wygodzinsky 1956, Wygodzinsky & Abalos 1959, Traversa after 1960, Usinger *et al.* 1966, Martínez & Cichero 1972, Martínez *et al.* 1985); occasionally, in chicken coops (Carcavallo *et al.* 1988); **Chubut**: Dolovan, Gaiman, Trelew, in chicken houses made with stone walls (Bejarano *et al.* 1967, following Del Ponte, Coscarón & Bachmann pers. com. 20-VII-1965); Las Plumas, I-1982, adults, “gallineros”; Veintiocho de Julio, I-1982, eggs, nymphs, adults, “gallineros” (Virla de Arguello 1984); chicken coops (Carcavallo *et al.* 1998); Gaiman + Las Plumas, I-1998 (summer), 4 n I, 3 n II, 21 n III, 45 n IV, 11 females, 5 males, Gaiman, X-1998 (spring), 2 n I, 10 n II, 8 n III, 1 n IV, 1 male, all found in places used by hens for resting [henhouses, wooden boxes, and log piles, boards, bricks, and flat stones] (Wisnivesky-Colli *et al.* 2003).

Note: Original record (prior to 1956) was not found.

Triatoma platensis Neiva, 1913

ARGENTINA: **Catamarca**: La Aguada (near the city of Catamarca), abundant specimens, # 55092 [MEPRA], in one chicken house (Mazza 1943a); **La Rioja**: [locality not stated] laboratory colony initiated with specimens collected in chicken coops (García & Powell 1998); sampled used for mtDNA from a laboratory colony initiated with specimens collected in chicken coops (García 1999, following García & Powell 1998); **Santiago del Estero**: Atamisqui and/or **Cordoba**: Quilino: encountered occasionally in the chicken coops (Lopez *et al.* 1999); **Entre Ríos**: Pronunciamiento, 1978, 30 nymphs, adults, “en gallinero” (Carpintero 1986); **Río Negro**: Fortín Uno [south margin of the Río Negro, 15 km from General Roca], in chicken coop (Bejarano *et al.* 1967, following Del Ponte, Coscarón & Bachmann pers. com. 20-VII-1965).

URUGUAY: **Paysandú**: [locality not stated], nymphs, adults, specially in chicken coops (Franca Rodríguez 1985).

Triatoma pseudomaculata Corrêa & Espínola, 1964

BRAZIL: **Bahia**: 9 km from Riacho de Santana, a single uninfected adult found in chicken house (Barrett *et al.* 1979); in chicken coops (Carcavallo *et al.* 1998); Curaça, IX-2002 to XI-2002, 23 exx., from roosts in trees of 92 domiciliary unit infestation visited [trees used as chicken roosts 48.0%], 1 ex., in chicken coops of other kind of 25 domiciliary unit infestation visited (Walter *et al.* 2005).

Triatoma picturata Usinger, 1939

Chicken coops (Carcavallo *et al.* 1998).

Note: Original record not found.

Triatoma protracta (Uhler, 1894)

UNITED STATES: **Utah** (Arends 2003); **California** (Arends 2003).

Note: Original records not found.

Triatoma rubrovaria (Blanchard in Blanchard & Brullé, 1843)

BRAZIL: **Rio Grande do Sul**: Caçapava do Sul, > 30 n V, 1 adult, “em telha de galinheiro” (Bedin *et al.* 2009).

ARGENTINA: **Entre Ríos**: Colon, in chicken coop (Carpintero 1978); Pronunciamiento, together with *T. infestans* and *Rasahus hamatus*, in a chicken coop (Carpintero 1981); Pronunciamiento, 1978, various adults, “en gallinero” (Carpintero 1986).

URUGUAY: **Artigas**: La Bolsa, X-1990 to XI-1991, in 2 “gallineros” (Salvatella *et al.* 1994), 3 nymphs in 2 henhouses close to stone walls (Salvatella *et al.* 1995); [locality not stated], chicken coops, Fig. 14.II.21 (Salvatella *et al.* 1998).

Triatoma ryckmani Zeledón & Ponce, 1972

GUATEMALA: El Progreso, Agua Blanca, 73 adults and nymphs of all stages collected in a chicken coop (Monroy *et al.* 2004, following Monroy unpublished data); El Progreso, Tulumaje (14° 05' N, 90° 03' W), XI-2001, 2 females; XII-2001, 45 n I, 4 n II, 4 females, 2 males; I-2002, 2 n I, 5 n II, 2 n III; II-2002, 1 n I; III-2002, 13 n I, 2 n III, 1 n IV; IV-2002, 1 n III; V-2002, 10 n I; VI-2002, 1 n III; VIII-2002, 1 n III; IX-2002, 1 n V; X-2002, 1 n V, 1 male, all in chicken coop (# 1); XI-2001, 5 females, 1 male; XII-2001, 44 n I, 2 n II, 10 females, 4 males; I-2002, 7 n I, 25 n II, 1 female; II-2002, 16 n I, 22 n II, 18 n III, 13 n IV, 5 n V, 3 females; III-2002, 8 n I, 12 n II, 29 n III, 4 n IV, 10 n V, 2 females; IV-2002, 5 n I, 3 n II, 8 n III, 7 n IV, 4 n V, 4 males, 4 females; V-2002, 13 n I, 2 n II, 8 n III, 11 n IV, 2 n V, 2 females; VI-2002, 18 n III, 3 n IV, 4 n V, 3 females, 2 males; VIII-2002, 5 n I, 4 n IV, 1 n V; X-2002, 2 n II, 1

female, 2 males, all in the high density chicken coop (# 2); XII-2001, 2 n II, 3 females; I-2002, 8 n I, 1 n II, 1 female; II-2002, 10 n I, 2 n III; III-2002, 15 n I, 4 n II, 7 n III, 2 n V, 1 male; IV-2002, 1 n II, 1 n III, 1 n IV; V-2002, 2 n I, 3 n II, 4 n III, 2 n IV, 1 n V; VI-2002, 7 n I, 1 n II, 9 n III, 7 n IV, 2 n V, 3 females; VIII-2002, 13 n I, 2 n II, 2 n III, 2 n IV, 4 n V, 1 female, 4 males; IX-2002, 4 n I, 2 n III; X-2002, 2 n I, 1 n II, 1 n III, 1 n V, 3 females, all in chicken coop (# 3); VIII-2001, 1 n IV; X-2001, 1 n V, 2 males; XI-2001, 2 females; XII-2001, 13 n I, 1 male; I-2002, 6 n I, 3 n II, 3 n V, 2 females, 3 males; II-2002, 7 n I, 2 n II, 3 n III, 2 n V, 3 females, 1 male; III-2002, 2 n I, 1 n III; IV-2002, 1 n IV; V-2002, 1 n I, 1 n II, 1 n III, 1 n IV; VI-2002, 1 n III, 1 n IV, 2 n V; VIII-2002, 1 n IV, 1 n V, 1 female; IX-2002, 1 n IV; X-2002, 1 n I, all in the low density chicken coop (# 4) (Monroy *et al.* 2004); up to 369 exx. in a single chicken coop (Zeledón *et al.* 2010, following Nakagawa *et al.* 2005).

Triatoma sanguisuga (LeConte, 1855)

= *Triatoma sanguisuga ambigua*: Thurman, Jr. *et al.* 1948.

UNITED STATES: [**Kansas**: Manhattan], adults flying into hen houses and feeding upon chickens (Grundemann 1947, following Kimball 1894); in large numbers in chicken houses (Lent 1935, following Kimball 1896); **Florida**: Hendry Co., Felda, 18-VI-1947, D.J. Taylor leg., 3 males, 5 females, in chicken house; Marion Co., Citra, 17-VII-1947, D.J. Taylor leg., 1 nymph, in chicken house (Thurman, Jr. *et al.* 1948); (Lent & Wygodzinsky 1979); chicken houses (Tonn 1985b); (Arends 2003); **Maryland**; **California**; **Texas** (Arends 2003).

Triatoma sordida garciabesi Carcavallo Cichero, Martínez, Prosen & Ronderos, 1967

ARGENTINA: **Santiago del Estero**: Amama, Trinidad, Mercedes, Villa Matilde and Pampa Pozo, XI-1994 to XI-1996, 113 exx. in 23 chicken coops, mean = 2.6 [+ 604 exx. in 141 trees with chickens], V-1996, *T. garciabesi* alone in 6 chicken coops [+ 28 trees with chicken roosts, two previously positive for *T. guasayana*], *T. garciabesi* together with *T. guasayana* in 1 chicken coop [and 2 trees with chicken roosts] (Canale *et al.* 2000); **Chaco**: Colonia Benítez, 4-II-1948, Golbach leg., 4 females, 3 males [IMR 754], “en gallinero” (Abalos & Wygodzinsky 1951); **Santiago del Estero**: Atamisqui and/or **Córdoba**: Quilino: encountered occasionally in the chicken coops (Lopez *et al.* 1999); **Córdoba** (Cichero *et al.* 1984).

Triatoma sordida garciabesi* + *Triatoma infestans* + *Triatoma eratyrusiforme* + *Triatoma platensis

ARGENTINA: **Mendoza**: Tres Porteñas, I-1937, 1 female *T. s. garciabesi* # 43004 [MEPRA], in a chicken coop (Mazza 1937) + *T. infestans* (Mazza 1937) + 1 male *T. eratyrusiforme* # 43004 [MEPRA], in a chicken coop (Mazza & Jorg 1937) + 4 exx. *T. platensis* # 43004 [MEPRA], in a chicken coop (Mazza & Jorg 1938).

Note 1: The species were treated in different works, and nothing is said about its co-inhabitation. Mazza (1937) states that the specimen of *T. s. garciabesi* was mixed among others of *T. infestans* in the same chicken coop, but the number of *T. infestans* was not stated and/or treated in other work. The same number given to all specimens in the collection MEPRA probably indicates that they were provenient from the same chicken coop.

Note 2: Abalos & Wygodzinsky (1951) attributes the record of *T. eratyrusiforme* to Mazza (1937) but the real citation is Mazza & Jorg (1937).

Note 3: all posterior records of *T. eratyrusiforme* “in chicken coops” [when in reality it was a single chicken coop] are based in the first of Mazza & Jorg (1937): Abalos & Wygodzinsky (1951, following Mazza [& Jorg] 1937); Abalos & Wygodzinsky (1956); Wygodzinsky & Abalos (1959, following Abalos & Wygodzinsky 1951); Traversa (after 1960, following Abalos & Wygodzinsky 1951); Martínez & Cichero (1972); Carcavallo *et al.* (1988); Carcavallo *et al.* (1998).

Triatoma sordida sordida (Stål, 1859)

BRAZIL: **Bahia**: County of Serra do Ramalho, Agrovila 12 farm, 1343 captured bugs, in 106 chicken houses (Rocha Pires *et al.* 1999); **Goiás**: Patrimônio Baixo, 4 n II, 5 n III, 7 n V, 3 males, 4 females in chichensouse “PB” [0+ of 21 examined]; Gruta de Agua 2, 1 n IV, 21 n V, 21 males, 16 females in chichensouse “G. De A.2” [0+ of 48 examined]; Mambaí Town, 11 n I, 8 n II, 11 n III, 1 n IV, 16 n V, 14 males, 12 females in chicken house “UnB 4” [0+ of 67 examined] (Marsden *et al.* 1979); Mambaí, in chicken coops (Marsden 1993); Município de Formosa, between JK and Vila Boa (crossing River Canabrava and Route BR-020), 1974-1979, 9+ of 379 exx., from 14 chicken houses (Mello 1981); **Minas Gerais**: município de Porteirinha, X-1993, 53.2 % of infested chicken houses from 406 domiciliary units examined (Diotaiuti *et al.* 1998); Montalvânia, in low densities, in chicken houses (Rassi *et al.*

2003, following Dias 1958); Município de Araguari, Assentamento Ezequias dos Reis: Lote 19, 1 ex. “no galinheiro”; Lote 36, 2 exx. “em ninho de galinha” (Lemos *et al.* 2006); 71% from a total of 181 insects, from chicken coops (or other places used by hens to nest) in 4 localities [Espinosa (68 insects) + Mamonas (34 insects) + Januária (42 insects) + Corinto (37 insects)] (Monteiro *et al.* 2009); **São Paulo**: Guaira, Bairro João Preto, 161 nymphs, 17 adults, in “galinheiros e poleiros” (Forattini *et al.* 1971b); **Mato Grosso**: Cuiabá, Fazenda São José, 23-I-1982, 32 barbeiros, “galinheiro”; Fazenda São José, 43 barbeiros, “galinheiro”; Fazenda Boa Sorte, 23-I-1982, 67 barbeiros, “galinheiro”; Fazenda Lobo, 5-II-1982, 16 barbeiros, “galinheiro”; Fazenda Boa Sorte, 5-II-1982, 16 barbeiros, “galinheiro” (Nince 1983); **Paraná**: Paiçandu + Dr. Camargo + Floriano + Floresta + Marialva, VI-1996 to II-2000, in 24 (6.9%) infested chicken coops of 350 examined (Guilherme *et al.* 2001).

BOLIVIA: La Paz: Apolo (14° 44' S, 68° 30' W), X-1992 & III-1993, 16 n I-IV, 8 n V, 7 males, 12 females in 8+ of 25 peridomestic structures [chicken coops and adobe walls surrounding houses] (Noireau *et al.* 1995).

ARGENTINA: northeastern, “en gallineros” (Wygodzinsky & Abalos 1959); frequent, in chicken coops (Carcavallo *et al.* 1988); **Corrientes**: Capital city, J. Janzi leg., in one chicken house (Mazza 1943b); Dto. General Paz, 1 nymph, 3 adults, in 1 “corral de ave” of 21 examined (Oscherov *et al.* 2000); [Cerrito + Maloyita + Rincón de Vences + Palmar Grande], VIII-1999 to VI-2000, 13 n, 3 adults, in 2 of 25 examined (Oscherov *et al.* 2003); Dto. San Roque, Colonia Laurel, 1 n I, 2 n V, 1 male, “en un árbol de eucalipto que hacía las veces de gallinero” (Bar 2001, Bar *et al.* 2005); Dto. San Luis del Palmar, 3 eggs, 305 nymphs, 2 adults, in “Corral de aves,” 24 nymphs in “nidal de gallinas”; Dto. Empedrado, 21 nymphs, 2 adults [males], in “Corral de aves” (Bar *et al.* 1997, Damborsky *et al.* 2001); Mburucuyá, Autumn 2007, 1 n I, 18 n V, in 1 of 33 examined chicken coops; Berón de Atrada, 58 eggs, 1 female, in 1 of 25 examined chicken coops (Bar *et al.* 2010).

Triatoma sordida* [sordida] + *Triatoma infestans

ARGENTINA: Corrientes: Beron de Astrada + Mburucuya, *T. sordida* co-existing with *T. infestans*, inside “corrales de aves” (Bar 2009, following Bar 2007).

***Triatoma venosa* (Stål, 1872)**

COLOMBIA: Boyacá: municipalities of Guateque and Somondoco, 30 females, 30 males, in chicken coops (Vargas *et al.* 2006).

***Triatoma vitticeps* (Stål, 1859)**

Chicken coops (Carcavallo *et al.* 1998).

Note: Original record not found.

PSOCOPTERA

Undetermined genera

BRAZIL: São Paulo: Cotia + Sorocaba, 1985-1988, 29 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

DERMAPTERA

Anisulabididae

***Euborellia annulipes* (Lucas, 1847)**

BRAZIL: São Paulo: Monte Mor (Guimãraes *et al.* 1992, following Prado & Gianizella 1991); Municipios do Araçatuba, Bastos, Birigui, Guararapes, Pindamonhangaba, João Manuel [IBSP] (Guimãraes *et al.* 1992); **Río Grande do Sul**: Pelotas, Conjunto Agrotécnico Visconde da Graça, IV-2002 to III- 2003, 264 exx., from poultry house of laying hens (Pinto 2005)

ARGENTINA: Buenos Aires: Capilla del Señor & Pergamino, in poultry house (Cicchino & Saini 2006).

Labiduridae

***Labidura riparia* (Pallas, 1773)**

BRAZIL: São Paulo: Monte Mor (Guimãraes *et al.* 1992, following Prado & Gianizella 1991); Municipios do Bastos, Birigui, Cotia, Itapetininga, João Manuel, abundant in humid manure on the floor [IBSP] (Guimãraes *et al.* 1992); Araçatuba + Bastos + Birigui + Cotia + Itapetininga + Pindamonhangaba, 1985-1988, 1630 “larvae” + a total of 333 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).

Spongiphoridae*Labia curvicauda* (Motschulsky, 1863)BRAZIL: **São Paulo**: Cotia, 1985-1988, 21 exx., in poultry manure accumulated in poultry farms (Bruno *et al.* 1993).*Labia minor* (Linnaeus, 1758)ARGENTINA: **Buenos Aires**: Capilla del Señor & Pergamino, in poultry house (Cicchino & Saini 2006).*Strongylopsalis mathurini* Miranda Ribeiro, 1931BRAZIL: **São Paulo**: Monte Mor (Guimãraes *et al.* 1992, following Prado & Gianizella 1991); Municipios do Araçatuba, Bady Bassit, Bastos, Birigui, Ibiúna, Itapetininga, Sorocaba, [IBSP] (Guimãraes *et al.* 1992).**Undetermined family****Undetermined sp.**BRAZIL: **Minas Gerais**: Uberlândia, Fazenda do Óleo da Granja Planalto (18° 57' S, 48° 12' W), X-1992, 88 exx., XI-1992, 54 exx., XII-1992, 19 exx., I-1993, 176 exx., II-1993, 300 exx., III-1993, 28 exx., IV-1993, 143 exx., V-1993, 70 exx., VI-1993, 44 exx., VIII-1993, 21 exx. [DBUU], in accumulated manure of caged-layer poultry (Fernandes *et al.* 1995).**BLATTARIA****Blattidae***Ischnoptera* sp.

TRINIDAD: 2-VIII-1963 to 12-IX-1963, hen manure (Legner & Olton 1970).

Note

The following species, figured in a checklist of beetles from Barbados, were mentioned in “chicken manure” or “fowl dung” [in chicken houses?]. The “information on the bionomics (general natural history) of the species was given (if available), usually from the literature cited for the species” (Peck 2009). Nevertheless, the references cited by Peck (2009) are of general character, without biological data, but the original records were not found.

COLEOPTERA: Hydrophilidae: *Dactylosternum* sp. [in chicken manure]; **Histeridae: *Carcinops troglodytes*** (Paykull, 1811) [predaceous on dipterous breeding in fowl dung]; **Staphylinidae: *Cilea silphoides*** (Linnaeus, 1767) [in chicken manure]; ***Carpelimus flavipes*** (Erichson, 1840) [in chicken manure]; ***Phacophallus parumpunctatus*** (Gyllenhal, 1827) [in chicken manure]; ***Philonthus ventralis*** (Gravenhorst, 1802) [in fowl dung]; **Scarabaeidae: Aphodiinae: *Ataenius liogaster*** Bates, 1887 [in fowl dung]; ***Ataenius luteomargo*** Chapin, 1940 [in fowl dung]; ***Ataenius scabrellus*** Schmidt, 1909 [in fowl dung]; ***Ataenius scutellaris*** Harold, 1867 [in fowl dung]; ***Ataenius strigicauda*** Bates, 1887 [in fowl dung].

**Comments and remarks on selected taxa from different countries
shared between poultry houses and birds' nests**

COLEOPTERA**Anobiidae*****Stegobium paniceum***

The Biscuit Beetle is a pest of some importance in a wide variety of both animal and vegetal products (Woodroffe 1953, Domínguez Umpiérrez & Marrero Artabe 2010). *S. paniceum* was one of the dominant species in pigeons' nests in London (Woodroffe 1953), and it was found in nests of *Passer domesticus* (Linnaeus, 1758) [Aves: Ploceidae] in London (Woodroffe 1953) and Slovakia (Sustek & Křištofík 2003), and in burrow nests of *Merops apiaster* Linnaeus, 1758 [Meropidae] in Slovakia (Křištofík *et al.* 1996).

