

## Synopsis of the family Reduviidae (Heteroptera: Cimicomorpha) from Chile

MELO, María C.<sup>1,2</sup> & Eduardo FAÚNDEZ<sup>3,4</sup>

<sup>1</sup>División Entomología, Museo de La Plata, UNLP, Paseo del Bosque s/n, B1900FWA, La Plata, Buenos Aires, Argentina. E-mail: ceciliamel@fcnym.unlp.edu.ar

<sup>2</sup>Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

<sup>3</sup>Entomology Department, North Dakota State University, Dept. 7650, P.O. Box 6050; Fargo, ND, USA.

<sup>4</sup>Departamento de Zoología Médica, Centro de Estudios en Biodiversidad (CEBCh), Magallanes, 1979, Osorno, Chile.

### Sinopsis de la familia Reduviidae (Heteroptera: Cimicomorpha) de Chile

**RESUMEN.** Se presenta una sinopsis de los Reduviidae registrados en Chile, incluyendo claves para subfamilias, géneros y especies chilenas, así como nuevos registros de distribución. Se registraron siete subfamilias, 17 géneros y 27 especies, de los cuales uno representa un nuevo registro para el país: *Leogorrus litura* (Fabricius); además se incluyen numerosos datos de distribución, así como extensión de los rangos de varias especies.

**PALABRAS CLAVE.** Biodiversidad. Chinchas asesinas. Distribución.

**ABSTRACT.** A synopsis of the Reduviidae recorded from Chile is given, including keys to subfamilies, genera, and species, as well as new distributional records. A total of seven subfamilies, 17 genera, and 27 species are here recorded, one represents a new country record: *Leogorrus litura* (Fabricius); there are also included many distributional data as well as extensions of the ranges of several species.

**KEY WORDS.** Biodiversity. Assassin bugs. Distributional records.

### INTRODUCTION

The Chilean Heteroptera were mostly studied during the 19th Century with the foundational works of Spinola and Blanchard (1852), Signoret (1863), and Reed (1898–1901). But little work has been done on the Chilean fauna. More recently, Prado (2008) provided a checklist of Chilean Heteroptera. The morphologically diverse family Reduviidae is one of the largest within the Heteroptera (Schuh & Slater, 1995). In Chile, much research has been published mainly on those species related to Chagas disease (e.g. species of *Triatoma* Laporte and *Mepraia* Maza, Gajardo & Jörg). Unfortunately, Reduviids are not common in Chilean collections, and there are few specimens around, mostly of *Triatomines* (E. I. Faúndez *pers. obs.*).

The aim of this contribution is to provide a synopsis of the Reduviidae from Chile, including keys to subfamilies, genera and species from Chile, to clarify the distribution of many species as well as to document new records.

### MATERIALS AND METHODS

For each species all the records found in the bibliography are included, as well as their citations indicating if a missidentification or doubtful identification was found. Synonymic lists were compiled based on Maldonado Capriles (1990) adding all other information found in the bibliography that was omitted in the catalog. The material studied is lodged at: the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN), Buenos Aires, Argentina; the

National Museum of Natural History, Smithsonian Institution, Washington DC, USA (USNM); and the personal collection of Eduardo Faúndez (EIFC). Photographs were captured using an EntoVision Imaging Suite that included a JVC KY-753CCD digital camera mounted to a Leica M16 zoom lens via a Leica z-step microscope stand. Images at multiple focal planes were merged using Cartograph 5.6.0 (Microvision Instruments, France) software. A Chilean political map is included (Fig. 1).

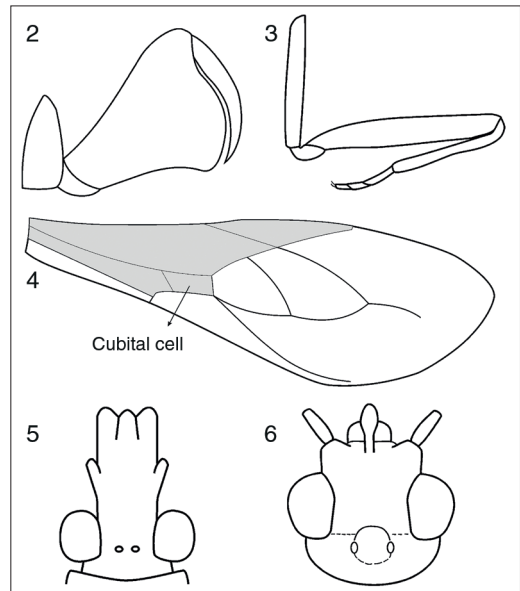


**Fig. 1.** Map of Chile showing the administrative division of the country.

**RESULTS**

**Key to Reduviidae subfamilies found in Chile**

- 1.- Fore femora strongly dilated (Fig. 2), fore tibiae and tarsi fused; antennal flagellomeres incrassate ..... Phymatinae
- 1'.- Fore femora not strongly dilated, fore tibiae not fused to tarsi; antennal flagellomeres slender than remaining segments ..... 2
- 2.- Body elongate and slender; fore legs raptorial; fore coxae elongate (Fig. 3); hemelytra mostly membranous ..... Emesinae
- 2'.- Body less elongate and more robust; fore legs not raptorial; fore coxae not elongate; hemelytra normally divided into corium and membrane ... 3
- 3.- Hemelytral cubital cell usually quadrangular (Fig. 4) ..... Harpactorinae
- 3'.- Hemelytral cubitus simple, not forming such a cubital cell ..... 4
- 4.- Antennae apparently with more than four segments; scutellum bifurcate posteriorly ..... 5
- 4'.- Antennae with four segments; scutellum not bifurcate posteriorly ..... 6
- 5.- Pedicel subdivided into 4–36 segments; head elongate with eyes located posteriorly (Fig. 5) ..... Hammacerinae
- 5'.- Flagellomeres usually divided, forming a total of 7 or 8 apparent antennal segments;



**Figs. 2-5.** 2, Anterior leg of Phymatinae; 3, Anterior leg of Emesinae; 4, Hemelytron of Harpactorinae, showing quadrate cubital cell; 5, Head of Hammacerinae, dorsal view; 6, Head of Ectrichiinae, dorsal view.

head shorter with eyes located medially (Fig. 6) ..... Ectrichodiinae  
6.- Head cylindrical (Fig. 7), antennae inserted laterally before eyes; membranous articulation between 2 and 3 labial segments allowing upward flexure of 3 labial segment during feeding ..... Triatominae  
6'.- Head not cylindrical (Fig. 8), antennae inserted dorsally before the eyes; without a membranous articulation between 2 and 3 labial segment not allowing upward flexure of 3 labial segment during feeding ..... Reduviinae

### Subfamily Phymatinae Laporte

Also known as ambush bugs, these insects are known to lie among flower clusters or among the parts of large flowers with their fore legs poised to grasp the unwary diurnal insects visiting the flowers for pollen or nectar. For a long time, this group has been accepted as a family; but with the discovery of the genus *Themonocaris* Carayon, Usinger & Wygodzinsky 1958, the authors concluded it represents a point close to the origin of the phymatid bugs from the other reduvioids, and reduced the Phymatidae to a subfamily level. Recent studies clearly show that this group shares the synapomorphies of the Reduviidae (Weirauch, 2008).

In Central and South America, it is represented by eight genera and 168 species (Froeschner & Kormilev, 1989). All the species occurring in Chile belong to the tribe Phymatini.

### Tribe Phymatini

#### *Anthylla* Stål

1876 *Anthylla* Stål, 14 (4): 131, 134. Type species: *Phymata nervosopunctata* Signoret

This genus only includes the following species known from Chile. It is characterized by the subtriangular fore femora, with the exterior surface convex and granulated, and the sutures between abdominal sternites 2 and 3 clearly visible.

#### *Anthylla nervosopunctata* (Signoret)

1863 *Phymata nervoso-punctata* Signoret, 3: 574 [Chile]; Wygodzinsky 1949, 1: 14 [Chile]; Handlirsch 1897, 12: 178- 179 [Chile]

1863 *Phymata elongata* Signoret, 3: 574 [Chile]; Reed 1900, 4 (11): 177 [near Viña del Mar]; Wygodzinsky 1949, 1: 14 [Chile]

1896 *Anthylla elongata*: Lethierry & Severin, 2: 28 [Chile]

1896 *Anthylla nervosopunctata*: Lethierry &

Severin, 2: 28 [Chile]; Kormilev 1960, 89: 326 [Chile]; Froeschner & Kormilev 1989, 6: 40 [Chile]; Prado 2008, 57: 38 [Chile]

1900 *Phymata nervopunctata*: Reed, 4(11): 176 [between Viña del Mar and El Salto]

1900 *Phymata elongata*: Reed, 4(11): 177 [near Viña del Mar, seems female of *P. nervopunctata*]

**Geographic distribution:** Chile.

**Comments:** This species was known only from Valparaíso and Metropolitan Regions in central Chile; here we add new records, extending its distribution to the Araucanía Region in southern Chile.

**Material studied:** *Metropolitan Region:* 1♂, Santiago, La Dormida, 26-II-1984, L.E. Peña col. (USNM); 2♂ 2♀, 1 nymph, Santiago, Tantehue, Co. Matancilla, 1900 m, 7-I-[19]82, M. Marin col. (USNM). *O'Higgins Region:* 1♀, Los Arrayanes, NW Rancagua, 1500 m, XI-[19]81, M. Marin col. (USNM). *Maule Region:* 1♂, Curicó, Las Tablas, 700 m, II-1985, D. Veas col. (USNM); 1 nymph, Curicó, El Durazno, 800 m, II-1985, D. Veas col. (USNM). *Bío Bío Region:* 1♀, Chillán, Las Trancas, III-1984, D. Veas col. (USNM). *Araucanía Region:* 1♂ 1♀, malleco, Termas Tolhuaca, 15-III-1986, Madariaga col. (USNM).

#### *Phymata* Latreille

1802 *Phymata* Latreille, 3: 247. Type species: *Acanthia crassipes* Fabricius

About 84 species are known from Central and South America (Froeschner & Kormilev, 1989). *Phymata* is characterized by the middle and hind tibiae convex on upper side, neither carinate nor sulcate. It includes four subgenera: *Euryphymata* Kormilev, *Neophymata* Kormilev, *Phymata* Latreille and *Phymatispa* Kormilev. Only the subgenus *Phymata* has been reported from Chile (Froeschner & Kormilev, 1989).

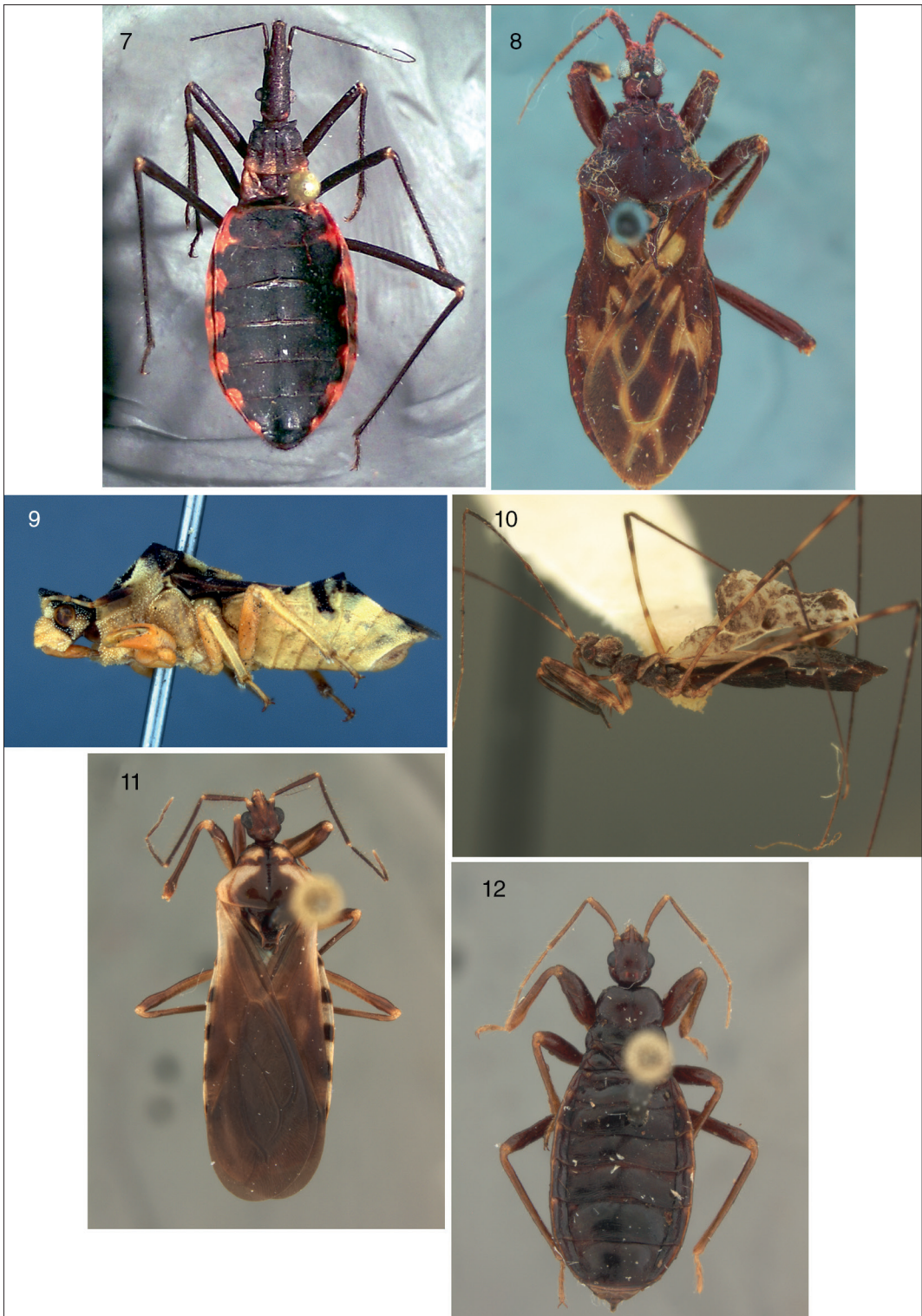
#### *Phymata (P.) chilensis chilensis* Handlirsch

(Fig. 9)

1852 *Phymata carinata*: Blanchard, 7: 206 [Chile]; Lethierry & Severin 1896, 2: 27 [Chile]; Pennington 1918, 22: 175 [Rio Blanco]; Porter 1918, 22: [Curacautín]; Porter 1920a; 159 [Rio Blanco; La Ligua; Victoria]

1897 *Phymata erosa chilensis* Handlirsch, 12: 171 [Chile]; Porter 1933a, 37: 182 [Atacama, Valle de Copiapó]

1863 *Phymata carinata*: Signoret, 3: 574



**Figs. 7-12.** Dorsal habitus. 7, *Mepraia spinolai* (Porter), female; 8, *Leogorrus litura* (Fabricius); 9, *Phymata chilensis chilensis* Handlirsch; 10, *Hybomatocoris penai* Wygodzinsky; 11, *Racelda alternans* Signoret, male; 12, *R. alternans* Signoret, female.

