Notas

The exotic delphacid *Leptodelphax maculigera* (Hemiptera: Fulgoroidea) in Argen-tina: taxonomy and biological aspects

El exótico delfácido *Leptodelphax maculigera* (Hemiptera: Fulgoroidea) en Argentina: taxonomía y aspectos biológicos

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Abstract: *Leptodelphax maculigera* (Stål) (Hemiptera, Fulgoroidea) is reported for the first time in Argentina. It is native to the Afrotropical region and recently recorded in South America in corn-growing areas in Brazil as a potential vector of "corn stunt" complex pathogens. Specimens have been periodically collected since July 2024 on several cereals and forage crops at the commercial and experimental fields of the National Agricultural Technology Institute (INTA), Argentina. Complementary morphological characters that distinguish adults of both sexes are described and illustrated, and the anatomical features of the fifth-instar nymphs are detailed to provide taxonomic elements that allow differentiating it from other species of delphacids present in the Argentine cereal region. Adults are slender with a pale coloration and a facial black spot between the frons and clypeus, with distinctive male and female genitalia. Nymphs of the fifth-instar are of yellowish whitish coloration, with a similar black facial spot but located centrally on frons. These morphological traits serve as diagnostic characters for distinguishing both developmental stages. The distribution range in Argentina marks the southernmost known limit of the genus. Preliminary field observations underscore the significance of *Setaria sphacelata* (Schumach.) (Poaceae) as a preferred host while identifying *Chloris gayana* Kunth and *Avena sativa* L. (Poaceae) as new hosts.
Keywords: African planthopper, Distribution, Field observations, Morphological characters, New host plants.
Resumen: Se reporta por primera vez en Argentina a *Leptodelphax maculigera* (Stål) (Hemiptera, Fulgoroidea), especie nativa afrotropical. Recientemente ha sido registrada en América, en zonas maiceras del Brasil, como una especie con capacidad para vehiculizar patógenos del complejo "corn stunt". A partir de julio de 2024, se

han recolectado periódicamente especímenes sobre diversos cereales y cultivos forrajeros en campos comerciales y experimentales del Instituto Nacional de Tecnología Agropecuaria (INTA), Argentina. Se describen e ilustran caracteres morfológicos complementarios que distinguen a los adultos de ambos sexos, y se detallan los rasgos anatómicos del 5to estadio ninfal, con el fin de brindar elementos taxonómicos que permitan diferenciarla de otras especies de delfácidos presentes en la región cerealera Argentina. Adultos de ambos sexos se distinguen por el cuerpo esbelto, de coloración pálida, con una distintiva mancha facial negra entre frente y clípeo, además de las estructuras genitales; el 5to estadio ninfal por la coloración blanquecina amarillenta con la mancha negra facial similar pero localizada medialmente en la frente. Su distribución en Argentina, marca el límite más austral del género. Observaciones preliminares destacan la importancia de *Setaria sphacelata* (Schumach.) (Poaceae) como hospedador de cría y alimentación, y se menciona a *Chloris gayana* Kunth y *Avena sativa* L. (Poaceae) como nuevos hospederos.

Palabras clave: Caracteres morfológicos, Chicharrita africana, Distribución, Nuevos hospederos, Observaciones de campo.

The Afrotropical genus *Leptodelphax* Haupt, 1927 (Hemiptera: Fulgoroidea) was established as monotypic with the type species *L. cyclops* Haupt, 1927, described from Palestine (Haupt, 1927). The genus encompasses three species whose wide paleotropical distribution is recorded in Linnavuori (1964, 1973), Fennah (1964), Asche (1988), Bonfils et al. (1994), Attié et al. (2008), and Koji et al. (2012). Nast (1958), in his studies on Delphacidae from Madagascar, included *Delphax maculigera* Stål, 1859, originally reported from the Mauritius Islands, and established a new combination as *Leptodelphax maculigera* (Stål). He also described a new species, *L. stachi* Nast, 1958, which was later reassigned to the closely related African genus *Oaristes* Fennah, 1964 (Fennah, 1964). A third species, *L. dymas* Fennah, 1961, was described in Senegal. *Leptodelphax maculigera* is the only species of its genus found outside its native distribution area in the American continent; its earliest records came from Brazil when Ferreira et al. (2024) and Canale et al. (2024) reported its presence in maize-producing agricultural areas during the 2022-2023 season.

This species is recognized as oligophagous based on its feeding behaviour, as noted by Wilson et al. (1994). In its native range, particularly on the Mascarene Islands, has been associated with several exotic Poaceae, including *Pennisetum clandestinum* Hochst. ex Chiov "napier grass", *Setaria sphacelata* (Schumach.) "setaria grass", *Saccharum officinarum* L. "sugar cane" and *Zea mays* L. "corn" (Bonfils et al., 1994; Attié et al., 2008). In western Kenya, Koji et al. (2012) studied the seasonality and abundance of the hopper fauna on *Pennisetum purpureum* Schumach "elephant grass", reporting the prevalence of *L. dymas* and the rare and sporadic occurrence of *L. maculigera* and *Leptodelphax* sp. In Cameroon, Deguine and Ekukole (1997) listed it among the arthropod pests affecting cotton (*Gossypium* sp.). Its phytosanitary significance was verified by Arocha et al. (2009) in natural populations of the African species *L. dymas*, which advised on the potential of this species to acquire the 16Sr III-A phytoplasma and spread the Ethiopian phytoplasma strain in the region.