Carabidae***Somotrichus unifasciatus***

Very recently *Somotrichus unifasciatus* has appeared for the first time in some nests of native birds from Argentina

(Fig. 1; Table 1). Accompanied by a diverse insect fauna (Table 1), adults of *S. unifasciatus* were found in the following birds' nests: ARGENTINA: **Entre Ríos**: Crespo, 26-XII-2009, 5 exx. [ODI], in a nest of *Caracara plancus*

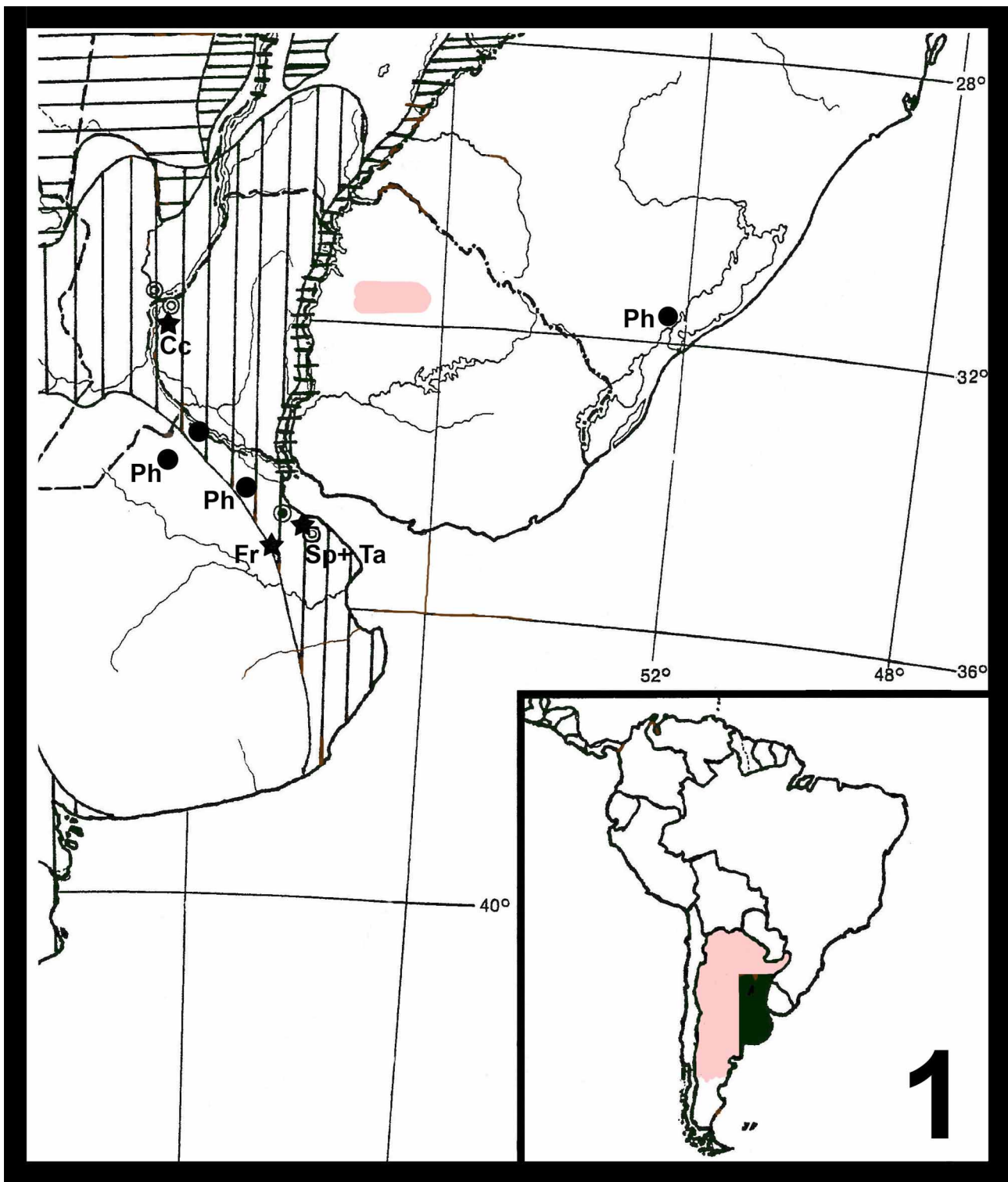


FIGURE 1. Current distribution of *Smotrichus unifasciatus* in Argentina and southern Brazil. Black circles, literature records: Ph, poultry houses (north of Buenos Aires according to Cicchino & Saini, 2006; southern Brazil according to Bicho *et al.*, 2005). Black stars, birds' nests: Cp, *Caracara plancus*; Fr, *Furnarius rufus*; Sp, *Schoeniophylax phryganophila*; Ta, *Tyto alba*. Broad horizontal stripes, Chacoan Province; narrow horizontal stripes: Austro-brazilian transition forest + Paranaensic Province + Gallery Forest (according to Prado 1993); vertical stripes, Espinal Province (according to Lewis & Collantes, 1973).

(Miller 1777) [Aves: Falconidae] situated on a *Morus alba* tree; **Buenos Aires**: Cañuelas, 12-II-2010, 1 ex. [ODI], inside a nest of *Furnarius rufus* (Gmelin 1788) [Aves: Furnariidae], with a nest of *Passer domesticus*; Pereyra, 9-V-

2010, 2 exx. [ODI], in a nest of *Schoeniophylax phryganophila phryganophila* (Vieillot 1817) [Aves: Furnariidae], situated on a *Celtis tala* tree; Pereyra, 22-V-2010, 7 exx. [ODI], in a nest of *Tyto alba tuidara* (J.E. Gray 1829) [Aves: Tytonidae], situated on an internal cornice of an abandoned tower of a water tank.

TABLE 1. Insect fauna in birds' nests with *Somotrichus unifasciatus* (Coleoptera: Carabidae) from Argentina. ER, Entre Ríos; BA, Buenos Aires. eP, emerged puparia; L, larvae.

	<i>Caracara plancus</i>	<i>Furnarius rufus</i>	<i>Schoeniophylax phryganophila</i>	<i>Tyto alba</i>	TOTAL
	ER: Crespo 26-XII-09	BA: Cañuelas 12-II-10	BA: Pereyra 9-V-10	BA: Pereyra 22-V-10	per sp.
COLEOPTERA					
Anobiidae					
Ptininae					
<i>Tropicoptinus bruchi</i>	-	-	1	-	1
Carabidae					
<i>Somotrichus unifasciatus</i>	5	1	2	7	15
Cavognathidae					
<i>Cavognatha</i> sp.	-	17	-	-	17
Chrysomelidae					
Bruchinae					
<i>Amblycerus</i> sp.	-	-	25	-	25
Cassidinae					
<i>Stolas lacordairei</i>	-	-	1	-	1
Chrysomelinae					
Criocerinae					
<i>Lema bilineata</i>	1	-	1	-	2
Coccinellidae					
<i>Cycloneda ancoralis</i>	2915	-	-	-	2915
<i>Neocalvia dentofasciata</i>	-	-	1	-	1
Curculionidae					
<i>Listroderes costirostris</i>	1	-	-	-	1
Dermestidae					
<i>Dermestes maculatus</i>	1	-	-	-	1
Elateridae					
<i>Aeolus</i> sp. 2	2	-	1	-	3
<i>Aeolus</i> sp. 3	-	-	1	-	1
<i>Heteroderes rufangulus</i>	-	-	2	-	2
Histeridae					
<i>Hololepta</i> sp.	1	-	-	-	1
<i>Saprinus</i> sp. 1	19	2	28	-	49
<i>Saprinus</i> sp. 2	412	-	-	-	412

..... continued on the next page

TABLE 1 (continued)

	<i>Caracara plancus</i>	<i>Furnarius rufus</i>	<i>Schoeniophylax phryganophila</i>	<i>Tyto alba</i>	TOTAL
	ER: Crespo	BA: Cañuelas	BA: Pereyra	BA: Pereyra	
Tenebrionidae					
<i>Alphitobius diaperinus</i>					
Larvae	-	12	-	1	13
Adults	966	24	1	350	1341
<i>Lobopoda breyeri</i>	12	-	-	-	12
<i>Phobelius semigranosus</i>	-	-	91	-	91
<i>Tribolium</i> sp.	1	-	-	-	1
Undetermined sp. 3	-	-	2	-	2
Trogidae					
<i>Omorgus persuberosus</i>					
Larvae	6 L	-	-	-	
Adults in the nest	1				1
Adults reared	6	-	-	-	6
HEMIPTERA					
Anthocoridae					
<i>Lycocoris campestris</i>	50	-	-	-	50
Coreidae					
<i>Acidomeria cincticornis</i>	-	-	7	-	7
Pentatomidae					
<i>Nezara viridula</i>	-	-	5	-	5
Rhopalidae					
<i>Nesthrea pictipes</i>	-	-	1	-	1
Scutelleridae					
<i>Missipus variabilis</i>	-	-	2	-	2
HYMENOPTERA					
Formicidae					
<i>Camponotus bonariensis</i>	-	33	-	-	33
DIPTERA					
Dolichopodidae					
Undetermined sp.					
Emerged puparia	-	2 eP	-	-	2 eP
Adults	-	1	-	-	1
Undetermined family 2					
Undetermined sp. 2	-	20 L	-	-	20 L
TOTAL per nest	4393	90	172	358	5013

This beetle, probably originally from northern Africa, was dispersed to several countries worldwide with the international trade of grains and its derived products (Hinton 1945, Cicchino & Saini 2006). In Argentina it was found for the first time in 1997, north of the province of Buenos Aires (Capilla del Señor; Pergamino), and for the second time at light in Ramallo of the same province during 2002 (Cicchino & Saini 2006). In the first two localities, several specimens were found in the guano of poultry houses, together with a diverse insect fauna. *S. unifasciatus* was also collected in poultry houses from Brazil (Rio Grande do Sul: Pelotas) during all months, from August 1998 to July 1999 (Bicho *et al.* 2005). In this last place, it was the third most abundant species among the Coleoptera. The work of Bicho *et al.* (2005) was not seen by Cicchino & Saini (2006). As one adult was illustrated by Cicchino & Saini (2006), the species is easily recognizable.

Carabidae in birds' nests were not previously recorded from Argentina (Turienzo & Di Iorio 2007), nor in the Neotropical Region (Di Iorio & Turienzo 2009). Some species of Lebiini were recorded for the first time by Turienzo & Di Iorio (2008) in nests of *Anumbius annumbi* (Vieillot 1817) [Aves: Furnariidae] from Buenos Aires.

Some Lebiini (Carabidae) were recorded in nests of other bird species: *Lebia* sp. in nests of *Pica pica* (Linnaeus 1758) [Corvidae] (Hicks 1959); three species of *Dromius* in nests of eight different birds (Hicks 1959); four species of *Dromius* in nests of three different birds (Hicks 1962); one species of *Lebia* in nests of *Lanius minor* Gmelin 1811 [Laniidae] (Krištofik *et al.* 2002); *Oecornis nidicola* Britton 1940 in nests of *Bycanistes cristatus* (Ruppel) [Aves: Bucerotidae], and *Paulianites nidicola* Jeannel in nests of Ploceidae (Hicks 1959, following Paulian 1950, Cicchino & Saini 2006); *Calleida suturalis* Dejean 1831, *Dromius negrei* Mateu 1973, *Lebia obliquata* Dejean 1831, *Lebia obscuriceps* Chaudoir 1870, *Lebia striata* Dejean 1831, *Lebia venustula* Dejean 1831, *Lebia tigrana* Liebke 1939, and *Lebia vittigera* Dejean 1831 in nests of *A. annumbi* from Buenos Aires, Argentina (Turienzo & Di Iorio 2008). Following Hicks (1959), the original record of Paulian (1950) was made for a nest of a Ploceidae, referred to as *Foudia sakalava* (Hartlaub, 1861) by Cicchino & Saini (2006).

The presence of *Calleida*, *Dromius*, and *Lebia* in nests of *A. annumbi* (Turienzo & Di Iorio 2008) correlates with their arboricolous habits (Ober 2003), as does the presence of Chrysomelidae and Coccinellidae. Adults of *Lebia grandis* Hentz 1830 feed on eggs and larvae of *Leptinotarsa decemlineata* (Say 1824) [Coleoptera: Chrysomelidae]. Their first instars are obligate parasitoids of *L. decemlineata* pupae and can parasitize the false potato beetle, *Leptinotarsa juncta* (Germar, 1824), their presumptive original host, in addition to *Leptinotarsa haldemani* (Rogers, 1856) (Weber *et al.* 2006). The first demonstration of a parasitoid life history in a carabid was the congener *Lebia scapularis* (Fourcroy, 1785) on an elm leaf beetle, *Xanthogaleruca luteola* (Müller, 1766) [the original citation of Silvestri in 1904 was repeated by all subsequent authors, including Weber *et al.* 2006]. *Lebia* adults are typically found closely associated with their host species, and females oviposit in close proximity to the host pupal habitat (Weber *et al.* 2006). An adult carabid beetle (not specified) was recorded feeding regularly on a coccinellid beetle and other carabids on Chrysomelidae (Schaefer 1996). Saini (2001) illustrates one larva and one adult of "*Callida* sp." [= *Calleida suturalis*] feeding on larvae of Lepidoptera, but nothing is said if this behaviour was observed in the field, in the laboratory, or both.

Of further interest, the Lebiini found in nests of *A. annumbi* were present mainly in autumn and winter together with adult leaf beetles of similar size and aspect (*L. bilineata*) and Coccinellidae. All carabid adults were active, but those of *Lema* and Coccinellidae were inactive. Probably these specialized predators only accompany prey where and when they hibernate. They both abandon together such places at the same time (spring) when adult activity (copula, oviposition) of the prey begins outside the nests. Thus the life cycle of both appears synchronized, *Lebia* going to the same places as its hosts (Turienzo & Di Iorio 2008).

Larvae of Carabidae were not found in birds' nests (Turienzo & Di Iorio 2007 2008 2010, Di Iorio & Turienzo 2009). In a similar way, larvae of *S. unifasciatus* were not mentioned in any work of poultry houses (Bicho *et al.* 2005, Cicchino & Saini 2006, Pinto *et al.* 2007) [from this it is unclear if the larvae were not sampled, not seen, or if they were directly absent]. If the larvae are absent in poultry houses, the life cycle is accomplished in other unknown habitats, and the poultry houses are only feeding places of adults.

Following one observation of Habu (1967), Cicchino & Saini (2006) believe that the prey of *S. unifasciatus* may be the larvae and adults of *Tribolium castaneum*, also present in poultry houses. Nevertheless, in the birds' nests from Argentina, adults of one undetermined species of *Tribolium* were occasional, and two other Tenebrionidae were common in the nests with *S. unifasciatus* (Table 1).

S. unifasciatus was found during summer in two nests (*C. plancus*, *F. rufus*) and autumn in two other nests (*S. p. phryganophila*, *T. alba*). A difference with the native Lebiini (Turienzo & Di Iorio 2008) is that the probable

prey of *S. unifasciatus* lives all year in the nests (true nidicolous insects), whereas the native Lebiini were only found in stick nests of Furnariidae: Synallaxinae; like the tenebrionid *Phobelius semigranosus* (Turienzo & Di Iorio 2008, and unpublished data), *S. unifasciatus* was found in nests of very different families and structure, like the exotic *A. diaperinus* (Table 1). In other words, both exotic species seem to show less requirements of habitat and are capable of colonizing new ones. Most likely this may act in favour of the native species of Lebiini, avoiding its displacement from birds' nests.

The distribution of *S. unifasciatus* given by Cicchino & Saini (2006) is enlarged 162.5 km towards the north (distance from Ramallo to Crespo) and 110 km towards the south (distance from Capilla del Señor to Pereyra). Its current distribution comprises Entre Ríos and Buenos Aires in Argentina, and Río Grande do Sul in Brazil (Fig. 1).

Cucujidae

Ahasverus advena

This species is a minor pest on a very wide variety of materials (Woodroffe 1953, Domínguez Umpiérrez & Marrero Artabe 2010). It was found in many nests of pigeons [*Columba livia* Gmelin, 1789] in England (Woodroffe 1953), and one adult was found in a purple martin [*Progne subis* (Linnaeus, 1758)] house occupied by house sparrows in United States [Wisconsin: near Madison, 26-X-1962] (Thompson 1966). It appears also in poultry houses in North Carolina, USA (Pfeiffer & Axtell 1980).

Histeridae

Phelister pumilus (= *Carcinops pumilio*) and *Carcinops troglodytes* are predaceous beetles on immature stages of Diptera, and they reach high numbers because of the abundance of prey items in poultry houses. Whereas *P. pumilus* is a widespread species in the Northern Hemisphere (Legner & Olton 1970, and other references in Bruno *et al.* 1993), *C. troglodytes* is the predominant species in the Southern Hemisphere (Bruno *et al.* 1993, Bicho *et al.* 2005). Because of this, the identification of *P. pumilus* in Argentina by Cicchino & Saini (2006) may be an error by *C. troglodytes*.

P. pumilus is commonly found in birds' nests of the Northern Hemisphere: *Progne subis* + *Passer domesticus* in Montana, USA (Thompson 1966); *Aegolius acadicus acadicus* (Gmelin, 1788) and *Aegolius funereus richardsoni* (Bonaparte, 1838) [Strigidae] in Canada (Majka *et al.* 2006); *Aquila pomarina pomarina* (C.L. Brem, 1831) in Slovakia (Krištofik *et al.* 2009).

In contrast, the mention of Histeridae in birds' nests of the Neotropical Region is restricted to three isolated findings, referred to as "*Saprinus* sp." (Turienzo & Di Iorio 1997, Di Iorio & Turienzo 2009). Specimens of Histeridae are practically found in all birds' nests from Argentina, but they await a further identification.

Hololepta is commonly found in rotten boles, especially in these of multiple layers such as *Phytolacca dioica* Linnaeus [Phytolaccaceae], *Cereus* and *Opuntia* [Cactaceae], and *Manihot grahamii* Hooker [Euphorbiaceae], where also a rich fauna of larval Diptera and Staphylinidae can be found (Di Iorio pers. obs.). These beetles has very flattened bodies, an obvious adaptation to live among the multiple layers of rotten wood, preying on the larvae of Diptera. This natural habitat suggests that the poultry houses may be a new habitat, recently colonized by species of *Hololepta*. The occurrence of one specimen of *Hololepta* in a bird nest (Table 1) can be considered as accidental.

Tenebrionidae

Alphitobius spp.

A. diaperinus and *Alphitobius laevigatus* (Fabricius, 1781) were recorded in poultry houses from United States (Preiss & Davidson 1970), the first widespread than the second (Preiss & Davidson 1970, Pfeiffer & Axtell 1980, Propp & Morgan 1985). The presence of *A. laevigatus* in Argentina (Vidal Sarmiento & Bischoff de Alzuet 1965) is questionable. According to Spilman (1987), the eyes of both *A. diaperinus* and *A. laevigatus* are emarginate, but in *A. diaperinus* the narrow portion of the eye has two slanted files of 4 ommatidia each. In contrast, the upper and the lower lobes of the eye in *A. laevigatus* are connected by a single ommatidia. Furthermore, the eye of the supposed *A. laevigatus* in the figure 14 of Vidal Sarmiento & Bischoff de Alzuet (1965) has a connection of the ocular lobes wider than one ommatidia. *Alphitobius piceus* [non Olivier, 1792] seems to be a second misidentification of *A.*

diaperinus by Cicchino & Saini (2006). All examined specimens from Argentina has four ommatidia connecting both lobes of the eye.

A. diaperinus is hypothesized to have originated in sub-Saharan Africa (Lambkin 2001). Because of its tropical origin, the lesser mealworm is well suited for warm, humid conditions. It is an important inhabitant of poultry or brooder houses where it lives in poultry droppings and litter. Both adults and larvae are abundant in manure from henneries and poultry farms (Preiss & Davidson 1970, Pfeiffer & Axtell 1980, Propp & Morgan 1985, Lambkin 2001), but it is also considered as a pest of stored products (Vidal Sarmiento & Bischoff de Alzuet 1965, Spilman 1987, Domínguez Umpiérrez & Marrero Artabe 2010). Predator habits of *A. diaperinus*, particularly on eggs and early stages of *Musca domestica*, have been widely recorded (Propp & Morgan 1985, Lambkin 2001). Very recently, the larvae of *A. diaperinus* were found feeding inside the dry corpses of dead birds, thus incorporating this beetle by first time to the cadaveric fauna in birds' nests from Argentina (Turienzo & Di Iorio 2010).

The occurrence of *Alphitobius* in birds' nests has been scarcely recorded. Thirty-five larvae of Tenebrionidae, "of a species of, or near, the genus *Alphitobius*" were found in a nest of Bucerotidae from Tanganyka, Africa (Moreau & Moreau 1941). A single adult of *A. diaperinus* was found in a purple martin (*Progne subis*) house occupied by house sparrows in United States [Wisconsin: near Madison, 26-X-1962] (Thompson 1966). Recently, the beetle was abundant in the nests of cavity nesting birds in Slovakia (Šustek & Krištofik 2002), in nests of *Passer domesticus* in Slovakia (Sustek & Krištofik 2003), and in nests of *Falco cherrug* (Gray, 1834) [Aves: Falconiidae] from Hungary (Merkl *et al.* 2004).

In contrast, *A. diaperinus* was not mentioned in birds' nests from Argentina (Turienzo & Di Iorio 2007), nor from the Neotropical Region (Di Iorio & Turienzo 2009). Particularly in Argentina, *A. diaperinus* was first recorded in nests of *Anumbius annumbi* (Turienzo & Di Iorio 2008), and inside the nests of *F. rufus* and *Passer domesticus*, more abundant in these nests from localities where poultry houses were present (Turienzo & Di Iorio 2010). Apart from the nests of *Caracara plancus* [adults], and *Tyto alba* [mostly adults] (Table 1), *A. diaperinus* was also found in the following birds' nests from the country:

Columba livia livia Gmelin, 1789 [Columbidae]

ARGENTINA: **Buenos Aires:** Ciudad Universitaria [several larvae and adults (various old nests)].

Milvago chimango (Vieillot, 1816) [Falconidae]

ARGENTINA: **Buenos Aires:** Obligado [3 exx. (one nest)]

Coryphistera alaudina Burmeister, 1860 [Furnariidae]

ARGENTINA: **Santiago del Estero:** La María [2 exx. (one nest)].

