

## Geographic distribution of the Gerridae in Argentina (Insecta, Heteroptera)

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**Abstract:** Distributional data for the fourteen species of Gerridae known to occur in Argentina are given: *Eurygerris fuscineris* (herein first recorded from San Juan and San Luis Provinces), *Limnogonus (Limnogonus) aduncus* (herein first recorded from Formosa Prov.), *L. (L.) ignotus*, *L. (L.) profugus*, *L. (Neogerris) lubricus* (herein first recorded from Córdoba Prov.), *Brachymetra albinerva albinerva* (herein first recorded from Salta Prov.), *Rheumatobates (Rheumatobates) bonariensis*, *R. (R.) crassifemur crassifemur* (herein first recorded from Santa Fe Prov.), *Halobatopsis platensis*, *H. spiniventris* (herein first recorded from Entre Ríos Prov.), *Metrobates plaumanni plaumanni*, *M. vigilis*, *Ovatametra gualuguay* (herein first recorded from Buenos Aires Prov.), and *Trepobates taylori* (herein first recorded from Jujuy Prov.). In addition distributional maps are provided. The species characteristic for each main geographic area of Argentina are: *E. fuscineris* and *T. taylori* for the Northwestern mountainous area; *L. ignotus*, *L. lubricus*, and *R. crassifemur* for the Chacoan plain; *L. ignotus* and *H. platensis* for the Bonarian plain; *L. ignotus*, *R. bonariensis*, *H. platensis* and *O. gualuguay* for the Mesopotamian plain. *E. fuscineris* and *T. taylori* are restricted to mountain rivers and rivulets, whereas the remaining species seem to be genuine inhabitants of either rivulets in forested hilly areas (*L. aduncus*, *L. profugus*, *B. albinerva*, *H. spiniventris*, *M. plaumanni* and *M. vigilis*), or rivers, rivulets and ponds in plains (*L. ignotus*, *L. lubricus*, *R. bonariensis*, *R. crassifemur*, *H. platensis*, and *O. gualuguay*). *L. ignotus* is a pioneer species in lowlands, readily colonizing new pools. Excepting *L. aduncus*, *L. profugus*, and *O. gualuguay* which are rare, the remaining species are common in Argentina (no enough data are available for *B. albinerva*, *M. plaumanni*, and *M. vigilis*). Gregariousness is high in *E. fuscineris*, *R. bonariensis*, *R. crassifemur*, and *H. platensis*, and probably also in *B. albinerva*. The other species mentioned seem not to be gregarious, but *O. gualuguay* appears sometimes in the dense aggregations of *H. platensis*, suggesting some gregarious tendency.

### Introduction

Only very scanty distributional data of South American Gerridae are available, and none about habitat preferences, commonness, and gregariousness. Records of some argentine species were stated by Pennington (1920-1921), Bachmann (1962a, 1962b, 1963), Crespo (1984), Mazzucconi and Bachmann (1995); Bachmann (1966) presented the range of distribution for all the species known from Argentina.

Distributional information for all the Gerridae known to occur in Argentina is updated. The range of distribution of some species is extended to provinces not previously recorded.

Information on the preferential habitats, the degree of commonness in the area, and the degree of gregariousness for all species are here included for the first time.

### Materials and Methods

The material examined belongs to the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires (MACN), the Laboratorio

de Entomología of the Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, the Museo de Ciencias Naturales, La Plata (MLP), and the Instituto Miguel Lillo, Tucumán (IML).

The distributional information is given in lists of localities arranged by provinces, in a table of occurrences by provinces (table 1), and in maps (figs. 1-4). Data were taken from the labels and the literature.

Data of commonness and gregariousness came mostly from authors' field observations.

### Results

Numerous new records are herein included. Eight of the fourteen species known to occur in Argentina have been found in Provinces not previously recorded, viz., *Eurygerris fuscineris* for San Juan and San Luis, *Limnogonus aduncus* for Formosa, *L. lubricus* for Córdoba, *Brachymetra albinerva* for Salta, *Rheumatobates crassifemur* for Santa Fe, *Halobatopsis spiniventris* for Entre Ríos, *Ovatametra gualuguay* for Buenos Aires, and *Trepobates taylori* for Jujuy.