In the American continent, particularly in Brazil, Ferreira et al. (2024) recorded it on *P. purpureum*, *Z. mays*, *Brachiaria* sp., weeds in "bean" (*Phaseolus vulgaris* L.) crops, and volunteer corn. Lately, da Silva et al. (2025) recorded its frequency of occurrence in the maize agroecosystem of Minas Gerais state, and Vilanova et al. (2025) provided the first important bioecological insights, potential new host, and some biological parameters under laboratory conditions on maize and millet plants. Regarding vector behaviour, Bortolotto et al. (2023) detected Maize rayado fino virus (MRFV) in adult specimens of *L. maculigera* in southern Brazil, indicating the species' potential ability to transmit this pathogen. Then, Canale et al. (2024) and Stürmer et al. (2024) confirmed the simultaneous presence of MRFV,

Maize striate mosaic virus (MSMV), and Maize bushy stunt phytoplasma (MBSP), highlighting the potential threat that L. maculigera poses to maize production in Rio Grande do Sul state, Brazil. Results from PCR analyses recently conducted by Vilanova et al. (2025) confirm that acquisition occurred only for the viruses, although it failed to transmit them.

Most of the information about the genus Leptodelphax originates from the African region, whereas knowledge outside their native range is still insufficient. The recent detection of the exotic species *L. maculigera* in agricultural areas of northeastern and central Argentina during the spring of 2024 was informed by INTA (Instituto Nacional de Tecnología Agropecuaria) to the governmental agency, SENASA (Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria) and registered as a vector with potential risk (SINAVIMO, Sistema Nacional de Vigilancia y Monitoreo de Plagas N° 1322 and 1323). This finding provides an important opportunity to advance the understanding of this species and its expansion into Argentina. The present study includes descriptions and illustrations of supplementary morphological traits for males, new diagnostic features for females, and for first time the morphology of the fifth-instar nymphs[1]. Furthermore, distributional and host plant records and field observations are presented.

The collection and observation of adults and nymphs were made once per week from August to November 2024 in the Estación Experimental Agropecuaria de Reconquista (EEA), INTA (29°11′S, 59°52′W), Santa Fe, Argentina, and the Estación Experimental Agropecuaria de Paraná (EEA), INTA (31°50′51.56"S, 60°32′16.46"W), Entre Ríos, Argentina. In Reconquista, two fields were selected, one characterized by grasslands for fodder with *Setaria sphacelata* var. anceps cv. Narok., and the other field with wheat (*Triticum aestivum* L.), under irrigation by aspersions, and monitored during the growing season. In Paraná, only lots with wheat crops in dryland conditions were selected. Adults and nymphs were swept from vegetation using sweep nets (diameter 35 cm) made of voile fabric (De Oliveira et al., 2013). Sampling was carried out weekly in both wheat and fodder. Ten randomly selected plots were chosen weekly in each field in both provinces. Each sample consisted of 16 successive sweeps on the base of the plant from each plot (total: 160 sweeps per week per host). The material collected in each field was individually preserved in a freezer and transferred to the laboratory for preparation and subsequent taxonomic determination. Second to fifth instar larvae were hand-picked from the leaves and stems of plants. Specimens were preserved in 70 % ethanol. Other specimens sent for study from Chaco and Formosa provinces were also included.

The identification of *L. maculigera* was based on the original description and photographs of the type specimen (Fig. 1), available in the entomology collections at the Swedish Museum of Natural

History (NHRS), Stockholm, catalog number NHRS-GULI000114700. Male, female, and nymph specimens, captured in the same place and host plant, were used for dissections, images, and descriptions. The male genitalia terminology mostly follows Asche (1988), but “genital styles” is used instead of “parameres” and “anal segment” (segment X) and “anal style” (segment XI) instead of “anal tube”; the nomenclature of carinae of the vertex follows Yang & Yang (1986), and the female genitalia follows Bourgoin (1993). For studying the male and female genitalia, the abdomen was removed from each specimen and macerated in 10 % KOH for 24 hours at room temperature, then transferred to glycerine for storage or cleared and fixed for study as described by Remes Lenicov & Hernandez (2010). Specimens in the fifth-instar nymphs were fixed in 95 % ethyl ether, then cleared in cold 10 % KOH solution, and preserved in Faure liquid for their microscopic exam and description; the measurements, expressed as mean ± standard error (SE), derived from anesthetized specimens, are given in millimeters; the abbreviations are as follows: L: body length from the tip of the vertex to the distal apex of the abdomen; W: body width measured across the widest part of the thorax; carination and arrangement of pits follow Yang & Yeh (1994). Photographs resulted from combined image stacks obtained by a camera-adapted RRID 18 HD digital camera and a Canon EOS 90D attached to a Leica EZ5 stereo microscope and processed by Combined ZP software (Hadley, 2024); subsequently, images were processed with Adobe Photoshop 7.0. The studied specimens were deposited in the Entomology Collection of Museo de Ciencias Naturales de La Plata, Buenos Aires, Argentina.

