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Two new genera of Stenodemini, *Spartinomiris* and *Cynodonmiris*, from Argentina (Heteroptera: Miridae)

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Dos nuevos géneros de Stenodemini, *Spartinomiris* y *Cynodonmiris*, de la Argentina (Heteroptera: Miridae). Se describe un género nuevo, *Spartinomiris*, con una especie nueva, *S. pampeanum sp. nov.*, endémica de la provincia biogeográfica Pampeana. Además, se propone el género nuevo *Cynodonmiris* para la especie *Megaloceroea costicollis* (Berg, 1878), cuya ubicación dentro del género paleártico *Megaloceroea* había sido previamente cuestionada. Se justifican las relaciones de ambas especies con sus plantas huésped.

Palabras claves: Stenodemini, *Spartinomiris*, *Cynodonmiris*, Argentina.

The new genus *Spartinomiris* is described on the basis of *S. pampeanum* new species, endemic of the Pampean biogeographical province. Likewise, the new genus *Cynodonmiris* is erected for the species *Megaloceroea costicollis* (Berg, 1878), whose position within the palaearctic genus *Megaloceroea* was previously questioned. A brief discussion concerning the relationships with their host plants is given for both species.

Key words: Stenodemini, *Spartinomiris*, *Cynodonmiris*, Argentina.

Introduction

The tribe Stenodemini is presently known in the Neotropical region through 13 genera. From these genera, only three are characterized by having smooth dorsal surface, covered by short hairs: *Megaloceroea* Fieber, 1858, *Trigonotylus* Fieber, 1858, and *Dolichomiris* Reuter, 1882.

During last eight years, several areas in Buenos Aires Province (Argentina) were explored, where grasses of several species of the genera *Spartina* and *Cynodon* (Gramineae) are very abundant. While collecting we had opportunity to observe the close relationship between mirids and plants.

Due to the great number of insects collected during the mentioned fieldwork, we revised the main insect collections of Argentina and Uruguay, finding that there was no specimen with the characteristics of the specimens collected mostly on *Spartina densiflora*. We also sampled species of *Cynodon* grasses, where we found *Megaloceroea costicollis*, which is usually present in insect collections.

The purpose of this paper is to describe two new genera with smooth dorsal surface and covered by short hairs: *Spartinomiris* including the new species *S. pampeanum*, which occurs on *Spartina* grasses, and *Cynodonmiris* which includes the species *M. costicollis* (Berg, 1878) which occurs on *Cynodon* grasses.

Material and methods

This study was done with the material collected during the field work carried out in Buenos Aires Province (Argentina), from 1993 to 2001, and with a single dry specimen from the collection of the Facultad de Ciencias, Universidad de la República, Montevideo, Uruguay.

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The sampled areas were located in eastern Buenos Aires Province from 34° S to 41° S where *Cynodon* sp. and the four following species of *Spartina* occur: *S. ciliata* Brongniart, 1829, and *S. densiflora* Brongniart, 1829, with scabrous margined leaves; *S. alterniflora* Loiseleur, 1807, with flat leaves, and *S. longispica* Hauman et Parodi, 1932 with leaves that are intermediate between *S. densiflora* and *S. alterniflora*. Cabrera (1968) suggested to consider *S. longispica* as *S. x longispica*, a hybrid of *S. densiflora* and *S. alterniflora* with slightly concave leaves (see Mobberley, 1956).

The collecting places were selected according to the vegetation as follows: areas covered only by *S. densiflora* (Fig. 33, sampling sites: 1, 2, 3, 4, 5, 8, 9, 13, 16, 19, 20); areas covered by *S. densiflora* and *S. longispica* (Fig. 33, sampling sites: 6, 7, 11, 17); areas covered by *S. densiflora*, *S. longispica* and *S. alterniflora* (Fig. 33, sampling sites: 10, 12, 21); area covered by *S. densiflora*, *S. longispica*, *S. alterniflora* close to an area covered by *S. ciliata* (Fig. 33, sampling site: 15); areas only covered by *S. ciliata* (Fig. 33, sampling site: 14) and area covered by *S. alterniflora* and *S. longispica* (Fig. 33, sampling site: 18).