Schoeniophylax phryganophila (Vieillot, 1817) [Furnariidae]

ARGENTINA: **Entre Ríos:** Crespo [34 exx. (one nest)]; **Buenos Aires:** Pereyra [1 ex. (one nest)].

Myiopsitta monachus monachus (Boddaert, 1783) [Psittacidae]

ARGENTINA: **Santa Fe:** Isla Berduc [28 exx. (one nest)]; Monte Vera [3 exx. (one nest)]; San Agustín [3905 exx. (two nests)]; **Buenos Aires:** Junín [5 exx. (one nest)].

Myiopsitta monachus catita (Jardine & Selby, 1830) [Psittacidae]

ARGENTINA: **Córdoba:** Ea. El Sauce (6 km W La Falda) [69 exx. (one nest)]; Route 17, 9 km W Altos de Chipion [2 exx. (one nest)]; Cruz del Eje [4 exx. (one nest)]; Route 17, 34 km E La Puerta [124 exx. (one nest)]; Route 17, 15 km E Balnearia [16 exx. (one nest)]; **San Juan:** Route 141, 25 km W Marayes [2 exx. (one nest)]; Route 141, 6 km W Vallecito [5 exx. (one nest)]; **La Pampa:** Paraje La Araña [39 exx. (three nests)].

Pitangus sulphuratus bolivianus (Lafresnaye, 1852) [Tyrannidae]

ARGENTINA: **Buenos Aires:** Cañuelas [27 exx. + larvae (two nests)].

DIPTERA

Fannidae

The medical and hygienic importance of the widely distributed species of *Fannia* is well known. *F. canicularis* and *F. scalaris* have been reared from various decaying materials in gardens. Moreover, the larvae of *F. scalaris* are frequent in cesspools, latrines, and dunghills, having also been reared, accompanied by *F. canicularis* from human feces (Rozkošný *et al.* 1997). Some of the most abundant species occur regularly in agricultural pens used for breeding pigs, cattle, horses, and/or fowls. The larvae apparently develop in animal droppings and dung. Some species are believed to cause myiasis in man and in cattle (Domínguez 2007).

F. canicularis was one of the commonest species of Diptera occurring in dry nests of house sparrows (*Passer domesticus*), but reached its peak abundance in pigeons' nests (*Columba livia*) from England, of which it was one of the characteristic species (Woodroffe 1953). Emerged puparia of undetermined species of *Fannia* were regularly found in some birds' nests (Turienzo & Di Iorio pers. obs.). The adults were obtained in few cases.

***Fannia* sp. 1**

Myiopsitta monachus monachus (Boddaert, 1783)

ARGENTINA: **Buenos Aires**: Campo de Mayo [6 exx. (one nest)].

***Fannia* sp. 2**

Phacellodomus striaticollis (D'orbigny & Lafresnaye, 1838)

ARGENTINA: **Buenos Aires**: Río Luján [6 exx. (one nest)].

***Fannia* sp. 3**

Myiopsitta monachus monachus (Boddaert, 1783)

ARGENTINA: **Buenos Aires**: Campo de Mayo [2 exx. (one nest)].

Muscidae

Musca domestica

Conditions in dry nests are seldom suitable for larvae of the common House Fly. It was found on only two occasions, in each case in a house martins' nest [*Delichon urbicum* (Linnaeus, 1758), Hirundinidae] in London, and only small numbers were present (Woodroffe 1953).

Muscina stabulans

This species was also reared abundantly from nests of *Streptopelia orientalis* (Latham, 1790) [Aves: Columbidae] in Japan (Iwasa 1994).

Stomoxys calcitrans

This fly lays their eggs in decaying vegetation, such as hay, straw, and silage, or in spilled grains, but these materials must be moist underneath. Sometimes these decaying vegetation may be mixed with manure, but *S. calcitrans* do not usually develop in pure manure unless it is several weeks old (Hogsette 1996). Both decaying vegetation and some degree of moisture can be observed in some birds' nests, together with accumulation of feces, especially in the nests of nonpasserine birds (Turienzo & Di Iorio pers. obs.). *S. calcitrans* was obtained in a single time:

Milvago chimango (Vieillot, 1816) [Falconidae]

ARGENTINA: **Buenos Aires**: Campo de Mayo [4 exx. (one nest)].

HEMIPTERA

Stratiomyidae

The larvae of *Hermetia illuscens* develop in poultry manure with an higher content of water (Lopes *et al.* 2007, Monteiro & Prado 2008). Its presence prevented development of house fly larvae, but this effect was shown to be due to a physical change in the medium, not to predation (Axtell & Edwards 1970). Thus, a negative correlation is presented by numbers of larvae of both species.

Similarly, larvae of undetermined Diptera (Calliphoridae, Muscidae) appeared early and larvae of Stratiomyidae late in the nestling period inside nests of *Megascops asio* (Linnaeus, 1758) in central Texas, USA (Gehlbach & Baldrige 1987).

Larvae of *H. illuscens* were also found in nests of cavity-nesting Psittacidae from Jamaica, Puerto Rico, Brazil (Di Iorio & Turienzo 2009), and Ramphastidae from Panama (Van Tyne 1929). These nests in hollow trees are characterized by the high humidity and the accumulation of feces.

In contrast, one undetermined species of Stratiomyidae was found in stick nests of Furnariidae and Psittacidae from the central area of Argentina with less than 800 mm of annual rainfall: **Chaco**: El Espinillo, 4-I-2010, 5 larvae, in nest of *Phacellodomus sibilatrix* (# 1-2); Route 90, Km 21, 3-XII-2008, 4 larvae, in nest of *Coryphistera*

alaudina (# 1), 3-XII-2008, 1 emerged puparium, in nest of *C. alaudina* (# 3); Avia Terai, 6-I-2009, 65 larvae, in nest of *C. alaudina*; **Santiago del Estero**: La María, I-2009, 7 larvae, in nest of *C. alaudina* (# 2b), II-2009, 1 larva, in nest of *C. alaudina* (# 6), II-2009, 22 larvae, in nest of *C. alaudina* (# 10); **La Rioja**: Route 141, 15 km E Chepes, 26-III-2008, 43 larvae, in a single bed of *Myiopsitta monachus cotorra* (LR # 6); **San Juan**: 27-III-2008, 1 larva, in a single bed of *M. m. cotorra* (SJ # 1); **Córdoba**: Quilino, 31-XII-2007, 33 larvae, in nest of *Pseudoseiura lophotes*; Huerta Grande, 21-I-2008, 27 larvae, in nest of *C. alaudina*; Mina Clavero, 14-VII-2009, 112 larvae, 2 emerged adults, in nest of *C. alaudina* (# 1), 14-VII-2009, 99 larvae, in nest of *C. alaudina* (# 2), 14-VII-2009, 13 emerged puparia, in nest of *C. alaudina* (# 3); Mina Clavero, 14-VII-2009, 16 larvae, 1 emerged puparium, 15 emerged adults, in nest of *P. lophotes* (Cb # 22), 23-IX-2009, 32 larvae, 12 emerged adults, in nest of *P. lophotes* (Cb # 26); Route 17, 9 km W Altos de Chipion, 597 larvae, 8 emerged puparia, in a single bed of *M. m. cotorra* (Cb # 3); Cruz del Eje, 26-III-2008, 1 larva, in a single bed of *M. m. cotorra* (Cb # 4); Route 17, 34 km E La Puerta, 28-III-2008, 726 larvae, in a single bed of *M. m. cotorra* (Cb # 5); Ea. El Sauce [6 km W La Falda], 26-VIII-2009, 86 larvae, in a nest of *M. m. cotorra* (Cb # 11); **La Pampa**: Santa Rosa, 30-XI-2007, 8 emerged puparia, in nest of *Anumbius annumbi*, 3-VI-2008, 3 larvae, in nest of *A. annumbi*, 8-IX-2008, 4 emerged puparia, in nest of *A. annumbi*; Santa Rosa, 7-II-2008, 1 larva, in nest of *C. alaudina*; Toay, 5-VIII-2007, 2722 larvae, 1913 emerged adults, in nest of *P. lophotes* (LP # 1); Santa Rosa, 9-IX-2007, 207 larvae, 132 emerged adults, in nest of *P. lophotes* (LP # 3); Toay, 5-I-2008, 116 larvae, in nest of *P. lophotes* (LP # 8), 5-I-2008, 163 larvae, in nest of *P. lophotes* (LP # 9); Santa Rosa, 8-IX-2008, 5 emerged puparia, 1 dead larva, in nest of *P. lophotes* (LP # 18); Paraje La Araña, 8-IX-2007, 300 larvae, 68 emerged adults, in a nest of *M. m. cotorra* (PLA # 1), 3-XI-2007, 145 larvae, 53 emerged adults, in a nest of *M. m. cotorra* (PLA # 2), 2-III-2008, 7 larvae, in a nest of *M. m. cotorra* (PLA # 3), 6-V-2008, 314 larvae [+ 271 dead larvae], 169 emerged puparia, in a nest of *M. m. cotorra* (PLA # 4), 3-VII-2008, 412 larvae, 54 emerged puparia, in a nest of *M. m. cotorra* (PLA # 5).

These birds' nests have in common an high content of vegetal matter where the larvae of Stratiomyidae are located, ie. *C. alaudina* makes the base of the bed with cow or horse dung; the nests of *P. lophotes* were inhabited by rodents, with a large amount of food debris; the beds of *M. monachus* are made of fresh vegetal matter, mainly leaves of the trees where the nests are located, and excrements are accumulated on the beds (Aramburú *et al.* 2002).

This undetermined species was not found in stick nests from eastern Argentina, in areas with more than 1000 mm of annual rainfall, but nor *Hermetia illucens*.

HYMENOPTERA

Parasitic wasps emerged from pupae of Diptera in birds' nests were scarcely mentioned in literature. *Morodora armata* Gahan, 1933 [Braconidae] and *Nasonia vitripennis* were reared from puparia of *Protocalliphora avium* Shannon & Dobrosky, 1924 [Calliphoridae], in nests of *Pica hudsonia* (Sabine, 1823) [Aves: Corvidae] from Montana, United States (Jellison & Philip 1933). Undetermined Diapriidae were recovered from nests of *Megascops asio* (Linnaeus, 1758) [Aves: Strigidae], together with larvae of Calliphoridae, Muscidae and Stratiomyidae (Gehlbach & Baldrige 1987).

A very complete and excellent account on the systematic, distributions and hosts of *Nasonia* was presented by Darling & Werren (1990). Two new species, reared from puparia of Calliphoridae in birds' nests, were described from North America [*Nasonia giraulti* Darling, 1990 and *Nasonia longicornis* Darling, 1990]. *Nasonia vitripennis* is regarded as a pupal parasite primarily on Calliphoridae and Sarcophagidae, that frequent a variety of habitats including poultry and livestock manure, decaying carcasses and birds' nests. The wide distribution of *N. vitripennis* in North America is superimposed to *N. giraulti* (known only from eastern North America) and to *N. longicornis* (known only from western North America). In each superimposed area, *N. vitripennis* can be collected from the same bird nests, and occasionally, from the same blowfly pupa where one or the other of the two new species was also rearing. There are no records of *N. giraulti* and *N. longicornis* associated with either carcasses or poultry or livestock manure (Darling & Werren 1990).

Brachymeria podagrica (Fabricius, 1787) [Chalcididae] was reared from one pupa of *Philornis* collected in Trinidad from a nest of Furnariidae (Couri *et al.* 2006). A second chalcidid wasp, *Conura (Spilochalcis) annulifera* (Walker, 1864), was obtained from pupae of *Philornis* sp. in Trinidad [= *Spilochalcis ornitheia* Burks, 1960, *vide* Couri *et al.* 2006], and *Philornis* sp., probably *Philornis insularis* Couri, 1983, in a nest of *Thalaurania glaucopsis* (Gmelin, 1788) [Aves: Trochilidae] from Rio de Janeiro state, Brazil (Couri *et al.* 2006) [see in the systematic account that one species of *Philornis* was found on chickens].

At the other hand, six species of parasitic wasps [Aphelinidae, Eupelmidae, Scelionidae] were found in birds' nests from Colombia, Brazil and Argentina, parasiting eggs of Triatominae (Barreto *et al.* 1984, Brewer *et al.* 1978 1979 1980 1981), but they were not mentioned yet in chicken coops.

Although the eggs of Triatominae and pupae of Diptera are present in birds' nests and poultry houses, the fauna of parasitic Hymenoptera seems to be different at familiar level (except Diapriidae) between these two habitats, only because of lack of collections.

Identification of one parasitic Hymenoptera obtained from pupae of Calliphoridae in a nest of *Tyto alba tuidara* [Aves: Tytonidae], with one dead adult bird (Buenos Aires: Pereyra, 22-V-2010, # 2), proved to be the exotic *Tachinaephagus zealandicus* (adult flies were not obtained). This wasp parasitizes native and exotic Calliphoridae and Muscidae in poultry houses from Brazil (Bruno *et al.* 1992, Almeida *et al.* 2000, Costa *et al.* 2004, Monteiro & Prado 2006, Geden & Moon 2009), but it was not recorded yet in this habitat in Argentina (Crespo & Lecuona 1996). In contrast, *T. zealandicus* was recorded parasitizing masses of puparia which had produced both *Phaenicia sericata* Meigen (Calliphoridae) and *Sarcophaga* spp. (Sarcophagidae) in Buenos Aires city (beef baits), together with *Brachymeria podagrica*, *Nasonia vitripennis* and *Alysia* sp. [Braconidae: Alysinae]. The most abundant species was *T. zealandicus*; the second was *B. podagrica*, and the least frequent species *Nasonia vitripennis* [Oliva (2008) *Revista de la Sociedad Entomológica Argentina*, 67(3-4), 139-141]. Therefore, *T. zealandicus* is recorded here for the first time in one native bird nest, and related to the cadaveric fauna.

Other specimens of parasitic Hymenoptera obtained from pupae of the native *Philornis torquans* (Nielsen 1913) [Diptera: Muscidae] in a nest of *Furnarius rufus* (Gmelin, 1789) [Aves: Furnariidae] (Buenos Aires: Campo de Mayo, 12-XII-09 # 4, BA # 119) (Turienzo & Di Iorio 2010), belong to the genus *Dibrachys* [Pteromalidae], recorded in Argentina parasitizing Lepidoptera only [De Santis & Esquivel (1966) *Revista del Museo de La Plata, Nueva Serie*, 9(69), 47-213].

HEMIPTERA

Cimicidae

In general, cimicid bugs associated to birds belong to Haematosiphoninae, but some representatives of Cimicinae are also related to birds (Usinger 1966). In particular, the well known worldwide bed bug, *Cimex lectularius*, was primitively associated to bats, and passed to man "when all three lived together in caves somewhere in the Middle East", but "*lectularius* is here regarded as a cosmopolitan parasite of mankind and his associated animals (chickens, etc.)" (Usinger 1966).

Nevertheless, no records of *C. lectularius* on birds were given. Except by the single record from Mexico (Gibson & Carrillo S. 1959) [not mentioned by Usinger 1966], other records of *C. lectularius* related to birds were made from the Nearctic Region after 1966: UNITED STATES: **North Carolina**: in broiler-breeder chicken house (Fletcher & Axtell 1993); **Colorado**: poultry houses frequently infested (List 1937); **Arkansas**: Madison Co., 2000, 8 exx., from poultry facility; Washington Co., 2007, 5 exx., from poultry facility; Lafayette Co., 2007, 4 exx., from poultry facility; Carroll Co., 2007, 5 exx., from poultry facility; number of bed bugs in a single poultry facility can number into the tens of thousands [C.D.S., unpublished data] (Szalanski *et al.* 2008); Washington Co., Brentwood (Population 1), Carroll Co., Berryville (Population 2), Lafayette Co., Gin City (Population 3), VII-2007, voucher specimens [MADE], from beneath the egg pad in the nest boxes, along the area where the slatted flooring joined the walls and from the wooden wall studs of broiler breeder poultry facilities, morphologically identified using descriptions outlined by Usinger (1966), and molecular diagnostics using mitochondrial 16S rRNA sequencing per Szalanski *et al.* 2008 (Steelman *et al.* 2008).

The scarce records of Cimicinae related to poultry in the Neotropical Region belong to *Cimex hemipterus*, also found in poultry barns from Israel (Rosen *et al.* 1987). Usinger (1966: 326-327) mentions *C. hemipterus* from Panama, Jamaica, Cuba, Colombia, and Venezuela, but without indication of hosts.

Haematosiphon inodorus is known as the "mexican chicken bug". After the summarization of native hosts of *Haematosiphon inodorus*, Usinger (1966) gives "other locality records, mostly from chickens", but in some previous references where some of these localities are given (i.e. Lee 1955b), chickens are not mentioned. At the other hand, two localities included in the Usinger's list of 1966 were given by Usinger (1947) from nests of owls [California: Caliente Cr., 25 miles SE Bakersfield, 18-V-1941, Bohart leg., many nymphs, 1 male; Corona, 25-IV-1939, L.E. Wilson leg., several specimens, in an abandoned tunnel formerly inhabited by owls]. These last localities were

repeated by Lee (1955b) without indication of host, and erroneously included below *G. gallus* by Turienzo & Di Iorio (2009).

Therefore, after discrimination of localities, hosts and references, the remaining records of *H. inodorus* (without host indication) are as follows: UNITED STATES: **Texas**: Presidio Co., Marfa, 21-VI-1909, F.C. Bishpp leg. (Usinger 1966); Uvalde Co., Sabinal, VI-1910, F.C. Pratt leg. (Usinger 1966); Brewster Co., Alpine, 26-X-1910, F.C. Bishopp leg. (Usinger 1966); **New Mexico**: Belen, 30-V-1947, I.H. Roberts & H.O. Peterson leg. (Lee 1955b); Las Lunas, V-1947, H.O. Peterson leg. (Lee 1955b); Albuquerque, 23-IV-1947, H.E. Kemper leg. (Lee 1955b); Luna Co., Deming, 17-V-1909, F.C. Pratt leg. (Usinger 1966); Grant Co., Silver City, 15-VI-1916, W.B. McFarland leg. (Usinger 1966); Bernalillo Co., Albuquerque, 3-IX-1928, J. Menifield leg. (Usinger 1966); Socorro Co., Lava Cave, 22-V-1962, D.G. Constantini leg. (Usinger 1966); Lake Valley, 7-IV-1910, J.D. Mitchell leg. (Usinger 1966); Quay Co., 50 mi NE Tucumcori, 25-VI-1951, R.E. Ryckman leg. (Usinger 1966); **California**: San Bernardino Co., Atolia District, Red Mountain, II-1940, J.N.V. Dorr leg. (Usinger 1966); **Arizona**: Apache Co., Lupton, 12-VIII-1928, J.W. Bennett leg. [RLUC] (Usinger 1966); Greenlee Co. (Usinger 1966, according to Lee 1955b), Duncan, VII-1951, J.N. Roney, *in litteris* (Lee 1955b), Safford, VIII-1951, J.N. Roney, *in litteris* (Lee 1955b). MEXICO: Mexico city (Andrade 1946, Lee 1955b); San Juan de Guadalupe (Mazzotti 1941, Lee 1955b); **Durango**: Tepehuanes, Wickham leg. [RLUC] (Usinger 1966); Aguas Calientes (Horvat 1912, Lee 1955b, Usinger 1966).

Reduviidae: Triatominae

Although this compilation is preliminar, several original records of some Triatominae in chicken coops prior to some citations were not found: Abalos & Wygodzinsky (1956) [*Triatoma patagonica*], Lent & Wygodzinsky (1979) [*Meccus phyllosomus sensu lato*, *Pastrongylus lignarius*, *Rhodnius nasutus*], Carcavallo *et al.* (1988) [*Pastrongylus guentheri*, *Triatoma carrioni*, *T. melanosoma*, *T. picturata*, *T. vitticeps*], and Arends (2003) [*Triatoma protracta*].

Despite this limitation, a total of 46 native American species and/or subspecies of Triatominae (Hemiptera: Reduviidae) have been found in chicken houses (Table 2), and one case of a colonized poultry house was reported (Gajate *et al.* 2001). All species of Triatominae found in birds' nests (Turienzo & Di Iorio 2007, Di Iorio & Turienzo 2009) were also found in chicken coops (Table 2). Chicken coops near human habitations play a role in the maintenance of residual foci involved in the domiciliary re-infestation after insecticide treatment (Cecere *et al.* 1997, 2006).

Final remarks

The origin of some pests of home and stored products from insects occurring in birds' nests is well-known (Linsley 1944, Hinton 1945, Woodroffe 1953, Petersen 1963, and others). Its relationships with the insects found in chicken coops and poultry houses can be resumed in figure 2.

From the data gathered here, it is evident the lack of studies of the remaining insect fauna in chicken coops (except the Triatominae) and poultry houses. A good example is *Lycocoris campestris* (Fabricius, 1794) [Hemiptera: Anthocoridae], present in poultry houses from United States (Legner 1971, Long 1975, Stafford III *et al.* 1988), commonly found in birds' nests from Argentina (Turienzo & Di Iorio 2008, Table 1, and unpublished data), but not mentioned yet in poultry houses from the Neotropical Region.