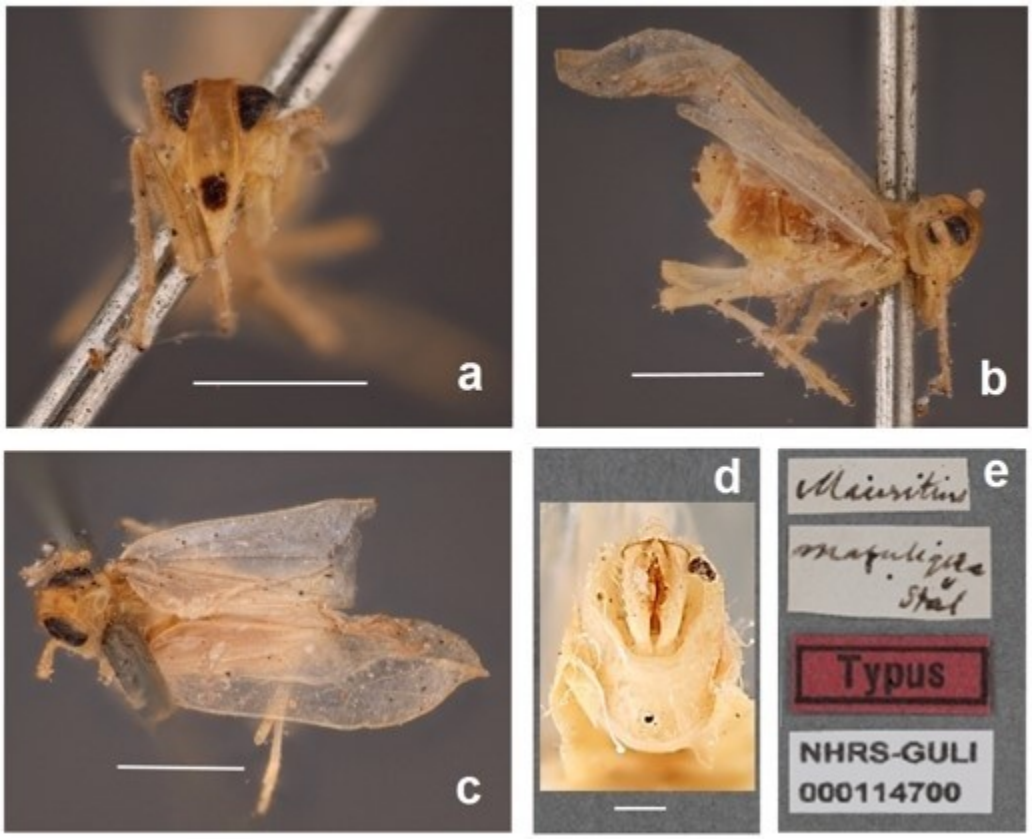

Figure 1.

***Delphax maculigera* Stål, 1859, type, male (NHRS-GULI000114700).**

a. habitus, ventral view. b. same, lateral. c. same, dorsal. d. terminalia, posterior view. e. labels.

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Leptodelphax maculigera (Stål, 1859)

(Figs. 1-3)

Delphax maculigera Stål, 1859: 276.

Liburnia maculigera (Stål, 1859), combination by Stål (1866: 180).

Leptodelphax maculigera (Stål, 1859), combination by Nast (1958: 894).

Taxonomic remarks. Stål (1859) described the species *Delphax maculigera*, based on a female specimen from the Mauritius Islands; the same author, in 1866, based on a male specimen from the same locality, transferred it to the genus Liburnia Stål (Stål, 1866). Both treatments included the same diagnostic features, except those corresponding to the size and sex of the specimens. Comparing the photo of the male type specimen (Fig. 1) with the original descriptions, we could verify its identity and primary type status. Stål distinguished the species mainly by the yellowish pale coloration and a distinctive black spot shared between frons and clypeus, and a few head features such as the obsolete frontal medial carina and thoracic carinae. A century later, Nast (1958: 893-894, figs. 15-19) transferred

D. maculigera to the genus *Leptodelphax* based "in the shape of the forehead and the parameres when compared with the figures in HAUPT's paper". He also added another few external features and described the male genitalia as follows: "Opening of pygofer oval. Parameres long, curved basally upwards, apex broad, truncate at the end, elongated inwards; a sharp process at the inner margin. Aedeagus sword-like, with a serrated lobe on its left side and a long, slender spine at the base on the right side." Subsequently, Asche (1988: 181, figs 127-138) reported *L. dymas* and *L. maculigera* from the Cote d ´Ivoire as new records, illustrating differential anatomical characteristics of the male genitalia of both species.

Supplementary description. Medium-sized delphacid with delicate appearance; with very long and narrow wings, far exceeding the length of the body. Total length of male (wings folded) 3.2 mm. Length of forewing 2.6 mm (n= 6). Total length of female (wings folded) 3.7 mm. Length of forewing 3 mm (n= 6).

Male (Fig. 2).

Coloration (Fig. 2a-d): Whole body stramineous to light yellow, except for an irregular roundish median black spot, wider than long, between the end of the frons and the base of the clypeus; eyes dark brown; apex of rostrum, metanotum, pregenital tergites, anal style, apex of the aedeagus and apical margin and basal spine of genital styles, brownish. Wings hyaline, slightly amber, with veins concolorous with membrane.