[Chile]; Berg 1879, 7 (1): 47 [Chile]; Reed 1900, 4 (11): 176 [Chile]

1951 *Phymata carinata chilensis*: Kormilev, 2: 69 [Valparaíso; Limache; Bio- Bio; Aconcagua; Guardia Vieja; San Bernardo; El Canelo; Santiago]

1949 *Phymata chilensis*: Wygodzinsky, 1: 13 [Chile]; Froeschner & Kormilev 1989, 6: 47 [Chile]

1960 *Phymata chilensis chilensis*: Kormilev, 89: 445 [Santiago, Aconcagua, Bio- Bio, Angol]; Prado 2008, 57: 38 [Chile]

**Geographic distribution:** Chile.

**Comments:** This species is one of the most common reduviids in Chile; it has been recorded from Atacama to Araucanía Regions. Here we extend its known distribution southwards to the Los Ríos Region.

**Material studied:** *Coquimbo Region:* 5♂ 3♀, Conquimbo, Los Vilos, Quereo, 30-XI-1986, G. Carrasco col., Drake coll. (USNM). *Valparaíso Region:* 2♂ 1♀, Chile, El Tabo, 1976, *Phymata carinata chilensis* det. Carpintero (MACN). *Metropolitan Region:* 1♂, Chile, Cordillera prov., El Tollo, 16-XII-1987, J.E. Barriga leg. (MACN); 1♂, Vallegrande, Salto, XI-1940, Kormilev coll., Drake coll. (USNM); 2♂ 2♀, Santiago, El Camelo, R. Gutierrez col., Kormilev coll., Drake coll. (USNM); 2♂ 1♀, Santiago, Guayacan, II-[1]951, R. Gutiérrez col., Kormilev coll., Drake coll. (USNM); 2♂, Aconcagua, Guardia Vieja, XII-[19]49, Kormilev coll., Drake coll. (USNM); 1♂, Santiago, San Bernardo, XII-[19]49, Kormilev coll., Drake coll. (USNM); 1♂ 2♀, Santiago, Maipo, San J. de Maipo, 28-XII-1979, N. Zambrano col. (USNM); 2♂ 1♀, Santiago, Maipo, Rio Colorado, 23-II-1980, N. Zambrano col. (USNM); 1♂, Santiago, Maipo, Rio Colorado, 12-II-1984, L.E. Peña col., Drake coll. (USNM); 3♂ 3♀, Santiago, Cuesta El Melón, 17-XII-1980, L.E. Peña col., Drake coll. (USNM); 8♂ 3♀, Santiago, La Obra, I-1979, L.E. Peña col., Drake coll. (USNM); 7♂ 3♀, Santiago, Cantillana, 1700 m, XII-[19]81, M. Marin col., Drake coll. (USNM); 5♂ 4♀, same data, 2000 m (USNM); 4♂ 2♀, Santiago, El Manzano, 6-II-1983, Madariaga col., Drake coll. (USNM); 3♂ 1♀, Santiago, Aculeo, 22-III-1982, L.E. Peña col., Drake coll. (USNM); 6♂, Santiago, El Alfalfal, 31-I-1983, Drake coll. (USNM); 4♂, Santiago, La Dormida, 1200 m, 2-III-[19]82, M. Marin col., Drake coll. (USNM); 1♀, Santiago, Q. Macul, 27-II-1983, Madariaga col., Drake coll. (USNM); 1♂, Puchuncavi, 150 m, 3-III-1982, M. Marin col.,

Drake coll. (USNM); 1♂, Chacemo, W Temuco, 22-I-1983, Madariaga col., Drake coll. (USNM); 2♂, Santiago, La Pirámide, 13-I-1980 (USNM); 21♂ 8♀, same data, N. Zambrano col., Drake coll. (USNM); 4♂ 3♀, Santiago, Farellones, III-1983, Drake coll. (USNM). *O'Higgins Region:* 12♂ 4♀, Santiago, Maipo, El Toyo, 7/8-III-1981, N. Zambrano col. (USNM); 5♂ 5♀, O'Higgins, La Sepultura, XII-1985, Irarrazabal col., Drake coll. (USNM). *Maule Region:* 2♂ 4♀, Chile, Romeral, XII-1977 (MACN); 1♀, Chile, Curicó, 15 km E Curicó, C° Huela- Huelan, Zapallar, XII- [19]97, malaise, Barriga col. (MACN); 1♀ 1 nymph, Los Quenes, Rio Teno, 800 m, XI-[19]81, L.E. Peña col., Drake coll. (USNM); 2♂ 1♀, Curico, El Maqui, 800 m, II-1985, D. Veas col., Drake coll. (USNM); 5♂ 3♀, Talca, Tonlema, 14/21-XII-1984, Irarrazabal col., Drake coll. (USNM). *Bio Bio Region:* 1 nymph, Chile, Ñuble prov., Las Trancas, 16-I-1989, J.E. Barriga leg. (MACN); 1♂ 2♀, Chile, Curicó, Mina Bio-Bio, XII-[20]02, 2000m, B.A. Barriga col. (MACN); 1♂ 1♀, Bio Bio, Los Angeles, I-[19]53, Fritz col., Kormilev coll., Drake coll. (USNM); 2♂, Nuble, San Fabián de Alico, Fundo El Sauce, I-1986, L. Irarrazábal col. (USNM); 14♂ 13♀, Talca, Alto Vilches, XII-1979, L.E. Peña col., Drake coll. (USNM); 1♂, Chillán, Atacama, 18-III-1983, L.E. Peña col. (USNM); 1♂ 1♀, Concepción, Tome, II-1985, P. Salinas col. (USNM); 1♀, Chillan, Las Trancas, II-[19]81, L.E. Peña col., Drake coll. (USNM); 1♂, Chillán, Quirihue, 24-II-[19]77, Drake coll. (USNM). *Araucanía Region:* 1♀, Malleco, Pino Hachado, 28-I-[19]94, Pena & Ugarte cols., Drake coll. (USNM); 5♂, Parral, Malcho, I-1993, L.E. Peña col., Drake coll. (USNM); 1♂ 1♀, Parral, Digua, I-1993, L.E. Peña col., Drake coll. (USNM); 6♂ 3♀, Arauco, Contulmo, Manzanar, 16-XII-[19]85, Madariaga col., Drake coll. (USNM). *Los Ríos Region:* 5♂ 6♀, Valdivia, Purolon, 10-I-1986, Madariaga col., Drake coll. (USNM).

#### **Subfamily Emesinae Amyot & Serville**

The thread-legged bugs constitute a group of reduviids with a long and slender body, the fore coxal cavities opening anteriorly, with lateral campaniform sensilla on the fore tibia; and without ocelli (Weirauch, 2008). This subfamily is the most diverse in Chile; it is represented by four tribes, six genera, and 12 species.

#### **Key to the tribes of Emesinae from Chile: (modified from Wygodzinsky, 1966)**

1.- Simple claws; insertion of M limiting the dis-

cal cell on the r-m cross vein (Fig. 13) ..... Leistarchini  
 1'.- Claws with incisions or projections; migration of M along Sc + R (Fig. 14) ..... 2  
 2.- Spines on the under surface of fore tibia well developed; syngonapophysis of female well developed ..... 3  
 2'.- Spines on the under surface of fore tibia reduced, only with strong setae; syngonapophysis of female reduced ..... Ploiariolini  
 3.- Eyes small in macropterous and brachypterous, never surpassing dorsal or ventral margin of head in lateral view; beginning of postero-ventral series of fore femur distant from the base of the segment; hemelytron with only discal cell or accompanied by a much reduce subbasal cell; hind wings, M shifted to touch Cu directly for a short distance so as to eliminate the m-cu cross vein (Fig. 15) ..... Metapterini  
 3'.- Eyes large of winged forms, often surpassing dorsal margin of head in lateral view; beginning of postero-ventral series of fore femur inserted near base of the segment; hemelytron with two or three cells (discal, subbasal and basal cells); hind wings with m-cu well developed (Fig. 16) ..... Deliastrini

**Tribe Leistarchini Stål**

This tribe is comprised of winged, micropterous and apterous forms known from all zoogeographic regions. Twenty three genera are included but only one is found in the New World. The species shows small to large size (5-25 mm) specimens; they generally present a rather uniform color, rarely with more or less conspicuous markings; the hemelytra with a single cell and the hind wings with a transverse thickening; the pretarsi with short arolia, and the phallosoma with spinelike processes (Wygodzinsky, 1966).

**Ploiaria Scopoli**

1786 *Ploiaria* Scopoli, 1: 60. Type species: *Ploiaria domestica* Scopoli

This genus is comprised of a large number of species known from all zoogeographical regions (Maldonado Capriles, 1990). In America, it is represented by about 40 species (Wygodzinsky, 1966).

***Ploiaria chilensis* (Philippi)**

1862 *Stenolemus chilensis* Philippi, 21: 38 [Inter Chonchoral, Chillan]; Wygodzinsky 1966,

133: 177 [Juan Fernández Is., San Ambrosio Is.]; Maldonado Capriles 1990, 110 [Juan Fernández Is.]

1863 *Emesella dohrni* Signoret, 3: 587 [Chile]; Walker 1873a, 8: 148 [Chile]; Reed 1901, 5 (3): 67 [Cordillera de Santiago]; Porter 1932, 36: 192 [El Salto; Los Andes; Marga- Marga, Los Perales]; Porter 1939, 43: 185 [Chile: Copiapó]

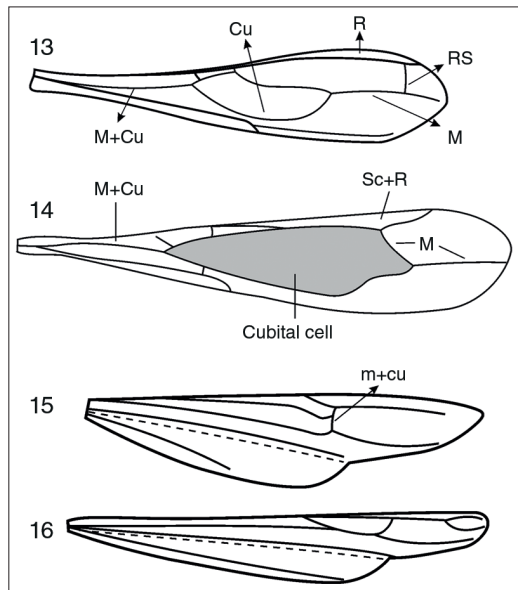
1896 *Ploiaria dohrni*: Lethierry & Severin, 2: 73 [Chile]; Porter 1932, 36: 192 [El Salto; Los Andes; Los Perales, Marga- Marga]; Wygodzinsky 1948, 21(3): 473 [Valparaíso, Juan Fernández]; Wygodzinsky 1951, 1: 113 [Valparaíso]

1923 *Ploearia huttoni*: Bergroth, 3: 398 [Juan Fernández: Masafuera]

1952 *Ploiaria chilensis*: Wygodzinsky, 2: 15, 18 [Masatierra: Bahía Cumberland; Gruta de los Patriotas. Masafuera: Quebrada de las Vacas; Quebrada de las Casas]; Wygodzinsky 1966, 133: 177 [Isla San Ambrosio]; Prado 2008, 57: 38 [continental Chile and Archipelago Juan Fernández]

**Geographic distribution:** Argentina, Australia, Brazil, Azores Is., Canary Is., Chile, Colombia, Madeira Is., Morocco, New Zealand, Peru, Spain, and USA (California) (Wygodzinsky, 1966).

**Comments:** This reduvid is highly sinantropic in Chile, it has been usually observed in houses of



**Figs. 13-16.** 13, Leistarchini, hemelytron; 14, *Empicoris vagabundus* (Linnaeus), Ploiariolini, hemelytron; 15, *Bergemesa pacifica* Wygodzinsky, Deliastrini; 16, Metapterini, hind wing.

Valparaíso, Metropolitan and O'Higgins Regions.

**Material studied:** *Valparaíso Region:* 1♂ 1 without abdomen, Valparaíso, 15-II-[19]44, in bedroom, E.P. Reed coll., Sinop, Hem. Chile Reed coll., Drake coll. (USNM); 2♂ 2♀, ex Sinop, Hem. Chile E.P. Reed coll., Drake coll. (USNM).

**Tribe Ploiariolini Van Duzee**

Small species (3–11 mm); generally with conspicuous markings; mostly winged, rarely micropterous or apterous forms. They are known from all zoogeographical regions, the tribe is comprised of 16 genera from which six are found in Central and South America: *Empicoris* Wolff, *Hybomatocoris* Wygodzinsky, *Malacopus* Stål, *Nesidiolestes* Kirkaldy (Hawaii), *Panamia* Kirkaldy, and *Saicella* Usinger (Hawaii) (Wygodzinsky, 1966).

**Key to the species of Ploiariolini from Chile: (modified from Melo & Faundez, 2011)**

- 1.- Hemelytra rugose, carinulate, discal cell bullate (Fig. 10); pronotum without distinct lateral carinae ..... *Hybomatocoris penai*
- 1'.- Hemelytra smooth or delicately rugose, with numerous small spots; pronotum with distinct lateral carinae (Figs. 17-18) ..... (*Empicoris*) ..... 2
- 2.- Lateral carina of posterior lobe of pronotum distinguishable only at anterior portion (Fig. 17); apex of pterostigma generally reddish; posterior margin of pygophore deeply emarginate ..... *E. rubromaculatus*
- 2'.- Lateral carina of posterior lobe of pronotum complete (Fig. 18); pterostigma only rarely red-

- dish at apex; posterior margin of pygophore not deeply emarginate ..... 3
- 3.- Hind wings conspicuously spotted apically; lateral carina of pronotum in most specimens with a small projecting process (Fig. 18); pterostigma more or less extensively darkened ... *E. errabundus*
- 3'.- Hind wings not spotted apically; lateral carina of pronotum lacking anterior projection; pterostigma darkened or not ..... 4
- 4.- Pterostigma with two or three dark spots; parameres bilobed apically (Fig. 19) ... *E. culiciformis*
- 4'.- Pterostigma uniformly whitish; parameres pointed apically (Fig. 20) ..... *E. vagabundus*

***Hybomatocoris* Wygodzinsky**

1966 *Hybomatocoris* Wygodzinsky, 133: 387. Type species: *Hybomatocoris penai* Wygodzinsky This is a monotypic genus and is endemic from Chile. It is easily recognized by the heavily wrinkled and bullate regions of the forewings.

