

Cercopoidea types (Hemiptera-Cicadomorpha) housed at the Museo de la Plata entomological collection (Argentina)

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Abstract. Type material of 11 species from seven genera of Cercopoidea is housed at the Entomology Division of the Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata. The types listed herein correspond to species described by C. Berg (10 spp.) and Lallemand (1 sp.). The collection contains 24 type specimens. Lectotype and paralectotypes of *Deois* (*Deois*) *knoblauchii* (Berg), *Kanaima katzensteinii* (Berg), *Mahanarva* (*Ipiranga*) *aguirrei* (Berg), *Tomaspis argentina* Berg [= *Deois terrea* (Germar)], *T. perezii* Berg [= *Deois terrea* (Germar)] and *T. platensis* Berg are designated. Comparison of their original descriptions with the label information supports the existence of 2 holotypes, 6 lectotypes, 10 paralectotypes and 6 syntypes. The following information is given for each species: original species names, taxonomic catalogue, bibliographic references, type category, number of specimens, gender, Museo de La Plata code numbers, and transcription of data from labels (country, province, locality, date of collection, collector's name, and hosts). Information about subsequent nomenclatural changes with corresponding references, the state of preservation of the specimens in each series and pictures of each species are also provided.

Key-Words. Catalogue; Nomenclature; Taxonomy; Auchenorrhyncha.

INTRODUCTION

The Cicadomorpha encompasses leafhoppers and treehoppers (Membracoidea), cicadas (Cicadoidea) and spittlebugs (Cercopoidea), by far the most diverse plant-feeding hemipteran superfamily. Due to their piercing-sucking feeding behavior, these insects are an important group of vectors of plant pathogens (Nielson, 1968). The superfamily Cercopoidea, with approximately 3,000 species, are divided into three families: Cercopidae, which are efficient spittle-producers (including subfamilies Aphrophorinae Amyot & Serville, 1843 and Ischnorhininae Schmidt, 1920); Clastopteridae (including subfamily Clastopterinae Dohrn, 1859 and Machaerotinae Stål, 1866), inefficient spittle-producers and tube-dwellers; and the New-World tropical Epipygidae which probably lay exposed eggs and have free-living nymphs (Carvalho & Webb, 2005; Hamilton, 2001, 2013).

At present, Cercopidae Ichnorhininae, represent a very diverse group, has approximately 475 species distributed in the Neotropics (Carvalho & Webb, 2005; Hamilton, 2013). 24 species of

eight genera were registered in Argentina (Foieri, 2017) and eight species of five genera were deposited in the collection of Museo de La Plata. Aphrophorinae is integrated by 670 species, described in 154 genera widely represented in the world (Metcalf, 1962; Hamilton 2015). Only two species of two genera were recorded in Argentina and the type material of one of them was deposited in the Museum collection. For Clastopteridae Clastopterinae, approximately 152 species of 7 genera were recorded for America, Africa and Southeast Asia, 100 species were recorded from America and only two species of the genus *Clastoptera* Germar are present in Argentina (Metcalf, 1962; Hamilton, 2015); both were deposited in the Museum collection.

The purpose of this catalogue is to provide a record of the cercopid types present in the entomological collections of the Museo de La Plata, Argentina as part of a series of contributions on the Auchenorrhyncha housed there (Paradell *et al.*, 2008, 2010; Marino de Remes Lenicov *et al.*, 2010, 2015; Paradell & Defea, 2017).

The present contribution offers updated information on 11 species of seven genera of the

superfamily Cercopoidea: ten of them were described by C. Berg (1879, 1883) and one was described by Lallemand (1912). Lectotypes and paralectotypes were designated for *Deois* (*Deois*) *knoblauchii* (Berg), *Kanaima katzensteinii* (Berg), *Mahanarva* (*Ipiranga*) *aguirrei* (Berg), *Tomaspis argentina* Berg, *T. perezii* Berg and *T. platensis* Berg. *Ptyelus xanthaspis* (Berg), *Clastoptera argentina* Lallemand and *C. secunda* (Berg) were treated as syntypes following ICZN, 1999, Article 73.1.3 and its recommendation 73F.

Publications documenting the type material housed at different museums and other scientific institutions are recommended by the 4th edition of the International Code of Zoological Nomenclature (Article 72 F4, ICZN, 1999).

MATERIAL AND METHODS

For each species we provide the following information:

- Names of the species.
- Bibliographic references.
- Taxonomic catalogue.
- Category of types.
- Gender and number of the specimens/category.
- Distribution data (geographic locations with longitudes and latitudes) associated with types specimens.
- Original description and translation is added for lectotype and paralectotypes.

A four-digit code number followed by a slash and second number indicate the type category, according to the present status and rules of the Museo de La Plata Entomological Collection (MLP): /1, lectotype; /2 and subsequent numbers, paralectotypes. Data on labels were recorded as an exact transcription of the text on labels associated with each specimen: country, province, locality, collecting date, collector's name, and host, when indicated. Additional information on the type specimens is included as "Remarks".

All type specimens were identified with a rectangular red printed label following the institution's policy for the collection, as well as the original hand-written labels.

The information of labels of each specimen were checked with the original description to verify the type status of each species. Lectotypes and paralectotypes were designated when enough information was available to select a specimen as bearer of the name from among a single or several specimens of the series. For these taxa, the original descriptions were transcribed and translated (indicating in quotation marks the originals).

Full bibliographic references for species and pictures of each species are provided. Photographs of the holotypes, lectotypes and syntypes were made using a LEICA EZ5 stereoscopic microscope with RRID 18 HD digital camera adapted to the microscope. Digital images were assembled using Combine ZM open software (Hadley, 2011).

RESULTS

Suborder Auchenorrhyncha
Infraorder Cicadomorpha
Superfamily Cercopoidea
Family Cercopidae
Subfamily Aphrophorinae
***Ptyelus* Le Peletier & Serville**

***Ptyelus xanthaspis* (Berg) (Fig. 1)**

1884. *Anales de la Sociedad Científica Argentina*, XVII: 97-118.

Philaenus xanthaspis Berg, 1884: 198.

Ptyelus xanthaspis (Berg) comb. n. by Lallemand, 1912: 38.

1 Syntype, female, MLP no. 1736, Buenos Aires, II/1884, collector F. Meister.

Remarks: The specimen was labelled as "typus" by Berg and is treated here as syntype (ICZN, 1999, Article 73.1.3 and its recommendation 73F). This species, originally described as *Philaenus* Stål by Berg (1884), was transferred to *Ptyelus* Le Peletier & Serville by Lallemand (1912: 38). Syntype lacks right forewing.

Subfamily Ischnorhininae ***Deois* Fennah**

***Deois correntina* (Berg) (Fig. 2)**

1879. *Anales de la Sociedad Científica Argentina*, VIII: 234.