Vertex slightly broader at the base than its length in the middle line (1.1-1), scarcely surpassing the anterior margins of eyes, rounding towards the frons; lateral margins shallowly concave with sharps carinae; apical margin convex; basal compartment trapezoidal, about half as long as the vertex, lateral areas shallowly deepened, almost plain, with the median carina obscure, Y-shaped, weak carina delimiting an obscure cell visible from dorsal view, bordered by the fine arms of the submedian carina (Fig. 2a, c). Frons convex and depressed at the epistomal suture in profile; longer than broad (2:1), constricted between eyes, lateral margins parallel for most of the length; lateral carinae prominent; submedian carina fine but visible, evanescent near apex, forked at basal 2/5. Clypeus convex in profile, tricarinate. Antennae with basal segment short, as long as broad, second segment about 2.5 times longer than first. Rostrum reaching mesocoxae. Pronotum as long as vertex, longer in the middle line than width at the anterior margin (about 1.5: 1); tricarinate, lateral carinae diverging, not reaching the hind margin. Mesonotum longer than wide; tricarinate, lateral and median carinae fine and parallel, the median shorter, not reaching the hind margin. Tegmina narrow and elongate, width 0.25 of the length, far exceeding the abdominal apex (Fig. 2a-d). Legs long and slender, post tibiae relatively long, 1/3 longer than post femur, distally with 5 grouped stiff spines, 2 in the inner side and 3 in the outer side, post basitarsus distally with 7

spines, the second segment of post tarsi with 4 spines, post-tibial spur short and subtriangular in cross-section, ventral adplantar margin bears 13-20 even, minute teeth, covered with more or less dense and short mechanosensilla, about the 2/3 of basitarsus length; post basitarsus as long as segments II and III together (Fig. 2e, f). Drumming organ sexually dimorphic, with the 2nd tergite differentiated in a slightly convex transversal suboval central plate limited by weak lateral divergent furrows; 2nd sternite furnished with a pair of long slender divergent apodemes.

Terminalia: Pygofer in dorsal view with the anal emargination deeply concave; in lateral view, trapezoidal, laterally oblique, ventrally longer than dorsally (3:1); anal angle distinctly projected caudad and truncated, lateral margin slightly convex, with about 12 long setae each; ventral margin fairly straight (Fig. 2g, h). Genital styles (parameres) long and flattened, strongly curved basally upwards, straight and divergent from base; apices obliquely truncate with a sharp conical process curved inwards in the inner angle, and rounded and distinctly sculpted with ridges on the outer angle; inner margin with a distinctive sharp submedian process; apex of genital style surpassing anal angle of pygofer in caudal view. Diaphragm membranous (Fig. 2g-j). Aedeagus slightly bent ventrad, flat and asymmetrical, twisted in the middle of its length; with a laterally expanded process, shaped as a fishing hook tip, strongly curved ventrally along the apical half on its left side; a basal, long, slender and curved spine on the right side that projects caudally in a tendinous lightly sclerotized short tap that attaches to the parameres depressors; a circular and small apical phallotrema (Fig. 2i-j). Suspensorium relatively short and attached dorsally at the base of the aedeagus. Anal segment ventrally longer than dorsally, latero-caudal angles rounded, without processes; anal style slender, 2x longer than wide (Fig. 2i-j).