Some of the insects associated with the accumulated poultry manure have been implicated in the transmission of several avian diseases (Axtell & Arends 1990, Watson *et al.* 2000, Lambkin 2001, Calibeo 2002). Thus, the transmission of pathogens between poultry and wild birds needs a further attention.

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TABLE 2. Habitats of Triatominae (Hemiptera: Reduviidae) recorded in literature.

Ba, with bats (Mammalia: Chiroptera); Bi, with birds (Aves); Re, with reptils; Ro, with rodents (Mammalia Rodentia); (1), extracted from Turienzo & Di Iorio (2007) and Di Iorio & Turienzo (2009).

Birds' nests (1)	Chicken coops	Hollow trees	Mammal burrows/nests
<i>Microtriatoma trinidadensis</i>	<i>Eratyrus mucronatus</i>	<i>Alberprosenia goyobargasi</i>	<i>Bolboderia scabrosa</i>
<i>Pastrongylus megistus</i>	<i>Meccus longipennis</i>	<i>Alberprosenia malheiroi</i> [Ba -Bi]	<i>Eratyrus cuspidatus</i>
<i>Psammolestes arthuri</i>	<i>Meccus phyllosomus</i>	<i>Cavernicola lenti</i> [Ba]	<i>Paratriatoma hirsuta</i>
<i>Psammolestes coreodes</i>	<i>Mepraia spinolai</i>	<i>Cavernicola pilosa</i> [Ba]	<i>Pastrongylus geniculatus</i>
<i>Psammolestes tertius</i>	<i>Microtriatoma trinidadensis</i>	<i>Eratyrus cuspidatus</i> [Ba]	<i>Pastrongylus guentheri</i>
<i>Rhodnius nasutus</i>	<i>Pastrongylus chinai</i>	<i>Eratyrus mucronatus</i> [Ba]	<i>Pastrongylus megistus</i>
<i>Rhodnius neglectus</i>	<i>Pastrongylus geniculatus</i>	<i>Microtriatoma trinidadensis</i>	<i>Rhodnius brethesi</i>
<i>Rhodnius pallescens</i>	<i>Pastrongylus herreri</i>	<i>Pastrongylus geniculatus</i>	<i>Rhodnius domesticus</i>
<i>Rhodnius prolixus</i>	<i>Pastrongylus lignarius</i>	<i>Pastrongylus lignarius</i> [Bi]	<i>Rhodnius robustus</i>
<i>Triatoma brasiliensis</i>	<i>Pastrongylus lutzi</i>	<i>Pastrongylus megistus</i> [Ba]	<i>Triatoma bruneri</i>
<i>Triatoma delpontei</i>	<i>Pastrongylus megistus</i>	<i>Pastrongylus rufotuberculatus</i>	<i>Triatoma breyeri</i>
<i>Triatoma infestans</i>	<i>Rhodnius ecuadorensis</i>	<i>Rhodnius neglectus</i>	<i>Triatoma dimidiata</i>
<i>Triatoma maculata</i>	<i>Rhodnius nasutus</i>	<i>Rhodnius neglectus</i>	<i>Triatoma eratyrusiformis</i>
<i>Triatoma nigromaculata</i>	<i>Rhodnius neglectus</i>	<i>Rhodnius pallescens</i>	<i>Triatoma gerstaeckeri</i>
<i>Triatoma platensis</i>	<i>Rhodnius pallescens</i>	<i>Rhodnius paraensis</i>	<i>Triatoma guasayana</i>
<i>Triatoma pseudomaculata</i>	<i>Rhodnius pictipes</i>	<i>Triatoma dimidiata</i>	<i>Triatoma incrassata</i>
<i>Triatoma sordida garciabesi</i>	<i>Rhodnius prolixus</i>	<i>Triatoma guasayana</i>	<i>Triatoma indictiva</i> [Ro]
<i>Triatoma sordida sordida</i>	<i>Rhodnius stali</i>	<i>Triatoma infestans</i> [Ba - Bi]	<i>Triatoma infestans</i>
	<i>Triatoma barberi</i>	<i>Triatoma maculata</i> [Ba]	<i>Triatoma lecticularia</i> [Ro]
	<i>Triatoma brasiliensis</i>	<i>Triatoma nigromaculata</i>	<i>Triatoma mazzotti</i> [Ro]
	<i>Triatoma carrioni</i>	<i>Triatoma pseudomaculata</i>	<i>Triatoma neotomae</i> [Ro]
	<i>Triatoma delpontei</i>	<i>Triatoma sordida sordida</i>	<i>Triatoma nitida</i> [Ro]
	<i>Triatoma dimidiata</i>		<i>Triatoma pallidipennis</i>
	<i>Triatoma dimidiata maculipennis</i>		<i>Triatoma patagonica</i>
	<i>Triatoma eratyrusiforme</i>		<i>Triatoma peninsularis</i> [Ro]
	<i>Triatoma gerstaeckeri</i>		<i>Triatoma petrocchiaie</i>
	<i>Triatoma guasayana</i>		<i>Triatoma phyllosoma</i>
	<i>Triatoma hegneri</i>		<i>Triatoma platensis</i> [Ro]
	<i>Triatoma hegneri</i>		<i>T. protracta protracta</i>
	<i>Triatoma infestans</i>		<i>T. protracta zacatecensis</i>
	<i>Triatoma maculata</i>		<i>Triatoma recurva</i> [Ro -Re]
	<i>Triatoma melanosoma</i>		<i>Triatopma rubida</i> [Ro]
	<i>Triatoma nigromaculata</i>		<i>Triatoma rubida sonoriانا</i>
	<i>Triatoma nitida</i>		<i>Triatoma rubida uhleri</i>
	<i>Triatoma pallidipennis</i>		<i>Triatoma sanguisuga</i>
	<i>Triatoma patagonica</i>		<i>Triatoma sinaloensis</i>
	<i>Triatoma picturata</i>		
	<i>Triatoma platensis</i>		
	<i>Triatoma pseudomaculata</i>		
	<i>Triatoma rubrovaria</i>		
	<i>Triatoma ryckmani</i>		
	<i>Triatoma sanguisuga</i>		
	<i>Triatoma sordida garciabesi</i>		
	<i>Triatoma sordida sordida</i>		
	<i>Triatoma venosa</i>		
	<i>Triatoma vitticeps</i>		

.....continue on the next page

TABLE 2. (continued)

Palm trees	Bromeliads	Under bark	Under stones
<i>Belminus rugulosus</i>	<i>Microtriatoma borbai</i>	<i>Belminus herreri</i>	<i>Dipetalogaster maximus</i>
<i>Microtriatoma trinidadensis</i>	<i>Microtriatoma trinidadensis</i>	<i>Belminus laportei</i>	<i>Mepraia spinolai</i>
<i>Parabelminus carioca</i>	<i>Parabelminus yurupucu</i>	<i>Pastrongylus geniculatus</i>	<i>Pastrongylus tupynambai</i>
<i>Pastrongylus geniculatus</i>	<i>Pastrongylus lignarius</i>	<i>Pastrongylus guentheri</i>	<i>Triatoma arthurneivai</i>
<i>Pastrongylus lignarius</i>	<i>Pastrongylus megistus</i>	<i>Pastrongylus rufotuberculatus</i>	<i>Triatoma boliviana</i>
<i>Pastrongylus megistus</i>	<i>Rhodnius domesticus</i>	<i>Rhodnius domesticus</i>	<i>Triatoma brasiliensis</i>
<i>Pastrongylus rufotuberculatus</i>	<i>Rhodnius pictipes</i>	<i>Triatoma circummaculata limai</i>	<i>Triatoma carcavallo</i>
<i>Rhodnis dalessandroi</i>	<i>Rhodnius robustus</i>	<i>Triatoma dimidiata</i>	<i>Triatoma circummaculata limai</i>
<i>Rhodnius brethesi</i>	<i>Triatoma guasayana</i>	<i>Triatoma guasayana</i>	<i>Triatoma costalimai</i>
<i>Rhodnius domesticus</i>	<i>Triatoma infestans</i>	<i>Triatoma guasayana</i>	<i>Triatoma breyeri</i>
<i>Rhodnius ecuadoriensis</i>	<i>Triatoma maculata</i>	<i>Triatoma infestans</i>	<i>Triatoma eratyrsiforme</i>
<i>Rhodnius nasutus</i>	<i>Triatoma melanocephala</i>	<i>Triatoma melanosoma</i>	<i>Triatoma guasayana</i>
<i>Rhodnius neglectus</i>	<i>Triatoma ryckmani</i>	<i>Triatoma patagonica</i>	<i>Triatoma hegneri</i>
<i>Rhodnius neivai</i>	<i>Triatoma tibiamaculata</i>	<i>Triatoma rubrovaria</i>	<i>Triatoma infestans</i>
<i>Rhodnius pallescens</i>		<i>Triatoma ryckmani</i>	<i>Triatoma jurbergi</i> [Bi]
<i>Rhodnius pictipes</i>		<i>Triatoma sanguisuga</i>	<i>Triatoma klugi</i>
<i>Rhodnius prolixus</i>		<i>Triatoma sordida garciabesi</i>	<i>Triatoma lenti</i>
<i>Rhodnius stali</i>			<i>Triatoma longipennis</i> [Ro]
<i>Triatoma dimidiata</i>			<i>Triatoma obscura</i>
<i>Triatoma infestans</i>			<i>Triatoma oliverai</i>
<i>Triatoma maculata</i>			<i>Triatoma patagonica</i>
<i>Triatoma sordida sordida</i>			<i>Triatoma rubrovaria</i> [Ba]
<i>Triatoma tibiamaculata</i>			<i>Triatoma vanda</i>
			<i>Mepraia gajardo</i> [Bi]
			Caves
			<i>Hermanlenticia matsunoi</i>
			<i>Meccus longipennis</i> [Ba]
			<i>Meccus pallidipennis</i> [Ba]
			<i>Triatoma dimidiata</i> [Ba]
			<i>Triatoma infestans</i>
			<i>Triatoma mazzotti</i>
			<i>Triatoma picturata</i>

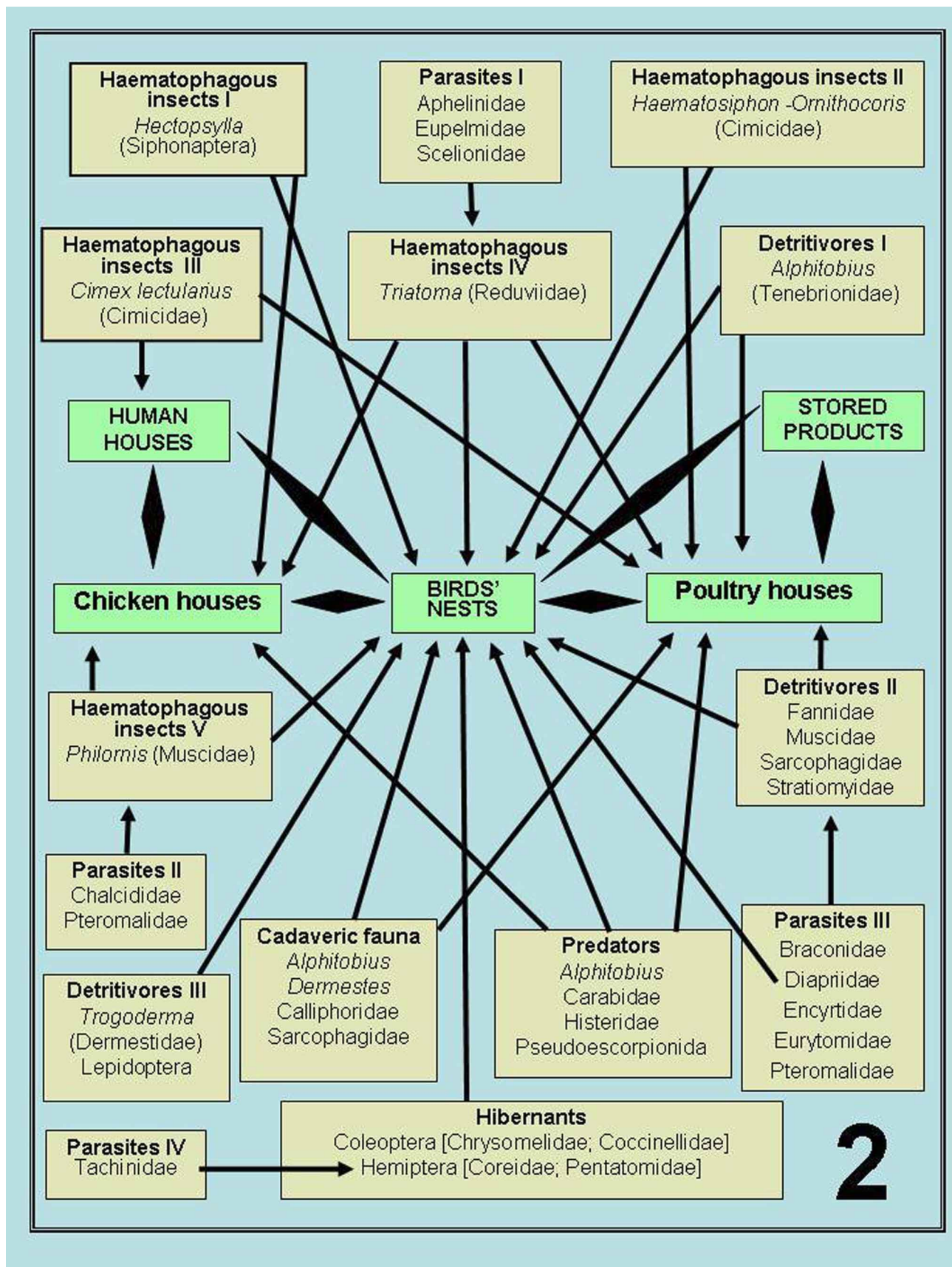


FIGURE 2. Relationships between the insects found in chicken coops, poultry houses and birds' nests from the Neotropical Region.

References

- Aagesen, T.L. (1988) *Artrópodes asociados a excrementos em aviários*. Dissertação de Mestrado. Escola Superior de Agricultura “Luiz de Queiroz”. Universidade de São Paulo, Piracicaba. 38 p. [cited by Bruno *et al.* 1993]
- Abad-Franch, F., Paucar C., A., Carpio C., A., Cuba Cuba, C.A., Aguilar V., H.M. & Miles, M.A. (2001) Biogeography of Triatominae (Hemiptera: Reduviidae) in Ecuador: implications for the design of control strategies. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 96(5), 611–620.
- Abad-Franch, F., Aguilar V., H.M., Paucar C., A., Lorosa, E.S. & Noireau, F. (2002) Observations on the domestic ecology of *Rhodnius ecuadoriensis* (Triatominae). *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 97(2), 199–202.
- Abalos, W.J. (1948) Sobre híbridos naturales y experimentales de *Triatoma*. *Anales del Instituto de Medicina Regional*, 2(2), 209–223.
- Abalos, W.J. & Wygodzinsky, P. (1951) Las Triatominae argentinas. *Instituto de Medicina Regional, Universidad Nacional de Tucumán*, Monografía (2), 1–178.
- Abalos, W.J. & Wygodzinsky, P. (1956) *Las vinchucas argentinas*. Miniaterio de Educación de la Nación, Universidad Nacional de Tucumán, Instituto de Medicina Regional, Publicación No. 705, Folleto de Divulgación No. 7. San Miguel de Tucumán. 37 p.
- Abraham, L., Hernández, L., Gorla, D. & Catalá, S. (2008) Phenotypic diversity of *Triatoma infestans* at the microgeographic level in the Gran Chaco of Argentina and the andean valleys of Bolivia. *Journal of Medical Entomology*, 45(4), 660–666.
- Alcaino, H. & Gorma, T. (1999) Parásitos de los animales domesticos en Chile. *Parasitología al día*, 23 (1–2), 33–41.
- Aldana, E., Lizano, E., Ramon, F. & Valderrama, A. (1996) Nueva especie de *Psammolestes* Bergroth de la Region Sur-Occidental de Venezuela (Hemiptera: Reduviidae: Triatominae). *Caribbean Journal of Science*, 32 (2), 145–150.
- Almeida Cunha, R. de (1914) *Contribuição para o estudo dos sifonapteros do Brasil*. Rodríguez & Cía. (Eds.). Rio de Janeiro. 212 p. [cited by Pinto 1930]
- Almeida, M.A.F. de, Prado, A.P. do & Geden, C.J. (2000) Influence of host density on attack rates of *Tachinaephagus zealandicus* Ashmead (Hymenoptera: Encyrtidae) on *Musca domestica* (Diptera: Muscidae) and *Chrysomya putoria* (Diptera: Calliphoridae). *XXI International Congress of Entomology & XVIII Brazilian Congress of Entomology*. Brazil, Foz do Iguassu, August 20th to 26th. Abstracts Book I, Session 08 – Entomophagous Insects and Biological Control, 374, # 1482.
- Alves, V.I.C., Santos, C.F., Pereira, C.M., Matias, L.J., Leite, L.O. & Borges, M.A.Z. (2007) Relação entre o tamanho do esterco e a abundância de moscas em uma granja de aves de postura no município de Montes Claros – MG. *Anais do VIII Congresso de Ecologia do Brasil*. Minas Gerais, Caxambu. 23 a 28 de Setembro de 2007.
- Aramburú, R., Cicchino, A. & Bucher, E. (2002) Material vegetal fresco en cámaras de cría de la cotorra argentina *Myiopsitta monachus* (Psittacidae). *Ornitología Neotropical*, 13, 433–436.
- Arends, J.J. (2003) External parasites and poultry pests. In: Saij, Y.M. (Ed.). *Diseases of poultry*. Iowa State University Press. 11^o Edition. p. 905.
- Arias, D.C. & Delvare, G. (2003) Lista de los géneros y especies de la familia Chalcididae (Hymenoptera: Chalcidoidea) de la Región Neotropical. *Biota Colombiana*, 4(2), 123–145.
- Avancini, R.M.P. & Ueta, M.T. (1990) Manure breeding insects (Diptera and Coleoptera) responsible for cestoidosis in caged layer hens. *Journal of Applied Entomology*, 110, 307–312.
- Axtell R.C. & Arends, J.J. (1990) Ecology and management of arthropod pest of poultry. *Annual Review of Entomology*, 35, 101–126.
- Axtell, R.C. & Edwards, T.D. (1970) *Hermetia illucens* control in poultry manure by Larvicidin. *Journal of Economic Entomology*, 63(6), 1786–1787.
- Ayulo Robles, V.M. (1946) Estudios sobre trypanosomiasis americana en el Peru. Observaciones en el Departamento de Ica. *Revista de Medicina Experimental*, 3(1–4), 21–29.
- Bar, M.E. (2001) *Triatominos de la comunidad de palmeras en la provincia de Corrientes. Ecología e importancia epidemiológica*. Tesis doctoral. Universidad Nacional del Nordeste, Facultad de Ciencias Exactas y Naturales y Agrimensura.
- Bar, M.E. (2009) Epidemiología de la tripanosomiasis americana en Corrientes, Argentina. In: *XIX Congreso Latinoamericano de Parasitología*. Asunción, Paraguay, 22, 23 y 24 de octubre de 2009. p. 139.
- Bar, M.E., Damborsky, M.P., Oscherov, E.B., Alvarez, B.M., Mizdraji, G. & Avalos, G. (1997) Infestación domiciliar por triatominos y seroprevalencia humana en el Departamento Empedrado, Corrientes, Argentina. *Cadernos da Saúde Pública*, Rio de Janeiro, 13(2), 305–312.
- Bar, M.E., Damborsky, M.P., Oscherov, E.B. & Wisnivesky-Colli, C. (2005) Epidemiología de la enfermedad de Chagas en San Roque, Corrientes. Infestacion por triatominos y seroprevalencia humana. *Medicina*, Buenos Aires, 65, 97–102.
- Bar, M.E., Oscherov, E.B., Damborsky, M.P. & Borda, M. (2010) Epidemiología de la tripanosomiasis americana en el norte de Corrientes. *Medicina*, Buenos Aires, 70, 133–138.
- Bargues M.D. (2009b) Los conceptos de especie y subespecie en triatominos, analizados por marcadores de ADN. In: *XIX Con-*