The following records for *Eurygerris fuscinerwis* are probably erroneous (mislabellings), and they were not included in the corresponding list and map: Buenos Aires, Corrientes and Misiones (specimens deposited in MACN), Santa Fe and Chaco (specimens deposited in IML) and Santiago del Estero (Pennington, 1920-1921). Most of these specimens are apterous, so they could not have reached those localities on flight or by wind.

*Aquarius chilensis*, from central Chile, has not been recorded from Argentina, and it is very unlikely that it will ever be found here. *Trepobatooides boliviensis* from Bolivia, and *Tachygerris adamsoni* and *T. quadrilineatus* from Brasil, may eventually be found in northern Argentina.

#### Gerrinae sensu Bianchi 1896

#### Gerrini sensu Matsuda 1960

#### *Eurygerris fuscinerwis* (Berg 1898)

**Distribution.** Northwestern, western, and central provinces, from the boundary with Bolivia southward to San Juan, central Córdoba and central San Luis Provinces, in mountains and hills. northward to Venezuela.

**Localities recorded** (fig. 1). **Catamarca:** Aconquija. Barranca Larga. Concepción. El Alamito. El Rodeo. Mutquín (2000 m). Quebrada del río Pisuvil (1700-1850 m). Río La Viña, ruta 38. Singuil (1200 m). **Córdoba:** Achala, río San Antonio. Agua de Oro. Alta Gracia. Alto de San Pedro. Athos Pampa. Capilla del Monte, río Calabalumba. Copina. Cruz Chica. Huerta Grande. La Cumbre. La Falda. La Población. Los Burritos. Los Cocos. Mina Clavero. Parque Provincial Chancaní. Río Pintos. Valle Hermoso. Villa El Sauce. Yacanto. **Jujuy:** Arroyo Las Lanzas, ruta 9. Palmas San Pedro. Parque Nacional Calilegua: Aguada del Tigre; arroyo El Negrito; Mesada de la Colmena (700 m). Reyes. Tiraxi. Yala. **La Rioja:** Embalse Los Sauces. Las Placetas. Los Talas. **Salta:** Aguaray. Chicoana. El Piquete. El Tala, ruta 9. Luna Muerta. Metán. Pampa Grande. Parque Nacional Baritú. Parque Nacional El Rey. Pilotas. Pocitos. Quebrada de Escoipe. Quebrada de la Canaleta. Quebrada del río Blanco. Río Castañas. Río Quisto. Rosario de la Frontera. Salta, cerro San Lorenzo. San Lorenzo. Santa Victoria Este. Tacuile (2700 m). Tartagal. **San Juan:** Aguas Negras. Valle Fértil. **San Luis:** El Volcán. Embalse La

Huertita. Luján, río Luján. Merlo. Naschel. Potrero de los Funes. Río Grande. Villa del Carmen. **Tucumán:** Aconquija. Amaicha del Valle. Cerro San Javier. Horco Molle. Naranjal. Quebrada de los Sosas. Quebrada del río Blanco. Raco. Río Las Tacanas. Río Pueblo Viejo (1000 m). Rodeo Grande. San Javier, quebrada Cainzo. San Pedro de Colalao, río Ceibalito. Tacanas, río Ceibalito. Tafi del Valle. Tafi Viejo. Villa Nougés.

**Biological features.** Inhabiting mountain rivers and rivulets, mainly at the margins, from 700 up to 2700 m above sea level. A very common, gregarious species; in most series apterous specimens are dominant over macropterous ones (micropterous specimens are rare).

#### *Limnogonus (Limnogonus) aduncus* Drake and Harris 1933

**Distribution.** Northwestern and northeastern corners of Argentina; a single record from Formosa Province (dry area). Northward to Guiana and Trinidad.

**Localities recorded** (fig. 3). **Formosa:** Palo Santo. **Misiones:** Parque Nacional Iguazú. **Salta:** Orán. Salta Forestal, Salta Sector II, 50 km E of Las Lajitas. Tartagal. Urundel. Valle de Acambuco.