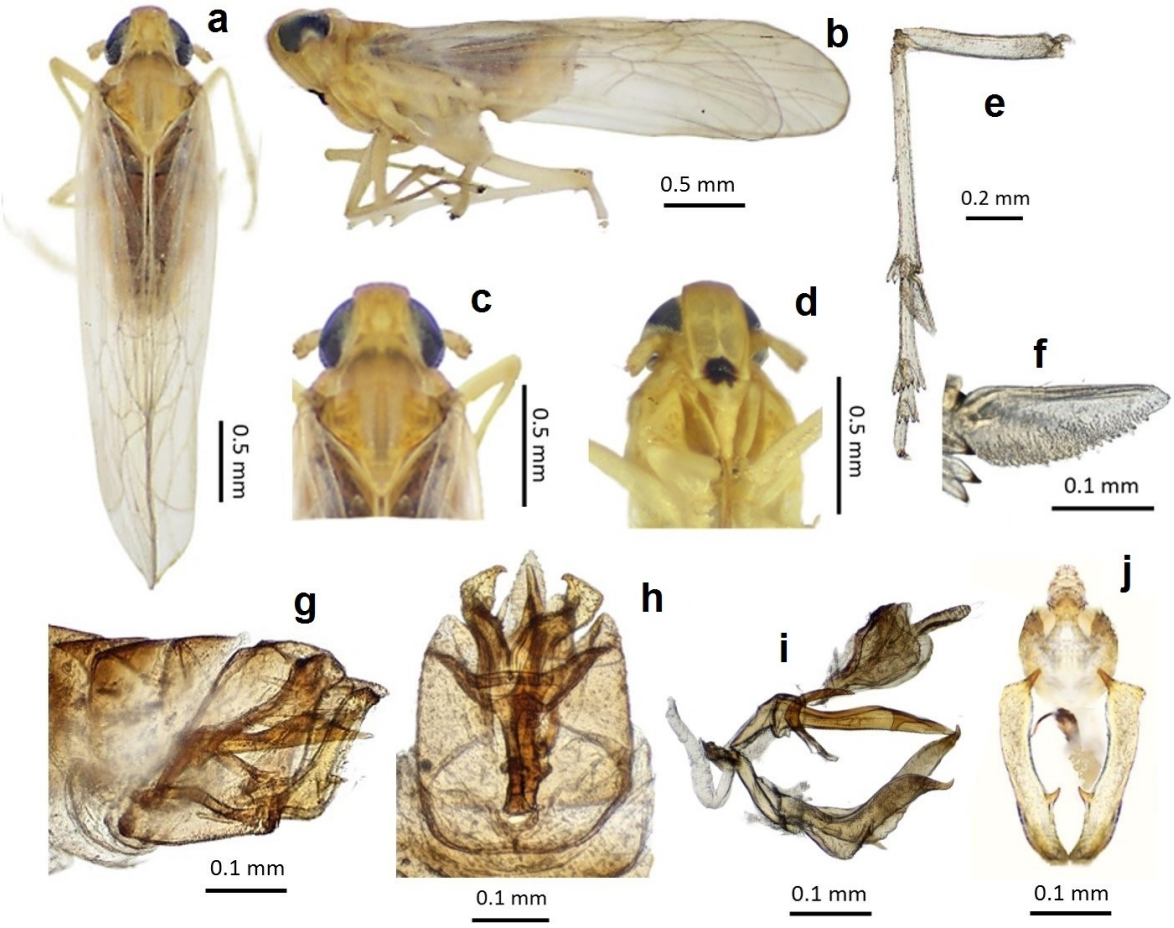

Figure 2.

***L. maculigera* from Argentina, male habitus.**

a. dorsal view. b. lateral view. c. head and thorax, dorsal. d. same, ventral. e. metathoracic leg. f. metatibial spur. g. pygofer left lateral view. h. pygofer ventral view. i. genital complex (genital style, connective, aedeagus and suspensorium) and anal segments, left lateral view. j. same, posterior view.

Female (Fig. 3a-d)

Colour and structure resemble the male, except for the inconspicuous drumming organ, without major morphological alterations in the 2nd tergite and the distinguishable brownish coloration of the ovipositor (Fig. 3a).

Terminalia: Pygofer tubular, ovipositor long and strongly curved, emerging between sternite V, but not extending beyond the base of anal segment. Sternite VII membranous (Fig. 3b). Gonocoxa VIII expanded basally in an inner lobe and continuing more or less lanceolate and expanded towards apex, in ventral view lobes are medially in contact at rest; gonapophysis VIII lanceolate, gradually narrowing towards apex, and longitudinally sculptured with fine ribs (Fig. 3b-c). Gonapophysis IX strong and regularly curved, dorsally with about 19 large sharp regular teeth except for 2 or 3 tiny teeth

near apex (Fig. 3d); gonoplac (third valvula), uniformly wide (Fig. 3c). Anal style moderately short (Fig. 3b).

Specimens examined. ARGENTINA. Chaco: INTA-EEA Las Breñas (27°4'27.01"S, 61° 3'48.70"W), 1 ♂, with sweep net on "oats" (Avena sativa), 07-2024, Casuso col.; Castelli (26°02'51.39"S, 60°39'57.77"W), 6 ♂♂, with yellow sticky traps on "wheat" (*Triticum aestivum*), VIII-2024, Casuso col. Entre Ríos: INTA-EEA Paraná (31°50′59.11" S, 60°32′04.34" W), 2 ♂♂, on "wheat" (*Triticum aestivum*), 28-VIII-2024 – 4-IX-2024, between booting and Kernel water ripe, preceded by "corn", Saluso col.; 1 ♀, on "wheat" (*Triticum aestivum*), 9-IX-2024, in booting stage, preceded by "corn", Saluso col.; INTA-EEA Paraná (31°50′57.64" S, 60°31′26.59" W), 1 ♀, on "wheat" (*Triticum aestivum*), 18-IX-2024, in booting stage, preceded by oat, Saluso col. Formosa: Pirane (26°8'34.23" S, 58°47'36.38" W), 1 ♂, with yellow sticky trap on "corn" (*Zea mays*) preceded by "wheat", 23-IX-24, Casuso col. Santa Fe: INTA-EEA Reconquista (29°15'07.2" S, 59°42'03.0" W), 3 ♂♂ and 1 ♀ on *Setaria sphacelata*, 3-X-2024, Almada col.; INTA-EEA Reconquista (29°16'05.5" S 59°42'28.5" W), 2 ♂♂ and 2 ♀♀, on *Setaria sphacelata*, 3-X-2024, Almada col.; INTA-EEA Reconquista (29°15'53.1"S, 59°42'27.5"W), 2 ♂♂ and 2 ♀♀, on *Chloris gayana*, 17-X-2024, Almada col.; INTA-EEA Reconquista (29°16'15.9"S, 59°42'19.4"W), 1 ♂, on "wheat" (*Triticum aestivum*), 19-IX-2024, in flowering stage, preceded by soybean, Almada col.