Tomaspis correntina Berg, 1879: 215.

Tomaspis (*Tomaspis*) *correntina*; Lallemand, 1912: 92.

Deois (*Deois*) *Correntina* comb. n. of *Tomaspis correntina* Berg by Carvalho & Sakakibara, 1988: 60.

1 Holotype, male, MLP no. 1730; Argentina, Corrientes; date and collectors unknown.

Remarks: The specimen was labelled as "typus" by Berg and designated subsequently as holotype by Carvalho & Webb (2005: 57). This species, originally described as *Tomaspis* Amyot & Serville by Berg (1879), was transferred to *Deois* Fennah by Carvalho & Sakakibara (1988: 60).

Holotype lacks left forewing and has abdomen dissected in vials with glycerine.

***Deois knoblauchii* (Berg) (Fig. 3)**

1879. *Anales de la Sociedad Científica Argentina*, VIII: 236-237.

Tomaspis knoblauchii Berg, 1879: 236.

Deois (*Pandysia*) *knoblauchii* (Berg) comb. n. by Fennah, 1953: 357.

Deois (*Deois*) *knoblauchii*; Costa & Sakakibara, 2002: 197.

Lectotype, male, MLP no. 1732/1; Argentina, Tucumán; date and collectors unknown.

Paralectotype, male, MLP no. 1732/2; Argentina, Tucumán; date and collectors unknown.

Paralectotype, male, MLP no. 1732/3; Argentina, Catamarca; date and collectors unknown.

Original Description:

“Parum sericei, capite cum fronte, pronoto, scutello, apice excepto, femoribus ad partem tarsisque, nec non tegminibus, maculis tribus exceptis, aenescenti-nigris; rostro, pectore maximam partem, dorso abdominis, ventre pedibusque, nec non tegminibus maculis tribus, una angusta basali, alteris duabus costalibus, rubris; capite antice subangulato, utrimque mediocriter impresso, medio obsolete carinato; fronte convexa, distincte carinata; pronoto antice dense sericeo, medio obsolete carinato; scutello profunde impresso, apice obscure rubro; tegminibus sat deflexis, apicem versus nonnihil angustatis, basi rubris, macula prima costae subtriangulari, altera quadrangulari; alis subhyalinis vel fusciscentibus; prosterno nigricanti; mesosterno, metasterno, dorso abdominis, ventre pedibusque laete aut obscure rubris; femoribus interdum offuscatis; spina basali tibiaram posticarum párvula. Long. corp. 6-7; tegm. 7; lat. Pron. 2½ mm”.

Translation:

Opaque, head with the frons, pronotum, scutellum except the apex, femur and part of tarsus as well as the tegmina, except the three spots, reddish black; rostrum, most of the ventral surface of thorax, dorsal and ventral surface of abdomen, and the three spots on the tegmen, a narrow basal and two in the costal margin, ruby red. Head with apex subangular, slightly punctured on each side, with a slightly marked median carina; frons convex, with a strongly marked carina; pronotum opaque anteriorly, very slightly carinated (medio obsolete carinato); scutellum deeply punctured, reddish black at apex; tegmina bend downward at apex, slightly narrowing towards apex, red at base, first costal spot subtriangular and the second quadrangular; wings sub-hyaline or darkness; prosternum darkish; mesosternum and metasternum, dorsal and ventral surface of the abdomen and legs dark reddish; femora darkened; basal spine of the metatibia small. Body length: 6-7 mm; tegmina: 7 mm; pronotum width: 2½ mm.

Remarks: All the specimens labelled as “typus” by Berg and treated as syntypes by Carvalho & Webb (2005) are designated here as lectotype and paralectotypes (ICZN, art. 74.1.1). This species was originally described as *Tomaspis* Amyot & Serville by Berg (1879), transferred to *Deois* (*Pandysia*) by Fennah (1953: 357) and later placed as *Deois* (*Deois*) by Costa & Sakakibara (2002: 197). The original publication indicates that five specimens were used for the description of the species, but only three are deposited.

Paralectotype 1732/2 lacks left mesothoracic leg, tibia and tarsi of right metathoracic leg and has abdomen dissected in vials with glycerine. Paralectotype 1732/3 lacks right mesothoracic leg.

***Deois terrea* (Germar)**

1821. *Magazin der Entomologie*, V: 1-106.

Cercopis terrea Germar, 1821: 46.

Tomaspis argentina Berg, 1879: 236.

Tomaspis perezii Berg, 1879: 235.

Tomaspis terrea (Germar) comb. n. of *Cercopis terrea* Germar, 1821 by Berg, 1883: 239.

Tomaspis terrea (Germar, 1821) syn. of *Tomaspis argentina* Berg by Berg, 1883: 239.

Deois terrea (Germar) comb. n. of *Tomaspis terrea* (Germar) by Fennah, 1948: 607.

Deois (*Deois*) *terrea*; Fennah, 1953: 356.

Deois (*Deois*) *terrea* (Berg) syn. of *Tomaspis perezii* Berg by Sakakibara, 1979: 12.

[*Tomaspis argentina* Berg (Fig. 4)]

Lectotype, male, MLP no. 5774/1; Argentina, Baradero; date and collectors unknown.

Paralectotype, female, MLP no. 5774/2; Argentina, Buenos Aires, date and collectors unknown.

Paralectotype, male, MLP no. 5774/3; Argentina, Cordoba; date and collectors unknown.

Original Description:

“Sordide albido-testacei vel flavescentes, parum sericei, capite cum fronte, pronoto, scutello ad basin, prosternoque maximam partem, nec non interdum pedibus anticis et mediis, dilute fuscis; capite antice fere rotundato, utrimque leniter impresso, carina subpercurrente instructo; pronoto parum foveolato, medio subumbonato, postice angulato-exciso; scutello valde impresso, subtilissime transversim striato; tegminibus apice semicirculariter rotundatis; alis subhyalinis, dorso abdominis ventreque luridis vel testaceis, rarissime fusciscentibus; spina basali tibiaram posticarum mediocre. Long. corp. 6½-7½, tegm. 7-9; lat. Pron. 2½-3 mm”.

Translation:

Light brown or yellowish, opaque, head with the frons, pronotum and base of the scutellum, most of the prosternum, as well as anterior and middle legs, light brown; head anteriorly rounded, on each side slightly punctured, carina strongly marked, not reaching posterior margin; pronotum slightly foveolated, anterior part quite elevated, posterior margin deeply and angularly grooved; scutellum strongly punctured and finely striated laterally; apex of the tegmina rounded; wings hyaline; dorsal and ventral abdomen light brown, rarely darken; posterior basal spine of the tibia reduced. Body length: 6½-7 mm; tegmina: 7-9 mm; pronotum width: 2½-3 mm.