**Biological features.** Inhabiting borders of rivulets in forested hilly areas (but Palo Santo lies in a dry, shrub and savannah dominated area in the Chacoan plain). An uncommon species; probably not gregarious (only very few specimens were collected each time).

#### *Limnogonus (Limnogonus) ignotus* Drake and Harris 1934

**Distribution.** About the northern third of Argentina, but not in mountaineous areas; southward to Buenos Aires. Northward to Guiana.

**Localities recorded** (fig. 2). **Buenos Aires:** Buenos Aires (city). Chascomús. Flores. La Plata, arroyo El Gato. Pereyra, arroyo Pereyra. **Salto:** Chaco: Arroyo Ortega. Barranqueras. Pampa del Infierno. Resistencia. Córdoba. Corrientes. **Entre Ríos:** Lazo. **Formosa:** Arroyo He-He Chico. Arroyo He-He Grande. Clorinda. Loma Ga. Parque Nacional Pilcomayo, laguna Blanca. **Misiones:** Arroyo Ramón, ruta 14, North of Oberá. Barra Bonita.

Bernardo de Irigoyen. Loreto. Pindapoy. Posadas. Puerto Esperanza. Puerto Londero. Río Alto Uruguayá. Río Uruzú. San Javier. Santa María. **Salta:** Capiazutí. Pocitos. Santa Victoria Este. Tartagal. Santa Fe. Santiago del Estero: río Salado. Tucumán.

**Biological features.** Inhabiting temporary or semi-permanent ponds and pools, and ditches, including very small ones (like footprints of horses), and artificial ones (like swimming pools and livestock drinking-troughs), mainly in plains. A fairly common pioneer species, readily colonizing new rain-fed ditches (the apterous morph is extremely rare); not gregarious.

*Limnogonus (Limnogonus) profugus*  
Drake and Harris 1930

**Distribution.** Only known from Misiones Province. Northward to Venezuela, and Brasil (Pará).

**Localities recorded.** Misiones: Pindapoy. Santa María.

**Biological features.** Inhabiting rivulets in densely forested hilly areas. A rare, probably not gregarious species.

*Limnogonus (Neogerris) lubricus*  
White 1879

**Distribution.** Chacoan provinces, from the boundary with Paraguay southward to northern Córdoba Province and probably northern Santa Fe Province; this species extends beyond the limits of the Chacoan biogeographic province as far as the hilly areas of Salta Province, and Misiones Province. Northward to Colombia and Guiana.

**Localities recorded** (fig. 4). **Córdoba:** Parque Provincial Chancaní. **Formosa:** Ingeniero Juárez. **Misiones:** Parque Nacional Iguazú. **Salta:** Juntas de San Antonio. Santa Victoria Este, laguna del Breal. Valle de Acambuco.

**Biological features.** Inhabiting semipermanent ponds in plains and low hilly areas. Fairly common in the Chacoan provinces; not distinctly gregarious. Both the apterous and the macropterous morphs are common.

Charmatometrini Matsuda 1960

*Brachymetra albinerva albinerva*  
(Amyot and Serville 1843)

**Distribution.** Northwestern and northeastern corners of Argentina. Northward to Trinidad, the Antilles and Guiana.

**Localities recorded.** Misiones: Pindapoy. Santa María. **Salta.**

**Biological features.** No data were recorded for the material examined; probably inhabiting borders of rivulets in forested to densely forested hilly areas. Probably gregarious, as there are large series of the dominant apterous morph (therefore not collected at light traps) obtained in Misiones Province.

Rhagadotarsinae Lundblad 1933

*Rheumatobates (Rheumatobates)*  
*bonariensis* (Berg 1898)

**Distribution.** Northeastern provinces, from the boundaries with Brasil and Paraguay southward to Buenos Aires. Northward to Perú and southern Brasil.