- greso Latinoamericano de Parasitología. Asunción, Paraguay, 22, 23 y 24 de octubre de 2009. p. 51–58.
- Bargues M.D. (2009b) Filogeografía molecular de *Triatoma dimidiata* en Norte, Centro y Sur America. In: *XIX Congreso Latinoamericano de Parasitología*. Asunción, Paraguay, 22, 23 y 24 de octubre de 2009. p. 59–66.
- Barreto, M., Barreto, P. & D' Alessandro, A. (1984) *Psammolestes arthuri* (Hemiptera: Reduviidae) and its parasite *Telenomus capito* (Hymenoptera: Scelionidae) in Colombia. *Journal of Medical Entomology*, 21(6), 703–705.
- Barrett, T.V., Hoff, R., Mott, K.E., Guedes, F. & Sherlock, I.A. (1979) An outbreak of acute Chagas's disease in the Sao Francisco Valley region of Bahia, Brazil: triatomine vectors and animal reservoirs of *Trypanosoma cruzi*. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 73(6), 703–709.
- Barretto, M.P. & Albuquerque, R.D.R. (1969) Estudos sobre reservatórios e vetores silvestres do *Trypanosoma cruzi*. XXXIII. Infecção experimental e natural do *Psammolestes tertius* Lent & Jurberg, 1965 pelo *T. cruzi*. *Revista do Instituto de Medicina Tropical do São Paulo*, 11(3), 165–168.
- Barretto, M.P. & Carneiro, J. (1967) Estudos sobre reservatórios silvestres do *Trypanosoma cruzi*. XVIII. Observações sobre a ecologia do *Psammolestes tertius*, Lent & Jurbert, 1965 (Hemiptera-Reduviidae). *Revista Brasileira de Biologia*, 27, 13–25.
- Bedin, C., Mello, F. De, Stasiak Wilhelms, T., Torres, M.A., Estima, C., Ferreira, C.F. & Sehn, L. (2009) Vigilância ambiental: Doença de Chagas no Rio Grande do Sul. *Boletim Epidemiológico*, 11(3), 1–8.
- Bejarano, J.F. (circa 1978) Biología de Triatominae americanas (Hemiptera: Reduviidae). Inedit [library O. Di Iorio]. 42 p.
- Bejarano, J.F.R., Rubín de Celis, M., Carcavallo, R.U. & Martínez, A. (1967) La enfermedad de Chagas-Mazza en la Patagonia. *Segundas Jornadas Entomoepidemiológicas Argentinas*, 3, 13–54.
- Berenger, J.M., Delaunay, P. & Pagès, F. (2008) Les punaises de lits (Heteroptera, Cimicidae): une actualité « envahissante ». *Medicine Tropicale*, 68, 563–567.
- Bermudez, H., Garron, A. & De Muynck, A. (1978) Infestacion del peridomicilio por *T. infestans* en Gutierrez (Prov. Cordillera, Dpto. Santa Cruz). Disección de un gallinero. *Boletín Informativo Centro Nacional de Enfermedades Tropicales [CENETROP]*, 4, 48–51.
- Berti Filho E., Costa, V.A. & Aageesen, T.L. (1989) Occurrence of natural enemies of *Musca domestica* L. (Diptera: Muscidae) in poultry areas of Bastos, state of São Paulo, Brazil. *Revista de Agricultura*, Piracicaba, 64, 98.
- Bicho, C. de L., Massutti de Almeida, L., Ribeiro, P.B. & Silveira Júnior, P. (2005) Flutuação populacional circual de coleópteros em granja avícola, em Pelotas, RS, Brasil. *Iheringia, Série Zool.*, Porto Alegre, 95(2), 205–212.
- Blank, S.M., Kutzscher, C., Masello, J.F., Pilgrim, R.C. & Quillfeldt, P. (2007) Stick-tight fleas in the nostrils and below the tongue: evolution of an extraordinary infestation site in *Hectopsylla* (Siphonaptera: Pulicidae). *Zoological Journal of the Linnean Society*, 149, 117–137.
- Blatchley, W.S. (1928) The mexican chicken bug in Florida. *Florida Entomologist*, 12, 43–44.
- Borges, M.A.Z. (2006) Flutuação populacional de dípteros muscóides (Diptera: Muscomorpha), parasitóides e foréticos predadores em Igarapé, MG. *Tese de Doutor em Ciência Animal*. Universidade Federal de Minas Gerais, Escola de Veterinária. Minas Gerais, Belo Horizonte. 103 p.
- Brewer, M., Arguello, N., Delfino, M. & Gorla, D. (1978) Parasitismo natural de *Telenomus fariai* Costa Lima, 1927 (Hymenoptera, Scelionidae) en monte, y presencia de *Proanastatus excavatus* De Santis, 1952 (Hymenoptera, Eupelmidae), parasitoide oófago de Triatominae en el Departamento Cruz del Eje, Córdoba, República Argentina. *Anais da Sociedade entomológica do Brasil*, 10(2), 175–186.
- Brewer, M., Arguello, N., Gorla, D. & Rosacher, C. (1979) Sobre presencia de oofagos de triatominos en Córdoba. In: *I Simposio Argentino de Cardiopatías*. Federación Argentina de Cardiología. Junio de 1979. p. 67–72.
- Brewer, M., Arguello, N., Gorla, D. & Rosacher, C. (1980) Presencia de parasitoides oófagos de *Triatoma infestans* en el Departamento Cruz del Eje, Córdoba. *Medicina*, Buenos Aires, 40(supl. 1), 213–216.
- Brewer, M., Gorla, D. & Murúa, F. (1981) Nuevo aporte al conocimiento de parasitoides oófagos de *Triatoma infestans* Klug, 1834 (Hemiptera, Reduviidae) en Cruz del Eje, Córdoba, República Argentina. *Anais da Sociedade entomológica do Brasil*, 10(2), 175–186.
- Bruno, T.V., Guimarães, J.H., Tucci, E.C. & Santos, A.M.M. (1992) Parasitóides associados a dípteros sinantrópicos de granjas de aves de postura no estado de São Paulo, Brasil. *Revista Brasileira de Parasitología Veterinaria*, 1(1), 55–59.
- Bruno, T.V., Guimarães, J.H., Santos, A.M.M. & Tucci, E.C. (1993) Moscas sinantrópicas (Diptera) e seus predadores que se criam em esterco de aves poedeiras confinadas, no Estado de São Paulo, Brasil. *Revista Brasileira de Entomologia*, 37(3), 577–590.
- Bustamante, D.M., Monroy, C., Menes, M., Rodas, A., Salazar-Schettino, P.M., Rojas, G., Pinto, N., Guhl, F. & Dujardin, J.P. (2004) Metric variation among geographic populations of the Chagas vector *Triatoma dimidiata* (Hemiptera: Reduviidae: Triatominae) and related species. *Journal of Medical Entomology*, 41(3), 296–301.
- Calderón, G., Cuzquén, L., Figueroa Krap, E., Náquira, F., Carcavallo, R.U. & Canale, D.M. (1985) Peru. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 449–455.
- Calibeo, D.R. (2002) Role and mitigation of two vectors of Turkey Coronavirus, *Musca domestica* L. and *Alphitobius diaperinus* Panzer. *Thesis Master of Science*. Graduate Faculty of North Carolina State University. Raleigh. 127 p.

- Canale, D.M., Cecere, M.C., Chuit, R. & Gürtler, R.E. (2000) Peridomestic distribution of *Triatoma garciabesi* and *Triatoma guasayana* in north-west Argentina. *Medical and Veterinary Entomology*, 14, 383–390.
- Carcavallo, R.U., Canale, D.M. & Martínez, A. (1988) Habitats de triatomínicos argentinos y zonas ecológicas donde prevalecen. *Chagas*, 5(1), 8–17.
- Carcavallo, R.U., Franca Rodríguez, M.E., Salvatella, R., Curto de Casas, S.I., Sherlock, I.S., Galvao, C., da Silva Rocha, D., Galíndez Girón, I., Otero Arocha, M.A., Martínez, A., da Rosa, J.A., Canale, D.M., Farr, T.H. & Barata, J.M.S. (1998) Habitats and related fauna. In: Carcavallo, R.U., Galíndez Girón, I., Jurberg, J. & Lent, H. (coordinators). *Atlas of Chagas' disease vectors in the Americas*. Editora Fiocruz. Rio de Janeiro. v. II, p. 561–600.
- Carpintero, D. (1978) *Lista de ejemplares colectados en el área de Salto Grande y zona de influencia. Hemiptera - Gymnocerata - Reduviidae*. Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", División Entomología. 5 p. [inedit]
- Carpintero, D. (1981) Sobre Reduviidae predadores de Triatominae. *Comunicaciones Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"*, Serie Entomología, Buenos Aires, 1(6), 83–92.
- Carpintero, D. (1986) Aporte al conocimiento de los triatomínicos en la Argentina. Segunda contribución. *Revista del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"*, Serie Entomología, Buenos Aires, 4(5), 113–127.
- Carvalho, J.C.M. (1939) Sobre a biologia de *Ornithocoris toledo* Pinto, 1927, percevejo dos galinheiros em Minas Gerais (Hemiptera, Cimicidae). *Ceres*, 1, 120–140.
- Ceballos, L.A., Vazquez Prokopec, G.M., Cecere, M.C. & Gürtler, R.E. (2002) Estado nutricional, frecuencia de vuelo de *Triatoma infestans* (Hemiptera, Reduviidae) en ecotopos peridomesticos rurales del noroeste argentino. *V Congreso Argentino de Entomología*. Buenos Aires, 18 al 22 de Marzo de 2002. p. 431.
- Cecco, L., González, H., Deluchi, P., Barrios, H. & De Franceschi, M. (2005) Determinación de los estados de desarrollo de *Alphitobius diaperinus* en granjas avícolas. *Revista Argentina de Producción Animal*, 25, 93–99.
- Cecere, M.C., Gürtler, R.E., Canale, D., Chuit, R. & Cohen, J.E. (1996) El papel del peridomicilio en la eliminación de *Triatoma infestans* de comunidades rurales argentinas. *Boletín de la Oficina Sanitaria Panamericana*, 121(1), 1–10.
- Cecere, M.C., Gürtler, R.E., Canale, D., Chuit, R. & Cohen, J.E. (1997) The role of the peridomestic area in the elimination of *Triatoma infestans* from rural Argentine communities. *Revista Panamericana de Salud Pública*, 1(4), 273–279. [english translation of Cecere *et al.* 1996]
- Cecere, M.C., Vazquez-Prokopec, G.M., Gürtler, R.E. & Kitron, U. (2006) Reinfestation sources for Chagas disease vector, *Triatoma infestans*, Argentina. *Emerging Infectious Diseases*, 12(7), 1096–1102.
- Cedillos, R., Sousa, O., Zeledón, R., Curto de Casas, S., Canale, D.M. & Carcavallo, R. (1985) America Central. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 339–243.
- Chagas, C. (1911) Nova entidade morbida do homem. Resumo geral de estudos etiológicos e clínicos. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 3(2), 219–275.
- Chartier, D.I. & Crocco, L.B. (2007) Relevamiento de vectores de la Enfermedad de Chagas en peridomicilios del área rural del Departamento Ayacucho, San Luis, Argentina. *Revista de la Sociedad Entomológica Argentina*, 66 (1–2), 181–185.
- Chassagnade, M., Witowski, E., González, J., Suárez, A., Rodríguez, N. & Guendulain, C. (2000) Presencia de *Triatoma infestans* en una zona urbana de la ciudad de Río Cuarto, Provincia de Córdoba, Argentina. *Revista de Medicina Veterinaria*, 81, 346–350. [cited by Chassagnade *et al.* 2004]
- Chassagnade, M., Espósito, N., González, J., Witowski, E., Suárez, A. & Rodríguez, N. (2004) Epidemiología de la enfermedad de Chagas en áreas programáticas de ocho efectores de salud municipal de la ciudad de Río Cuarto. *Archivos Argentinos de Pediatría*, 102(6), 425–430.
- Chernaki-Leffer, A.M., Almeida, L.M., Sosa-Gómez, D.R., Anjos, A. & Vogado, K.M. (2007) Populational fluctuation and spatial distribution of *Alphitobius diaperinus* (Panzer) (Coleoptera; Tenebrionidae) in a poultry house, Cascavel, Parana state, Brazil. *Brazilian Journal of Biology*, 67(2), 209–213.
- Christensen, H.A. & Vasquez, A.M. de. (1981) Host feeding profiles of *Rhodnius pallescens* (Hemiptera: Reduviidae) in rural villages of central Panama. *American Journal of Tropical Medicine and Hygiene*, 30(1), 278–283.
- Cicchino, A.C. & Saini, E. (2006) *Somotrichus unifasciatus* (Dejean) (Coleoptera, Carabidae, Lebiini), introducido en la provincia de Buenos Aires, Argentina. *Revista del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"*, Buenos Aires, nueva serie, 8(1), 81–86.
- Cichero, J.A. (1975) Novedades sobre el "habitat" de *Triatoma infestans* (Hemiptera, Triatominae). *Neotropica*, La Plata, 21(65), 82.
- Cichero, J.A., Jiménez, A.L. & Martínez, A. (1984) Estudio de los vectores de la enfermedad de Chagas en ambientes silvestres, peridomésticos y domésticos. *Chagas*, 1(2), 33–37.
- Corrêa, F.M.A., Silva, E.O.R. & Schiavi, A. (1963) Observações sobre o *Pastronylus megistus*, transmissor da moléstia de Chagas (Hemiptera, Reduviidae). *Arquivos de Higiene e Saúde Publica*, 28, 165–174.
- Costa, V.A. (1989) Parasitoides pupais (Hymenoptera: Chalcidoidea) de *Musca domestica* L. 1758, *Stomoxys calcitrans* (L. 1758) e *Muscina stabulans* (Fallén, 1816) (Diptera: Muscidae) em aviários de Echaporã, SP. *Dissertação de Mestrado*. Escola Superior de Agricultura "Luiz de Queiroz". Universidade de São Paulo, Piracicaba. 55 p. [cited by Bruno *et al.*

1993]

- Costa, V.A., Berti Filho, E. & Neto, S.S. (2004) Parasitóides (Hymenoptera: Chalcidoidea) de moscas sinantrópicas (Diptera: Muscidae) em aviários de Echaporã, SP. *Arquivos do Instituto Biológico*, São Paulo, 71(2), 203–209.
- Couri, M.S. (1985) Considerações sobre as relações ecológicas das larvas de *Philornis* Meinert, 1890 (Diptera, Muscidae) com as aves. *Revista Brasileira de Entomologia*, 29, 17–20.
- Couri, M.S., Tavares, M.T. & Stenzel, R.R. (2006) Parasitoidism of chalcidid wasps (Hymenoptera, Chalcididae) on *Philornis* sp. (Diptera, Muscidae). *Brazilian Journal of Biology*, 66(2a), 553–557.
- Crespo, D.C. & Lecuona, R.E. (1996) Bases del control de la mosca doméstica por métodos menos contaminantes, eficientes y económicos. In: Crespo, D.C. & Lecuona, R.E. (Eds.). *Dipteros plaga de importancia económica y sanitaria. Serie de la Academia Nacional de Agronomía y Veterinaria*, (20), 24–32.
- Crespo, D.C., Lecuona, R.E. & Hogsette, J.A. (2002) Strategies for controlling house fly populations resistant to cyromazine. *Neotropical Entomology*, 31(1), 141–147.
- Cuba Cuba, C.A., Vallejo, G.A. & Gurgel-Gonçalves, R. (2007) Triatomines (Hemiptera, Reduviidae) prevalent in the north-west of Peru: species with epidemiological vectorial capacity. *Parasitología Latinoamericana*, 62, 154–164.
- D'Alessandro, A. & Barreto, P. (1985) Colombia. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 377–399.
- D'Alessandro, A., Barreto, P. & Duarte R., C.A. (1971) Distribution of triatomine-transmitted trypanosomiasis in Colombia and new records of the bugs and infections. *Journal of Medical Entomology*, 8(2), 159–172.
- D'Alessandro, A., Barreto, P. & Thomas, M. (1981) Nuevos registros de triatomines domiciliarios y extradomiciliarios en Colombia. *Colombia Médica*, 12, 75–85.
- Damborsky, M.P., Bar, M.E. & Oscherov, E.B. (2001) Detección de triatomines (Hemiptera: Reduviidae) en ambientes domésticos y extradomésticos. Corrientes, Argentina. *Cadernos da Saúde Pública*, Rio de Janeiro, 17(4), 843–849.
- Darling, D.C. & Werren, J.H. (1990) Biosystematics of *Nasonia* (Hymenoptera: Pteromalidae): two new species reared from birds' nests in North America. *Annals of the Entomological Society of America*, 83(3), 352–370.
- Deane, L.M. & Deane, M.P. (1957) Notas sobre transmissores e reservatórios do *Trypanosoma cruzi* no noroeste do Estado do Ceará. *Revista Brasileira de Malariologia*, 9(4), 577–595. [cited by Espinola 1985]
- De la Riva, J., Matias, A., Torrez, M., Martínez, E. & Dujardin, J.P. (2001) Adult and nymphs of *Microtriatoma trinidadensis* (Lent, 1951) (Hemiptera: Reduviidae) caught from peridomestic environment in Bolivia. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 96(7), 889–894.
- Del Ponte, E. (1959) Biología de los principales vectores en la enfermedad de Chagas. *Revista de la Facultad de Agronomía y Veterinaria* [Buenos Aires], 14(3), 384–415.
- De Santis, L. (1980) *Catálogo de los himenópteros brasileños de la Serie Parasítica, incluyendo Bethyloidea*. Editora da Universidade Federal do Paraná. Curitiba. 395 p.
- Dias E. (1958) Inquérito preliminar sobre doença de Chagas em Montalvânia, município de Manga, Minas Gerais. *Hospital*, 54, 711–713. [cited by Rassi *et al.* 2003]
- Dias, J.C.P. (1968) Notas sobre a biologia do *Psammostes tertius* Lent & Jurberg, 1965, no oeste de Minas Gerais. *Revista brasileira de Malariologia e Doenças Tropicais*, 20(1–2), 172–187.
- Dias, J.C.P. (1968) Reinfestação do município de Bambuí por triatomíneos transmissores da doença de Chagas (2a. Nota). *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 66(2), 197–208.
- Di Iorio, O.R. & Turienzo, P. (2008) A nomenclatural note in Cimicidae (Hemiptera) from South America. *Zootaxa*, 1730, 65–68.
- Di Iorio, O.R. & Turienzo, P. (2009) Insects found in birds' nests from the Neotropical Region (except Argentina) and immigrant species of Neotropical origin in the Nearctic Region. *Zootaxa*, 2187, 1–144.
- Diotaiuti, L., Azeredo, B.V. de M., Uber Busek, S.C. & Fernandes, A.J. (1998) Controle do *Triatoma sordida* no peridomicílio rural do município de Porteirinha, Minas Gerais, Brasil. *Revista Panamericana de Salud Publica / Panamerican Journal of Public Health*, 3(1), 21–25.
- Domínguez, M.C. (2007) A taxonomic revision of the southern South American species of the genus *Fannia* Robineau-Desvoidy (Diptera: Fanniidae). *Papéis Avulsos de Zoologia* [Museu de Zoologia da Universidade de São Paulo], 47(24), 289–347.
- Domínguez Umpiérrez, J.E. & Marrero Artabe, L. (2010) Catálogo de la entomofauna asociada a almacenes de alimentos en la provincia de Matanzas. *Fitosanidad*, 14(2), 75–82.
- Domínguez, M.C., Agrain, F.A., Sallenave, A.S., Ruiz-Manzanos, E. & San Blas, G. (2007) Estudios sistemáticos, filogenéticos y biogeográficos en insectos de la región austral de América del Sur. *Cuadernos de Biodiversidad*, 25, 1–18.
- Dugés, A. (1892) *Acanthia inodora*, A. Dug. (Chinches de gallos). *La Naturaleza*, 2, (1891–1896), Serie 2, 169–170. [cited by Townsend 1893]
- Dujardin, J.P., Schofield, C.J. & Panzera, F. (2000) *Les Vecteurs de la Maladie de Chagas. Recherches Taxonomiques, Biologiques et Génétique*. Académie Royale des Sciences d'Outre-Mer. Classe des Sciences Naturelles et Médicales. Bel-