Remarks: All the specimens originally described by Berg (1879) as belonging to *Tomaspis* Amyot & Serville and synonymized with *Cercopis terrea* Germar by Berg (1883: 239), are considered here as lectotype and para-

lectotypes (ICZN, art. 74.1.1). These specimens were missing in the entomological collection of MLP labelled as "typus".

Lectotype 5774/1 lacks both prothoracic legs and the mesothoracic right leg. The paralectotype 5774/2 lacks left forewing. Paralectotype 5774/3 lacks both prothoracic and mesothoracic left legs, both metathoracic legs and right forewing; the left forewing is glued to a piece of card, and the genitalia dissected in vial with glycerine.

[*Tomaspis perezii* Berg (Fig. 5)]

Lectotype, female, MLP no. 1733/1; Argentina, Buenos Aires; date and collectors unknown.

Paralectotype, female, MLP no. 1733/2; Argentina, Buenos Aires, date and collectors unknown.

Original Description:

"Albido-testacea, dense sericea, capite supra foveolis et callolis partis anticae pronoti, disco pectoris dorsoque abdominis obscure fuscis vel piceis; capite subrotundato, utrimque impresso, carina antice et postice obsoleta instructo; fronte flavida, transversim testáceo-striata, convexa, distincte carinata; antennis fusciscentibus; pronoto carina obsoleta, antice et postice evanescente, instructo; scutello medio leviter impresso, ad basin interdum fusco; tegminibus dense sericeis, apice semicirculariter rotundatis; alis hyalinis, venis limboque fusciscentibus; dorso abdominis basi apiceque flavescenti; ventre dilute fusco, obsolete testáceo-fasciato, segmento terminali flavido; pedibus flavido-testaceis, tarsi obscurioribus, spina basali tibiaram posticarum parva. Long. corp. 7¹/₂-8, tegm. 7-8; lat. Pron. 2¹/₂ mm".

Translation:

Light brown, opaque, surface of the head with foveas and even tubercle in the anterior part of the pronotum; ventral surface of the thorax light brown or dark; sub-rounded head, punctate on each side, vertex with weak carina; yellow frons, convex, with a strong carina and striated laterally; darkened antennae; pronotum with weak carena and obsolete in the anterior part; scutellum slightly punctured, darkened at base; tegmina opaque, apex rounded; wings hyaline, veins darkened; dorsal surface at base and apex of the abdomen yellowish, ventral surface light brown with darkened bands, terminal segment yellow; legs yellowish-brown, tarsi darkened, posterior basal spine of the tibia small. Body length: 7¹/₂-8 mm; tegmina: 7-8 mm; pronotum width: 2¹/₂ mm.

Remarks: Both the specimens were labelled as "typus" by Berg and mentioned as syntypes by Carvalho & Webb (2005: 58). This species was originally described as *Tomaspis* Amyot & Serville by Berg (1879) and subsequently was synonymized with *Deois* (*Deois*) *terrea* (Germar) by Sakakibara (1979: 12). Are considered here as lectotype and paralectotype (ICZN, art. 74.1.1).

Paralectotype 1733/2 lacks both mesothoracic legs and left forewing.

Kanaima Distant

Kanaima katzensteinii (Berg) (Fig. 6)

1879. *Anales de la Sociedad Científica Argentina*, VIII: 233.

Tomaspis katzensteinii Berg, 1879: 233.

Kanaima katzensteinii (Berg) comb. n. by Distant, 1909: 213.

Lectotype, male, MLP no. 1735/1; Argentina, Corrientes; date and collectors unknown.

Paralectotype, female, MLP no. 1735/2; Argentina, Buenos Aires, date and collectors unknown.

Paralectotype, female, MLP no. 1735/3; Argentina, Entre Ríos, Concepción del Uruguay; date and collectors unknown.

Original Description:

"Fusci, capite parteque anteriore pronoti piceis vel nigris, tegminibus fuliginosis, dilute fuscis aut luteis; capite magniusculo, punctato, medio obsolete carinato; vértice leviter impresso, antice semicirculariter rotundato, medio subcarinato, carina ad basin tubérculo punctiformi et obsolete instructa; fronte sat tumida, fere semiglobosa, transversim punctato-striata, medio carina obsoleta praedita; pronoto dense punctato, antice medio nonnihil elevato et utrimque biimpresso vel subrugoso, medio basin versus subtilissime sulcato; scutello transverse rubuloso, medio impresso; tegminibus sublibratis, apicem versus nonnihil angustatis, limbo rotundato; alis hyalinis; dorso abdominis fusciscenti, apice flavido; pedibus fuscis aut luteis. Long. corp. 12-13, tegm. 10-11; lat. Pron. 3¹/₂-4 mm".

Translation:

Fuscous, head and pronotum anteriorly dark-brown, tegmina yellowish brown. Head broadly rounded, punctate, with an inconspicuous median carina; vertex slightly punctured, rounded at anterior part and medially subcarinate, carina at base with tubercle slightly marked; frons lightly inflated, transversely sculptured-striated, with a lightly marked median carina; pronotum strongly punctured, anterior part slightly elevated with slightly punctured striae on each side, medial line finely sulcated at base; scutellum lightly transversely striated, punctate medially; tegmina moderately slender and apically rounded; dorsal surface of abdomen darkish with apex yellowish; legs darkened to yellowish. Body length: 12-13 mm; tegmina: 10-11 mm; pronotum width: 3¹/₂-4 mm.

Remarks: All the specimens labelled as "typus" by Berg and treated as syntypes by Carvalho & Webb (2005), are considered here as lectotype and paralectotypes (ICZN, art. 74.1.1). This species was originally described as

Tomaspis Amyot & Serville by Berg (1879) and transferred to *Kanaima* Distant by Distant (1909: 213).

Paralectotype 1732/2 lacks right forewing, both prothoracic legs and tarsi of left mesothoracic leg. Paralectotype 1732/3 lacks both prothoracic legs and right mesothoracic leg.

Mahanarva Distant

***Mahanarva (Ipiranga) aguirrei* (Berg) (Fig. 7)**

1879. *Anales de la Sociedad Científica Argentina*, VIII: 235.

Tomaspis aguirrei Berg, 1879: 235.

Mahanarva (Ipiranga) aguirrei (Berg) comb. n. by Fennah, 1968: 187.

Lectotype, male, MLP no. 1729/1; Argentina, Buenos Aires; date and collectors unknown.

Paralectotype, male, MLP no. 1729/2; Argentina, Buenos Aires, date and collectors unknown.

Paralectotype, sex?, MLP no. 1729/3; Argentina, Buenos Aires; date and collectors unknown.