**Localities recorded** (fig. 3). **Buenos Aires:** Buenos Aires (city), Dock Sud. Delta of Paraná River. Corrientes. **Entre Ríos:** Colonia San José. Delta of Paraná River, arroyo Martínez. Parque Nacional El Palmar. Río Nogoyá. Victoria. **Misiones:** Campo Taranto. Río Uruguayá. **Santa Fe.**

**Biological features.** Inhabiting borders of slow flowing rivers in plains. A common species (locally very common, e.g. delta of the Paraná River); gregarious, forming dense aggregations. Both the apterous and the macropterous morphs are common.

*Rheumatobates (Rheumatobates)*  
*crassifemur crassifemur* Esaki 1926

**Distribution.** Chacoan provinces, from the boundaries with Paraguay and Bolivia southward to southern Santa Fe; eastward to southern Misiones. Northward to Bolivia and southern Brasil.

**Localities recorded** (fig. 3). **Chaco:** Castelli. El Pintado. Fontana. **Corrientes.** **Formosa:** Arroyo

He-He Grande. Ingeniero Juárez. **Misiones:** Posadas. **Salta:** Buen Lugar, 40 km E of Las Lajitas. Santa Victoria Este. Tartagal. **Santa Fe:** Arocena.

**Biological features.** Inhabiting semipermanent ponds in shrubby and open forested areas in plains. The species is fairly common, and forms small loose aggregations. Both the apterous and the macropterous morphs are common.

#### Trepobatinae Matsuda 1960

##### *Halobatopsis platensis* (Berg 1879)

**Distribution.** Paraná and Uruguay fluvial system, southward to Buenos Aires, and Bonarian (eolian) plains in the provinces Santa Fe, Córdoba and Buenos Aires, southward to almost Sierra de la Ventana. Northward to northern Brasil.

**Localities recorded** (fig. 4). **Buenos Aires:** Atucha, riacho Baradero. Baradero. Buenos Aires (city). Chacabuco. Coronel Suárez. Delta of the Paraná River. San Nicolás, arroyo Ramallo. **Córdoba:** Río Carcarañá. Corrientes. **Entre Ríos:** Arroyo del Clé. Colonia San José. Parque Nacional El Palmar. Rincón de Nogoyá, río Nogoyá. Victoria. **Misiones:** Bernardo de Irigoyen. Río Piraí Guazú, ruta 20. San Antonio. San Ignacio. Santa María. **Santa Fe:** Colastiné Sur.

**Biological features.** Inhabiting margins of slow flowing rivers in plains, and their overflows. This species is very common in most of its distributional area; it forms compact aggregations, in which only the apterous morph occurs. Macropterous specimens are extremely rare, the only series in which they were frequent was taken in a shaded, small, moderately fast running river in El Palmar National Park, Entre Ríos Province.

##### *Halobatopsis spiniventris* Drake and Harris 1936

**Distribution.** Along the Uruguay River from Misiones southward to Entre Ríos Province; only one locality near the Paraná River in northern Misiones. Northward to central Brasil.

**Localities recorded** (fig. 1). **Entre Ríos:** Parque Nacional El Palmar. **Misiones:** Acaraguá. Aristóbulo del Valle, Salto Encantado. Bayo Troncho.

Eldorado. Leandro Alem. Río Alto Uruguay. Santa María.

**Biological features.** Inhabiting borders of rivulets in forested to densely forested hilly areas. A fairly common species, apparently not forming aggregations, at least not dense ones. Both the apterous and the macropterous morphs were found, the latter often with broken wings.

##### *Metrobates plaumanni plaumanni* Hungerford 1951

**Distribution.** Known only from Misiones Province and southern Brasil.

**Locality recorded.** **Misiones:** Río Uruguay.

**Biological features.** Inhabiting borders of rivulets in selvatic hilly areas; probably not gregarious. Only one macropterous specimen was collected.

##### *Metrobates vigilis* Drake 1958

**Distribution.** Known only from Misiones Province and southern Brasil.

**Locality recorded.** **Misiones:** Arroyo Pepirí Miní.

**Biological features.** Inhabiting borders of rivulets in selvatic hilly areas; probably not gregarious. Only two apterous specimens were collected.