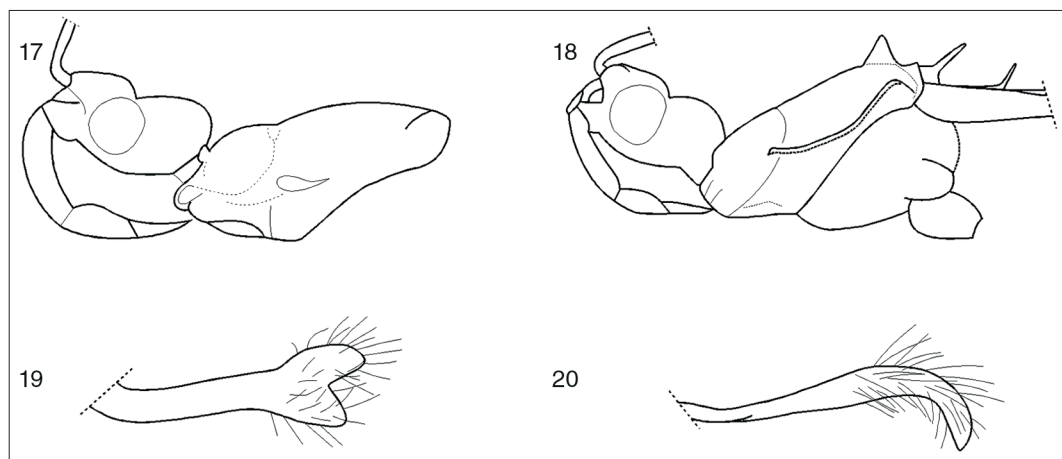
***Hybomatocoris penai* Wygodzinsky**

(Fig. 10)  
1966 *Hybomatocoris penai* Wygodzinsky, 133: 391 [Región Metropolitana: Santiago: Cerro San Ramón; El Manzano]; Maldonado Capriles 1990, 152 [Chile]; Prado 2008, 57: 38 [Chile]

**Geographic distribution:** Chile.

**Comments:** This species was previously known just from the Metropolitan Region, here we extend its range to the north in Valparaíso Region and to the south in Maule Region.

**Material studied:** *Valparaíso Region:* 1♂, El Cobre Q. El Soldado, P. Valparaíso, 8-VIII-1968,



**Figs. 17-20.** 17, *Empicoris rubromaculatus* (Blackburn), lateral view of head and pronotum; 18, *E. errabundus* (Say), lateral view of head and pronotum; 19, *E. culiciformis* (De Geer), paramere; 20, *E. vagabundus* (Linnaeus), paramere.

Berlesse funnel, C.W. O'Brien col. (USNM). *Maule Region*: 5♀, Curicó, El Relvo, 20 km E Potrero Grande, 1100 msnm, 3-IV-2004, Barriga col. (MACN).

### ***Empicoris Wolff***

1811 *Empicoris Wolff*, 5. Type species: *Gerris vagabundus* Linné

This genus is known from all zoogeographical regions; in the New World it is represented by 16 species (Gil-Santana *et al.*, 2005; Melo & Faundez, 2011).

### ***Empicoris rubromaculatus* (Blackburn)**

(Fig. 17)

1889 *Ploiariodes rubromaculatus* Blackburn, 3: 349 [Hawaii: Mauna Loa]; Bergroth 1923, 3: 398 [Juan Fernández: Masatierra]

1952 *Empicoris rubromaculatus*: Wygodzinsky, 2: 15, 19 [Juan Fernández; Masatierra]; Wygodzinsky 1966, 133: 383 [Juan Fernandez]; Montero & Chavarría 1969 [central Chile]; Putshkov *et al.* 1999, 35(1): 61 [Juan Fernández Is., Rancagua; Ramagua; Contaluso]; Prado 2008, 57: 38 [continental Chile and Archipelago Juan Fernández]; Melo & Faundez 2011, 51(1): 13. [Maule Region: Curicó: 20 km E Potrero Grande, Fundo El Coihue; 5 km E Potrero Grande, camino al Relvo; El Relvo, 20 km E Potrero Grande]

**Geographic distribution:** This species has a Pantropical distribution, although it is also distributed in subtropical and tempered regions (Putshkov *et al.*, 1999). In America it has been recorded from Argentina, Brazil, Colombia, Cuba, Jamaica, Puerto Rico, Uruguay, Venezuela, and the contiguous USA, and it is known also from Hawaii (McAtee & Malloch, 1925; Wygodzinsky, 1966; Putshkov & Putshkov, 1996; Forero, 2006; Melo & Faundez, 2011).

**Comments:** This is a very variable species, especially in coloration and size. In continental Chile it is known from O'Higgins and Maule Regions, here we extend its northern limit to the Metropolitan Region.

**Material studied:** *Metropolitan Region*: 1♀, Santiago, San Juan de Maipo, 950 m, 10-II-1986, L.E. Peña col., Drake coll. (USNM); 1♂, Chile, in garlic bulbs, intercept N. Orleans, 22-VI-[19]37 (USNM). *Maule Region*: 1♂ 2♀ 1 nymph, Chile, Curicó: 20 km E Potrero Grande, Fdo. El Coihue, 23-V-2004, leg. J.E. Barriga, fogging s/ *Podocarpus saligna*, 1035 msnm, 35°10'739"S- 57° 800"

W (MACN); 2♂ 1♀, 1 without abdomen, same data, 25-V-2004 (MACN); 1♀, 5 km E Potrero Grande, camino al Relvo, 29-XII-2003, fogging s/ *N. dombeyi*, 35°12'21.7"S- 70°57'45.6"W, leg. J.E. Barriga (MACN); 1♀ 1 without abdomen, El Relvo, 20 km E Potrero Grande, 35°11'13"S- 70°56'7"W, 3-II-2004, J.E. Barriga col., fogging s/ *Nothofagus dombeyi* (MACN); 6♂ 4♀ 3 nymphs, El Relvo, 20 km E Potrero Grande, 1100 msnm, 35°11'13"S- 70°56'7"W, fogging s/ *Nothofagus dombeyi*, 3-V-2004, J.E. Barriga col. (MACN); 6♂ 4♀ 5 nymphs, same data, 24-V-2004 (MACN); 1♂, same data, 24-I-2004 (MACN); 1♀, same data, 16-I-2004, fogging s/ *N. dombeyi*, *C. hystrix*, *Chusquea culeau* y retamo (MACN); 1♂ 1 nymph, same data, 14-I-2004, fogging s/ *Lomatia dentata*, *Nothofagus obliqua* (MACN); 1♂, 20 km E Potrero Grande, El Relvo, 8-II-2004, fogging s/ *Nothofagus dombeyi*, 35°11.13'S- 79°56.7'W, leg. J.E. Barriga (MACN); 2♀, C° Huela- Huelan, 10 km E Curicó, III-1998, Malaise, Barriga col. (MACN); 3♀, Potrero Grande, 10-IX-1997, leg. J.E. Barriga (MACN).

### ***Empicoris errabundus* (Say)**

(Fig. 18)

1832 *Ploiaria errabunda* Say: 34 [USA]

2011 *Empicoris errabundus*: Melo & Faundez, 51(1): 12 [Maule Region: Curicó: Cerro Huela-Huelan, Zapallar; Zapallar, 15 km E Curicó]

**Geographic distribution:** This species is known from Argentina, Brazil, Canada, Chile, Guatemala, Jamaica, Mexico, Paraguay, Peru, and southern and western USA (Wygodzinsky, 1966; Maldonado Capriles, 1990; Melo & Faundez, 2011).

**Material studied:** *Maule Region*: 1 without abdomen, Curicó: C° Huela- Huelan, Zapallar, I-1998, Malaise, Barriga col. (MACN); 1♂, Zapallar, 15 km E Curicó, Malaise, II-1998, Barriga col (MACN).

### ***Empicoris culiciformis* (De Geer)**

(Fig. 19)

1773 *Cimex culiciformis* De Geer, 3: 223 [France]

1966 *Empicoris culiciformis*: Wygodzinsky, 133: 371 [Chile]; Maldonado Capriles 1990, 147 [Chile]; Prado 2008, 57: 38 [Chile]; Melo & Faundez 2011, 51(1): 14 [Chile]

**Geographic distribution:** With a cosmopolitan distribution, this species is widely distributed in Europe, northern Africa, eastern and middle Asia (Wygodzinsky, 1966; Maldonado Capriles,



1990; Putshkov & Putshkov, 1996; Putshkov *et al.*, 1999). According to McAtee and Malloch (1925) this species is frequent in North America, it has also been recorded in South America from Argentina and Chile without an exact locality (Wygodzinsky, 1966; Maldonado Capriles, 1990; Prado, 2008; Melo & Faundez, 2011).

### ***Empicoris vagabundus* (Linné)**

(Fig. 20)

1758 *Cimex vagabundus* Linné, 1: 450 [Europe]

2011 *Empicoris vagabundus*: Melo & Faundez 51(1): 16 [Metropolitan Region: Cajón del Maipo; Maule Region: Altos de Vilches; Curicó, El Relvo, 20 km E Potrero Grande]

**Geographic distribution:** This species has a Holarctic distribution (Europe from Scandinavia to the Mediterranean, from England to southern Russia), Siberia, Canada (British Columbia), and the USA (Putshkov & Putshkov, 1996; Putshkov *et al.* 1999). Recently it has been recorded from Andean Chile (Melo & Faundez, 2011).

**Material studied:** *Maule Region*: 4♀, Curicó, El Relvo, 20 km E Potrero Grande, 14-I-2004, J.E. Barriga col., 35°11'0.8"S- 70°55'57.5"W, fogging *s/ Nothofagus dombeyi* (MACN); 1♀, same data, fogging *s/ Lomatia dentata*, *Nothofagus obliqua* (MACN); 2♀, El Relvo, 20 km E Potrero Grande, 3-II-2004, J.E. Barriga col., 35°11'13"S- 70°56'7"E, fogging *s/ Nothofagus dombeyi* (MACN).

### ***Species insertae sedis***

#### ***Lutevopsis chilensis* Porter**

1923 *Lutevopsis chilensis* Porter, 25: 505 [Región IX: Cautín]; Porter 1932, 36: 191 [Cautín prov.; Quilpué; Marga- Marga, Los Perales]; Porter 1938a, 42: 166 [Región IV: Coquimbo: La Serena; Región IX: Cautín; Región V: Quilpué, Marga- Marga]; Wygodzinsky 1949, 1: 34 [Chile]; Wygodzinsky 1966, 133: 419 [Chile]; Prado 2008, 57: 39 [Chile]

**Geographic distribution:** Chile.

**Comments:** According to Wygodzinsky (1966), this species possibly belongs to *Empicoris* by its conspicuous color pattern; we were unable to find a specimen matching with the description of Porter, so we keep the species as *insertae sedis*.

### **Tribe Deliastrini Villiers**

Small to medium size species (6–5 mm); concolorous or with inconspicuous markings; winged

and apterous forms. Endemic from Central and South America, includes three genera and ten species. Wygodzinsky (1966) noted that the restricted range, as well as the small number of genera in the tribe, shows that the Deliastrini are a relict taxon; and that it is considered to be the plesiomorphic component of a group containing the Deliastrini and the more specialized Metapterini.

### ***Bergemesa Wygodzinsky***

1950 *Bergemesa* Wygodzinsky, 150: 30. Type species: *Deliastris brachmanni* Berg.

This genus is endemic from South America; and it is more diverse in the semiarid region of central Argentina (Wygodzinsky, 1966). It includes six species, one endemic from Chile.

### ***Bergemesa pacifica* Wygodzinsky**

1950 *Bergemesa pacifica* Wygodzinsky, 150: 42 [Chile]; Wygodzinsky 1966, 133: 423 [Región Metropolitana: Santiago: Renca]; Maldonado Capriles 1990, 81 [Chile]; Prado 2008, 57: 38 [Chile]

**Geographic distribution:** Chile.

**Comments:** This is an endemic species from the semiarid central Chile. Here we add the first records for this species from Maule Region, extending its range to the south.

**Material studied:** *Metropolitan Region*: 1 without abdomen, Santiago, Quilicura, X-1979, L.E. Pena G. col., Drake coll. (USNM); 1♂ 1♀, same locality, VIII-[19]79, Drake coll. (USNM); 1♀, Santiago, La Pirámide, 13-I-1980, N. Zambrano col. (USNM). *Maule Region*: 1♀, Curicó, C° Huelan- Huelan, 10 km E Curicó, IV-1998, Malaise, Barriga col. (MACN).

### **Tribe Metapterini Stål**

Small to very large species (6–42 mm); generally concolorous, rarely with conspicuous markings; predominantly micropterous and apterous forms. Known from all zoogeographic regions; includes 26 genera seven of which (*Barce* Stål, *Emesaya* McAtee & Malloch, *Emesella* Dornh, *Ghilianella* Spinola, *Ghinallelia* Wygodzinsky, *Liaghinella* Wygodzinsky, and *Pseudometapterus* Wygodzinsky) are found in America (Wygodzinsky, 1966).

### ***Pseudometapterus* Wygodzinsky**

1966 *Pseudometapterus* Wygodzinsky, 133: 547. Type species: *Ghilianella argentina* Berg.

This genus contains part of the New World species previously included in *Metapterus* Costa;

currently known from the Nearctic, Neotropical and Andean regions. Several groups of species can be recognized, the largest, the *argentinus* group, is composed mostly by southern South American species. Many of these species are very similar and may prove to be geographical races only (Wygodzinsky, 1966). The group of species known from Chile reaches the forest region of southern Chile, in the Araucanian subregion.