Original Description:

“Griscenti-fusci, griseo-sericei, capite pronotoque nigricantibus, tegminibus fasciis duabus subflexuosis luridis ornatis, pectore ad apicem, abdominis basi marginibusque segmentorum nec non geniculis testaceis; capite subangulato, utrimque sat profunde impresso, carina apicem non attingent; fronte convexa, carina distincta instructa; pronoto ante médium foveolis interdum subobsoletis praedito; scutello medio impresso et dense sericeo; tegminum fascia posteriore non-numquam medio interrupta, ad costam semper multo latiore, apice semicirculariter rotundatis, lateribus parallelis; alis dilute fuscescentibus; spina basali tibiaram posticarum parva. Long. corp. 6¹/₂-7¹/₂; tegm. 7; lat. Pron. 2¹/₂ mm”.

Translation:

Dark-brown, dull gray, head and pronotum darkened, tegmina with two transverse curved whitish band, thorax at apex, base of abdomen and posterior margin of segments, as well as femoro-tibial joint, light brown. Head subangular, deeply punctured on each side, carina not reaching to apex; frons convex, carina distinct; pronotum with the foveae slightly marked; scutellum punctate in the middle portion and entirely opaque; tegmina with the posterior band sometimes interrupted in the middle, broader at costal margin, apex rounded; wings smoked; basal spine of the metatibia small. Body length: 6¹/₂-7¹/₂ mm; tegmina: 7 mm; pronotum width: 2¹/₂ mm.

Remarks: All the specimens labelled as “typus” by Berg and treated as syntypes by Carvalho & Webb (2005), are considered here as lectotype and paralectotypes (ICZN, art. 74.1.1). This species was originally described as *Tomaspis* Amyot & Serville by Berg (1879) and transferred to *Mahanarva* Distant by Fennah (1968: 186).

Lectotype 1729/1 lacks prothoracic and mesothoracic right legs. Paralectotype 1729/2 lacks prothoracic and mesothoracic legs. Paralectotype 1729/3 lacks metathoracic right tibia and abdomen.

Notozulia Fennah

***Notozulia entreriana* (Berg) (Fig. 8)**

1879. *Anales de la Sociedad Científica Argentina*, VIII: 233-234.

Tomaspis entreriana Berg, 1879: 215.

Tomaspis (Tomaspis) entreriana; Lallemand, 1912: 93.

Tricephora rubropicta Melichar, 1915: 13 syn. of *Notozulia entreriana* by Carvalho & Webb, 2005: 80.

Monecphora alboornata Lallemand, 1927 syn. of *Tomaspis entreriana* Berg by Fennah, 1968: 178.

Zulia (Notozulia) entreriana (Berg) comb. n. of *Tomaspis entreriana* Berg by Fennah, 1968: 178.

Notozulia entreriana; Carvalho, 1995: 388.

1 Holotype, female, MLP no. 1731; Argentina, Entre Ríos, Concepcion del Uruguay; date and collectors unknown.

Remarks: The specimen labelled as “typus” by Berg was designated subsequently as holotype by Carvalho & Webb, 2005: 57. This species was originally described as *Tomaspis* Amyot & Serville by Berg (1879) and transferred to *Notozulia* Fennah by Carvalho (1995: 386).

Holotype has the right forewing glued to a card.

***Tomaspis* Amyot & Serville**

***Tomaspis platensis* Berg (Fig. 9)**

1883. *Anales de la Sociedad Científica Argentina*, XVI: 240-241.

Lectotype, male, MLP no. 1734/1; Argentina, Chacabuco; date and collectors unknown.

Paralectotype, female, MLP no. 1734/2; Argentina, Chacabuco; date and collectors unknown.

Original Description:

“Parum sericei, supra testaceo-lutei, vitta fuscescenti tegminum, limbum versus ampliata, ornati, subtus cum pedibus lurido-testacei, in disco ventris infuscati et ad marginem ventralem ex parte rubro-tincti. Caput antice rotundatum; vértice utrimque impresso, medio valde ante oculos sulco transverso instructo, medio longitudinaliter carinato; fronte tumida, convexa, basi medio distincte carinata, utrimque transversim striolata. Pronotum antice foveolatum, postice obsolete scrobiculato-punctatum. Scutellum acuminatum, medio impressum. Tegmina punctulata, apice parum areolata, vitta media fuscescenti interdum obsoleta. Alae hyalinae, ad partem fuscescenti-venosae. Dorsum abdominis saepe rufum. Tarsi apice spinaeque parte terminalis tibiaram

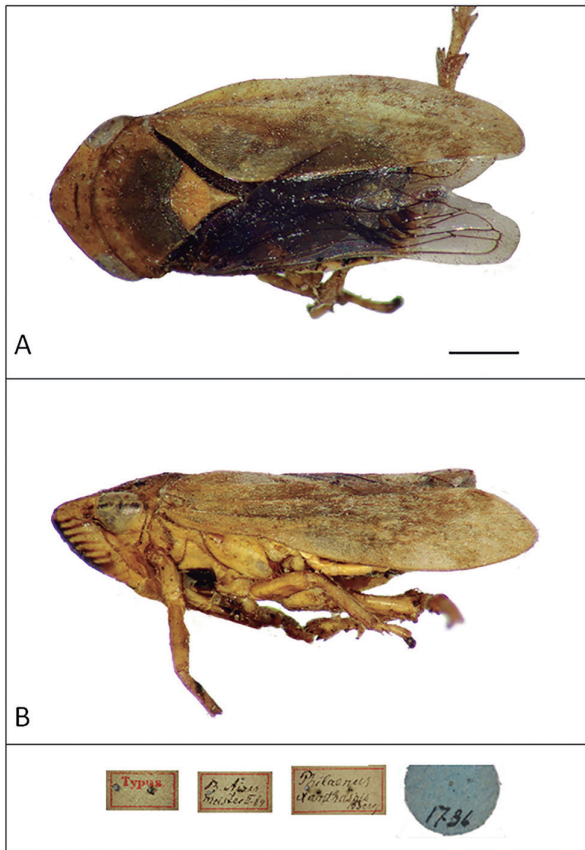


Figure 1. Aphrophorinae. *Ptyelus xanthaspis* (Berg), Syntype, female, dorsal (A) and lateral view (B). Scale = 1 mm.