- gique. 162 pp. [cited by De la Riva *et al.* 2001]
- Elkins, J.C. (1951) The Reduviidae of Texas. *Texas Journal of Science*, 3, 407–412. [cited by Ryckman 1986]
- Espinola, H.N. (1985) Brasil. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 363–372.
- Fernandes, M.A., Santos, M.A.S. & Lomonaco, C. (1995) Ocorrência de artrópodos no esterco acumulado em uma granja de galinhas poedeiras. *Anais da Sociedade Entomológica do Brasil*, 24(3), 649–654.
- Fitzpatrick, S., Feliciangeli, M.D., Sanchez-Martin, M.J., Monteiro, F.A. & Miles, M.A. (2008) Molecular genetics reveal that silvatic *Rhodnius prolixus* do colonise rural houses. *PLoS Neglected Tropical Diseases*, 2(4), e210. doi:10.1371/journal.pntd.0000210
- Fletcher, M.G. & Axtell, R.C. (1993) Susceptibility of the bedbug, *Cimex lectularius*, to selected insecticides and various treated surfaces. *Medical and Veterinary Entomology*, 7, 69–72.
- Forattini, O.P., Rocha e Silva, E.O., Ferreira, O.A., Rabello, E.X. & Pattoli, D.G.B. (1971b) Aspectos ecológicos da Trypanosomiase americana. III – Dispersão local de triatomíneos com especial referencia ao *Triatoma sordida*. *Revista da Saúde Pública*, São Paulo, 5, 193–205.
- Franca Rodríguez, M.E. (1985) Uruguay. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 457–463.
- Freitas, S.P.C., Freitas, A.L.C. & Gonçalves, T.C.M. (2004) Ocorrência de *Panstrongylus lutzi* no peridomicílio, Estado do Ceará, Brasil. *Revista da Saúde Pública*, São Paulo, 38(4), 579–580.
- Gajate, P., Pietrovsky, S., Abramo Orrego, L., Pérez, O., Monte, A., Belmonte, J. & Wisnivesky-Colli, C. (2001) *Triatoma infestans* in Greater Buenos Aires, Argentina. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 96(4), 473–477.
- Galvão, C., Carcavallo, R.U., Rocha, D.S. & Jurberg, J. (2003) A checklist of the current valid species of subfamily Triatominae (Hemiptera, Reduviidae), and their geographical distribution, with nomenclatural and taxonomic notes. *Zootaxa*, (202), 1–36.
- Gamboia C., J. & Perez Ríos, L.J. (1965) El “rancho” venezolano: su influencia en la prevalecencia triatomina domestica. *Archivos Venezolanos de Medicina Tropical y Parasitología Médica*, 5(1), 305–328.
- García, M. (1952) Las especies argentinas del género *Philornis* Mein., con descripción de especies nuevas (Dipt. Anthom.). *Revista de la Sociedad entomológica Argentina*, Buenos Aires, 15, 277–293.
- García, B.A. (1999) Molecular phylogenetic relationships among species of the genus *Triatoma*. In: Carcavallo, R.U., Galíndez Girón, I., Jurberg, J. & Lent, H. (coordinators). *Atlas of Chagas' disease vectors in the Americas*. Editora Fiocruz. Rio de Janeiro. v. III, p. 971–980.
- García, B.A. & Powell, J.R. (1998) Phylogeny of species of *Triatoma* (Hemiptera : Reduviidae) based on mitochondrial DNA sequences. *Journal of Medical Entomology*, 35, 232–238.
- Geden, C.J. & Moon, R.D. (2009) Host ranges of gregarious muscoid fly parasitoids: *Muscidifurax raptorellus* (Hymenoptera: Pteromalidae), *Tachinaephagus zealandicus* (Hymenoptera: Encyrtidae), and *Trichopria nigra* (Hymenoptera: Diapriidae). *Environmental Entomology*, 38(3), 700–707.
- Geden, C.J., Moon, R.D. & Butler, J.F. (2006) Host ranges of six solitary filth fly parasitoids (Hymenoptera: Pteromalidae, Chalcididae) from Florida, Eurasia, Morocco, and Brazil. *Environmental Entomology*, 35(2), 405–412.
- Gehlbach, F.R. & Baldrige, R.S. (1987) Live blind snakes (*Leptotyphlops dulcis*) in eastern screech owl (*Otus asio*) nests: a novel commensalism. *Oecologia*, Berlin, 71, 560–563.
- Gianizella, S.L. & Prado, A.P. (1998) Levantamento e sazonalidade de Coleópteros (Histeridae) em criação de aves poedeiras. *Anais da Sociedade Entomológica do Brasil*, 27(4), 551–557.
- Gianizella, S.L. & Prado, A.P. (1999) Ocorrência e sazonalidade de *Omorgus (Omorgus) suberosus* (Fabr.) (Trogidae: Coleoptera) em esterco de aves poedeiras, em Monte Mor, SP. *Anais da Sociedade Entomológica do Brasil*, 28(4), 749–751.
- Gibson, G.A.P. (2009) Revision of New World Spalanginae (Hymenoptera: Pteromalidae). *Zootaxa*, 2259, 1–159.
- Gibson, W.W. & Carrillo S., J.L. (1959) Lista de insectos en la colección entomológica de la Oficina de Estudios Especiales, S.A.G. *Secretaría de Agricultura y Ganadería, Oficina de Estudios Especiales, Folleto Misceláneo*, (9), 1–254.
- Gonçalves, T.C.M., de Oliveira, E., Dias, L.S., Almeida, M.D., Nogueira, W. & Avila Pires, F.D. de (1998) An investigation on the ecology of *Triatoma vitticeps* (Stål, 1859) and its possible role in the transmission of *Trypanosoma cruzi*, in the locality of Triunfo, Santa Maria Madalena Municipal District, state of Rio de Janeiro, Brazil. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 93(6), 711–717.
- Note: 50 birds' nests were negative for triatomines.
- Gonzalez-Angulo, W. & Ryckman, R.E. (1967) Epizootiology of *Trypanosoma cruzi* in southwestern North America. Part IX: an investigation to determine the incidence of *Trypanosoma cruzi* infections in Triatominae and man on the Yucatan Peninsula of Mexico. *Journal of Medical Entomology*, 4(1), 44–47.
- Gracioli, G. & Barros de Carvalho, C.J. (2003) Hippoboscidae (Diptera, Hippoboscoidea) no Estado do Paraná, Brasil: chaves de identificação, hospedeiros e distribuição geográfica. *Revista brasileira de Zoologia*, 20(4), 667–674.
- Grijalva, M.J., Palomeque-Rodríguez, F.S., Costales, J.A., Davila, S. & Arcos-Teran, L. (2005) High household infestation

- rates by synanthropic vectors of Chagas Disease in southern Ecuador. *Journal of Medical Entomology*, 42(1), 68–74.
- Grundemann, A.W. (1947) Studies on the biology of *Triatoma sanguisuga* (LeConte) in Kansas (Reduviidae, Hemiptera). *Journal of the Kansas Entomological Society*, 20(3), 77–85.
- Guilherme, A.L.F., Pavanelli, G.C., Silva, S.V., Lima Costa, A. & Marques de Araújo, S. (2001) Secondary Triatomine species in dwellings and other nearby structures in municipalities under epidemiological surveillance in the state of Paraná, Brazil. *Revista Panamericana de Salud Pública*, 9(6), 385–392.
- Guillen, G., Diaz, R., Jemio, A., Cassab, J.A., Teixeira Pinto, C. & Schofield, C.J. (1997) Chagas disease vector control in Tupiza, southern Bolivia. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 92(1), 1–8.
- Guimãraes, J.H., Tucci, E.C. & Gomes, J.P.C. (1992) Dermaptera (Insecta) associados a aviários industriais do estado de São Paulo e sua importância como agentes de controle biológico de pragas avícolas. *Revista Brasileira de Entomologia*, 36(3)527–534.
- Gurevitz, J., Gaspe, M.S., Enriquez, G.F., Alvarado Otegui, J., Ceballos, L.A., Ordóñez-Krasnowski, P., Kitron, U. & Gürtler, R.E. (2009) Fallas de control de *Triatoma infestans* en el chaco argentino. In: *XIX Congreso Latinoamericano de Parasitología*. Asunción, Paraguay, 22, 23 y 24 de octubre de 2009. p. 185.
- Habu, A. (1967) *Fauna Japonica. Carabidae, Truncaipennes Group (Insecta: Coleoptera)*. Tokyo College Electrical Press. Hakushin Sha Printed Company, Tokyo. xiv + 38 p. [cited by Cicchino & Saini 2006]
- Hastriter, M.W. & Méndez E. (2000) A review of the flea genera *Hectopsylla* Frauenfeld and *Rhynchopsyllus* Haller (Siphonaptera: Pulicidae). *Proceedings of the Entomological Society of Washington*, 102, 613–624.
- Hernández, M.M., Monroy Escobar, M.C., Bustamante, D.M., Moguel, B., Rodas, M.A., Solórzano, E. & García, M. (2006) *Estudio de las preferencias de hábitat no domiciliar del principal vector de la Enfermedad de Chagas en Guatemala, Triatoma dimidiata, y sus implicaciones para el control vectorial*. Universidad de San Carlos de Guatemala, Dirección General de Investigación, Programa Universitario de Investigación en Ciencia Básica. 49 p.
- Herrer, A. (1955) Trypanosomiasis americana en el Perú. I. El insecto vector y los animales que actúan de reservorios de la enfermedad de Chagas en la región sudamericana. *Revista de Medicina Experimental*, 9, 23–27. [cited by Del Ponte 1959]
- Herrer, A. & Ayulo, V.M. (1944) Estudios sobre trypanosomiasis americana en el Peru. II. Observaciones entomológicas. *Revista de Medicina Experimental*, 3(2), 118–128.
- Hicks, E.A. (1959) *Check-list and bibliography on the occurrence of insects in birds' nests*. Iowa State College Press. Ames, Iowa, 681 p.
- Hicks, E.A. 1962. Check-list and bibliography on the occurrence of insects in birds' nests. Supplement I. *Iowa State College Journal of Science*, 36, 233–348.
- Hinton, H.E. (1945) *A monograph of the beetles associated with stored products. Volume I*. British Museum (Natural History). London. 443 p.
- Iwasa, M. (1994) Flies occurring in bird nests in Hokkaido, Japan. In: *Third International Congress of Dipterology*. Guelph, Canada, August 1994. Abstract Volume. p. 104–105.
- Hogsette, J.A. (1996) Problems with stable flies, horn flies, and house flies in intensive animal production. In: Crespo, D.C. & Lecuona, R.E. (Eds.). *Dipteros plaga de importancia económica y sanitaria. Serie de la Academia Nacional de Agronomía y Veterinaria*, (20), 5–23.
- Hopkins, G.H.E. & Rothschild, M. (1953) *An illustrated catalogue of the Rothschild collection of fleas (Siphonaptera) in the British Museum (Natural History)*. Vol. 1. Tungidae and Pulicidae. British Museum (Natural History). vii + 362 p.
- Horvat, G. (1912) Revision of the American Cimicidae. *Annals of the National Museum of Hungary*, 10, 251–262. [cited by Usinger 1966]
- Jellison, W.M.I. & Philip, C.P. (1933) Faunae of nests of the magpie and crow in western Montana. *The Canadian Entomologist*, 65, 26–31.
- Johnson, P.T. (1957) A classification of the Siphonaptera of South America. *Memories of the Entomological Society of Washington*, 5, 1–298.
- Julien-Laferriere, D., Esterre, P., Frenay, C. & Dedet, J.-P. (1989) Epizootiology of Chagas disease near a forest settlement in French Guiana. *Transactions of the Royal Society of Tropical Medicine & Hygiene*, 83, 202–207.
- Jurberg, J. & Milward de Azevedo, E.M.V. (1982) Contribuição para o estudo da morfologia de *Ornithocoris toledo* Pinto, 1927 (Hemiptera, Cimicidae). *Revista Brasileira de Biología*, 42(1), 25–262.
- Justi, S.A., Noireau, F., Cortez, M.R. & Monteiro, F.A. (2010) Infestation of peridomestic *Attalea phalerata* palms by *Rhodnius stali*, a vector of *Trypanosoma cruzi* in the Alto Beni, Bolivia. *Tropical Medicine and International Health*, 15(6), 727–732.
- Kimball, B. (1896) *Conorhinus sanguineus*, its habits and life-history. *Fr. Kansas Academy*, 14, 128–131. [cited by Lent 1935]
- Křištofík, J., Mašán, P. & Šustek, Z. (1996) Ectoparasites of Bee Eater (*Merops apiaster*) and arthropods in its nests. *Biologia*, Bratislava, 51(5), 57–570.
- Křištofík, J., Šustek, Z. & Masan, P. (2002) Arthropods (Pseudoscorpionida, Acari, Coleoptera, Siphonaptera) in the nests of red-backed shrike (*Lanius collurio*) and lesser grey shrike (*Lanius minor*). *Biologia*, Bratislava, 57(5), 603–613.
- Křištofík, J., Mašán, P., Šustek, Z. & Dušan, K. (2009) Arthropods in the nests of lesser spotted eagle (*Aquila pomarina*). *Bio-*

logia, Bratislava, 64(5), 974–980.

- Lambkin, T.A. (2001) *Investigations into the management of the darkling beetle*. Rural Industries Research and Development Corporation. Kingston, Australia. 99 p.
- Lazo, R.F. (1985) Ecuador. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 413–427.
- Lee, R.D. (1955a) The biology of the mexican chicken bug, *Haemosiphon inodorus* (Duges) (Hemiptera: Cimicidae). *The Pan-Pacific Entomologist*, 31(2), 47–59.
- Lee, R.D. (1955b) New locality records and a new host record for *Haemosiphon inodorus* (Hemiptera: Cimicidae). *The Pan-Pacific Entomologist*, 31(3), 137–138.
- Legner, E.F. (1965) Un complejo de los artrópodos que influyen los estadios juveniles de *Musca domestica* L. en Puerto Rico. *Caribbean Journal of Science*, Mayaguez, 5, 109–115.
- Legner, E.F. (1971) Some effects of the ambient arthropod complex on the density and potential parasitization of muscoid Diptera in poultry wastes. *Journal of Economic Entomology*, 64(1), 111–115.
- Legner, E.F. & Olton, G.S. (1970) Worldwide survey and comparison of adult predator and scavenger insect populations associated with domestic animal manure where livestock is artificially congregated. *Hilgardia*, 40, 225–266.
- Lemos, J.C., Casagrande, B., Ferrte, J.A., Ferrete, J.A., Rezende, K. & Machado, M.I. (2006) Triatomíneos vetores da Doença de Chagas no Assentamento de Reforma Agrária Ezequias dos Reis. *Cadernos Temáticos*, (8), 45–50.
- Lent, H. (1935) Sobre a biologia, systematica e distribuição geografica de *Psammolestes coreodes* Bergroth, 1911, encontrado en ninhos de aves no Brasil (Hem. Triatomidae). *Revista de Entomología*, Rio de Janeiro, 5(4), 381–396.
- Lent, H. & Wygodzinsky, P. (1979) Revision of the Triatominae (Hemiptera, Reduviidae) and their significance as vectors of Chagas' disease. *Bulletin of the American Museum of Natural History*, (163), 123–520.
- Lewis, J.P. & Collantes, M.B. (1973) El Espinal periéstéptico. *Ciencia e Investigación*, Buenos Aires, 29, 360–377.
- Linsley, E.G. (1944) Natural sources, habitats and reservoirs of insects associated with stored food products. *Hilgardia*, 16, 187–224.
- List, M. (1937) Notes on some cimicid parasites on man and animals. *Journal of Parasitology*, 23(5), 535.
- Lomônaco, C. & Prado, A. P. (1994) Estrutura comunitária e dinâmica populacional da fauna de dípteros e seus inimigos naturais em granjas avícolas. *Anales da Sociedade Entomológica do Brasil*, 23, 71–80. [cited by Menezes *et al.* 2006]
- Long, S.J. (1975) *Niditinea fuscipunctella* (Haworth), a moth of public health importance from poultry manure in southern California. In: *Proceeding Papers of the 43rd. Annual Conference of the California Mosquito Control Association*, p. 145–148.
- Lopes, W.D.Z., da Costa, F.H., Lopes, W.C.Z., Soares, V.E., Balieiro, J.C. de C., Prado, A.P. do (2006) Estudo da sazonalidade de *Alphitobius diaperinus* em criação de galinhas poedeiras por três diferentes métodos de coleta. *Arquivos do Instituto Biológico*, São Paulo, 73(2), 195–202.
- Lopes, W.D.Z., da Costa, F.H., Lopes, W.C.Z., Balieiro, J.C. de C., Soares, V.E., Prado, Â.P. do (2007a) *Omorgus (Omorgus) suberosus* (Fabricius) (Coleoptera: Trogidae) em esterco de galinhas poedeiras de São João da Boa Vista, SP, Brasil. *Arquivos do Instituto Biológico*, São Paulo, 74(3), 227–232.
- Lopes, W.D.Z., da Costa, F.H., Lopes, W.C.Z., Balieiro, J.C. de C., Soares, V.E. & Prado, Â.P. do (2007b) Artrópodes associados ao excremento de aves poedeiras. *Neotropical Entomology*, 36(4), 597–604.
- Lopez, A., Crocco, L., Morales, G. & Catala, S. (1999) Feeding frequency and nutritional status of peridomestic populations of *Triatoma infestans* from Argentina. *Acta Tropica*, 73, 275–281.
- Luitgards-Moura, J.F. (2001) *Aspectos epidemiológicos da doença de Chagas em áreas de colonização agrícola no Estado de Roraima, Brasil*. Tese Doutor em Biologia Parasitária - Área de concentração: Entomologia. Coordenação dos Cursos de Pós-graduação, Instituto Oswaldo Cruz – FIOCRUZ. Rio de Janeiro. 96 p.
- Note:** 6 dissected nests of “garças” were negative for triatomines [Roraima: Projeto Passarão]
- Luitgards-Moura, J.F., Borges-Pereira, J., Costa, J., Zauza, P.L. & Rosa-Freitas, M.G. (2005a) On the possibility of autochthonous Chagas disease in Roraima, Amazon Region, Brazil, 2000–2001. *Revista do Instituto de Medicina Tropical*, São Paulo, 47, 45–54.
- Luitgards-Moura, J.F., Vargas, A.B., Almeida, C.E., Magno-Esperança, G., Agapito-Souza, R., Folly-Ramos, E., Costa, J., Tsouris, P. & Rosa-Freitas, M.G. (2005b) A *Triatoma maculata* (Hemiptera, Reduviidae, Triatominae) population from Roraima, Amazon region, Brazil, has some bionomic characteristics of a potential chagas disease vector. *Revista do Instituto de Medicina Tropical*, São Paulo, 47(3), 131–137.
- Macchiavello, A. (1948) Siphonaptera de la costa sur-occidental de América (primera lista y distribución zoo-geografica). *Boletín de la Oficina Sanitaria Panamericana*, 27(5), 412–460.
- Majka, C.G., Klimaszewski, J. & Lauff, R.F. (2006) New Coleoptera records from owl nests in Nova Scotia, Canada. *Zootaxa*, 1194, 33–47
- Maldonado Capriles, J. (1990) Catalogue of the Reduviidae of the World. *Caribbean Journal of Science*, 1990.
- Manso Soto, A.E. & Prosen, A.F. (1951) Búsqueda de triatominos en la ciudad de Buenos Aires. *Misión de Estudios de Patología Regional Argentina*, Jujuy, (80), 53–56.
- Marinkelle, C.J. (1967) *Cimex hemipterus* (Fabr.) from bats in Colombia, South America (Hemiptera: Cimicidae). *Proceedings*

- of the *Entomological Society of Washington*, 69(2), 179–180.
- Marsden, P.D. (1993) Observations on medically important arthropods in Brazil. *Cadernos da Saúde Pública*, Rio de Janeiro, 9 (4), 508–513.
- Marsden, P.D., Alvarenga, N.J., Cuba, C.C., Shelley, A.J., Costa, C.H. & Boreham, P.F.L. (1979) Studies of the domestic ecology of *Triatoma infestans* by means of house demolition. *Revista del Instituto de Medicina Tropical do São Paulo*, 21(1), 13–25.
- Martínez, A. & Cichero, J.A. (1972) *Los vectores de la enfermedad de Chagas. Lucha contra los mismos en la Argentina*. Ministerio de Bienestar Social, Subsecretaría de Salud Pública, Dirección Nacional de Promoción y Protección, Departamento de Zoonosis, Reservorios y Vectores. Buenos Aires. 56 p.
- Martínez, A., Cichero, J.A., Reaño Alaña, I. & González, F.F. (1975a) Control de *Triatoma infestans* con malathion grado técnico desodorizado. Type-written manuscript of Martínez *et al.* (1975b)
- Martínez, A., Cichero, J.A., Reaño Alaña, I. & González, F.F. (1975b) Control of *Triatoma infestans* (Klug) with malathion concentrate. *Journal of Medical Entomology*, 11(6), 653–657.
- Martínez, A., Carcavallo, R.U. & Cichero, J.A. (1985) República Argentina. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 345–354.
- Martínez-Ibarra, J.A., Grant-Guillén, Y., Morales-Corona, Z.Y., Haro-Rodríguez, S., Ventura-Rodríguez, L.V., Nogueada-Torres, B. & Bustos-Saldaña, R. (2008) Importance of species of Triatominae (Heteroptera: Reduviidae) in risk of transmission of *Trypanosoma cruzi* in western Mexico. *Journal of Medical Entomology*, 45(3), 476–482.
- Martínez-Ibarra, J.A., Martínez-Grant, J.A., Verdugo-Cervantes, M.R., Bustos-Saldaña, R. & Nogueada-Torres, B. (2010) Vigilancia de la presencia de triatomíneos mediante gallineros en el sur de Jalisco, México. *Biomédica*, Bogotá, 30(1), 140–145.
- Matias, A., De la Riva, J., Martínez, E., Torrez, M. & Dujardin, J.P. (2003) Domiciliation process of *Rhodnius stali* (Hemiptera: Reduviidae) in Alto Beni, La Paz, Bolivia. *Tropical Medicine and International Health*, 8(3), 264–268.
- Mazur, S. (1997) A world catalogue of Histeridae. *Genus International Journal of Invertebrate Taxonomy* (Supplement), 1–373.
- Mazza, S. (1936) Comprobaciones de casos agudos de enfermedad de Chagas en nuevas partes de la zona biológica chaqueña (Formosa, Chaco salteño). *Misión de Estudios de Patología Regional Argentina*, Jujuy, (27), 1–48.
- Mazza, S. (1937) Posición sistemática de *Eutriatoma (Triatoma) patagonica* (Del Ponte, 1929) *nov. comb.* *Publicación de la Misión de Estudios de Patología Regional Argentina*, (30), 5–29.
- Mazza, S. (1943a) Comprobaciones de *Triatoma platensis*, *Eutriatoma oswaldoi*, *Pastronygylus seai* y *Psammolestes coreodes* en la provincia de Santiago del Estero, todas ellas sin infestación, y de *Eutriatoma sordida* con infestación por *S. cruzi*. Otros datos sobre infestación esquizotripanósica natural silvestre de *Triatoma infestans*. *La Prensa Médica Argentina*, Buenos Aires, 30(34), 15–83.
- Mazza, S. (1943b) Comprobaciones de *Eutriatoma oswaldoi* (Neiva y Pinto, 1923) Pinto, 1931, y *Eutriatoma sordida* (Stål, 1859) Pinto, 1931, en la República del Paraguay. *La Prensa Médica Argentina*, Buenos Aires, 30(48), 1–8.
- Mazza, S. & Jorg, M.E. (1937) Nota sobre representantes argentinos de la familia Triatomidae (Hem. Het.). *Misión de Estudios de Patología Regional Argentina*, (31), 32–50.
- Mazza, S. & Jorg, M.E. (1940) Estudios sobre Triatomidae argentinos. Variabilidad de diseño somático de *Triatoma infestans* Klug. *Misión de Estudios de Patología Regional Argentina*, (49), 1–22.
- Mazza, S. & Jorg, M.E. (1944) Nuevas localidades para *Triatoma infestans* en la provincia de Buenos Aires. *Misión de Estudios de Patología Regional Argentina*, (67), 56–61.
- Mazza, S. & Miyara, S. (1939) Distribución de vectores, depósitos parasitarios y casos clínicos de Enfermedad de Chagas en La Pampa, Río Negro, Neuquén y Chubut. In: *VI Congreso Nacional de Medicina*, 3, 146–149.
- Mazza, S. & Schreiber, F. (1938) Hallazgos en el Dep. Gral. Obligado, Sta. Fe de otra especie de mustelido naturalmente infestado con *S. cruzi*, de *T. infestans* infestados en nidos de comadreja, de *T. platensis* infestados en nidos de psitacide y de *P. coreodes* sin infestación en nidos de dendrocolaptidos. *Misión de Estudios de Patología Regional Argentina*, Jujuy, (34), 17–35.
- Mazza, S., Basso, G. & Basso, R. (1936) Hallazgo de *T. platensis* en nidos de Dendrocolaptidae de las provincias de Córdoba y Mendoza. Demostración experimental de la capacidad de transmitir *S. cruzi* de esta especie de triatomídeo. *Misión de Estudios de Patología Regional Argentina*, Jujuy, (29), 18–21.
- Mazza, S., Basso, G. & Basso, R. (1938) Índices comparativos de infestación por *S. cruzi* de triatomíneos de dormitorios y gallineros en las provincias La Rioja y Catamarca. Presencia de *E. oswaldoi* en gallineros de la primera. *Misión de Estudios de Patología Regional Argentina*, (37), 34–41.
- Medvedev, S.G., Vashchonok, V.S., Lobanov, A.L. & Dianov, M.B. (2010) Fleas (Siphonaptera). In: *Fleas Database*. Fleas Home Page. Zoological Institute. St. Petersburg. Available at: <http://zin.ru/Animalia/Siphonaptera> (accessed: III-2010)
- Mello, D.A. (1981) Aspectos do ciclo silvestre do *Trypanosoma cruzi* em regiões de cerrado (município de Formosa, Estado de Goiás). *Memórias do Instituto Oswaldo Cruz*, 76(3), 227–246.
- Mendes, P.C., Carmo Lima, S. do, Cardoso de Paula, M.B., Souza, A.A. de, Azevedo Silva Rodrigues, E. & Limongi, J.E.