**Key to the species of *Pseudometapterus* from Chile:**

- 1.- Ventral surface of head with a uniform or almost uniform pale stripe which occupies entire interocular space; lateral piceous fascia entire ..... *P. frutillarensis*
- 1'.- Ventral surface of head with conspicuous dark stripes and spots, or lateral dark fascia conspicuously interrupted behind eyes ..... 2
- 2.- Lateral piceous fascia of head widely interrupted behind eyes ..... *P. addititius*
- 2'.- Lateral dark fascia of head not interrupted ..... 3
- 3.- Fore femur annulated with dark and light; seventh sternite of female extending to apex of abdomen, covering genitalia from below, eight tergite subrectangular, its apical emargination wide; parameres subcylindrical, slightly narrowed toward apex ..... *P. kuscheli*
- 3'.- Fore femur striped longitudinally with light and dark; seventh sternite of female not reaching the apex of abdomen, eight tergite long and slender, with very narrow incision apically; parameres laterally compressed, strongly widened apically ..... *P. masatierrensis*

***Pseudometapterus frutillarensis* Wygodzinsky**

1966 *Pseudometapterus addititius* Wygodzinsky, 133: 553 [Región X: Osorno, Frutillar, Lago Lanquihue]; Maldonado Capriles 1990, 137 [Chile]; Prado 2008, 57: 39 [Chile]

**Geographic distribution:** Chile.

**Comments:** This species presents the most southern distribution of the genus, and it is endemic from Chile, here we extend its northern distribution to the Bio Bio Region.

**Material studied:** *Bio Bio Region:* 1♀, Las Trancas, Cord. Chillán, 9/30-XII-1975, P. Vidal G.H. col., coll. P. Vidal G.H. (MACN).

***Pseudometapterus addititius* (Wygodzinsky)**

1952 *Metapterus addititius* Wygodzinsky, 2:

16 [Juan Fernández Island, Masatierra, Plazoleta del Yunque]

1966 *Pseudometapterus addititius*: Wygodzinsky, 133: 550 [Masatierra: Juan Fernandez Is.]; Maldonado Capriles 1990, 136 [Juan Fernández Is.]; Prado 2008, 57: 39 [Archipelago Juan Fernández]

**Geographic distribution:** Chile.

**Comments:** This species is restricted to the insular portion of Chile in Juan Fernández Archipelago.

***Pseudometapterus kuscheli* (Wygodzinsky)**

1951 *Metapterus kuscheli* Wygodzinsky, 1: 126 [Masatierra: Juan Fernández; Miradero de Selkirk; M. Yunque]; Wygodzinsky 1952, 2: 15, 18 [Masatierra, Miradero de Selkirk, Yunque, Plazoleta del Yunque]; Maldonado Capriles 1990, 137 [Juan Fernández Is.]

1966 *Pseudometapterus kuscheli*: Wygodzinsky, 133: 555 [Juan Fernández Islands, Masatierra]; Prado 2008, 57: 38 [Archipelago Juan Fernández]

**Geographic distribution:** Chile.

**Comments:** This species is restricted to Juan Fernández Archipelago.

***Pseudometapterus masatierrensis* (Wygodzinsky)**

1951 *Metapterus masatierrensis* Wygodzinsky, 1: 124 [Masatierra: Juan Fernández; Miradero de Selkirk]; Wygodzinsky 1952, 2: 15, 18 [Masatierra, Plazoleta del Yunque]

1966 *Pseudometapterus masatierrensis*: Wygodzinsky, 133: 555 [Masatierra: Juan Fernández Is.]; Maldonado Capriles 1990, 137 [Juan Fernández Is.]

2008 *Pseudometapterus mastierrensis* (sic): Prado, 57: 39 [Archipelago Juan Fernández]

**Geographic distribution:** Chile.

**Comments:** This species is restricted to Masatierra Island in Juan Fernández Archipelago.

**Subfamily Harpactorinae Reuter**

Harpactorinae is the largest subfamily of Reduviidae, comprising more than 300 genera and more than 2000 species (Weirauch & Munro, 2009). It is characterized by the presence of a quadrate cell in the fore wing, the absence of the dorsal connexival suture, the reduction of the vermiform gland, and absence of the metathoracic scent glands (Weirauch, 2008).

**Atrachelus Amyot & Serville**

1843 *Atrachelus* Amyot & Serville: 374, 378.  
Type species: *Reduvius cinereus* Fabricius.

This genus can be recognized by the small size (6- 15 mm), the dull color with short adpressed setae, the spined antennal tubercles and humeral angles, the long wings extending beyond abdomen, the fore and hind femora subequal in length, the pygophore with a median process, and the absence of parameres (Elkins, 1954). It includes 11 species ranging from USA to Argentina and Chile (Melo & Coscarón, 2005a).

**Atrachelus cinereus (Fabricius)**

1796 *Reduvius cinereus* Fabricius: 545 [Carolina]; Walker 1873a, 8: 137 [Chile]

1848 *Atrachelus cinereus*: Wygodzinsky, 8: 220 [Chile]; Maldonado Capriles 1990, 167 [Chile]

1863 *Atrachelus curvidens* Signoret, 3: 580 [Chile]; Stål 1872, 10: 78 [Chile]; Reed 1901, 5 (3): 64 [Chile]

2008 *Atrachelus cinereus cinereus*: Prado, 57: 39 [Chile]

**Geographic distribution:** From USA to Argentina.

**Comments:** This is the best known and widely distributed species of the genus (Elkins, 1954); it includes three subspecies that are not easy to separate because of the great variability of the characters.

**Zelus Fabricius**

1803 *Zelus* Fabricius: 281. Type species: *Cimex longipes* Linné

The genus *Zelus* is one of the most speciose genera among the New World Harpactorinae (Baena, 2010); Hart (1986, 1987) revised the genus from North America and West Indies, and Maldonado Capriles (1990) catalogued ca. 60 species ranging from southern Canada to central Argentina.

**Zelus renardii Kolenati**

1857 *Zelus renardii* Kolenati, 29: 460. [USA: California]; Curkovic *et al.* 2004, 34: 164 [Región Metropolitana: Buin; Colina; Maipú; Peñaflor; la Pintana; San Bernardo (Chena); Pique; Río Clarillo; Curacaví (Los Lingues). Región Quinta. Región Sexta]; Prado 2008, 57: 39 [Chile]; Weirauch *et al.* 2012, 95(3): 642 [O'Higgins, Valparaíso, Santiago in Metropolitan Region, from of 33° to 35°S]

2004 *Zelus cervicalis*: Elgueta & Carpintero, 68: 99 [Missidentification. From Fifth to Sixth

sections. Valparaíso: San Felipe; Los Andes; barrera fitosanitaria de Los Andes. Metropolitana: Colina; Los Condes; San Gabriel; Pirque; Lonquén; Santa Ana de Chena; Calera de Tango; Buin. General Bernardo O'Higgins: Rancagua; Reserva Nacional Río de Los Cipreses]

**Geographic distribution:** Chile, Guatemala, Greece, Hawaii, Jamaica, Johnston Is., Mexico, Philippines, Samoa, Spain, and USA (SW) (Maldonado Capriles, 1990).

**Comments:** The native range of this species is mainland North and Central America, but it has been also reported to have invaded Hawaii (Kirkaldy, 1903, 1910; Zimmermann, 1948); Johnston Is., Samoa, and the Philippines (Hart, 1986); Chile (Curkovic *et al.*, 2004; Elgueta & Carpintero, 2004); Greece (Davranoglou, 2011), and Spain (Vivas, 2012).

**Subfamily Hammacerinae Stål**

This is a small subfamily characterized by the presence of a blunt process on the right maxillary stylet; the pedicellus with membranous rings inserted between sclerotized areas; the hind wing with a broad postcubital sector; hook-shaped parameres; endosomal struts absent; genital sclerites hidden between sternite 7 and tergite 8; proximal portion of the lateral spermathecal duct has a very elaborate and thick wall; they also show a bifid scutellar posterior process (Weirauch, 2008).

**Microtomus Illiger**

1807 *Microtomus* Illiger, 2: 240. Type species: *Cimex purcis* Drury

This genus is comprised of 12 species known from southern North America to southern South America (Melo & Coscarón, 2005b). It is characterized by the long anteocular region of head, the granulated surface of head, pronotum and legs, and by the presence of dense hairy patches on abdominal sterna.

**Microtomus gayi (Spinola)**

1852 *Hammacerus gayi* Spinola, 7: 211 [Chile]; Signoret 1863, 3: 579 [Chile]; Reed 1901, 5 (2): 47 [southern provinces of Chile]; Porter 1930, 34: 296 [La Ligua; Osorno]

1858 *Hammacerus chilensis* Stål, 15: 443 [Chile]

1873a *Hammatocerus gayi*: Walker, 8: 66 [Chile]; Stål 1872, 10: 100 [Chile]; Lethierry &

Severin 1896, 2: 143 [Chile]; Porter 1924: 82 [termas del Manzanar, 800 m a.s.l., near Curacautín; la Ligua; Marga- Marga]; Porter 1929, 33: 304 [Prov. Aconcagua, Marga- Marga, Fundo Los Perales]

1926 *Microtomus gayi*: Stichel, 187 [Temoro; Santiago; Contulmo; Araucanía]; Costa Lima 1935, 7: 318 [Chile]; Wygodzinsky 1949, 1: 51 [Chile]; Maldonado Capriles 1990, 157 [Chile]; Giacchi & Coscarón 1992, 47: 67. [Victoria; Los Angeles, Bío Bío; Cordillera de Pimehue; Arauco: Contulmo; Lanfeteu; Pto. Montt; L. Caburgua]; Prado 2008, 57: 39 [Chile]

**Geographic distribution:** Argentina and Chile.

**Comments:** This species can be easily distinguished by the uniformly colored hemelytra and by the bicolored connexivum (anterior half brown, posterior half red). Stichel (1926) described a second variety and named it *signoreti* characterized by the presence of a pale spot on hemelytra surrounding the posterior process of scutellum. *Microtomus gayi gayi* is distributed from Valparaíso to Los Lagos Regions, while *M. gayi signoreti* is distributed from the Metropolitan to Araucanía regions. As both subspecies overlap distributions further analyses are needed in order to resolve the status of both taxa.

**Material studied:** *M. gayi gayi*. *Metropolitan Region*: 4♂ 1♀ 3 nymphs, Santiago, 8-IV-1948, E.P. Reed col., Drake coll. (USNM); 1 without abdomen, El Manzano, 1976 (MACN). *Maule Region*: 1♂, Romeral, XII-1977 (MACN); 1♀, Cord. Parral, Estero Leiva, X/XII-1953, Villalobos col., Drake coll. (USNM); 1♂ 3 nymphs, Maule, Tregualemu, I-1993, L.E. Peña col. (USNM). *Bío Bío Region*: 1♀, Bio Bio (USNM); 1♀, Las Trancas, Chillan, I- [19]81, Peña leg. (MACN); 4♂ 4♀ 3 nymphs, Valdivia, II-[19]79, Krahmer col., Drake coll. (USNM); 1♂ 2♀, same locality, IV-1979, A. Krahmer col., Drake coll. (USNM); 1 nymph, Bio Bio, Guariluhue, II-[19]85, P. Salinas col. (USNM); 1 nymph, Bío Bío, Sa. Velluda, 1100 m, I-[19]91, L.E. Peña col. (USNM); 1♂, Bio Bio, XII-1900, P. Herbst col., Drake coll. (USNM). *Araucanía Region*: 1♂, Peillem- Pille, 600- 800 m, Nahuelbutá W, Arauco, 14/20-I-[19]54, L.E. Peña col., Drake coll. (USNM); 1♀, Caramavida, Nahuelbuta W, Arauco, 750 m, 1/10-I-[19]54, L.E. Peña col., Drake coll. (USNM); 2♂, Arauco, Caramavida, 37°42'S- 73°13'W, 10-II-1953, L.E. Peña col., J.C. Lutz coll. (USNM); 1 nymph, Lag. Jesús María, Lonquimay, I-[19]82, Philipi col. (USNM); 2♀, Villarica, Ajunahue, III-1977, J. Traimk

col., Drake coll. (USNM); 1♂ 3♀, Temuco, I-1906, P. Herbst col., Drake coll. (USNM); 1♂, ex E.C. Reed Chilean Coll., Sinop. Hem. Chile, Drake coll. (USNM); 1♂ 2♀, P. Malleco, 6 km W Angol, 11-II-1968, at light, L. & C.W. O'Brien cols. (USNM); 1♂, Angol, 28-XI-1946, J. Perez col. (USNM); 1♀, same locality, 29-XI-1935, J.C. Lutz coll. (USNM); 1♂, same locality, 17-II-1928, J.C. Lutz coll. (USNM); 2♂, Nehuentue, 5-IV-1929, J.C. Lutz coll. (USNM); 1♀, Victoria, 15-II-1929 (USNM); 2♂ 1♀, Temuco, Chacamo (W), II-1986, P. Salinas col. (USNM); 5 nymphs, Malleco, Curacautín, III-1986, Madariaga col. (USNM); 1♀, Arauco, Butamalal, 25-II-1953, L.E. Peña col., J.C. Lutz coll. (USNM). *Los Ríos Region*: 1♂ 3♀, Valdivia, Panguipulli, 19-II-1985, P. Salinas col. (USNM); 4♂ 7♀ 5 nymphs, Osorno, Puyehue, Anticura, 26/31-VIII-[19]83, L.E. Peña col. (USNM); 1 nymph, Correntoso, Llanquihue, I-1930, L.E. Peña col., Drake coll. (USNM); 1♂ 3 nymphs, Llanquihue, S Lago Chapo, Hornohyincó, XII-[19]68, L. Peña col., Drake coll. (USNM); 2♂ 2♀, Pucatrihue, Costa, Osorno, II-1967, L.E. Peña col., Drake coll. (USNM); 1♂ 1♀, Correntoso Riv. nr Calbuco Vulcano, prov. Llanquihue, 21-II-1952, L.E. Peña col., J.C. Lutz coll. (USNM). *Microtomus gayi signoreti*: 1♂, Chile, P.R. Uhler coll. (USNM). *O'Higgins Region*: 1♂, Linares prov., Estero de Leiva, 1100 m, 6-IV-1953, L.E. Pena col., J.C. Lutz coll. (USNM). *Maule Region*: 2♂ 1♀, Cord. Parral, Estero Leiva, X/XII-1953, Villalobos col., Drake coll. (USNM); 1♂, same locality, 9-XII-[19]53, L.E. Pena col. (USNM); 2♀, Chillán, Las Trancas, I/III-1984, S. Ocare col. (USNM); 1♀, Nuble, Las Trancas, 1100 m, III-[19]77, S. Ocare col. (USNM); 1♀, Cord. Nuble, Recinto, XI-1952, M. Rivera col., Drake coll. (USNM); 1♂, Cord. Chillán, La Invernadera, I-1969, L.E. Peña col., Drake coll. (USNM).