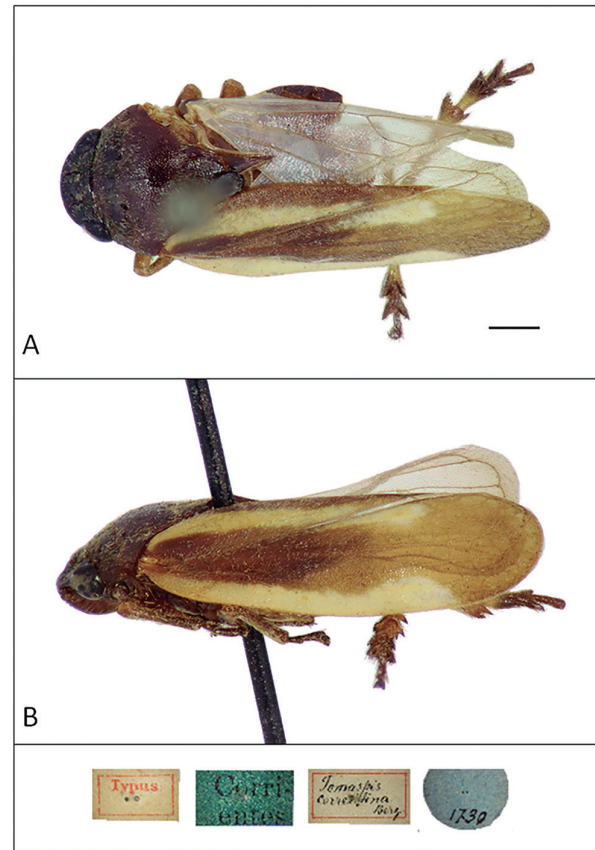


Figure 2. Ischnorhininae. *Deois (Deois) correntina* (Berg), Holotype, male, dorsal (A) and lateral view (B). Scale = 1 mm.

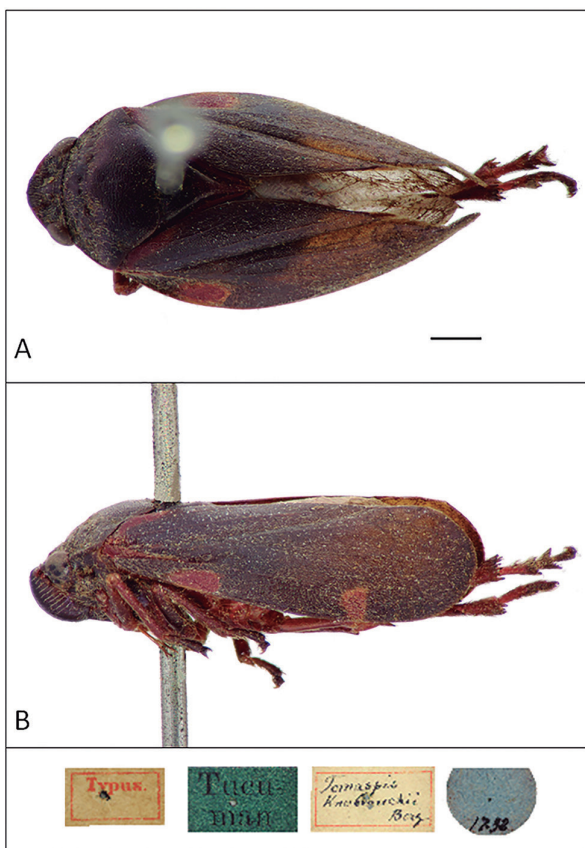


Figure 3. Ischnorhininae. *Deois (Deois) knoblauchii* (Berg), Lectotype, male, dorsal (A) and lateral view (B). Scale = 1 mm.

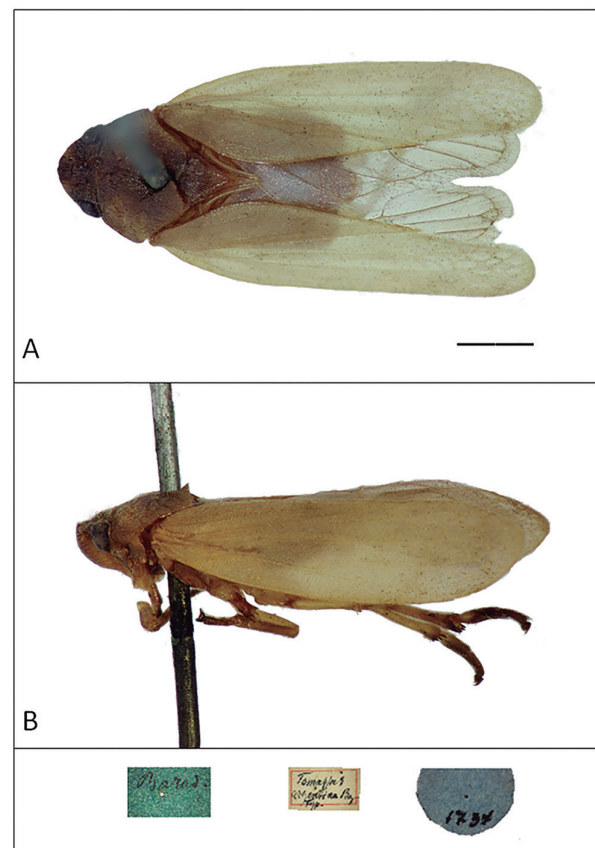


Figure 4. Ischnorhininae. *Tomaspis argentina* Berg, Lectotype, male, dorsal (A) and lateral view (B). Scale = 2 mm.

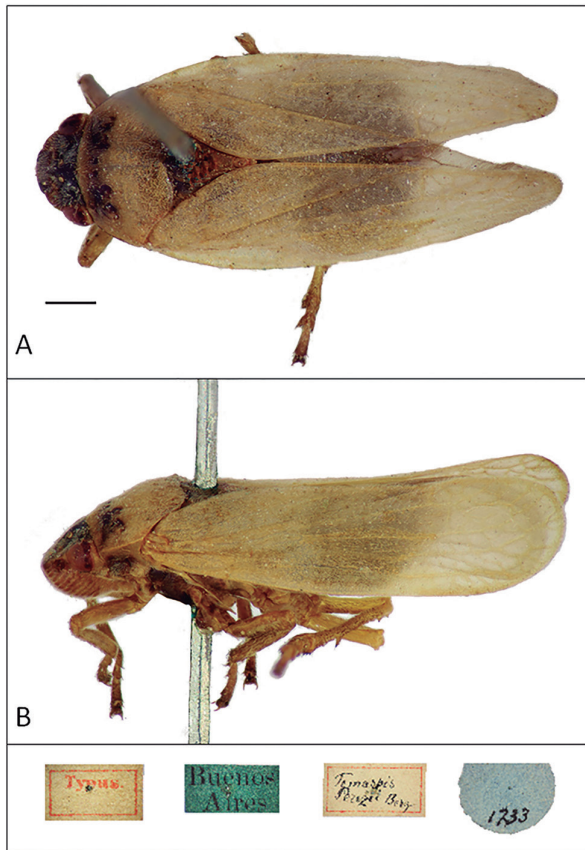


Figure 5. Ischnorhinae. *Tomaspis perezii* Berg, Lectotype, female, dorsal (A) and lateral view (B). Scale = 1 mm.