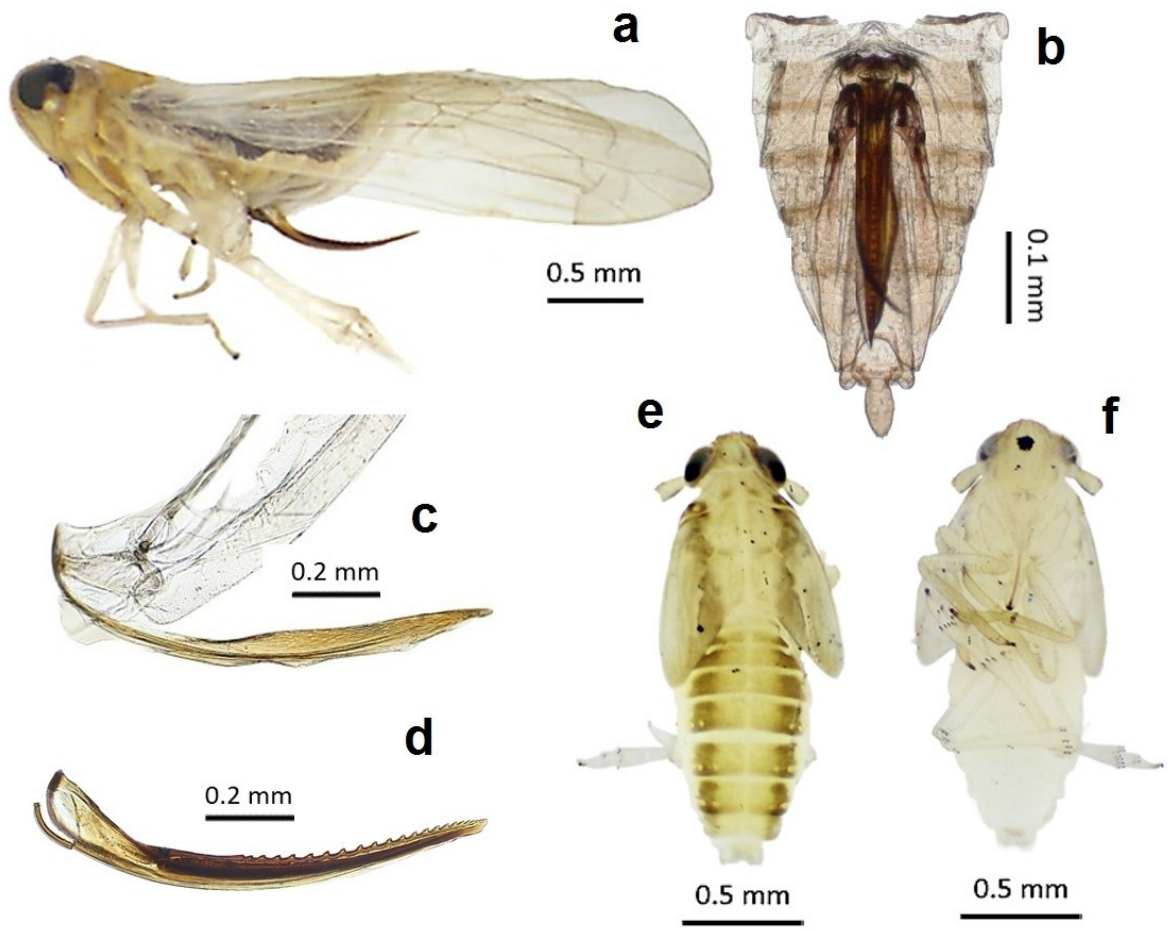

Figure 3.

***L. maculigera* from Argentina, female and fifth-instar nymph habitus.**

a. lateral view. b. same, abdomen, ventral view. c. same, gonapophysis VIII and basal half gonoplac, left lateral view. d. same, gonapophysis IX, lateral view. e. fifth-instar nymph, dorsal view. f. same, ventral view.

Fifth-instar nymph (Fig. 3e, f).

Measurements (n= 4). L: 1.83±0.05 mm; W: 0.95±0.02 mm. Coloration: yellowish, similar to the adults, with two bilateral longitudinal stripes testaceous from the postlateral angles of the pronotum up to the pregenital segment. Ventrally, the head is marked with an irregular roundish median black spot in middle frons between the submedian carinae up to the level of the ocellus position and two triangular light brown marks on both sides at the base of the clypeus.

Form elongate, sub-cylindrical, widest across mesothoracic wing pads. Head slightly protruding beyond the anterior margin of eyes, 1/4 of the eyes' length. Vertex subquadrate, anterior margin convex and posterior straight; basal compartments shallowly concave; lateral and submedian carinae prominent, continuing onto frons from base and continuing regularly evanescent towards apex. Frons sub-oval; widest at middle, width. ~0.5× the length; carinate lateral margins