##### *Ovatametra gualeguay* Bachmann 1966

**Distribution.** Known only from Buenos Aires and Entre Ríos Provinces; probably also in Uruguay and southern Brasil.

**Localities recorded** (fig. 1). **Buenos Aires:** Delta of Paraná River. **Entre Ríos:** Antelo, arroyo de los Manantiales. Arroyo del Clé. Río Nogoyá, near Tres Bocas. Victoria.

**Biological features.** Inhabiting borders of slow flowing rivers in plains, and their overflows. A fairly rare species, sometimes living within aggregations of *Halobatopsis platensis*, suggesting gregarious habits, but not forming dense aggregations when it is the sole species in the pool. Both the apterous and the macropterous morphs were found, the latter usually with broken wings.

*Trepobates taylori* (Kirkaldy 1899)

**Distribution.** Northwestern corner of Argentina. Northward to the United States of America and the Antilles.

**Localities recorded** (fig. 2). **Jujuy:** Palmas San Pedro. **Salta:** Lumberas, río Juramento. Orán. Urundel. Valle de Acambuco. **Tucumán:** Horco Molle.

**Biological features.** Inhabiting small rivers in mountainous areas. The species is fairly common and apparently not gregarious; both the apterous and the macropterous morphs are found, the latter usually with broken wings.

### Conclusions

From the above data it may be concluded that several Gerridae recorded from Argentina are clearly bound either to mountain rivers and rivulets (*Eurygerris fuscineris* and *Trepobates taylori*) or to rivers, rivulets, ponds, and small standing water bodies in plains (*Limnogonus ignotus*, *L. lubricus*, *Rheumatobates bonariensis*, *R. crassifemur*, *Halobatopsis platensis*, and *Ovatametra gualeguay*). *Limnogonus aduncus*, *L. profugus*, *Brachymetra albinerva*, *Halobatopsis spiniventris*, *Metrobates plaumanni*, and *M. vigilis* seem to prefer slow flowing sectors of rivulets in forested to densely forested hilly areas, although *L. aduncus* is also recorded from a single locality of dry shrubby area in the Chacoan plain. On the other hand, *L. lubricus*, a fairly common chacoan species, is also recorded from pools in low to medium altitude valleys in Salta Province.

*Limnogonus ignotus* is a pioneer species readily colonizing on flight the new small (rain) ditches in the plains, including artificial ones; apterous specimens are extremely rare.

Although appearing almost always in the apterous morph, *Halobatopsis platensis* is widely distributed, but not always abundant, in scattered slow flowing rivers and ponds; in the Paraná and Uruguay fluvial system, specially in the delta of the Paraná River, this species is gregarious, conforming dense aggregations.

In the mountain ranges of northwestern Argentina, *Eurygerris fuscineris* and *Trepobates taylori* are characteristic in the borders and overflows of small and medium sized rivers, the first species

extending to mountainous areas of the Central provinces (Córdoba and San Luis).

In the Chacoan (fluvial) plain, *Rheumatobates crassifemur* and *Limnogonus lubricus* are characteristic of the temporary to semipermanent ponds, together with *L. ignotus*, a pioneer species.

The Bonarian (eolian) plain share the last named pioneer species, and have *Halobatopsis platensis* as the sole characteristic, though not abundant gerrid.

The Paraná and Uruguay fluvial system (the so named Argentine Mesopotamia, including the Paraná delta), shares the same pioneer species (surprisingly absent from the delta), and displays as characteristic elements *Rheumatobates bonariensis*, *Halobatopsis platensis*, here quite common, and *Ovatametra gualeguay*.

No gerrid species occurs in Patagonia.

*Halobatopsis platensis* seems to be the southern most species of gerrid in the world; *Aquarius chilensis* reaches almost the same latitude in Chile, west of the Cordilleras.

Three species, widely distributed in tropical South America, *Brachymetra albinerva*, *Limnogonus aduncus*, and *L. profugus*, reach Argentina at the northeastern corner, in Misiones Province (*L. aduncus* also at the northwestern corner), apparently occurring only locally. *Metrobates plaumanni* and *M. vigilis*, also from Misiones Province, have a restricted distribution in southern Brasil.