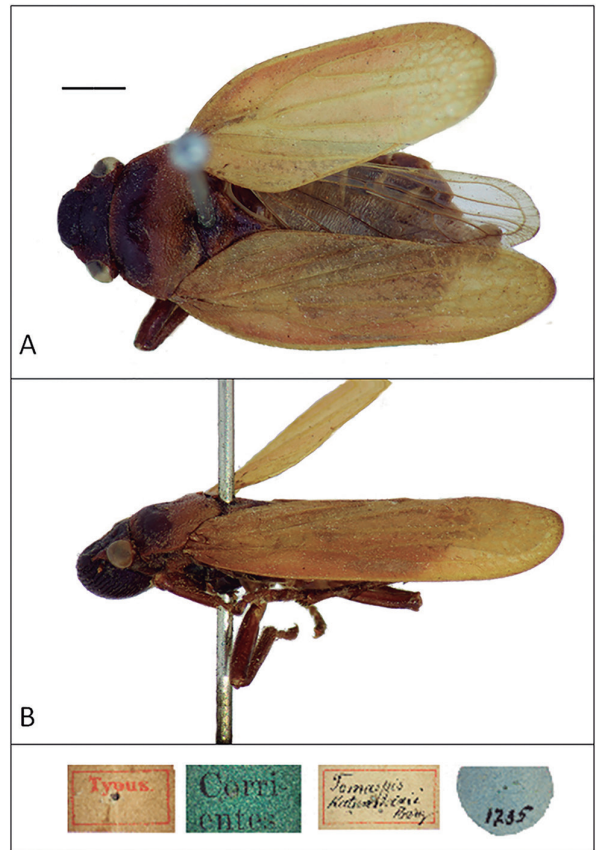


Figure 6. Ischnorhinae. *Kanaima katzensteinii* (Berg), Lectotype, male, dorsal (A) and lateral view (B). Scale = 2 mm.

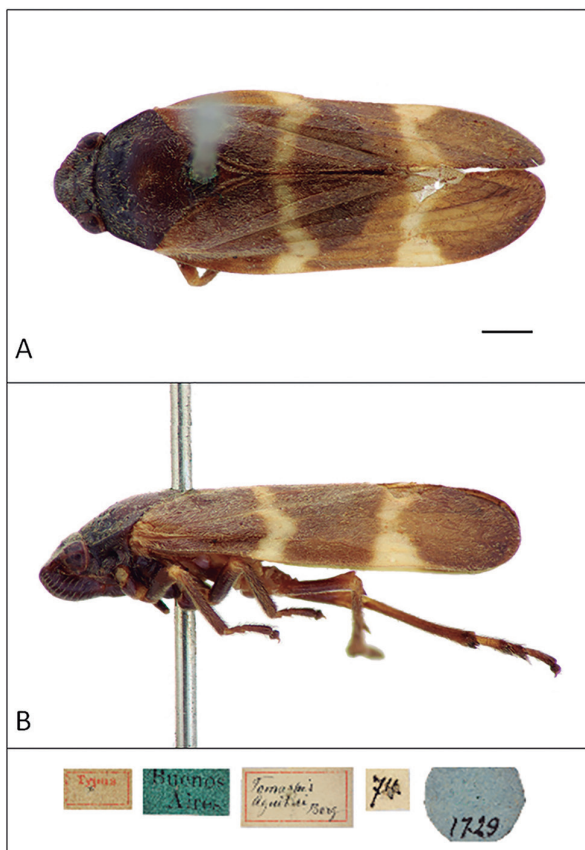


Figure 7. Ischnorhinae. *Mahanarva (Ipiranga) aguirrei* (Berg), Lectotype, male, dorsal (A) and lateral view (B). Scale = 1 mm.

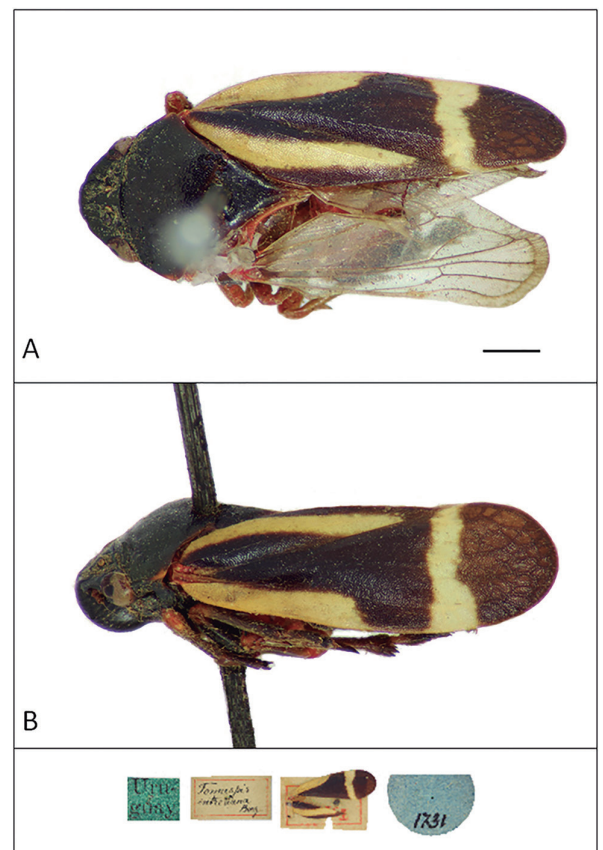


Figure 8. Ischnorhinae. *Notozulia entreriana* (Berg), Holotype, female, dorsal (A) and lateral view (B). Scale = 1 mm.

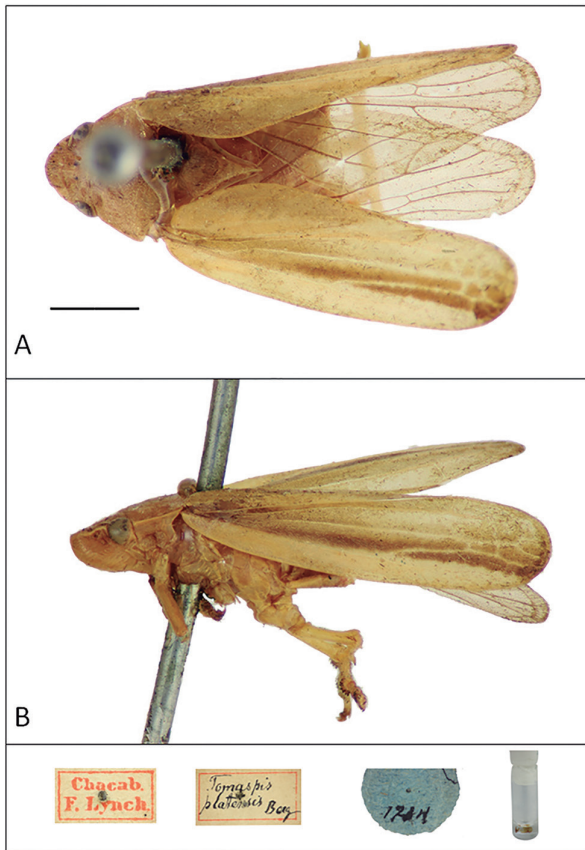


Figure 9. Ischnorhinae. *Tomaspis platensis* Berg, Lectotype, male (A) and lateral view (B). Scale = 2 mm.