slightly convex, medially bicarinate. Clypeus narrows distally, consisting of subconical basal postclypeus not carinated along its length. Antennae with scape cylindrical, length subequal to width; pedicel subcylindrical, 2.5× longer than scape, with nine or ten pits on the apical 1/2. Rostrum surpassing mesocoxae, apical segment slightly longer than subapical (1.1:1). Pronotal plates subtrapezoidal; anterior margin follows posterior margin of head, posterior border slightly concave; each plate with a straight short posterolaterally directed carina originating on anterior margin not reaching the posterior margin, carina bordered along inner margin by a row of six pits extending posterolaterally to lateral border of plate (three pits in line next to lateral carinae and three near the posterior margin; one lateral most pits not visible in dorsal view). Mesonotal median length ~1× that of pronotum; each plate bearing an elongate lobate wingpad covering laterally the metanotal wingpad surpassing tergite 3, with posterolaterally directed carina originating on anterior margin in median 1⁄4 and terminating on posterior margin, with five pits: two on notum, one on each side of carina, and three laterad (two on the wingpad). Metanotal median length ~0.75× that of mesonotum; each plate bearing an elongate lobate wingpad extending below mesonotal wingpad; with weak longitudinal carina originating on anterior margin in median one fourth and terminating near posterior margin; one pit on wingpad, just lateral to carina. Metatrochanter subcylindrical, with a row of 12-14 flattened folds on the posteromedial surface that interlock with those on the adjoining trochanter. Metatibiae with subtriangular short spur, shorter than metatarsomere 1 (0.5:1), with a row of thirteen minute even teeth on trailing margin and one smaller apical tooth. Metatarsomere 1 longer than 2 plus 3, with apical transverse row of seven black-tipped spines on plantar surface; metatarsomere 2 cylindrical, with apical transverse row of four black-tipped spines on plantar surface; metatarsomere 3 subconical, similar to apical tarsomere of the other legs. Abdomen with nine apparent segments, slightly flattened dorsoventrally, widest across segment 5 with 3 conspicuous sensory pits at both sides of tergites. Segment 9 surrounds anus with three evident pits on each side, two subapical and one dorsal median, in both sexes.

Specimens examined. ARGENTINA. Santa Fe: Reconquista, 7 instar V nymphs, on grasslands for fodder with *Setariasphacelata*, 27-IX-2024, Almada col.

Distribution. Paleotropical. *Leptodelphaxmaculigera* is apparently of African origin, extending to the Western Indian Ocean Islands and South America. Records came from Mauricio (Stål, 1866; Fennah, 1964; Attié et al., 2008); Réunion (France) (Attié et al., 2008); Mascarene Islands, Côte d´Ivoire, Madagascar, Kenya, and Cameroon (Asche, 1988; Bonfils et al., 1994; Deguine & Ekukole, 1997; Attié et al., 2008; Koji et al., 2012). In South America, Brazil: State of Goiás, Paraná, Santa Catarina (Ferreira et al., 2024), Rio

Grande do Sul (Stürmer et al., 2024), São Paulo (Canale et al., 2024), and Minas Gerais (da Silva et al., 2025). In Argentina, in Formosa, Chaco, Santa Fe and Entre Ríos provinces.

Plant associations. Several species of Poaceae have been mentioned in the literature: *Pennisetum clandestinum*, *Saccharum officinarum*, *Setaria sphacelata* and *Zea mays* (Bonfils et al., 1994); *Gossypium* sp. (Malvaceae) (Deguine & Ekukole 1997); "maize", *P. purpureum*, cultivar BRS Capiaçu, *Brachiaria* sp., and weeds in "beans" crop (Ferreira et al., 2024); "maize", *Triticum aestivum* "wheat" and "citrus orchard" (Canale et al., 2024); in maize agroecosystem and the prevalent weeds associated: Amaranthus spp. (Amaranthaceae), *Cenchrus echinatus* L., *Panicum maximum* Jacq. (Poaceae) and *Parthenium hysterophorus* L. (da Silva et al., 2025); *Pennisetum glaucum* (L.) R. Br "pearl millet", *Sorghum bicolor* (L.) Moench "sorghum", *Oryza sativa* L. "rice" and "goosegrass" (Vilanova et al., 2025). In Argentina, it was collected on *T. aestivum*, *Z. mays*, *S. sphacelata*, *Chloris gayana* Kunth "grama de Rhodes", and *Avena sativa* L. The two last plant species are recorded for the first time.

S. sphacelata var. *anceps* cv. Narok has been cultivated as forage in Santa Fe, Argentina, since 2001 (Secanell et al., 2016). This perennial fodder resource is of great economic and ecological importance. It is widely distributed worldwide due to its quality and forage production. It is a particularly versatile grass that stands out for its adaptation to the different production regional systems and its high forage production in summer, in addition to many uses in grazing, hay, and seed. Native to East Africa, in South America has been introduced and cultivated in several countries: Ecuador, Peru, Brazil (northeast and southeast), Paraguay, Uruguay, and Argentina (Corrientes, Chaco, Entre Rios, Formosa, Misiones, Salta, and Santa Fe provinces) (Pensiero, 1999; Avila et al., 2014; Secanell et al., 2016; Kindt, 2020; Adams et al., 2022).

Field study. In the locality of Reconquista, Santa Fe province, Argentina, populations of *L. maculigera* were found along winter crops (wheat) as well as in pastures planted for foraging (*S. sphacelata* and *C. gayana*). The first adults were captured on 5 August 2024, on wheat in the flowering stage, at a very low density and with sporadic presence. In areas with implanted pastures where "Setaria grass" is prevalent and used for livestock foraging and natural grassland, surrounded by wheat crops, the densities rise to more than 3 specimens per sample with regular frequency throughout the sampling period.

In the southernmost location, Paraná, Entre Ríos province, *L. maculigera* was found erratically and in very low densities. The sampling was in two wheat fields from the emergence to maturity crop stage. In one field, where the preceding crop was maize, the first specimen was recorded on August 28 (booting stage) and the last on October 18 (kernel water ripe stage), with a total density of 3 males

and 2 females. In the other wheat field (in booting stage), with "oat", A. sativa, as the preceding crop, only one female individual was observed on September 9.