Regarding the degree of commonness, *Limnogonus aduncus*, *L. profugus*, and *Ovatametra gualeguay* are found occasionally and must be considered as rare. Not enough data are gathered for *Brachymetra albinerva*, *Metrobates plaumanni*, and *M. vigilis* in Argentina; the first one was collected in great amounts, but only very few times, suggesting it too is rare. The remaining species, *Eurygerris fuscineris*, *Limnogonus ignotus*, *L. lubricus*, *Rheumatobates bonariensis*, *R. crassifemur*, *Halobatopsis platensis*, *H. spiniventris*, and *Trepobates taylori*, are fairly to very common.

Gregariousness occurs in *Eurygerris fuscineris*, *Rheumatobates bonariensis*, *R. crassifemur*, and *Halobatopsis platensis* (especially in the large fluvial systems), and probably in *Brachymetra albinerva*, since large series of apterous specimens were collected at some spots. *Ovatametra gualeguay* sometimes appears in the same aggregations with *Halobatopsis platensis*, suggesting gregarious habits, but this species does not form compact aggregations when it appears alone. The four species of *Limnogonus* occurring in Argentina are not

gregarious, they skate as isolate individuals. No data regarding both species of *Metrobates* are available, but the few specimens collected suggest they skate as isolate individuals too. The several available series of *Halobatopsis spiniventris* and of *Trepobates taylori* do not suggest gregarious habits either.

### Acknowledgements

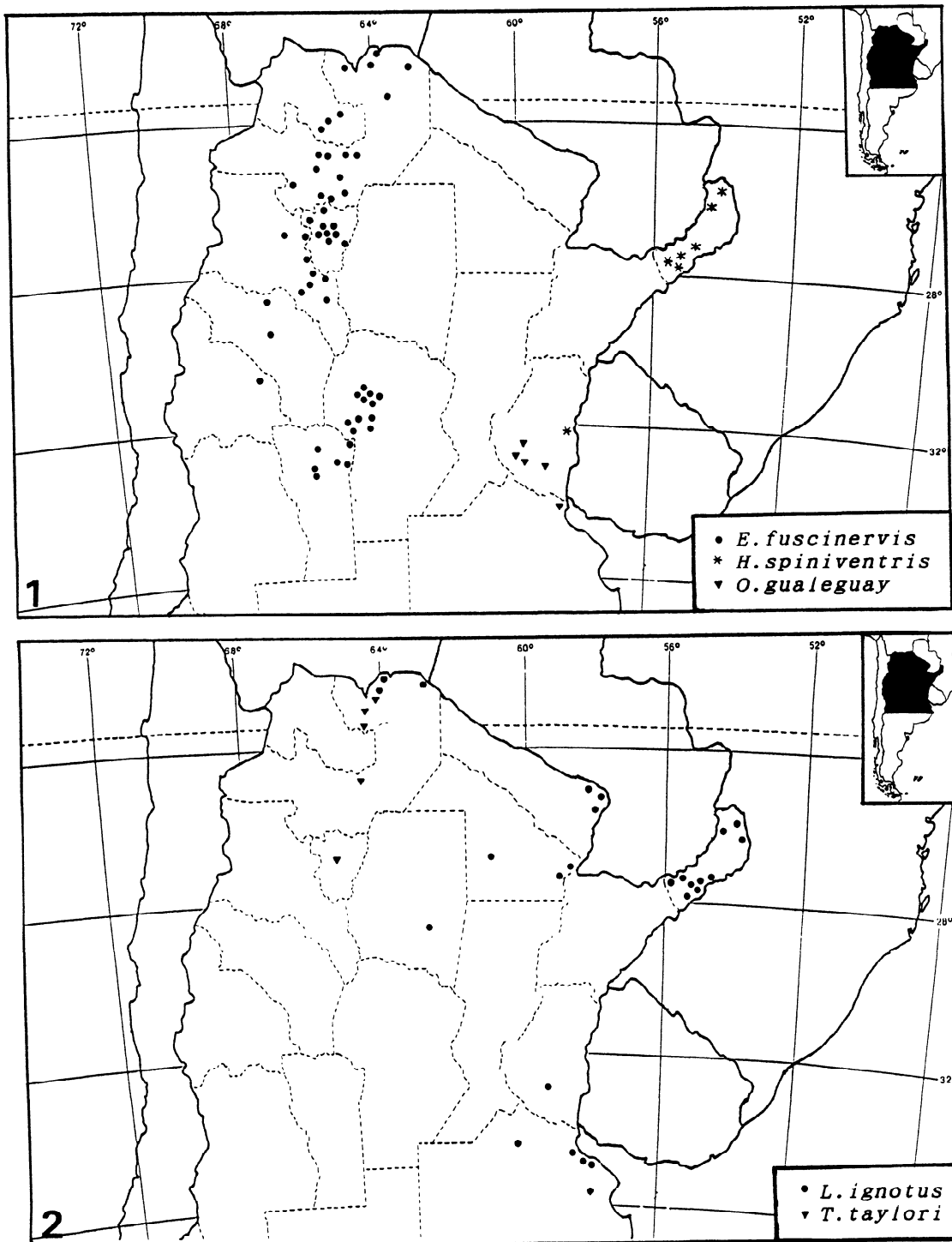
Authors wish to thank lic. María del Valle Ajmat de Toledo, curator of the Hemipteran collection, Fundación M. Lillo, Tucumán, and Dr. Ricardo A. Ronderos, head of the Scientific Department of Entomology, Museo de La Plata, for providing specimens for examination. They are sincerely indebted to Dr. Daniel C. Roccatagliata, University of Buenos Aires, for highly valuable suggestions, and help with final editing of the English manuscript.