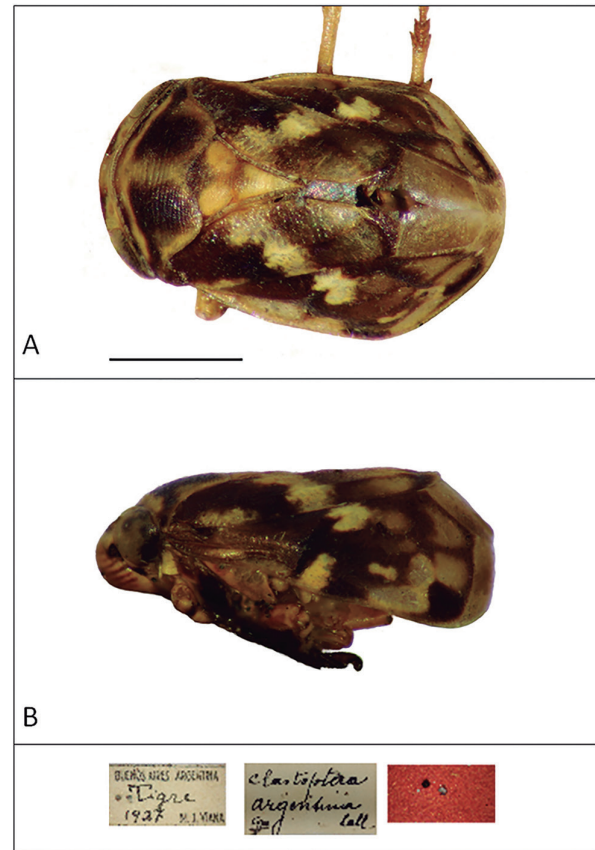


Figure 10. Clastopteridae. *Clastoptera argentina* Lallemand, Syntype, male (A) and lateral view (B). Scale = 1 mm.

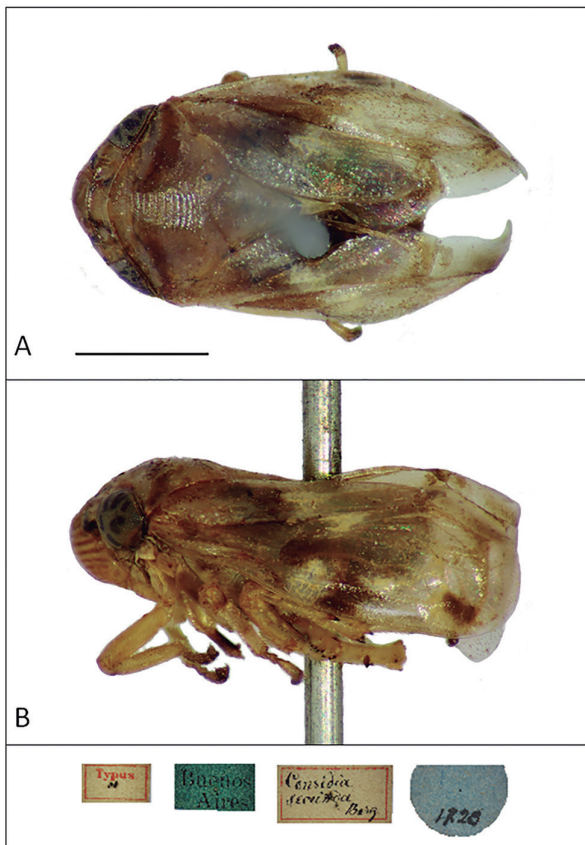


Figure 11. Clastopteridae. *Clastoptera secunda* (Berg), Syntype, male (A) and lateral view (B). Scale = 1 mm.

posticarum fuscis vel nigris. Long. corp. 8-10, cum tegm. 11-13; lat. hum. 3-3,5 mm".

Translation:

Opaque, dorsally yellowish, tegmina with a dark brown median band, broader toward apex thickened anteriorly, ornamented; posterior legs yellowish, ventral surface of the abdomen darkened with margins red; rounded head, vertex punctate on each side, a strongly transversal groove at the middle and in front of the ocelli, convex frons a longitudinal median carina, with a well-marked carina, striated laterally. Pronotum with anterior surface foveolate and posteriorly punctate. Scutellum acuminate, printed at the middle portion; tegmina punctate, apically slightly areolate, with a median brownish-darkened band, sometime inconspicuous. Wings hyaline, veins darkened; sometime dorsal surface of the abdomen red; terminal portion of posterior tibiae spine darkened-black. Long. corp. 8-10 mm, tegm. 11-13 mm; lat. Pron. 3-3½ mm".

Remarks: Both the specimens were labelled as "typus" by Berg (1883), treated as syntypes by Carvalho & Webb (2005: 107) and are considered here as lectotype and paralectotype (ICZN, art. 74.1.1). This species was treated as "species of uncertain position" by Carvalho & Webb (2005: 107).

Lectotype 1734/1 has the genitalia dissected in vial with glycerine and lacks both mesothoracic legs. Paralectotype 1734/2 lacks left forewing and prothoracic and metathoracic left legs.

Family Clastopteridae *Clastoptera* Germar

Clastoptera argentina Lallemand (Fig. 10)

1940. *Anales de la Sociedad Científica Argentina*, 129: 186-187.
2 Syntype, no. 5773, MLP; 1 male, Tigre, Buenos Aires, 1937, collector M.J. Viana; 1 male, San Isidro, XII/1937, collectors unknown.

Remarks: The specimens were labelled as “typus” by Lallemand and are treated here as syntypes (ICZN, 1999, Article 73.1.3 and its recommendation 73F).

Clastoptera secunda (Berg) (Fig. 11)

1879. *Anales de la Sociedad Científica Argentina*, VIII: 231. *Considia secunda* Berg, 1879: 231.
Clastoptera secunda (Berg) comb. n. by Berg, 1899: 1569. Three Syntypes, no. 1728, MLP; 1 male and 2 female, all with the same locality Buenos Aires and collectors unknown.

Remarks: The specimen was labelled as “typus” by Berg and are treated here as syntypes (ICZN, 1999, Article 73.1.3 and its recommendation 73F). This species, originally described as *Considia* Stål by Berg (1879), was transferred to *Clastoptera* German by the same autor in 1899: 1569.