- (2008) Doença de Chagas e a distribuição espacial de triatomíneos capturados em Uberlândia, Minas Gerais – Brasil. *Hygeia [Revista Brasileira de Geografia Médica e da Saúde]*, 3(6), 176–204.
- Méndez, E. & Sousa, O.E. (1979) Identificación y distribución de los triatomíneos de Panamá (Hemiptera: Reduviidae: Triatominae). *Revista de Medicina de Panamá*, 4, 258–280. [cited by Cedillos *et al.* 1985]
- Menezes, L.C.C.R., Rossi, M.N. & Reigada, C. (2005) Consequences of refuge for the functional response of *Dermestes ater* (Coleoptera: Dermestidae) to *Musca domestica* (Diptera: Muscidae). *Population Ecology*, 47, 213–219.
- Menezes, L.C.C.R., Rossi, M.N. & Godoy, W.A.C. (2006) The effect of refuge on *Dermestes ater* (Coleoptera: Dermestidae) predation on *Musca domestica* (Diptera: Muscidae): refuge for prey or the predator? *Journal of Insect Behavior*, 19(6), 717–729.
- Merkli, O., Bagyura, J. & Rózsa, L. (2004) Insects inhabiting Saker (*Falco cherrug*) nests in Hungary. *Ornis Hungarica*, 14, 1–4.
- Monroy, C., Bustamante, D.M., Rodas, A., Rosales, R., Mejía, M. & Tabaru, Y. (2003) Geographic distribution and morphometric differentiation of *Triatoma nitida* Usinger 1939 (Hemiptera: Reduviidae: Triatominae) in Guatemala. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 98(1), 37–43.
- Monroy, C., Marroquín, R., Rodas, A., Rosales, R. & Jaenson, T.G.T. (2004) Dispersion and colonization of *Triatoma ryckmani* (Hemiptera: Reduviidae) in artificial environments in a semiarid region of a Chagas disease endemic area in Guatemala. *Acta Tropica*, 91, 145–151.
- Monteiro, M.R. & do Prado, A.P. (2006) Moscas sinantrópicas (Diptera: Cyclorhapha) e seus parasitóides microhimenópteros (Insecta: Hymenoptera) num plantel avícola de Monte Mor, São Paulo, Brasil. *Revista Brasileira de Parasitologia Veterinária*, 15(2), 49–57.
- Monteiro, F.A., Jurberg, J. & Lazoski, C. (2009) Very low levels of genetic variation in natural peridomestic populations of the Chagas Disease vector *Triatoma sordida* (Hemiptera: Reduviidae) in southeastern Brazil. *American Journal of Tropical Medicine and Hygiene*, 81(2), 223–227.
- Moraes, R.G. de (1939) Breve nota sobre o *Ornithocoris toledo* Pinto, 1927. *Revista Medico-Cirúrgica do Brasil*, 47(2), 250–255.
- Morales Ayala, F. (1961) Contribución al conocimiento de la distribución geográfica del *Pastrongylus chinai* (Del Ponte, 1929) Pinto, 1931 en el norte del Perú. *Archivos Peruanos de Patología Clínica*, 15, 159–164.
- Moreau, R.E. & Moreau, W.M. (1941) Breeding biology of silvery-cheeked hornbill. *The Auk*, 58, 13–27.
- Morote D., K.J. & Vásquez Bardales, J. (2005) Estudio de escarabajo amazonico *Zophobas opacus* (Coleoptera: Tenebrionidae) para incluirlo como alimento vivo en sistemas de crianza de fauna silvestre en cautiverio, peces ornamentales y de consumo. *Memorias: Manejo de Fauna silvestre en Amazonia y Latinoamérica*, p. 695–702.
- Nakagawa, J., Juárez, J., Nakatsuji, K., Akiyama, T., Hernández, G., Macal, P., Flores, C., Ortiz, M., Marroquín, R., Bamba, T. & Wakai, S. (2005) Geographical characterization of the triatomine infestations in North-central Guatemala. *Annals of Tropical Medicine & Parasitology*, 99, 307–315. [cited by Zeledón *et al.* 2010]
- Neghme, A. & Schenone, H. (1962) Enfermedad de Chagas en Chile. Veinte años de investigación. *Anais do Congresso Intemacional da Doença do Chagas*. Rio de Janeiro, 1959. Volume 3, 1069–1105. [cited by Schenone *et al.* 1985]
- Nince, J.A. (1983) Espécies de triatomíneos identificadas em Cuiabá – MT. Available in: <http://www.ufmt.br/niefa/triatomine-oidentif.html> (accessed 10-VIII-2010)
- Noireau, F., Bosseno, M-F., Carrasco, R., Telleria, J., Vargas, F., Camacho, C., Yaksic, N. & Brenière, S.F. (1995) Sylvatic triatomines (Hemiptera: Reduviidae) in Bolivia: trends towards domesticity and possible infection with *Trypanosoma cruzi* (Kinetoplastida: Trypanosomatidae). *Journal of Medical Entomology*, 32(5), 594–598.
- Noyes, J.S. (2010) Universal Chalcidoidea Database (2010) Regional lists of Chalcidoids. Available at: <http://www.nhm.ac.uk/jdsml/research-curation/research/projects/chalcidoids> (accessed 28-VIII-2010)
- Ober, K.A. (2003) Arboreality and morphological evolution in ground beetles (Carabidae: Harpalinae): testing the tazon pulse model. *Evolution*, 57(6), 1343–1358.
- Ordóñez Krasnowski, P.C. (2009) *Perfil alimentario de Triatoma infestans en una comunidad rural del gran chaco argentino*. Tesis de Licenciatura en Ciencias Biológicas. Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, Departamento de Ecología, Genética y Evolución. Buenos Aires. 58 p.
- Oscherov, E.B., Bar, M.E., Damborsky, M.P., Alvarez, B.M., Milano, A.M.F. & Avalos, G. (2000) Características bioecológicas de los vectores de la enfermedad de Chagas. Departamento General Paz, Corrientes. Universidad Nacional del Nordeste, *Comunicaciones Científicas y Tecnológicas*, 4 p.
- Oscherov, E.B., Bar, M.E., Damborsky, M.P., Milano, A.M.F., Avalos, G. & Borda, M.A. (2003) Epidemiología de la enfermedad de Chagas, Departamento General Paz, Argentina. *Revista da Saúde Pública*, 37(1), 59–64.
- Otto, M.A., Da Silva, A.S., Zanette, R.A., Schmitt, L. & Monteiro, S.G. (2008) Infestação por *Ornithocoris* sp. em residências do Município de Santa Maria, Rio Grande do Sul, Brasil. *Revista Brasileira de Parasitologia Veterinária*, 17(Suplemento 1), 99–101.
- Pacheco M., F. (1978) Catálogo de insectos colección CIANO. Secretaría de Agricultura y Recursos Hidráulicos, Instituto Nacional de Investigaciones Agrícolas, Centro de Investigaciones Agrícolas del Noroeste [C.I.A.N.O.], *Publicación Espe-*

- cial, (26), 1–276.
- Packchianian, A. (1939) Natural infection of *Triatoma gerstaeckeri* with *Trypanosoma cruzi* in Texas. *Public Health Report*, 54(34), 1547–1554. [cited by Ryckman 1986]
- Paulian, R. (1950) Observations sur la faune entomologique des nids de Ploceinae. *Proceedings of the International Congress of Ornithology. Stockholm*, 1948. p. 454–456.
- Peck, S. (2009) The beetles of Barbados, West Indies (Insecta: Coleoptera): diversity, distribution and faunal structure. *Insecta Mundi*, 73, 1–51.
- Peña G., L.E. (1973) Nuevos insectos introducidos accidentalmente en Chile. *Revista Chilena de Entomología*, 7, 251.
- Perotti, A. (1998) Moscas sinantrópicas (Diptera: Muscidae y Fannidae) asociadas a producciones avícolas del centro-sudeste bonaerense. *Natura Neotropicalis*, 29(2), 145–154.
- Petana, W.B. (1978) American trypanosomiasis (Chagas disease) in the Caribbean. *Panamerican Health Organization Bulletin*, 12(1), 45–50.
- Petersen, G. (1963) Tineiden als Bestandteil der Nidicolenfauna (Lep. Tineidae). *Beiträge zur Entomologie*, 13(3–4), 411–427.
- Petherick, A. (2010) Chagas disease in the Chaco. www.nature.com/outlooks, p. 18–20.
- Pfeiffer, D.G. & Axtell, R.C. (1980) Coleoptera of poultry manure in caged-layer houses in North Carolina. *Environmental Entomology*, 9, 21–28.
- Pinheiro, J.B. & Bueno, U.H.P. (1989) Levantamento de parasitóides associados a *Musca domestica* (Linnaeus, 1758) (Diptera: Muscidae) na região de Lavras, MG. *Congresso Brasileiro de Entomologia*. Minas Gerais, Belo Horizonte. Dezembro 1989. Volume 1, p. 262. [cited by Bruno *et al.* 1992]
- Pinto, C. (1927) *Ornithocoris toledo*, novo genero e nova especie de percevejo de ave (Hemiptera – Fam. Cimicidae). *Revista da Biología e Higiene*, 1(2), 17–22. [cited by Carvalho 1939]
- Pinto, C. (1930) *Artrópodes parasitos e transmissores de doenças. Tomo I. Ixodídeos, Trombidídeos, Gamasídeos, Sarcopitídeos, Demodécídeos, Anoplúras, Mallophagas, Triatomídeos, Cimicídeos, Siphonapteros*. In: *Bibliotheca Scientifica Brasileira. Tratado de Parasitologia. Volume IV*. 395 p.
- Pinto, D.M. (2005) *Comparação de métodos para monitorar populações de Alphetobius diaperinus (Panzer, 1797) (Coleoptera: Tenebrionidae) e ocorrência da comunidade de artrópodes em granja avícola, em Pelotas, RS*. Dissertação de Mestre em Ciências. Universidade Federal de Pelotas, Faculdade de Veterinária. Rio Grande do Sul, Pelotas. 78 p.
- Pinto, D.M., Ribeiro, P.B., Silveira Jr., P. & Bernardi, E. (2005) Population flotation of *Whitius [sic] piger* (Pseudoscorpionida) in poultry farm in Pelotas, RS, Brazil. *Archives of Veterinary Science*, 10, 115–118.
- Pinto, D.M., Ribeiro, P.B. & Silveira-Junior, P. (2006a) Ocorrência e flutuação populacional de *Somotricus unifasciatus* (Dejean, 1831) (Coleoptera: Carabidae), em granja avícola, em Pelotas, RS. *XVI Congresso de Iniciação Científica*. Faculdade de Agronomia Eliseu Macie, 27 ao 29 Novembro. 5 p.
- Pinto, D.M., Ribeiro, P.B. & Silveira-Junior, P. (2006b) Ocorrência e flutuação populacional de *Carcinops troglodites* (Coleoptera: Histeridae) em granja avícola, em Pelotas, RS. *XVI Congresso de Iniciação Científica*. Faculdade de Agronomia Eliseu Maciel, 27 ao 29 Novembro. 5 p.
- Pinto, D.M., Ribeiro, P.B. & Bernardi, E. (2007) Avaliação de métodos para monitorar populações de artrópodes em granja avícola, em Pelotas, Rio Grande do Sul, Brasil. *Arquivos do Instituto Biológico*, São Paulo, 74(2), 95–99.
- Pipkin, A.C. (1968) Domiciliary reduviid bugs and the epidemiology of Chagas' disease in Panama (Hemiptera : Reduviidae: Triatominae). *Journal of Medical Entomology*, 5(1), 107–124.
- Pizarro, J.C., Lucero, D.E. & Stevens, L. (2007) PCR reveals significantly higher rates of *Trypanosoma cruzi* infection than microscopy in the Chagas vector, *Triatoma infestans*: high rates found in Chuquisaca, Bolivia. *BMC Infectious Diseases*, 7, 66 doi:10.1186/1471-2334-7-66 (accessed 12-VIII-10)
- Ponce, C. & Zeledón, R. (1973) La enfermedad de Chagas en Honduras. *Boletín de la Oficina Sanitaria Panamericana*, 75(3), 239–248.
- Prado, D.E. (1993) Contribution to the study of the flora and vegetation of the Chaco. VII. What is the Gran Chaco vegetation in South America ? II. A redefinition. *Candollea*, 48, 615–629.
- Prado, A.P. & Gianizella, S.L. (1991) Distribuição sazonal e abundância de Dermaptera e Coleoptera associados á feces de aves poedeiras em Monte Mor, SP. *IV Reunião Anual de Instituto Biológico*. 25 a 29 de Novembro 1991. p. 29. [cited by Guimarães *et al.* 1992]
- Preiss, F.J. & Davidson, J.A. (1970) Characters for separating late-stage larvae, pupae, and adults of *Alphetobius diaperinus* and *A. laevigatus* (Coleoptera: Tenebrionidae). *Annals of the Entomological Society of America*, 63(3), 807–808.
- Propp, G.D. & Morgan, P.B. (1985) Mortality of eggs and first-stage larvae of the House Fly, *Musca domestica* L. (Diptera: Muscidae), in poultry manure. *Journal of the Kansas Entomological Society*, 58(3), 442–447.
- Ramírez, C.J., Jaramillo, C.A., Delgado, M. del P., Pinto, N.A., Aguilera, G. & Guhl, F. (2005) Genetic structure of sylvatic, peridomestic and domestic populations of *Triatoma dimidiata* (Hemiptera: Reduviidae) from an endemic zone of Boyaca, Colombia. *Acta Tropica*, 93, 23–29.
- Rassi, A., Luquetti, A.O., Ornelas, J.F., Ervilha, J.F., Rassi, G.G., Rassi Junior, A., Azeredo, B.V. de M. & Dias, J.C.P. (2003) Impacto do controle químico extensivo de *Triatoma infestans* sobre a incidência de casos agudos e a prevalência de doença

- de Chagas. O exemplo de Montalvânia, Minas Gerais. *Revista da Sociedade Brasileira de Medicina Tropical*, 36(6), 719–727.
- Ribeiro, O.B. & Prado, A.P. do (1989) Levantamento de distribuição sazonal da entomofauna que se desenvolve em esterco de aves poedeiras e seus inimigos naturais, em uma granja de Monte Mor (SP). II. Flutuação populacional da *Fannia trimaculata* (Stein, 1897) (Diptera: Fanniidae). *Arquivos do Instituto Biológico*, São Paulo, 58(supl.), 79. [cited by Bruno *et al.* 1993]
- Riet, J. (1941) Infección de gallinas por *Hectopsylla Psittace* [sic]. *Anales de la Facultad de Veterinaria* [Montevideo], 3(5), 505–508.
- Ringuelet, R. (1948) Zooparásitos de interés veterinario. Su distribución en la Argentina según comprobaciones de la Dirección de Patología Animal 1935–1945. *Ministerio de Agricultura de la Nación, Dirección General de Ganadería, Dirección de Informaciones, Publicación Miscelánea*, (281), 1–54.
- Ripa, R. (1986) Survey and use of biological control agents on Easter Island and in Chile. *Miscellaneous Publication*, 61, 39–44.
- Rocha Pires, H.H., Borges, E.C., Esteves de Andrade, R., Lorosa, E.S. & Diotaiuti, L. (1999) Peridomestic infestation with *Triatoma sordida* Stal, 1859 in the county of Serra do Ramalho, Bahia, Brazil. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 94(2), 147–149.
- Romaña, C. & Abalos, J. (1947) *Triatoma delpontei* n. sp. (Hemiptera, Reduviidae). *Anales del Instituto de Medicina Regional*, Tucumán, 2(1), 79–93.
- Rosen, S., Hadani, A., Gur Lavi, A., Berman, E., Bendheim, U. & Hisham, A.Y. (1987) The occurrence of the tropical bed bug (*Cimex hemipterus*, Fabricius) in poultry barns in Israel. *Avian Pathology*, 16, 339–342.
- Ryckman, R.E. (1953) Diptera reared from barn owl nests. *The Pan-Pacific Entomologist*, 29(1), 60.
- Ryckman, R.E. (1986) The vertebrate hosts of the Triatominae of North and Central America and the West Indies (Hemiptera: Reduviidae: Triatominae). *Bulletin of the Society of Vector Ecology*, 11(2), 221–241.
- Ryckman, R.E. & Ryckman, A.E. (1961) Baja California Triatominae (Hemiptera: Reduviidae) and their hosts (Rodentia: Cricetidae). *Annals of the Entomological Society of America*, 54, 142–143.
- Ryckman, R.E., Folkes, D.L., Olsen, L.E., Robb, P.L. & Rychman, A.E. (1965) Epizootiology of *Trypanosoma cruzi* in south-western North America. *Journal of Medical Entomology*, 2(1), 87–108.
- Saini, E.D. (2001) Insectos y ácaros perjudiciales al cultivo de soja y sus enemigos naturales. *Instituto Nacional de Tecnología Agropecuaria, Instituto de Microbiología y Zoología Agrícola, Publicación*, (4), 1–90.
- Salvatella, R., Calegari, L., Puime, A., Basmadjian, Y., Rosa, R., Guerrero, J., Martínez, M., Mendaro, G., Briano, D., Montero, C. & Wisnivesky-Colli, C. (1994) Perfil alimentario de *Triatoma rubrovaria* (Blanchard, 1843) (Hemiptera, Triatominae) en ambientes peridomesticos, de una localidad rural de Uruguay. *Revista do Instituto de Medicina Tropical*, São Paulo, 36(4), 311–320.
- Salvatella, R., Rosa, R., Basmadjian, Y., Puime, A., Calegari, L., Guerrero, J., Martínez, M., Mendaro, G., Briano, D., Montero, C. & Wisnivesky-Colli, C. (1995) Ecology of *Triatoma rubrovaria* (Hemiptera, Triatominae) in wild and peridomestic environments of Uruguay. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 90(3), 325–328.
- Salvatella, R., Franca Rodríguez, M.E., Curto de Casas, S.I., Barata, J.M.S. & Carcavallo, R.U. (1998) Human environment: dwellings and peridomestic sites. In: Carcavallo, R.U., Galíndez Girón, I., Jurberg, J. & Lent, H. (coordinators). *Atlas of Chagas' disease vectors in the Americas*. Editora Fiocruz. Rio de Janeiro. v. II, p. 601–619.
- Sanchez-Martin, M.J., Feliciangeli, M.D., Campbell-Lendrum, D. & Davies, C.R. (2006) Could the Chagas disease elimination programme in Venezuela be compromised by reinvasion of houses by sylvatic *Rhodnius prolixus* bug populations? *Tropical Medicine and International Health*, 11(10), 585–593.
- Sarquis, O., Borges-Pereira, J., Mac Cord, J.R., Ferreira Gomes, T., Cabello, P.H. & Lima, M.M. (2004) Epidemiology of Chagas Disease in Jaguaruana, Ceará, Brazil. I. Presence of triatomines and index of *Trypanosoma cruzi* infection in four localities of a rural area. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 99(3), 263–270.
- Schaefer, C.W. (1996) Bright bugs and bright beetles: Asopine pentatomids (Hemiptera: Heteroptera) and their prey. In: *Zoophytophagous Heteroptera: implications for life history and integrated pest management*. Alomar, O. & Wiedenmann, R.N. (Eds.). Proceedings Thomas Say Publication in Entomology. Lanham, MD, vii + 202 p.
- Schaefer, C.W. (2000) Bed bugs (Cimicidae). In: *Heteroptera of economic importance*. Schaefer, C.W. & Panizzi, A.R. (Eds.). Boca Raton, Florida. CRC Press. p. 519–538.
- Schachter-Broide, J., Dujardin, J.P., Kitron, U. & Gürtler, R. (2004) Spatial structuring of *Triatoma infestans* (Hemiptera, Reduviidae) populations from northwestern Argentina using wing geometric morphometry. *Journal of Medical Entomology*, 41(4), 643–649.
- Schenone, H., Villaroel, F., Rojas, A. & Alfaro, E. (1985) Chile. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 401–411.
- Schofield, C.J. (2000) *Challenges of Chagas Disease vector control in Central America*. World Health Organization, Communicable Disease Control, Prevention and Eradication, WHO Pesticide Evaluation Scheme (WHOPES), Global Collabora-