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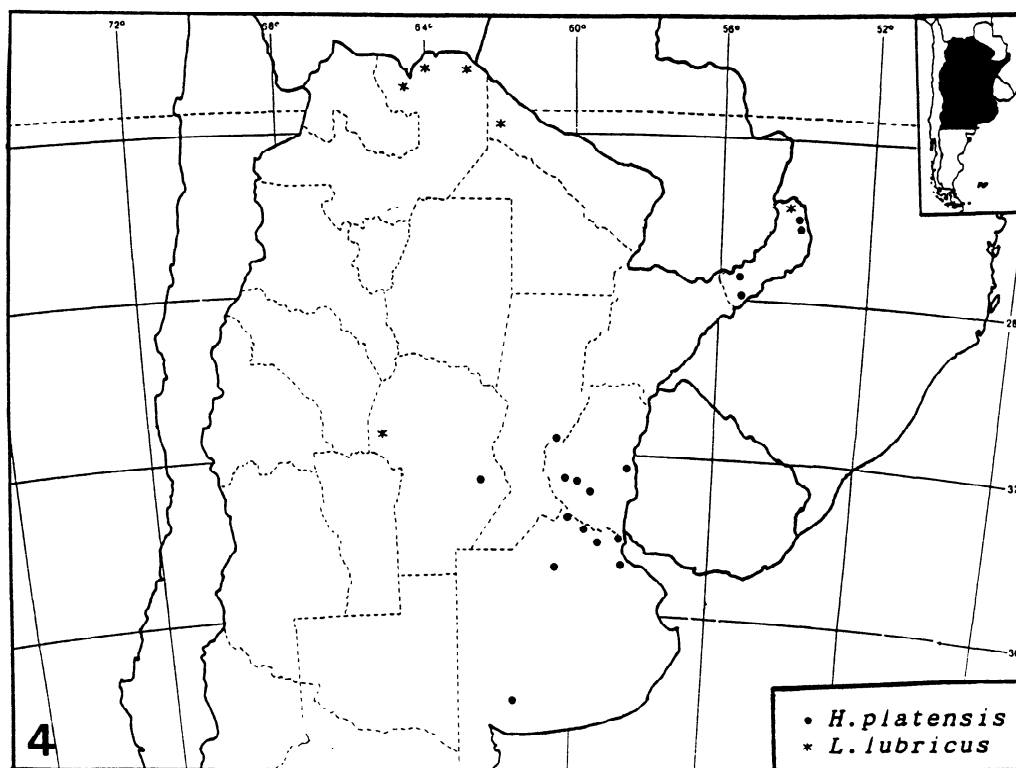
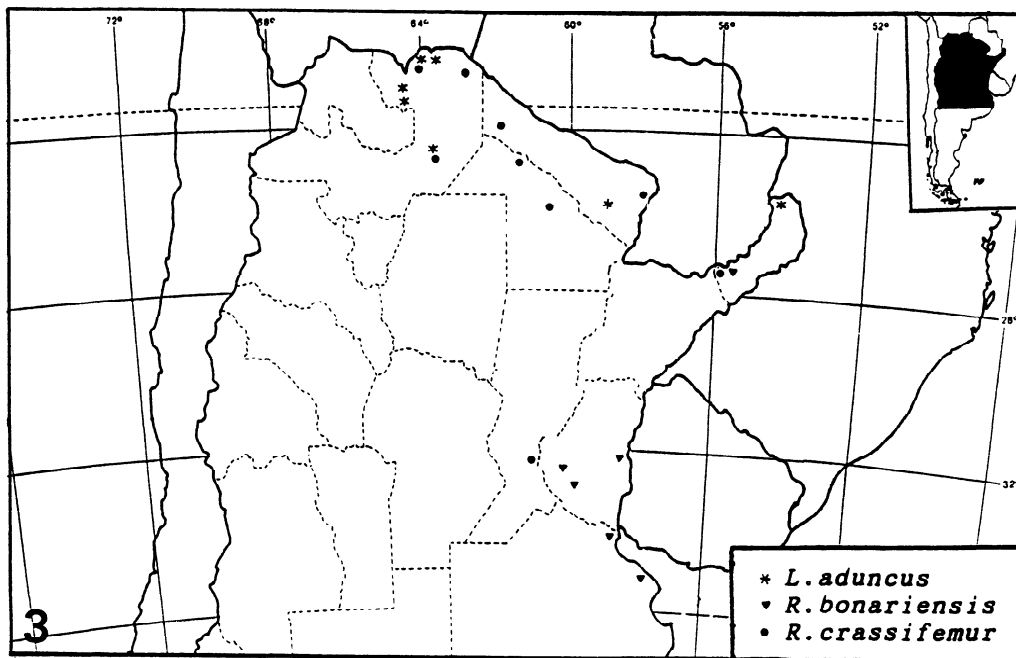
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	BUENOS AIRES	CATAMARCA	CHACO	CORDOBA	CORRIENTES	ENTRE RIOS	FORMOSA	JUJUY	LA RIOJA	MISIONES	SALTA	SAN JUAN	SAN LUIS	SANTA FE	SOC. DEL ESTERO	TUCUMAN
<i>B. albinerva</i>										X	X					
<i>E. fuscinerwis</i>		X		X				X	X		X	X	X			X
<i>H. platensis</i>	X			X	X	X				X				X		
<i>H. spiniventris</i>						X				X						
<i>L. aduncus</i>							X			X	X					
<i>L. ignotus</i>	X		X	X	X	X	X			X	X			X	X	X
<i>L. lubricus</i>				X			X			X	X					
<i>L. profugus</i>										X						
<i>M. plaumanni</i>										X						
<i>M. vigilis</i>										X						
<i>O. gualaguay</i>	X					X										
<i>R. bonariensis</i>	X				X	X				X				X		
<i>R. crassifemur</i>			X		X		X			X	X			X		
<i>T. taylori</i>								X			X					X

Table 1. Occurrence of the fourteen Gerridae species by Provinces.



Figs. 1-2. Localities at which specimens were collected: 1, *Eurygerris fuscinervis*, *Halobatopsis spiniventris* and *Ovatometra gualaguay*; 2, *Limnogonus ignotus* and *Trepobates taylori*.



Figs. 3-4. Localities at which specimens were collected: 3, *Limnogonus aduncus*, *Rheumatobates bonariensis* and *Rheumatobates crassifemur*; 4, *Halobatopsis platensis* and *Limnogonus lubricus*.