### Subfamily Ectrichodiinae Amyot & Serville

This subfamily is one of the largest within the Reduviidae, including approximately 528 species in 117 genera (Maldonado Capriles, 1990). Most of them are found in Asia, the Pacific islands and Africa; in Central and South America it is represented by 22 genera and 135 species (Dougherty, 1995). In Chile, only two genera and species are found.

### *Racelda Signoret*

1863 *Racelda* Signoret, 3: 579. Type species: *Racelda alternans* Signoret

This genus is comprised of five species from

Argentina, Brazil, Chile, and French Guiana (Carpintero & Maldonado Capriles, 1996). Species are colored with different shades of brown, ornamented with blackish or yellow; they show a remarkable sexual dimorphism: females are distinguished by the lack of wings, the absence of ocelli, and the small eyes (Carpintero & Maldonado Capriles, 1996). These strongly modified females make it impossible to identify them to species level without its association with males (Dougherty, 1995).

### ***Racelda alternans* Signoret**

(Figs. 11-12)

1863 *Racelda alternans* Signoret, 3: 579 [Chile]; Stål 1872, 10: 103 [Chile]; Lethierry & Severin 1896, 2: 133 [Chile]; Reed 1901, 5 (2): 48 [Chile]; Porter 1924: 82 [Termas del Manzanar, 800 m a.s.l., near Curacautín]; Porter 1929, 33: 304 [Prov. Aconcagua, Marga-Marga, Fundo Los Perales; La Ligua; Curacautín]; Wygodzinsky 1949, 1: 24 [Chile]; Carpintero 1980, 14: 23 [Chile]; Maldonado Capriles 1990, 69 [Chile]; Dougherty 1995, 121: 241 [Chile]; Carpintero & Maldonado Capriles 1996, 323: 138 [Chile]; Prado 2008, 57: 39 [Chile]

1873a *Ectrichodia alternans*: Walker, 8: 61 [Chile]

**Geographic distribution:** Argentina and Chile.

**Comments:** This species can be easily distinguished by the characteristic color pattern of thorax of males (fig. 11). It has been previously recorded from the central to southern regions of Chile; here we add new records which extend its distribution to the north (Coquimbo to Araucanía Regions). *Racelda alternans* inhabits from mediterranean climates in the north and center of Chile to very humid and forested habitats in the south.

**Material studied:** *Coquimbo Region*: 1♀, Coquimbo, Los Vilos, Quereo, V-1984, G. Carrasco col. (USNM); 4♀, Coquimbo, Fray Jorge Parque Nacional, 20-VI-1968, L. & C.W. O'Brien cols. (USNM). *Valparaíso Region*: 1♀ 1♂, Placilla, I-2009 (EIFC); 1♀, Talanquén, Aconcagua, 2-VI-1982 (USNM). *Metropolitan Region*: 1♂, P. Santiago, 11 km S S. Melipilla, 300', 16-IX-1967, L. & C.W. O'Brien cols. (USNM); 1♀, Santiago, XII-[19]76, L. Peña col., Drake coll. (USNM); 1♀, El Canelo, Cord. Santiago, 26-XI-1954, L.E. Peña col. (MACN); 4 females, Santiago, El Canelo, XII-[19]76, L.E. Peña col., Drake coll. (USNM); 1♀, same locality, XII-[19]50, Drake coll. (USNM); 1♂, same locality,

18-IX-1981, Drake coll. (USNM); 1♂, Santiago, La Obra, IX-[19]78, L.E. Peña col., Drake coll. (USNM). *O'Higgins Region*: 1♀, Rancagua, XI-2008, C. Iglesias col. (EIFC); 1♀, La Goyana W. Graneros, 1700 m, XI-[19]81, M. Marin col., Drake coll. (USNM). *Maule Region*: 1♀, Talca, Alto Vilches, 19-XII-1982, Drake coll. (USNM); 1♂, same locality, XII-1979, L.E. Peña col. Drake coll. (USNM); 2♂, Maule, W. Cauquenes, X-1983, L.E. Peña col. (USNM); 1♂, Maule, Cobquecura, 7-XI-1993, Peña & Ugarte cols. (USNM); 1♂ 2♀, Maule, Altos de Vilches, IX-2003 (EIFC). *Bío Bío Region*: 9♀, Chillán, Las Trancas, I-[19]87, L.E. Peña G. col. (USNM); 1♀, same locality, 24/26-XI-1994, L.E. Peña G. col. (USNM); 2♀, same locality, III-1984, D. Veas col. (USNM); 1♀, Cord. Nuble, Las Trancas, Shangri-La, 1600 m, 19/22-I-[19]79, L.E. Peña col., Drake coll. (USNM); 1♂, Chillán, Shangri-La, 1600 m, 15-XII-1983, L.E. Peña col. (USNM); 1♀, ex E.C. Reed Chilean coll., Sinop. Hem. Chile, Drake coll. (USNM); 3♂, Bio Bio, Ralco, 21-XI-1994, L. Peña & Escobar cols. (USNM). *Araucanía Region*: 1♀ 1 nymph, 20 km E Pucón, Ojos del Caburgua, I- [19]87 (MACN); 1♀, Malleco, Malacahuello, I- [19]87 (MACN); 1♀, Arauco, 18 km N Tres Pinos, I- [19]87 (MACN); 1♀ 1 nymph, Malleco, Termas de Tolhuaca, 15-III-1986, Madariaga col. (USNM); 1♀, Malleco, Victoria, 22-XII-1985, Madariaga col. (USNM); 3♀, Malleco, Las Raíces, II-1975, L. Peña col. Drake coll. (USNM); 1♀, same data, 25-XII-[19]76 (USNM); 1♀, same locality, 1100- 1200 m, II-[19]79, L.E. Peña col. Drake coll. (USNM); 1♂, Malleco, Cord. Las Raíces, II-1975, L.E. Peña col., Drake coll. (USNM); 2♂ 1♀, Malleco, Rio Blanco, II-[19]95, L. Peña & A. Ugarte cols. (USNM); 1♀, Malleco, Malacahuello, 8/15-XII-1985, Zambrano col. (USNM).

### **Genus *Rhiginia* Stål**

1859a *Rhiginia* Stål, 16: 176, 181. Type species: *Reduvius lateralis* Lepeletier & Serville.

This genus includes about 16 species from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, southern USA, and Venezuela (Dougherty, 1995). The species are mostly blackish, sometimes with metallic luster and ornamented with various shades of red, yellow or orange (Carpintero & Maldonado Capriles, 1996).

### ***Rhiginia immarginata* Stål**

1866 *Rhiginia immarginata* Stål, 23(9): 302

[Ecuador]

1897 *Ectrichodia* (?) *immarginata*: Breddin: 9

[Valdivia]

2008 *Rhigidia immarginata* [sic]: Prado, 57: 39 [Valdivia]

**Geographic distribution:** Chile, Ecuador, and Peru (Dougherty, 1995).

**Comments:** The presence of this species in Chile seems strange and it was not possible to corroborate it, as no specimens were found in the collections examined.

### Subfamily Triatominae Jeannel

#### Key to the species of Triatominae from Chile:

- 1.- Large size species (ca. 30 mm length), dorsal and ventral plates of connexiva fused, species rarely braquipterous ..... *Triatoma* ..... 2
- 1'.- Small to medium size species (15–22 mm length), dorsal and ventral plates of connexivum united by a membrane in females, wing polymorphism in males and micropterous females ..... *Mepraia* ..... 3
- 2.- Legs black except yellow trochanters and adjacent regions of femora; femora unarmed; yellow markings on corium, legs and connexivum ..... *T. infestans*
- 2'.- Legs entirely black; fore and median femora with a pair of small subapical denticles; spots of connexivum red, orange or very rarely yellow, anterior pronotal lobe black, posterior pronotal lobe with reddish pattern ..... *T. rubrovaria*
- 3.- Small species, 15.5–19 mm; with two red spots on female urotergite II; Pan de Azúcar Island and coastal regions of Antofagasta (II) and Tarapacá (III) between 25°12'20"S 70°26'7"W and 26°10'10"S 70°40'3"W ..... *M. parapatrica*
- 3'.- Larger species, 19–21 mm; with one spot or absent on female urotergite 2 ..... 4
- 4.- Urotergites of females with brown spots; dark brown connexivum, brachypterous males ..... *M. gajardo*
- 4'.- Urotergites of females with a continuous reddish orange band; reddish connexivum, polymorphic wings in males ..... *M. spinolai*

### Genus *Mepraia* Mazza, Gajardo Tobar & Jörg

1940 *Mepraia* Mazza, Tobar & Jörg, 44: 3. Type species: *Triatoma spinolai* Porter

This genus includes three species known exclusively from Chile. It has been hypothesized

that the origin of the genus is related to the uplift of the Andes Cordillera (Moreno *et al.*, 2006), from an ancestor of the *Triatoma breyeri* complex that occurs in desert and semi-desert areas from Argentina, as well as all *Mepraia* species (Frias Lasserre, 2010).

### *Mepraia gajardo* Frías, Henry & González

1998 *Mepraia gajardo* Frías *et al.*, 71: 179 [Chile]; Prado 2008, 57: 39 [Chile]; Frías Lasserre 2004, 5: 2 [zona costera del desierto de Atacama]; Moreno *et al.* 2006, 6: 229 [Region I: Arica (18.5°S, 70.3°W), Iquique (20.3°S, 70.2°W); Region II: Tocopilla (22.2°S, 70.3°W), Antofagasta (23.7°S, 70.4°W)]; Calleros *et al.* 2010, 10: 222 [from 188 to 268S in the Chilean coastal desert of Regions I and II; Region I: Arica, Morro Arica; Caleta Vitor]; Frías Lasserre 2010, 39 (4): 572 [along the northern coast of Chile, between 18°S and 26°S]; Faúndez & Carvajal 2012, 50: 495-497 [Morro de Arica]; Campos *et al.* 2011, 11: 330 [Arica and Parinacota Region: Arica, El Morro (18°28'47"S- 70°19'27"W); Arica, Playa Corazones (18°28'47"S- 70°19'27"W); Caleta Vitor (18°45'45"S- 70°20'34"W); Caleta Camarones (19°12'16"S- 70°16'8"W)]; Campos *et al.* 2013a, 19: 232 [Arica and Parinacota Region: Corazones (18°28'47"S- 70°19'27"W); Caleta Vitor 18°45'45"S 70°20'34"W; Caleta Camarones (19°12'16"S- 70°16'8"W); Tarapacá Region: Río Seco 21°0'6"S 70°9'52"W; San Marcos (21°6'56"S- 70°7'30"W)]; Campos *et al.* 2013b, 13(1): 73 [Arica and Parinacota Region: Caleta Vitor (18°45'45"S- 70°20'34"W)]; Toledo *et al.* 2013, 88(2): 285 [Corazones (18°28'47"S- 70°19'27"W); Vitor (18°45'45"S- 70°20'34"W); Camarones (19°12'16"S- 70°16'08"W); Río Seco (21°00'6"S- 70°9'52"W); San Marcos (21°6'56"S- 70°7'30"W)]

**Geographic distribution:** Chile.

**Comments:** This species inhabits mostly in wild habitats (Frias *et al.*, 1998; Faúndez & Carvajal, 2012); and it has been found being infested with the vector of Chagas' disease (Carvajal *et al.* 2007; Botto-Mahan *et al.* 2008).

### *Mepraia spinolai* (Porter)

1933b *Triatoma spinolai* Porter, 37: 193 [Coquimbo: Vicuña]; Neiva & Lent 1936, 6: 178, 184 [Chile]; Gajardo Tobar 1938, 42: 134 [Elqui; Piuquenes, Paihuano]; Porter 1938b, 42: 155 [Paihuano]; Porter 1938c, 42: 155 [Paihuano]; Mazza *et al.* 1940, 44: 3 [Coquimbo: Elqui, Paihuano, Cordillera de los Piuquenes];

Neiva & Lent 1940b, 35: 355 [Coquimbo, Cruz Grande]; Neiva & Lent 1943, 39: 56 [near Vicuña]; Wygodzinsky 1949, 1: 76 [Chile]; Lent & Wygodzinsky 1979, 163: 334 [Chile, between 18°S–34°S]; Frías *et al.* 1987, 14: 156 [Chile, 18°S–34°S; Region IV: Flor del valle, Ovalle; Observatorio de la Silla, Ovalle; Ramadilla, Combarbalá; Reserva de Aucó, Illapel; Región Metropolitana: Colina]; Maldonado Capriles 1990, 560 [Chile]; Prado 2008, 57: 39 [Chile]

1939 *Triatoma chilena* Usinger, 7: 45 [Coquimbo: Cruz Grande]