Sanitary importance. The only mention came from Brazil (Bortolotto et al., 2023; Canale et al., 2024; Stürmer et al., 2024; Vilanova et al., 2025), who demonstrate the capacity of *L. maculigera* to become infected by pathogens that affect maize-producing areas in this region, recording it as a serious economic threat. At present, there is no information from Argentina.

Natural enemies. Few individuals parasitized by Dryinidae (Hymenoptera) not identified, evidenced only by the typical larval sac (thylacium), were recorded in Minas Gerais state (Brazil) by da Silva et al. (2025).

Final considerations. This study updates and expands knowledge on the taxonomy and bioecology of *Leptodelphax maculigera*. This species can be easily distinguished from other well-known Argentinian delphacids associated with maize and wheat agroecosystems by its distinctive coloration and the unique morphology of its male and female genitalia. Salient adult features include pale coloration with brown dark to black rounded and broad facial spot that covers the end of the frons and base of the clypeus; head rounded at the apex with fine submedian frontal carina, evanescent apically, shortly forked near its base, and the long and narrow wings. Male genitalia, with the anal segment without processes, the genital style large and strongly dorsal curved at the base and diverging apically, with a distinctive sharp submedian process on the inner margin, and the aedeagus with two distinctive processes, one subapical, expanded and curved on the left side, and another spine-like curved at its base. Although the female genitalia had been recognized as a complementary feature in the delphacid systematic, the strong gonapophysis IX with large sharp dorsal teeth on apical 2/3 is distinctive. Immature stages are morphologically very similar in their earlier instars, but they can be reliably separated at the fifth-instar nymphs in most of the Fulgoroidea species. The most salient feature of *L. maculigera'*s fifth-instar nymph is the pale coloration, with dorsal bilateral testaceous stripes along the body, and the distinctive dark brown to black facial spot just in the middle of the frons. Apart from the colour, other noteworthy differences are the length of the rostrum segments and the length, shape, and number of spur teeth.

The gathered information updates the geographical distribution of this species, extending its range into Argentina, being Paraná, Entre Ríos, the southernmost limit of the genus (31°50′59.11"S, 60°32′04.34"W). Furthermore, "oats" (*Avena sativa*) and "grama de Rhodes" (*Chloris gayana*) are newly recorded as natural hosts, the latter being a widely used forage species in Argentina due to its high resistance to heat and drought.

Preliminary field observations indicate that the highest frequency and density of adult and nymphs of *L. maculigera* were collected in *Setaria sphacelata* var. *anceps* cv. Narok, suggesting a potential host preference. This cultivar appears to provide favorable conditions for reproduction and may also serve as an overwintering site for adults. From this host, populations might temporarily disperse to other plants for higher food quality and colonize crops when environmental conditions allow establishment. Similar situations were observed in Brazil, emphasizing the role of the forage species in the settlement of populations within the maize agrosystem (Vilanova et al., 2025).

The information from the literature (Canale et al., 2024; Ferreira et al., 2024; Sturmer et al., 2024; da Silva et al., 2025; Vilanova et al., 2025), as well as those obtained from our surveys, show that *L. maculigera* is recorded in both countries, Brazil and Argentina, sharing similar agroecosystems in areas where *S. sphacelata* has been introduced and cultivated, e.g., Río Grande do Sul, Santa Catarina, Goiás (Brazil), and Chaco, Entre Ríos, Formosa and Santa Fe (Argentina). However, this hopper might also be found in other latitudes, coinciding with the wide distribution of this forage species in America. Ongoing studies will help to elucidate factors explaining this geographical distribution and causes that can favour their dispersion throughout the continent and become an emerging pest.

Regarding the colonization processes of Afrotropical delphacid species, Attié et al. (2008), studying the Fulgoromorpha in the Mascarene Islands, postulated that the native populations maintain their association with monocotyledons, particularly grasses (Poaceae) and sedges (Cyperaceae), while exotic planthoppers survive primarily on exotic plants. A similar situation may occur in our region, as the widespread presence of exotic grasses in the Argentine agroecosystem can provide a suitable range of plants for these colonizers, offering feeding conditions comparable to those of their native continents. It is also possible that other cosmopolitan and cosmotropical delphacid species found in Africa (Bonfils et al., 1994) may have undergone similar immigration processes as *L. maculigera*, such as *Peregrinus maidis* (Ashmead), *Sogatella kolophon* (Kirkaldy), *Tagosodes cubanus* (Crawford), and *Metadelphax propinqua* (Fieber) whose populations have been settled in South America, causing damage to various agricultural systems of Argentina (Remes Lenicov & Paradell, 2012).

Finally, it is necessary to consider that the recent discovery of *L. maculigera* in Argentina's agricultural regions could be caused by an accidental introduction from Brazil, where it was first detected two years ago, given the geographical proximity, similar farming practices, and high levels of trade between both countries. Saluso et al. (2011) reported a comparable case of a hemipteran pest entering Argentina, highlighting the presence of the brown stink bug, *Euschistus heros* (F.), a major threat to Brazilian soybean crops. This scenario

underscores concerns about the unintended consequences of anthropogenic actions such as agricultural expansion, deforestation, globalization, and socio-economic development which can directly or indirectly contribute to spreading exotic species, posing significant risks to global environmental sustainability.

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