- tion for Development of Pesticides for Public Health (GCDPP). Position Paper. WHO/CDS/WHOPES/GCDPP/2000.1, 36 p.
- Schofield, C.J., Apt, W., Sagua, Panzera, F. & Dujardin, J.P. (1998) Alary polymorphism in *Triatoma spinolai* and its possible relationship with demographic strategy. *Medical and Veterinary Entomology*, 12, 30–38.
- Scholtz, C.H. (1990) Revision of the Trogidae of South America (Coleoptera: Scarabaeoidea). *Journal of Natural History*, 24, 1391–1456.
- Scorza, J.V., Solarte, Y. & Moreno, E. (1994) The epidemiological importance of *Triatoma nigromaculata* (Stål, 1859) colonizing human dwellings of the venezuelan Andes. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 89(3), 299.
- Skelley, P.E., Dellacasa, M., Dellacasa, G. & Gordon, R.D. (2007) Checklist of the Aphodiini of Mexico, Central and South America (Coleoptera: Scarabaeidae: Aphodiinae). *Insecta Mundi*, 0014, 1–14.
- Smith, A.B.T. & Skelley, P.E. (2007) A review of the Aphodiinae (Coleoptera: Scarabaeidae) of southern South America. *Zootaxa* (edition on-line), (1458), 1–80.
- Sousa, O.E. (1972) Anotaciones sobre la enfermedad de Chagas en Panama. Frecuencia y distribución de *Trypanosoma cruzi* y *Trypanosoma rangeli*. *Revista de Biología Tropical*, 20, 167–179. [cited by Cedillos *et al.* 1985]
- Spilman, T.J. (1987) Darkling beetles (Tenebrionidae, Coleoptera). In: *Insect and Mite Pests in Food. An Illustrated Key*. Volume 1. Gorham, J.R. (Ed.). United States Department of Agriculture, Agricultural Research Service & United States Department of Health and Human Services, Public Health Service, Food and Drug Administration. Washington D.C. Agriculture Handbook, (655), 185–214.
- Stafford III, K.C., Collison, C.H., Burg, J.G. & Cloud, J.A. (1988) Distribution and monitoring lesser mealworms, hide beetles, and other fauna in high-rise, caged-layer poultry houses. *Journal of Agricultural Entomology*, 5(2), 89–101.
- Stebnicka, Z. (2002) The New World species of *Ataenius* Harold, 1867. II. Revision of the West Indian *A. terminalis*-group (Coleoptera: Scarabaeidae: Eupariini). *Acta zoologica cracoviensia*, 45(3), 259–281.
- Stebnicka, Z. (2003) The New World species of *Ataenius* Harold, 1867. III. Revision of the *A. imbricatus*-group *sensu lato* (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini). *Acta zoologica cracoviensia*, 46(3), 219–249.
- Stebnicka, Z. (2004) The New World species of *Ataenius* Harold, 1867. IV. Revision of the *A. strigicauda*-group (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini). *Acta zoologica cracoviensia*, 47(3–4), 211–228.
- Stebnicka, Z. (2007) The New World species of *Ataenius* Harold, 1867. VIII. Revision of the *A. scutellaris*-group and diagnosis of the *A. texanus-carinator* group with descriptions of new species (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini). *Acta zoologica cracoviensia*, 50B(2), 45–81.
- Stebnicka, Z.T. & Lago, P.K. (2005) The New World species of *Ataenius* Harold, 1867. V. Revision of the *A. strigatus* group (Scarabaeidae: Aphodiinae: Eupariini). *Insecta Mundi*, 19(1–2), 55–82.
- Steelman, C.D., Szalanski, A.L., Trout, R., McKern, J.A., Solorzano, C. & Austin, J.W. (2008) Susceptibility of the bed bug *Cimex lectularius* L. (Heteroptera: Cimicidae) collected in poultry production facilities to selected insecticides. *Journal of Agricultural and Urban Entomology*, 25(1), 41–51.
- Suarez-Davalos, V., Dangles, O., Villacis, A.G. & Grijalva, M.J. (2010) Microdistribution of sylvatic Triatomine populations in central-coastal Ecuador. *Journal of Medical Entomology*, 47(1), 80–88.
- Šustek, Z. & J. Křištofik. (2002) Beetles (Coleoptera) in deserted nests of *Phoenicurus ochruros*, *Parus caeruleus*, *Parus major*, *Sitta europaea* and *Sturnus vulgaris*. *Entomofauna carpathica*, 14, 64–69.
- Šustek, Z. & Křištofik, J. (2003) Beetles (Coleoptera) in deserted nests of house and tree sparrows (*Passer domesticus* L. 1758 and *Passer montanus* L., 1758). *Biologia*, Bratislava, 58, 953–965.
- Systema Dipteroorum (2010) The BioSystematic Database of World. Available at: <http://www.diptera.org> (accessed 28-IX-2010)
- Szalanski, A.L., Austin, J.W., McKern, J.A., Steelman, C.D. & Gold, R.E. (2008) Mitochondrial and ribosomal internal transcribed spacer I diversity of the bed bug *Cimex lectularius* L. (Heteroptera: Cimicidae). *Journal of Medical Entomology*, 45, 229–236.
- Tagle, I. (1966) Parásitos de los animales domésticos en Chile. *Boletín Chileno de Parasitología*, 21, 118–121. [cited by Alcaino & Gorma 1999]
- Teixeira, D.M. (1999) Myiasis caused by obligatory parasites. Ib. General observations on the biology of species of the genus *Phyllorhina* Meinert, 1890 (Diptera, Muscidae), p. 71–96. In: *Myiasis in Man and Animals in the Neotropical Region. Bibliographic Database*. Guimaraes, J.H. & Papavero, N. (Eds.). Editora Plêidae. Rio de Janeiro. 308 p.
- Thompson, P.H. (1966) Arthropods from nests of the House Sparrow. *Proceedings of the Entomological Society of Washington*, 68(1), 44–48.
- Thurman, Jr., D.C., Mulrennan, J.A., Basham, E. & Taylor, D.J. (1948) Key to Florida *Triatoma* with additional distribution records for the species (Hemiptera, Reduviidae). *The Florida Entomologist*, 31(3), 58–62.
- Tonn, R.J. (1983) Recent developments in Latin America and the Caribbean. *Bulletin of the Vector Ecology Society*, 8(1), 3–22.
- Tonn, R.J. (1985a) Países del área del Caribe. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 373–375.
- Tonn, R.J. (1985b) Estados Unidos. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 429–436.

- Tonn, R.J., Otero, M.A., Mora, E., Espínola, H. & Carcavallo, R.U. (1978b) Aspectos biológicos y distribución geográfica de *Triatoma maculata* (Erichson, 1848) (Hemiptera, Reduviidae, en Venezuela). *Boletín de la Dirección de Malariología y Saneamiento Ambiental*, 18(1), 16–24.
- Tonn, R.J., Nelson, M., Espinola, H. & Cardozo, J.V. (1982) Notes on *Cimex hemipterus* and *Rhodnius prolixus* from an area of Venezuela endemic for Chagas' disease. *Bulletin of the Society of Vector Ecology*, 7, 49–50.
- Torrealba, J.W., Tonn, R.J., Carcavallo, R.U., Lord, R. & Arata, A. (1985) Venezuela. In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo II. Parásitos – Reservorios – Control – Situación Regional. p. 465–472.
- Townsend, C.H.T. (1893) Note on the Coruco, hemipterous insect which infests poultry in southern New Mexico. *Proceedings of the Entomological Society of Washington*, 3(1), 40–42.
- Traversa, O.C. (after 1960) *Guía de Información Básica de Campo. Triatominos*. Ministerio de Asistencia Social y Salud Pública, Dirección de Enfermedades Transmisibles. Buenos Aires. 21 p.
- Turienzo, P. & Di Iorio, O.R. (2007) Insects found in birds' nests from Argentina. Part I: a bibliographical review, with taxonomical corrections, comments, and a hypothetical mechanism of transmission of cimicid bugs. *Zootaxa*, 1651, 1–52.
- Turienzo, P. & Di Iorio, O.R. (2008) Insects found in birds' nests from Argentina: *Anumbius annumbi* (Vieillot, 1817) [Aves: Furnariidae]. *Zootaxa*, 1871, 1–55.
- Turienzo, P. & Di Iorio, O.R. (2010) Insects found in birds' nests from Argentina. *Furnarius rufus* (Gmelin, 1788) [Aves: Furnariidae] and their inquiline birds, the true hosts of *Acanthocrios furnarii* (Cordero & Vogelsang, 1928) [Hemiptera: Cimicidae]. *Zootaxa*, 2700, 1–112.
- Undiano, C. (1957) *Triatoma delpontei*: study of its biology; area of dispersion in the Province of Córdoba; mutation of its natural habitat with its devastating march toward domestic & semi-domestic life. *Revista de Medicina de Córdoba*, 45, 487–491.
- Usinger, R.L. (1966) Monograph of Cimicidae (Hemiptera - Heteroptera). The Thomas Say Foundation, 7, xi + 1–585.
- Usinger, R.L., Wygodzinsky, P. & Ryckman, R.E. (1966) The biosystematics of Triatominae. *Annual Review of Entomology*, 11, 309–330.
- Vallvé, S.L. (1997) *Ecología de Triatoma infestans en zonas urbanas de la provincia de San Juan*. Tesis Doctoral. Universidad Nacional de La Plata, Facultad de Ciencias Naturales y Museo, 118 p.
- Van der Kuip, E.J. (1966) *An Investigation into the occurrence of trypanosomiasis (Cruzi) in Aruba*. Thesis. University of Utrecht. [cited by Petana 1978]
- Van Tyne, J. (1929) The life history of the toucan *Ramphastos brevicarinatus*. *University of Michigan, Museum of Zoology Miscellaneous Publications*, (19), 1–43.
- Vargas, E., Espitia, C., Patiño, C., Pinto, N., Aguilera, G., Jaramillo, C., Bargues, M.D. & Guhl, F. (2006) Genetic structure of *Triatoma venosa* (Hemiptera: Reduviidae): molecular and morphometric evidence. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 101(1), 39–45.
- Vazquez-Prokopec, G.M., Cecere, M.C., Canale, D.M., Gürtler, R.E. & Kitron, U. (2005) Spatiotemporal patterns of reinfestation by *Triatoma guasayana* (Hemiptera: Reduviidae) in a rural community of northwestern Argentina. *Journal of Medical Entomology*, 42(4), 571–581.
- Viana, M. J., Martínez, A., Fritz, M.A., Mariluís, J.C., Williner, G.J., Carpintero, D. & Bachmann, A.O. (1977–1978) Insectos de Salto Grande (Entre Ríos), In: *V Reunión sobre Aspectos de Desarrollo Ambiental en el Proyecto Salto Grande (Margen Argentina)*. Entre Ríos, Concordia, 3 al 7 de Octubre de 1977. p. 18–143. [inedit]
- Vidal Sarmiento, J.A. & Bischoff de Alzuet, A.D. (1965) Insectos y otros artrópodos que atacan productos elaborados y almacenados de origen animal. *Revista del Museo de La Plata, Serie Zoología*, 8(59), 47–97.
- Virla de Arguello, N.E. (1984) Nota sobre la presencia de *Triatoma patagonica* Del Ponte, 1929 (Reduviidae, Triatominae) en la provincia de Chubut, Argentina. *Revista de la Sociedad Entomológica Argentina*, 43(1–4), 57–59.
- Walter, A., Pojo do Rego, I., Ferreira, A.J. & Rogier, C. (2005) Risk factors for reinvasion of human dwellings by sylvatic triatomines in northern Bahia State, Brazil. *Cadernos da Saúde Pública*, Rio de Janeiro, 21(3), 974–978.
- Walter, A., Lozano-Kasten, F., Bosseno, M-F., Castillo Ruvalcaba, E.G., Soto Gutierrez, M., Montañón Luna, C.E., Baunaure, F., Phélinas, P., Magallón-Gastélum, E. & Brenière, S.F. (2007) Peridomestic habitat and risk factors for *Triatoma* infestation in a rural community of the Mexican occident. *American Journal of Tropical Medicine and Hygiene*, 76(3), 508–515.
- Watson, D.W., Guy, J.S. & Stringham, S.M. (2000) Limited transmission of Turkey Coronavirus in young turkeys by adult *Alphitobius diaperinus* (Coleoptera: Tenebrionidae). *Journal of Medical Entomology*, 37(3), 480–483.
- Weber, D.C., Rowley, D.L., Greenstone, M.H. & Athanas, M.M. (2006) Prey preference and host suitability of the predatory and parasitoid carabid beetle, *Lebia grandis*, for several species of *Leptinotarsa* beetles. *Journal of Insect Science*, (9), available online: insectscience.org/6.09 (accessed August 2007)
- Wisnivesky-Colli, C., Vezzani, D., Petrokovsky, S.M., Scurti, H. & Iriarte, J. (2003) Ecological characteristics of *Triatoma patagonica* at the southern limit of its distribution (Chubut, Argentina). *Memorias do Instituto Oswaldo Cruz*, 98(8), 1077–1081.

- Wolffhügel, K. (1911) Los insectos parasitos de los animals domésticos en la República Argentina. *Revista de Medicina Veterinaria de la Escuela de Montevideo*, 2(8–9), 354–372.
- Wolffhügel, K. (1912) Los insectos parasitos de los animals domésticos en la República Argentina. *Revista de Medicina Veterinaria de la Escuela de Montevideo*, 3(1), 25–30.
- Wolffhügel, K. (1916) *Hectopsylla psittaci*-parásito de las aves domésticas en el Uruguay. *Actas del Primer Congreso Médico Nacional*. Montevideo, Uruguay. [cited by Lombardini 1971]
- Woodroffe, G.E. (1953) An ecological study of the insects and mites in the nests of certain birds in Britain. *Bulletin of Entomological Research*, 44, 739–772.
- Wygodzinsky, P. (1951) Notas sobre Cimicidae de la República Argentina (Hemiptera). *Anales del Instituto de Medicina Regional*, Tucumán, 3(2), 185–197.
- Wygodzinsky, P. & Abalos, J.W. (1950) *Triatoma guasayana* Wygodzinsky y Abalos, 1949, con notas sobre especies vecinas (Triatominae, Reduviidae, Hemiptera). *Anales del Instituto de Medicina Regional*, Tucumán, 3(1), 53–73.
- Wygodzinsky, P. (1959) Biología y distribución de los Cimicidae argentinos. In: Bejarano, J.F.R., E. Del Ponte & R.N. Orfila (Eds.). *Primeras Jornadas Entomoepidemiológicas Argentinas*. Buenos Aires. Segunda Parte, p. 485–486.
- Wygodzinsky, P. & Abalos, J.W. (1959) Las vinchucas argentinas y su importancia epidemiológica. In: Bejarano, J.F.R., Del Ponte, E. & Orfila, R.N. (Eds.). *Primeras Jornadas Entomoepidemiológicas Argentinas*. Buenos Aires. Segunda Parte, p. 383–385.
- Wisnivesky-Colli, C. (1993) La importancia del peridomicilio en un programa de eliminación de *Triatoma infestans*. *Revista da Sociedade Brasileira de Medicina Tropical*, 26(suplemento III), 55–63.
- Zárate, L.G., Zárate, R.J., Tempelis, C.H. & Goldsmith, R.S. (1980) The biology and behavior of *Triatoma barberi* (Hemiptera: Reduviidae) in Mexico. I. Blood meal sources and infection with *Trypanosoma cruzi*. *Journal of Medical Entomology*, 17(2), 103–116.
- Zeledón, R. (1985) El *Triatoma dimidiata* (Latreille). In: Carcavallo, R.U., Rabinovich, J.E. & Tonn, R.J. (Eds.). *Factores biológicos y ecológicos en la enfermedad de Chagas*. Tomo I - Epidemiología - Vectores, p. 225–236.
- Zeledón, R., Solano, G., Burstin, L. & Swartzwelder, J.C. (1975) Epidemiological pattern of Chagas' Disease in an endemic area of Costa Rica. *The American Journal of Tropical Medicine and Hygiene*, 24(2), 214–225.
- Zeledón, R., Montenegro, V.M. & Zeledón, O. (2001) Evidence of colonization of man-made ecotopes by *Triatoma dimidiata* (Latreille, 1811) in Costa Rica. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 96(5), 659–660.
- Zeledón, R., Calvo, N., Montenegro, V.M., Lorosa, E.S. & Arévalo, C. (2005) A survey on *Triatoma dimidiata* in an urban area of the province of Heredia, Costa Rica. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 100(6), 507–512.
- Zeledón, R., Cordero, M., Marroquín, R. & Lorosa, E.S. (2010) Life cycle of *Triatoma ryckmani* (Hemiptera: Reduviidae) in the laboratory, feeding patterns in nature and experimental infection with *Trypanosoma cruzi*. *Memorias do Instituto Oswaldo Cruz*, Rio de Janeiro, 105(1), 99–102.

Note added in proof

The following relevant data were found during reception of proof pages:

Coleoptera: Histeridae

Hololepta spp.

Four undetermined species of *Hololepta* were collected from rotten cacti in Mexico (Navarrete-Heredia & González Estrada 2003). In the Sonoran Desert, necroses (rots) of columnar cacti provide an important microhabitat for the breeding, feeding and development of a variety of insects and other arthropods, including histerid beetles (Pfeiler *et al.* 2010, following Castrezana & Markow, 2001). Other six species of *Hololepta* (four undetermined) were collected also from necrotic tissue of columnar cacti from localities on the Baja California peninsula and on the mainland of northwestern Mexico and Arizona, USA (Pfeiler *et al.* 2010).

Tenebrionidae

Alphitobius diaperinus

ARGENTINA: **Buenos Aires**: Estación de Cría de Animales Salvajes, 13-I-2011, 2 adults in a nest of *Sturnus vulgaris* L. [Aves: Sturnidae] inside a nest box.

Diptera: Stratiomyidae

Hermetia illucens

ARGENTINA: **Santa Fe**: Laguna El Cristal, 7-XII-2010, Di Iorio leg., 8 larvae, practically submerged in liquid in a rotten bole of *Phytolacca dioica* L., “ombú” [Phytolaccaceae], 3 adults [ODI] emerged I-2011.

This gives an idea of the suitable and natural places where *H. illucens* is breeding.

References

- Castrezana, S. & Markow, T.A. (2001) Arthropod diversity in necrotic tissue of three species of columnar cacti (Cactaceae). *Canadian Entomologist*, 133, 301–309.
- Navarrete-Heredia, J.L. & González Estrada, D. (2003) Las especies de Histeridae (Coleoptera) de la colección entomológica del Centro de Estudios en Zoología, Universidad de Guadalajara (México). *Boletín de la Sociedad Entomológica Aragonesa*, 33, 125–129.
- Pfeiler, E., Vergara-Quintanar, J.E., Castrezana, S., Caterino, M.S. & Markow, T.A. (2010) Phylogenetic relationships of Sonoran Desert cactus beetles in the tribe Hololeptini (Coleoptera: Histeridae: Histerinae), with comments on the taxonomic status of *Iliotona beyeri*. *Molecular Phylogenetics and Evolution*, 56, 474–479.