1940 *Mepraia spinolai*: Mazza *et al.*, 44: 3 [Chile]; Lent *et al.* 1994, 89: 352 [desert zones of Chile]; Galvao *et al.* 1998, 93(1): 35 [Chile, from 18°S to 34°S, altitudinal range from sea level to 3000 masl]; Cattán *et al.* 2002, 97: 285 [Santiago: Colina]; Cepeda Pizarro & Pizarro Araya 2004, 3: 1 [IV Region Coquimbo, Elqui province, Valle de Elqui: El Molle (29°97.035'S–70°95.789' W, 450 msnm), Diaguitas (30°0.419'S–70°62.442'W, 1006 msnm), Pisco Elqui (30°15.854'S–70°49.565'W, 1507 msnm), Horcón (30°24.538'S–70°49.412'W, 1850 msnm)]; Frías Lasserre 2004, 5: 2 [entre la III Región a la Región Metropolitana]; Botto-Mahan *et al.* 2005, 100(3): 237 [Las Chinchillas National Reserve (31°30'S–71°06'W)]; Moreno *et al.* 2006, 6: 229 [Region III: Chañaral (29° S, 71.5°W); Region IV: Vicuña (30°S, 70.8°W), Combarbalá (31.2°S, 71°W), Illapel (31.6°S, 71.1°W), Region Metropolitana: San Felipe (32.7°S, 70.7°W), Til Til (33.2°S, 70.8°W)]; Bacigalupo *et al.* 2006, 134: 1232 [Región Metropolitana: Calera de Tango; Til-Til]; Campos *et al.* 2007, 104: 26 [IV Region: Las Chinchillas National Reserve (31°30' 03"S–71°06'20"W)]; Acuña-Retamar *et al.* 2009, 23: 107 [IV Region: Las Chinchillas National Reserve (31°30'S–71°06'W)]; Coronado *et al.* 2009, 81(4): 656 [Coquimbo Region: Las Chinchillas National Reserve (31°30'S–71°06'W)]; Frías Lasserre 2010, 39(4): 572 [Chile, between 26°S and 33°S]; Calleros *et al.* 2010, 10: 222 [Chilean interior, including the mountain areas of Regions III–V and Metropolitan Region, as well as on the Pan de Azúcar Island; Region III: Copiapó: Inca de Oro; Region IV: Choapa: Pueblo Hundido; La Loja; Region IV: Limari: Caleta Punta Sierra; Metropolitan Region: Chacabuco: Las Tunas; Puente Ventarrón]; Campos *et al.* 2011, 11: 330 [Atacama Region: Inca de Oro 26°45'8"S 69°54'16"W; Coquimbo Region: Las Chinchillas National Reserve 31°3'28"S 71°6'19"W; Pueblo Hundido, Pedregal, 31°13'24"S 70°57'25"W; Metropolitan Region: Til

Til (33°6'19"S–70°55'53"W)]; Campos *et al.* 2013a, 19: 232 [Atacama Region: Llanos de Challe National Park (28°8'52"S–71°4'32"W); Peral Norte (28°43'21"S–70°31'2"W)]; Coquimbo Region: Caleta Toro (30°44'30"S–71°42'5"W); Monte Patria 930°51'16"S–70°41'51"W); Las Chinchillas National Reserve (31°30'28"S–71°6'19"W); Metropolitan Region: Til Til (33°6'19"S–70°55'53"W)]; Campos *et al.* 2013b, 13(1): 73 [Metropolitan Region: Til Til (33°6'19"S–70°55'53"W)]; Ramírez *et al.* 2013, 26: 594 [Reserva Nacional Las Chinchillas (31°30' S–71°06'W)]

1940a *Triatoma porteri* Neiva & Lent, 54: 266 [Santiago de Chile]; Neiva & Lent 1940b, 35: 358 [Coquimbo]; Neiva & Lent 1943, 39: 62 [Coquimbo, Santa Cruz]

**Geographic distribution:** Chile.

**Comments:** *Mepraia spinolai* is often found in stony hills, rock crevices, nest of birds and mammals, and corrals of domestic animals, but it can occasionally be collected in human dwellings (Lent & Wygodzinsky, 1979; Apt & Reyes, 1986; Frías *et al.*, 1995). This is a diurnal insect which shows a peak of activity at noon (Canals *et al.*, 1997).

**Material studied:** *Valparaíso Region:* 1♂, Casablanca, 1940, Tobar col., *Triatoma spinolai* Porter det. Carpintero (MACN); 12 nymphs, Mina Sta. María, Cta. La Dormida, 23-XII-[19]84, Irrazaval col. (USNM); 1♂ 1♀ 1 nymph, Aconcagua, e. Guardia Vieja, 3-XI-[19]76, Gurney & Barra col. (USNM).

#### ***Mepraia parapatriza* Frías**

2010 *Mepraia parapatriza* Frías Lasserre, 39(4): 574 [Región III Atacama: Parque Nacional Pan de Azúcar (26°9'5"S–70°40'53"W), Pan de Azúcar Island: Caleta Pan de Azúcar; Cerro del Soldado; Región II Antofagasta: Caleta Bandurrias (25°12'20"S–70°26'07"W) 21 km S of Paposos city; Cachinales, 22 Km S Paposos; northern coast of Chile, region II Antofagasta and region III Atacama, in *desierto litoral* between 25°12'20"S 70°26'7"W and 26°10'10"S 70°40'3"W]; Campos *et al.* 2013a, 19: 232 [Antofagasta Region: Médano (24°36'51"S–70°33'31"W); Atacama Region: Caleta Zenteno (26°51'8"S–70°48'36"W)]

2000 *Mepraia spinolai*: Sagua Franco *et al.*, 95(2): 167 [Pan de Azúcar Island, located in Chilean Administrative Región III]

**Geographic distribution:** Chile.

**Comments:** This recently described species is confined to the Pan de Azúcar Island and coastal Regions of Antofagasta (II) and Tarapacá (III) between 25°12'20"S- 70°26'7"W and 26°10'10"S- 70°40'3"W. *Mepraia parapatric*a feeds mainly on birds and lizzards, although it was also found in peridomestic environments (Frías Laserre, 2010).

### Genus *Triatoma* Laporte

1833 *Triatoma* Laporte, 2: 11. Type species: *Reduvius gigas* Fabricius

This genus is the most speciose of the subfamily, it is found from the United States to the Patagonia, in Argentina and Chile. Most of the species are associated with mammals, but rarely with birds and reptiles; several are domestic and peridomestic (Lent & Wygodzinsky, 1979).

### *Triatoma infestans* (Klug)

1834 *Reduvius infestans* Klug: 412 [Chile]; Reed 1901, 5 (3): 65 [Atacama, from Copiapó to the south]

1859b *Conorhinus renggeri*: Stål, 112 [Chile]; Signoret 1863, 3: 580 [Chile]; Stål 1872, 10: 112 [Valparaíso]; Walker 1873a, 8: 16 [Chile]

1860 *Conorhinus octotuberculatus* Philippi: 156 [Atacama]; Stål 1872, 10: 112 [Atacama]

1860 *Conorhinus Paulseni* Philippi: 156 [Atacama]; Stål 1872, 10: 112 [Atacama]

1860 *Conorhinus gracilipes* Philippi: 156 [Atacama: near Pan de Azucar]; Stål 1872, 10: 112 [Pan de azucar]; Lethierry & Severin 1896, 2: 118 [Chile]

1879 *Conorhinus infestans*: Berg, 7 (6): 266 [from Atacama to Valdivia]; Lethierry & Severin 1896, 2: 116 [Chile]

1920b *Triatoma infestans*: Porter, 7: 16 [Iquique; from Tarapacá to Valdivia]; Porter 1920a: 159 [Iquique]; Porter 1933a, 37: 182 [Atacama, Valle de Copiapó]; Neiva & Lent 1936, 6: 171, 184 [Chile]; Porter 1938c, 42: 155 [Copiapó]; Gajardo Tobar 1938, 42: 134 [Atacama: Domeyko; Elqui, Paihuano, Chañar Blanco, Viñita, Chancoquim, Pisco, Pabellón, Horcón, Alcohuás, Cochihuás, Huanta]; Neiva & Lent 1943, 39: 50 [Iquique]; Abalos & Wygodzinsky 1951, 601: 54 [Chile]; Lent & Wygodzinsky 1979, 163: 248 [Chile]; Maldonado Capriles 1990, 555 [Chile]; Bacigalupo *et al.* 2006, 134: 1232 [Region Metropolitana: Calera de Tango; Til- Til]; Prado 2008, 57: 39 [Chile]

1852 *Conorhinus sex-tuberculatus*: Blanchard,

7: 218 [Chile]; Philippi 1860: 156 [Atacama]

**Geographic distribution:** Argentina, Bolivia, Brazil, Chile, Ecuador, Paraguay, Peru, and Uruguay.

**Comments:** This is the most important vector of Chagas' disease parasite, and it is almost an exclusively domestic species. The anthropic environments this species prefers are simple rural houses with mud walls and palm fronds roofs, where simple cracks on the walls can occur. The individuals hide in these cracks, behind pictures hanged on the walls, among mattresses, in hammocks, in woodpiles, etc. (Lent & Wygodzinsky, 1979), where they hide during the day.

**Material studied:** 1♂, Chile, Reed coll., Drake coll. (USNM); 6♂ 6♀, Reed coll., Sinop. Hem. Chile, C.J. Drake coll. (USNM). *Coquimbo Region*: 1♀, Coquimbo, Elqui, Huanta, 31-I-1976, E. Gutiérrez A. col. (USNM).

### *Triatoma rubrovaria* (Blanchard)

1843 *Conorhinus rubro-varius* Blanchard, 6: 219 [Uruguay: Maldonado]

1951 *Triatoma rubrovaria*: Abalos & Wygodzinsky, 601: 101 [Chile]; Lent & Wygodzinsky 1979: 318 [Chile, but considered as a spurius reference]

1943 *Eutriatoma rubrovaria*: Neiva & Lent, 39: 55 [Coquimbo: Membrillo]

Prado 2008, 57: 39 [erroneously recorded by Neiva & Lent 1940a, b; 1943]

**Geographic distribution:** Argentina, Brazil, Chile? and Uruguay.

**Comments:** According to Galvão *et al.* (2003) this species is not distributed in Chile.

### *Triatoma sordida* (Stål)

1859b *Conorhinus sordidus* Stål: 108

1943 *Eutriatoma sordida*: Neiva & Lent, 39: 55 [Chile]

1979 *Triatoma sordida*: Lent & Wygodzinsky: 318 [Chile, considered an unconfirmed record]; Prado 2008, 57: 39 [erroneously recorded by Neiva & Lent 1940a, b; 1943]

**Geographic distribution:** Argentina, Bolivia, Chile?, Paraguay, and Uruguay.

**Comments:** According to Galvão *et al.* (2003) this species is not distributed in Chile.

### Subfamily Reduviinae Latreille

This subfamily is poorly represented in Chile, the only species recorded has been found from Co-



quimbo Region to Araucanía Region (Curacautín).

**Leogorrus Stål** NEW COUNTRY RECORD

1859c *Leogorrus* Stål: 404. Type species: *Reduvius formicarius* Fabricius.

This genus includes 12 species, all endemic from the New World. It can be distinguished by its small to middle size (up to 20.5 mm length), its brown coloration, the subcylindrical head, the presence of two ventral tubercles at apex of femora, the brown hemelytra with pale markings, and the pygophore with an elongate spiniform posterior process (Melo, 2009).

**Leogorrus litura (Fabricius)** NEW COUNTRY RECORD

(Fig. 8)

1787 *Reduvius litura* Fabricius: 310 [Cayenna]

**Comments:** This is the first record of this species from Chile. Although the specimens examined belong to Reed's collection (at USNM) it apparently was not included in his synopsis probably because he could not be able to identify the species. *Leogorrus litura* is the most common species of the genus, and it is widely distributed from Mexico to Argentina, and Caribbean islands (Melo, 2009).

**Material studied:** 1♀, ex E.C. Reed Chilean coll., Sinop. Hem. Chile, Drake coll. (USNM).

**Zelurus Hahn**

1826 *Zelurus* Hahn, 6: 6. Type species: *Reduvius eburneus* Lepeletier & Serville.

This genus includes about 133 species distributed from Central America to southern South America. It is characterized by an elongate head, a long pedicel, the large eyes and ocelli, the last ones on conspicuous tubercles; the anterior lobe of pronotum spined, and frequently with spinous humeri.

**Zelurus armaticollis (Blanchard)**

1852 *Arilus? armaticollis* Blanchard, 7: 222 [Coquimbo]; Signoret 1863, 3: 580 [Chile]; Stål 1872, 10: 128 [Chile]; Lethierry & Severin 1896, 2: 118 [Chile]; Reed 1901, 5 (2): 49 [Chile, probably belonging to *Spiniger*]

1873b *Spiniger? armaticollis*: Walker, 7: 157 [Chile]; Porter 1918, 22: 180 [Curacautín]

1949 *Zelurus armaticollis*: Wygodzinsky, 1: 59 [Chile]; Lent & Wygodzinsky 1951, 11: 173

[Chile: Rio Blanco]; Prado 2008, 57: 39 [Chile]

**Geographic distribution:** Chile.

**Comments:** This species is usually misidentified by local people as a *Triatoma* or *Mepraia* species, and it could be one of the reasons why it is highly unknown.

**DISCUSSION**

This family is represented in Chile by seven subfamilies, 17 genera, and 27 species. The Chilean Reduviidae are distributed from the Arica y Parinacota regions, in the north, to Los Lagos Region in the south, including some oceanic islands (Juan Fernandez Archipelago). However, the major abundance and richness are concentrated in the middle region which is characterized by a Mediterranean climate, followed towards the south by the Valdivian Forest. Although this contribution presents a lot of new information about the distribution of most of the species- filling distributional gaps, assessing the correct distribution of the species, and giving new records- further collecting and research is needed especially about doubtful species for which more specimens are necessary to clarify its taxonomic status.

**ACKNOWLEDGEMENTS**

We thank Tom J. Henry for his warm welcome to the senior author during 2013 at the Laboratory of Entomology, National Museum of Natural History, Smithsonian Institution, Washington DC, USA, and for allowing her to study the collection of truebugs. This study was supported by the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina.

**LITERATURE CITED**

- ABALOS, J. W. & P. WYGODZINSKY. 1951. Las Triatominae argentinas (Reduviidae, Hemiptera). *Instituto de Medicina Regional*, Publicación n° 601, Monografía n° 2.
- ACUÑA-RETAMAR, M., C. BOTTO-MAHAN, M. CANALS, J. P. CORREA & P. E. CATTAN. 2009. Comparative population dynamics of the bug *Mepraia spinolai*, a sylvatic vector of Chagas' disease, in different hosts. *Medical and Veterinary Entomology* 23: 106-110.
- AMYOT, C. J. B. & A. SERVILLE. 1843. *Histoire naturelle des Insectes. Hémiptères*. Librairie Encyclopedique de Roret, Paris.
- APT, R. M. & H. REYES. 1986. Aspectos epidemiológicos de la enfermedad de Chagas I. Distribución geográfica, índices de infección en vectores y humanos. *Parasitología al Día* 10: 94-101.
- BAENA, M. 2010. A new synonymy in the genus *Zelus* (Heteroptera, Reduviidae, Harpactorinae). *Boletín de la Sociedad Entomológica Aragonesa* 47: 362.