ACKNOWLEDGEMENTS

We especially thank Armando Cicchino for his assistance in translating descriptions in Latin and Dr. Arnaldo Maciá (CIC: Scientific Research Committee of the Province of Buenos Aires, Argentina) for the English grammar support. This study was supported by the National Research Council (Consejo Nacional de Investigaciones Científicas y Técnicas, CONICET) and National University of La Plata (UNLP, Argentina) (Project Code 730).

REFERENCES

- Berg, C. 1879. Hemiptera Argentina. Enumeravit Speciesque Novas. *Anales de la Sociedad Científica Argentina*, 8: 230-238.
Berg, C. 1883. Addenda et emendata ad Hemiptera Argentina. *Anales de la Sociedad Científica Argentina*, 16: 239-241.
Berg, C. 1884. Addenda et Emendanda ad Hemiptera Argentina. (Conclusio). *Anales de la Sociedad Científica Argentina*, 17: 97-118.
Berg, C. 1899. Notas hemipterológicas. *Comunicaciones del Museo Nacional de Buenos Aires*, 1: 158-160.
Carvalho, G.S. 1995. Cercopídeos neotropicales: Redescricao de *Notozulia* Fennah, stat. n. (Auchenorrhyncha: Cercopidae). *Anais da Sociedade Entomológica do Brasil*, 24: 385-388.
Carvalho, G.S. & Sakakibara, A.M. 1988. Redescricao de *Deois* (*Deois*) *correntina*, comb. n. (Homoptera, Cercopidae). *Iheringia, série Zoologia*, 67: 59-64.
Carvalho, G.S. & Webb, M. 2005. *Cercopid Spittle Bugs of the New World* (Hemiptera, Auchenorrhyncha, Cercopidae). Sofia-Moscow, Pensoft. 280p. (Série faunística n. 49).
Costa, A.C.F. da & Sakakibara, A.M. 2002. Reestruturação do gênero *Deois* Fennah, descrição de uma espécie nova e notas taxonômicas (Homoptera, Cercopidae, Tomaspidae). *Revista Brasileira de Entomologia*, 46: 195-207.
Distant, L.W. 1909. Rhynchotal Notes. *Annals and Magazine of Natural History, Serie 8*, 3: 187-213.
Fennah, R.G. 1948. New genera and species of neotropical Cercopoidea (Homoptera). *Annals and Magazine of Natural History, Serie 12*, 1: 605-620.
Fennah, R.G. 1953. Revisionary notes on Neotropical Monecphorine Cercopoidea (Homoptera). *Annals and Magazine of Natural History, Serie 12*, 6: 337-360.
Fennah, R.G. 1968. Revisionary notes on the new world genera of Cercopid Froghoppers (Homoptera: Cercopoidea). *Bulletin of Entomological Research*, 58(1):165-190.
Foieri, A. 2017. Taxonomía y biología de los Cercopidae (Hemiptera) asociados a pasturas nativas y cultivadas del centro y norte de la Argentina, e identificación de sus enemigos naturales. *Tesis Doctoral, Universidad Nacional de la Plata*, La Plata. p. 279.
Hadley, A. 2011. Combine ZP-Free image stacking software for depth of field correction. Available at: <http://www.hadleyweb.pwp.blueyonder.co.uk/CZM/combinezm.htm>. Access in: 21/09/2011.
Hamilton, K.G.A. 2001. Epipygidae, a new family of froghoppers from the American tropics (Insecta: Homoptera: Cercopoidea). *Biodiversity*, 2(3): 15-21.
Hamilton, K.G.A. 2013. Revision of Neotropical Aphrophorine spittlebugs, part 2: tribe Orthoraphini (Hemiptera, Cercopoidea). *Zootaxa*, 3710(3): 201-225.
Hamilton, K.G.A. 2015. A new tribe and species of Clastopterinae (Hemiptera: Cercopoidea: Clastopteridae) from Africa, Asia and North America. *Zootaxa*, 3946: 151-189.
International Commission on Zoological Nomenclature (ICZN). 1999. *International Code of Zoological Nomenclature*. Fourth Edition. Adopted by the International Union of Biological Sciences. London, International Trust for Zoological Nomenclature. 306p.
Lallemand, V. 1912. Homoptera Fam. Cercopidae. In: Wytzman, P. (Direg.). *Genera Insectorum*. Bruxelles, V. Verteneuil & L. Desmet. n. 143, p. 1-167.
Lallemand, V. 1927. Description d'une nouvelle espece de Cercopide constituant un nouveau genre. *Annales de la Societe Entomologique de France*, 96: 208.
Marino de Remes Lenicov, A.M. de; Maciá, A. & Pianzola, B. 2015. Cicadidae types (Hemiptera-Cicadomorpha) housed at the Museo de La Plata entomological collection (Argentina). *Zootaxa*, 3974(3): 301-327.
Marino de Remes Lenicov, A.M. de; Mariani, R.; Scelsio, N. & Gutierrez, A. 2010. Membracidae types (Hemiptera-Membracoidea) housed at the Museo de La Plata entomological collection (Argentina). *Zootaxa*, 2566: 21-38.
Melichar, L. 1915. Neue Cercopidenarten. *Verhandlungen, k.k. Zoologisch-botanischen Gesellschaft in Wien*, 65: 1-16.
Metcalf, Z.P. 1962. *General Catalogue of the Homoptera. Fascicule VII. Cercopoidea Part 3, Aphrophoridae*. Raleigh, North Carolina State College. 600p.

- Nielson, M.W. 1968. The leafhopper vectors of phytopathogenic viruses (Homoptera: Cicadellidae). Taxonomy, biology and virus transmission. *Technical Bulletin United States Department of Agriculture*, 1382: 1-386.
- Paradell, S.L. & Defea, B. 2017. Indicadores de biodiversidad en colecciones científicas: diagnosis de la colección Cicadellidae (Insecta: Hemiptera) del Museo de La Plata, Argentina. *Caldasia*, 39(1): 19-32.
- Paradell, S.L.; Dellapé, G. & Catalano, M.I. 2008. Los ejemplares tipo de Typhlocybinae y Deltocephalinae (Hemiptera: Auchenorrhyncha: Cicadellidae) depositados en el Museo de La Plata, Argentina. *Revista de la Sociedad Entomológica Argentina*, 67(3-4): 37-43.
- Paradell, S.L.; Dellapé, G.; Catalano, M.I. & Defea, B. 2010. Los ejemplares tipo de Cicadellinae y Gyponinae (Hemiptera: Auchenorrhyncha: Cicadellidae) depositados en el Museo de La Plata, Argentina. *Revista de la Sociedad Entomológica Argentina*, 69(1-2): 1-7.
- Sakakibara, A.M. 1979. Sobre algumas espécies brasileiras de *Deois* Fennah, 1948 (Homoptera, Cercopidae). *Revista Brasileira de Biologia*, 39(1): 9-30.