- BACIGALUPO, A., J. A. SEGURA, A. GARCÍA, J. HIDALGO, S. GALUPPO & P. E. CATTAN. 2006. Primer hallazgo de vectores de la enfermedad de Chagas asociados a matorrales silvestres en la Región Metropolitana, Chile. *Revista Médica de Chile* 134: 1230-1236.
- BERG, C. 1879. Hemiptera Argentina (cont.). *Anales de la Sociedad Científica Argentina* 7(1): 41-47.
- BERG, C. 1879. Hemiptera Argentina (cont.). *Anales de la Sociedad Científica Argentina* 7(6): 262-278.
- BERGROTH, E. 1923. Hemiptera from Juan Fernandez and Easter Island. In: Skottberg, C. (ed.) *The Natural History of Juan Fernandez and Easter Island* III: 396-402.
- BLACKBURN, T. 1889. Notes on the Hemiptera of the Hawaiian Islands. *Proceedings of the Linnean Society of New South Wales*, ser. 2, 3: 343-354.
- BLANCHARD, E. 1843. Hémiptères. In: D'Orbigny, A. 1837-1845 (ed.). *Voyage dans l'Amérique Méridionale (1826-1833)* Insectes 6(2), pp. 218-222.
- BLANCHARD, E. 1852. Orden VII. Hemipteros. In: Gay, C. (ed.), *Historia Física y Política de Chile*, Zoología vol. 7, Chile, pp. 113-320.
- BOTTO-MAHAN, C., S. ORTIZ, M. ROZAS, P. E. CATTAN & A. SOLARI. 2005. DNA evidence of *Trypanosoma cruzi* in the Chilean wild vector *Mepraia spinolai* (Hemiptera: Reduviidae). *Memorias del Instituto Oswaldo Cruz* 100(3): 237-239.
- BOTTO-MAHAN, C., M. SEPÚLVEDA, M. VIDAL, M. ACUÑA-RETAMAR, S. ORTIZ & A. SOLARI. 2008. *Trypanosoma cruzi* infection in the sylvatic kissing bug *Mepraia gajardoi* from the Chilean Southern Pacific Ocean coast. *Acta Tropica* 105: 166-169.
- BREDDIN, G. 1897. Hemipteren. In: Michaelsen (ed.), *Ergebnisse der Hamburger Magalhaensische Sammelreise*. L. Friederichsen & Co., Hamburgo, Alemania, pp. 1-36.
- CALLEROS, L., F. PANZERA, M. D. BARGUES, F. A. MONTEIRO, D. R. KLISOWICZ, M. A. ZURIAGA, S. MAS-COMA & R. PÉREZ. 2010. Systematics of *Mepraia* (Hemiptera-Reduviidae): Cytogenetic and molecular variation. *Infection, Genetics and Evolution* 10: 221-228.
- CAMPOS, R., M. ACUÑA-RETAMAR, C. BOTTO-MAHAN, S. ORTIZ, P. E. CATTAN & A. SOLARI. 2007. Susceptibility of *Mepraia spinolai* and *Triatoma infestans* to different *Trypanosoma cruzi* strains from naturally infected rodent hosts. *Acta Tropica* 104: 25-29.
- CAMPOS, R., C. BOTTO-MAHAN, X. CORONADO, N. JARAMILLO, F. PANZERA & A. SOLARI. 2011. Wing shape differentiation of *Mepraia* species (Hemiptera: Reduviidae). *Infection, Genetics and Evolution* 11: 329-333.
- CAMPOS, R., F. TORRES-PÉREZ, C. BOTTO-MAHAN, X. CORONADO & A. SOLARI. 2013a. High phylogeographic structure in sylvatic vectors of Chagas disease of the genus *Mepraia* (Hemiptera: Reduviidae). *Infection, Genetics and Evolution* 19: 280-286.
- CAMPOS, R., C. BOTTO-MAHAN, X. CORONADO, S. S. CATALA & A. SOLARI. 2013b. Phylogenetic Relationships of the *spinolai* Complex and Other Triatomini Based on Mitochondrial DNA Sequences (Hemiptera: Reduviidae). *Vector-borne and Zoonotic Diseases* 13(1): 73-76.
- CANALS, M., R. SOLÍS, J. VALDERAS, M. EHRENFELD & P. E. CATTAN. 1997. Preliminary studies on temperature selection and activity cycles of *Triatoma infestans* and *T. spinolai* (Heteroptera: Reduviidae), Chilean vectors of Chagas' disease. *Journal of Medical Entomology* 34: 11-17.
- CARAYON, J., R. L. USINGER & P. WYGOSZINSKY. 1958. Notes on the higher classification of the Reduviidae, with the description of a new tribe of the Phymatinae. *Revue de Zoologie et de Botanique Africaines* 57: 256-281.
- CARPINTERO, D. J. 1980. Nuevos Ectrichodiinae Americanos (Insecta- Hemiptera- Reduviidae). *Acta Scientífica, Entomología* 14: 1-33.
- CARPINTERO, D. J. & J. MALDONADO CAPRILES. 1996. Diagnostic characters and key to the genera of American Ectrichodiinae (Heteroptera, Reduviidae). *Caribbean Journal of Sciences* 323(2): 125-141.
- CARVAJAL, A., J. ORELLANA, W. WINGANT, C. BÓRQUEZ & I. LOBATO. 2007. Prevalencia de triatomíneos infectados con *Trypanosoma cruzi* en el litoral de la ciudad de Arica. *Parasitología latinoamericana* 62(3-4): 118-121.
- CATTAN, P., A. PINOCHET, C. BOTTO-MAHAN, M. I. ACUNA, M. CANALS. 2002. Abundance of *Mepraia spinolai* in a periurban zone of Chile. *Memorias do Instituto Oswaldo Cruz* 97(3): 285-287.
- CEPEDA PIZARRO, J. & J. PIZARRO ARAYA. 2004. Ecología del Valle del Elqui: Insectos y otros Artrópodos. IACC Project Working Paper No. 3, Universidad de La Serena.
- CORONADO, X., M. ROZAS, C. BOTTO-MAHAN, S. ORTIZ, P. E. CATTAN & A. SOLARI. 2009. Molecular epidemiology of Chagas Disease in the wild transmission cycle: the evaluation in the sylvatic vector *Mepraia spinolai* from an endemic area of Chile. *American Journal of Tropical Medicine Hygiene* 81(4): 656-659.
- COSTA LIMA, A. da. 1935. Género *Microtomus* Illiger, 1807 (Reduviidae: Microtominae). *Annaes da Academia Brasileira de Ciências* 7(4): 315-323.
- CURKOVIC, T., J. E. ARAYA, M. BAENA & M. A. GUERRERO. 2004. Presencia de *Zelus renardii* Kolenati (Heteroptera: Reduviidae) en Chile. *Boletín de la Sociedad Entomológica Aragonesa* 34: 163-165.
- DE GEER, G. H. L. 1773. *Mémoires pour servir à l'histoire des insectes*, 3. L'Imprimerie de Pierre Hesselberg, Stockholm, Sweden.
- DOUGHERTY, V. 1995. A review of the New World Ectrichodiinae genera (Hemiptera: Reduviidae). *Transactions of the American Entomological Society* 121(4): 173-225.
- DAVRANOGLU, L. R. 2011. *Zelus renardii* (Kolenati, 1856), a New World reduviid discovered in Europe (Hemiptera: Reduviidae: Harpactorinae). *Entomology Magazine* 147: 157-162.
- ELGUETA, M. & D. L. CARPINTERO. 2004. *Zelus cervicalis* Stål (Hemiptera: Reduviidae: Harpactorinae), aporte neártico a la entomofauna introducida en Chile. *Gayana* 68(1): 98-101.
- ELKINS, J. C. 1954. A synopsis of *Atrachelus* (Hemiptera, Reduviidae). *Proceedings of the Entomological Society of Washington* 56(3): 97-120.
- FABRICIUS, J. C. 1787. *Mantissa Insectorum*. Sistens species nuper detectas. *Hafniae* 2: 309-314.
- FABRICIUS, J. C. 1796. *Classis XII: Rhyngota*. In: *Supplementum Entomologiae Systematicae*. Proft and Storch, Copenhagen, pp. 511-546.
- FABRICIUS, J. C. 1803. *Systema Rhyngotorum Secundum Ordines, Genera, Species, Adjectis Synonymis, Locis, Observationibus, Descriptionibus*. Carolum Reichard, Brunswick.
- FAÚNDEZ, E. I. & M. A. CARVAJAL. 2012. Notas sobre *Mepraia gajardoi* Frias, Henry & González, 1998 (Heteroptera: Reduviidae: Triatominae). *Boletín de la Sociedad Entomológica Aragonesa* 50: 495-497.
- FORERO, D. 2006. New records of Reduviidae (Hemiptera: Heteroptera) from Colombia and other Neotropical countries. *Zootaxa* 1107: 1-47.
- FRIAS LASSERRE, D. 2004. Formación de nuevas especies de los géneros *Mepraia* (Hemiptera: Reduviidae) y *Rhagoletis* (Diptera: Tephritidae) y su relación con modificaciones de los patrones heterocromáticos y mutaciones sistémicas. I-I: *Informes de Investigación N°5*. Santiago, Chile. Available at: [http://www.umce.cl/investigacion/i\\_mas\\_i\\_d\\_frias.html](http://www.umce.cl/investigacion/i_mas_i_d_frias.html)
- FRIAS LASSERRE, D. 2010. A new species and karyotype variation in the bordering distribution of *Mepraia spinolai* Frias et al. (Hemiptera: Reduviidae: Triatominae) in Chile and its parapatric model of speciation. *Neotropical Entomology* 39(4): 572-583.
- FRIAS, D., A. A. HENRY & C. R. GONZALEZ. 1998. *Mepraia gajardoi*: a new species of Triatominae (Hemiptera: Reduviidae) from Chile and its comparison with *Mepraia*

- spinolai*. *Revista Chilena de Historia Natural* 71: 177–188.
- FRIAS, D. L., H. MARTÍNEZ & A. WALLACE. 1987. Algunos aspectos taxonómicos de *Triatoma spinolai* Porter (Hemiptera: Triatominae). *Acta Entomológica Chilena* 14: 155–170.
- FRIAS, D., A. SOLARI, C. GONZÁLEZ, A. HENRY & A. ALVIÑA. 1995. Índices de infección de *Mepraia spinolai* con *Trypanosoma cruzi*, su invasión a ambientes domésticos e interacción con *Triatoma infestans*. *Parasitología al Día* 19: 195.
- FROESCHNER, R. C. & N. A. KORMILEV. 1989. Phymatidae or Ambush Bugs of the world: a synonymic list with keys to species, except *Lophoscutus* and *Phymata* (Hemiptera). *Entomography* 6: 1–76.
- GAJARDO TOBAR, R. 1938. El *Schyzotrypanum cruzi* y sus agentes vectores en Chile. *Revista Chilena de Historia Natural* 42: 132–137.
- GALVÃO, C., R. CARCAVALLO, D. DA SILVA ROCHA & J. JURBERG. 2003. A checklist of the current valid species of the subfamily Triatominae Jeannel, 1919 (Hemiptera, Reduviidae) and their geographical distribution, with nomenclatural and taxonomic notes. *Zootaxa* 202: 1–36.
- GALVÃO, C., J. JURBERG, R. U. CARCAVALLO, C. A. MENA SEGURA, I. GALINDEZ GIRÓN, S. I. CURTO DE CASAS. 1998. Distribuição Geográfica e Dispersão Alti-latitudinal de Alguns Gêneros e Espécies da Tribo Triatomini Jeannel, 1919 (Hemiptera, Reduviidae, Triatominae). *Memorias do Instituto Oswaldo Cruz* 93(1): 33–37.
- GIACCHI, J. C. & M. C. COSCARÓN. 1992 (1989). Revisión de la subfamilia Microtominae. IV. *Microtomus gayi* (Spinola, 1852) y *M. pessoai* Lent y Juárez 1956 (Heteroptera, Reduviidae). *Physis* (Buenos Aires), Sec. C, 47(113): 67–71.
- GIL-SANTANA, H. R., M. BAENA, L. R. SILVA-DA-SILVA & S. O. ZERAİK. 2005. Notas sobre algunas especies de *Empicoris* americanas (Heteroptera: Reduviidae: Emesinae). *Boletín Sociedad Entomológica Aragonesa* 36: 137–142.
- HAHN, C. J. E. 1826. *Icones ad monographiam* Cimicum. Lechner, Nürnberg.
- HANDLIRSCH, A. 1897. Monographie der Phymatiden. *Annalen des Kaiserlich-Königlichen Naturhistorischen Hofmuseums* 12(2): 127–230.
- HART, E. R. 1986. Genus *Zelus* Fabricius in the United-States, Canada, and Northern Mexico (Hemiptera, Reduviidae). *Annals of the Entomological Society of America* 79: 535–548.
- HART, E. R. 1987. The Genus *Zelus* Fabricius in the West-Indies (Hemiptera, Reduviidae). *Annals of the Entomological Society of America* 80: 293–305.
- ILLIGER, J. C. W. 1807. *Classis septima*. Rhyngota, 2. In: Rossi, P. (ed.), *Fauna Etrusca: sistens insecta quae in provinciis Florentina et Pisana praesertim collegit*, Helmstadii, Fleckeisen, pp. 400.
- KIRKALDY, G. W. 1903. Miscellaneous Rhynchota No. 7. The Entomologist. *An illustrated Journal of Entomology* 36: 179–181.
- KIRKALDY, G. W. 1910. Supplement to Hemiptera. In: Sharp, D. (ed.), *Fauna Hawaiiensis*, Cambridge University Press, Cambridge, pp. 531–599.
- KLUG, J. C. F. 1834. In: von Meyen, F. J. F. (ed.), *In reise um die Erde, in den Jahren 1830, 1831, und 1832*, I. C. W. Eichhoff, Berlin.
- KOLENATI, F. A. 1857 (1856). Meletemata entomologica VI. Hemipterorum Caucasi. Harpago corisiae, monographie dispositae. *Bulletin de la Société Impériale des Naturalistes de Moscou* 29: 419–502.
- KORMILEV, N. A. 1951. Phymatidae Argentinas (Hemiptera), con observaciones sobre Phymatidae en general. *Revista del Instituto Nacional de Investigación de las Ciencias Naturales* 2(2): 45–110.
- KORMILEV, N. A. 1960. Revision of Phymatinae (Hemiptera, Phymatidae). *The Philippine Journal of Science* 89(3-4): 287–500.
- LAPORTE, F. L. 1833. Essai d'une classification systematique de l'ordre des Hémiptères (Hémiptères Hétéroptères Latr.). *Magasin de Zoologie* 47: 17–88.
- LATREILLE, A. 1802. *Histoire naturelle, generale et particuliere des Crustacés et des Insectes*, III. L'Imprimerie de F. Dufart, Paris.
- LENT, H., J. JURBERG & C. GALVAO. 1994. Revalidação do gênero *Mepraia*, Mazza, Gajardo & Jörg, 1940 (Hemiptera, Reduviidae, Triatominae). *Memórias do Instituto Oswaldo Cruz* 89(3): 347–352.
- LENT, H. & P. WYGODZINSKY. 1951. Espécies do gênero *Zelus* Hahn (Hemiptera, Reduviidae). *Revista Brasileira de Biologia* 11(2): 173–179.
- LENT, H. & P. WYGODZINSKY. 1979. Revision of the Triatominae (Hemiptera, Reduviidae), and their significance as vectors of Chagas' Disease. *Bulletin of the American Museum of Natural History* 163(3): 123–520.
- LETHIERRY, L. F. & G. SEVERIN. 1896. *Catalogue général des Hémiptères*. Vol. III. Hétéroptères. F. Fiedländer & Fils, Libraires-éditeurs, Musée royal d'Histoire naturelle de Belgique, Berlin.
- LINNÉ, C. 1758. *Systema naturae. Regnum Animale*. 10<sup>o</sup> Ed. Laurentii Salvii, Holmiae.
- MALDONADO CAPRILES, J. 1990. Systematic catalogue of the Reduviidae of the World (Insecta: Heteroptera). *Caribbean Journal of Sciences*, special edition.
- MAZZA, S., R. GAJARDO TOBAR & J. E. JÓRG. 1940. Investigaciones sobre Triatomidae: *Mepraia novum genus* de Triatomidae. *Mepraia spinolai* (Porter) 1933, *nov. comb.*, redescrición de macho y descripción de hembra. *Misión de Estudios de Patología Regional Argentina* 44: 1–30.
- MCATEE, W. L. & J. R. MALLOCH. 1925. Revision of the American bugs of the Reduviid subfamily Ploiariinae. *Proceedings of the U.S. National Museum* 67(1): 1–153.
- MELO, M. C. 2009. Revision of the Neotropical genus *Leogorrus* Stål (Hemiptera: Reduviidae) *Insect Systematic and Evolution* 37: 361–384.
- MELO, M. C. & M. C. COSCARON. 2005a. A new species of *Atrachelus* Amyot & Serville (Heteroptera, Reduviidae, Harpactorinae) from Argentina. *Zootaxa* 803: 1–5.
- MELO, M. C. & M. C. COSCARON. 2005b. Redescription of *Microtomus reuteri* Berg (Heteroptera: Reduviidae: Ham-macerinae). *Entomological News* 115(5): 249–254.
- MELO, M. C. & E. I. FAUNDEZ. 2011. Synopsis of the genus *Empicoris* (Hemiptera: Heteroptera: Reduviidae) in Chile. *Acta Entomologica Musei Nationalis Pragae* 51(1): 11–20.
- MONTERO, A. & O. CHAVARRIA. 1969. Heteroptera en la sabana chilena. *Investigaciones Zoológicas Chilenas* 14: 173–195.
- MORENO, M. L., D. GORLA & S. CATALÁ. 2006. Association between antennal phenotype, wing polymorphism and sex in the genus *Mepraia* (Reduviidae: Triatominae). *Infection, Genetics and Evolution* 6: 228–234.
- NEIVA, A. & H. LENT. 1936. Notas e comentarios sobre triatomídeos. Lista de especies e sus distribución geographica. *Revista de Entomología* 6(2): 153–190.
- NEIVA, A. & H. LENT. 1940a. Sobre um novo triatomídeo chileno: *Triatomaptera porteri* (nota previa). *Brasil- Médico* 54(15): 265–267.
- NEIVA, A. & H. LENT. 1940b. Estudios sobre Triatomídeos do Chile: Interessante caso de provavel polimorfismo. *Memórias do Instituto Oswaldo Cruz* 35(2): 343–363.
- NEIVA, A. & H. LENT. 1943. Triatomídeos do Chile. *Memórias do Instituto Oswaldo Cruz* 39(1): 43–75 + 4 pls.
- PENNINGTON, M. L. 1918. Notas sobre una pequeña colección de Hemipteros Heteropteros de Río Blanco. *Revista Chilena de Historia Natural* 22(5–6): 172–175.
- PHILIPPI, E. A. 1860. *Viage al Desierto de Atacama hecho de orden del gobierno de Chile en el verano 1853- 1854*. Librería de Eduardo Antón: Halle en Sajonia.
- PHILIPPI, E. A. 1862. Viaje a los baños i al nuevo volcán de Chillan por don Rodolfo Philippi. Comunicación del mismo a la Facultad de Ciencias Físicas. *Anales de la Universidad de Chile* 21: 377–389.
- PORTER, C. E. 1918. Artrópodos de Curacautín y Lonquimay. *Revista Chilena de Historia Natural* 22: 178–181.

- PORTER, C. E. 1920a. Sobre algunos artrópodos colectados en diversas localidades del país por los señores J.N. Thomas, José A. Campo, J.A. Wolffsohn, R. Barros, etc. *Revista Chilena de Historia Natural* 24(6): 153-160.
- PORTER, C. E. 1920b. Datos para la Zoología médica de Chile. Notas Hemipterológicas. *Anales de Zoología Aplicada* 7: 16-34.
- PORTER, C. E. 1923. Descripción de un nuevo Hemiptero chileno. *Revista Chilena de Historia Natural* 25: 505-506.
- PORTER, C. E. 1924. Algunos Insectos colectados en el sur del país por el señor Flaminio Ruiz P. *Revista Chilena de Historia Natural* 28: 81-82.
- PORTER, C. E. 1929. Entomología Chilena, Sobre algunos Rincotos de Marga- Marga. *Revista Chilena de Historia Natural* 33: 302-304.
- PORTER, C. E. 1930. Notas sobre Hemípteros chilenos (cont.). *Revista Chilena de Historia Natural* 34: 294-298.
- PORTER, C. E. 1932. Acerca de algunos Insectos chilenos. *Revista Chilena de Historia Natural* 36: 190-193.
- PORTER, C. E. 1933a. Algunos insectos de Atacama. *Revista Chilena de Historia Natural* 37: 182.
- PORTER, C. E. 1933b. Una *Triatoma* nueva chilena. *Revista Chilena de Historia Natural* 37: 192-193.
- PORTER, C. E. 1938a. Entomología Chilena. Localidades nuevas de algunas especies. *Revista Chilena de Historia Natural* 42: 166-169.
- PORTER, C. E. 1938b. Notas de Parasitología. Importancia médica que adquiere un hemiptero heteróptero chileno. *Revista Chilena de Historia Natural* 42: 122-124.
- PORTER, C. E. 1938c. Algunos insectos de las provincias de Atacama y Coquimbo. *Revista Chilena de Historia Natural* 42: 154-155.
- PORTER, C. E. 1939. Breve nota acerca de tres insectos. *Revista Chilena de Historia Natural* 43: 185-186.
- PRADO, C. E. 2008. Conocimiento actual de Hemiptera- Heteroptera de Chile con lista de especies. *Boletín del Museo Nacional de Historia Natural, Chile* 57: 31-75.
- PUTSHKOV, P. V. & V. G. PUTSHKOV. 1996. Family Reduviidae Latreille, 1807 – assassin-bugs. In: Aukema, B. & C. Rieger (eds.), *Catalogue of the Heteroptera of the Palaearctic Region, Volume 2, Cimicomorpha I*, The Netherlands Entomological Society, Amsterdam, pp. 148-265.
- PUTSHKOV, P. V., J. RIBES & P. MOULET. 1999. Révision des *Empicoris* Wolff d'Europe (Heteroptera: Reduviidae: Emesinae). *Annales de la Société Entomologique de France (N. S.)* 35: 31-70.
- RAMÍREZ, P. A., A. GONZÁLEZ & C. BOTTO-MAHAN. 2013. Masking behavior by *Mepraia spinolai* (Hemiptera: Reduviidae): anti-predator defense and life history trade-offs. *Journal of Insect Behavior* 26: 592-602.
- REED, E. C. 1898-1901. Sinopsis de los Hemípteros de Chile. *Revista Chilena de Historia Natural* [1898]: 2(5): 47-52; [1899]: 3(1-2): 5-14; 3(3-4): 37-49; [1900]: 4(7): 93-101; 4(8): 121-126; 4(9): 141-146; 4(10): 157-160; 4(11): 173-181; [1901]: 5(1): 23-24; 5(2): 42-49; 5(3): 64-69; 5(4): 92-94; 5(5-6): 109-111.
- SAGUA FRANCO, H., J. ARAYA ROJAS, J. GONZÁLEZ CORTES, I. NEIRA CORTES. 2000. *Mepraia spinolai* in the southeastern Pacific Ocean coast (Chile). First insular record and feeding pattern on the Pan de Azúcar Island. *Memorias do Instituto Oswaldo Cruz* 95(2): 167-170.
- SAY, T. 1832. *Descriptions of new species of Heteropterous Hemiptera of North America*. New Harmony, Indiana.
- SCHUH, R.T. & J. A. SLATER. 1995. *True bugs of the World (Hemiptera: Heteroptera). Classification and natural history*. Cornell University Press, Ithaca, Londres.
- SCOPOLI, I. A. 1786. *Deliciae florae et faunae Insubricae*, I. Pavia. St. Salvador, Ticini.
- SIGNORET, V. 1863. Revisión des Hémiptères du Chili. *Annales de la Société Entomologique de France* 3: 541-588.
- SPINOLA, M. 1852. Hemípteros. In: Gay, C. (ed.) *Historia Física y Política de Chile*, Zoología 7, pp. 113-320.
- STÅL, C. 1858. Hemipterologiska bidrag. *Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar* 15(9-10): 433-454.
- STÅL, C. 1859a. Till kannedomen on Reduvini. *Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar* 16(4): 175-204.
- STÅL, C. 1859b. Monographie der Gattung *Conorhinus* und Verwandten. *Berlin Entomologische Zeitschrift* 1859: 99-117.
- STÅL, C. 1859c. Synopsis specierum *Spinigeri* generis. *Stettiner entomologische Zeitung* 20(10-12): 395-404.
- STÅL, C. 1866. Bidrag till Reduviidernas kannedom. *Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar* 23(9): 235-302.
- STÅL, C. 1872. Enumeratio Reduviidarum Americae. In: Enumeratio Hemipterorum. *Kongliga Vetenskaps-Akademiens Handlingar* 10: 66-128.
- STÅL, C. 1876. Enumeratio Hemipterorum 5. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 14(4): 1-162.
- STICHEL, W. von. 1926. Die gattung *Microtomus* Illiger (Hem., Het., Reduv.). *Deutsche Entomologische Zeitschrift* 1926: 179-190.
- TOLEDO, A., F. VERGARA, R. CAMPOS, C. BOTTO-MAHAN, S. ORTIZ, X. CORONADO & A. SOLARI. 2013. *Trypanosoma cruzi* genotypes in *Mepraia gajardoi* from wild ecotopes in Northern Chile. *American Journal of Tropical Medical Hygiene* 88(2): 285-288.
- USINGER, R. L. 1939. Descriptions of new Triatominae with a key to genera (Hemiptera, Reduviidae). *University of California Publications in Entomology* 7(3): 33-56.
- VIVAS, L. 2012. Primera cita en España de la especie *Zelus renardii* (Kolenati, 1857) (Heteroptera: Reduviidae) que representa la segunda cita en Europa. *BV News, Publicaciones Científicas* 6: 34-39.
- WALKER, F. 1873a. *Catalogue of the specimens of Hemiptera Heteroptera in the collection of the British Museum*, VIII. Printed for Trustees of the British Museum, London.
- WALKER, F. 1873b. *Catalogue of the specimens of Hemiptera Heteroptera in the collection of the British Museum*, VII. Printed for Trustees of the British Museum, London.
- WEIRAUCH, C. 2008. Cladistic analysis of Reduviidae (Heteroptera: Cimicomorpha) based on morphological characters. *Systematic Entomology* 33: 229-274.
- WEIRAUCH, C., C. ALVAREZ & G. ZHANG. 2012. *Zelus renardii* and *Z. tetracanthus* (Hemiptera: Reduviidae): Biological Attributes and the Potential for Dispersal in Two Assassin Bug Species. *Florida Entomologist* 95(3):641-649.
- WEIRAUCH, C. & J. B. MUNRO. 2009. Molecular phylogeny of the assassin bugs (Hemiptera: Reduviidae), based on mitochondrial and nuclear ribosomal genes. *Molecular Phylogenetics and Evolution* 53: 287-299.
- WOLFF, J. F. 1811. *Abbildungen der Wanzen. Mit Beschreibungen. Icones Cimicum descriptionibus illustratae*. Vol. 5. Johann Jacob Palm, Erlangen.
- WYGODZINSKY, P. 1948. Über die Verbreitung und synonymie von *Ploiaria dorhni* (Signoret, 1863) (Hemiptera, Reduviidae). *Mitteilungen Schweizerischen Entomologischen Gesellschaft* 21: 471-475.
- WYGODZINSKY, P. 1949. Elenco sistemático de los Reduviiformes americanos. *Instituto de Medicina Regional*, Publicación n° 473, monografía 1: 1-102.
- WYGODZINSKY, P. 1950. Sobre el género *Bergemesa* nov. (Emesinae, Reduviidae, Hemiptera). *Anales de la Sociedad Científica Argentina* 150: 28-45.
- WYGODZINSKY, P. 1951. Contribución al conocimiento del género *Metapterus* Costa, 1860, de las Américas y de Juan Fernández (Hemiptera Reduviidae). *Revista Chilena de Entomología* 1: 113-128.
- WYGODZINSKY, P. 1952. Los insectos de las Islas Juan Fernández. 2. Reduviidae y Cimicidae (Hemiptera). *Revista Chilena de Entomología* 2: 15-19.
- WYGODZINSKY, P. 1966. A Monograph of the Emesinae (Reduviidae, Hemiptera). *Bulletin of the American Museum of Natural History* 133: 1-614.
- ZIMMERMANN, E. C. 1948. Insects of Hawaii, volume 3, Heteroptera. University of Hawaii Press, Honolulu.