The insect collection was done manually, with sweep nets, in communities where species of *Spartina* conformed the dominant vegetation. The collected specimens were kept in ethyl acetate. Stereomicroscope was used for morphological study, following the usual techniques in entomology. Drawings were done with camera lucida. Measurements are expressed in millimeters.

Results

Key to the Neotropical genera of Stenodemini having smooth dorsal surface and covered by short hairs (based on Carvalho, 1975).

1. Small species with brachypterous forms (Fig. 2); body subglabrous; eyes small, oval, removed from *pronotum* by a distance as long as the width of antennal segment II (Fig. 5); *rostrum* reaching hind *coxae*; *aedeagus* without sclerotized *spicula* (Fig. 12), right paramere rounded apically (Figs. 25-26) ..... *Spartinomiris* new genus
– Longer macropterous species; body pubescent; eyes large, rounded, in contact with *pronotum* or nearly so (Fig. 6); *rostrum* reaching middle *coxae*; *aedeagus* with sclerotized *spicula*, right paramere pointed apically 2

2. Segment I of antenna covered by long, erect pubescence, the hairs at least as long as half the width of the segment; *aedeagus* with two sinuated, sclerotized *spicula* (Fig. 13) .... *Dolichomiris* Reuter, 1882
– Segment I of antenna covered by short pubescence, the hairs shorter than half the width of the segment; *aedeagus* with one sclerotized *spiculum* or two straight ones 3

3. Segment I of antenna as long as length of head; *aedeagus* with one sclerotized *spiculum* (Fig.14) ..... *Trigonotylus* Fieber, 1858
– Segment I of antenna as long as length of head and *pronotum* together; *aedeagus* with two straight sclerotized *spicula* 4

4. *Rostrum* reaching middle *coxae*; segment I of antenna much longer than head and *pronotum* together; *setae* on antennal segment I and basal third of II alined, and with reddish spots at their base (Fig. 9); *aedeagus* with sclerotized thin *spicula*, with minute teeth at their basal half (Fig. 16); left paramere hooked (Figs. 23-24)..... ..... *Cynodonmiris* new genus
– *Rostrum* extending to base of abdomen; segment I of antenna slightly shorter than length of head and *pronotum* together; *setae* on antenna not alined and without spots at their base; *aedeagus* with thick sclerotized *spicula*, smooth (Fig. 15); left clasper curved (Figs. 21-22)..... ..... *Megaloceroea* Fieber, 1858

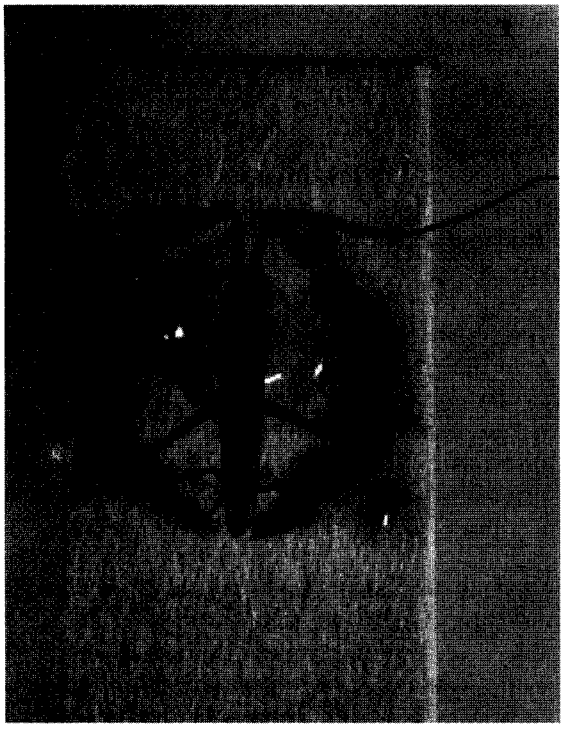
Cynodonmiris new genus

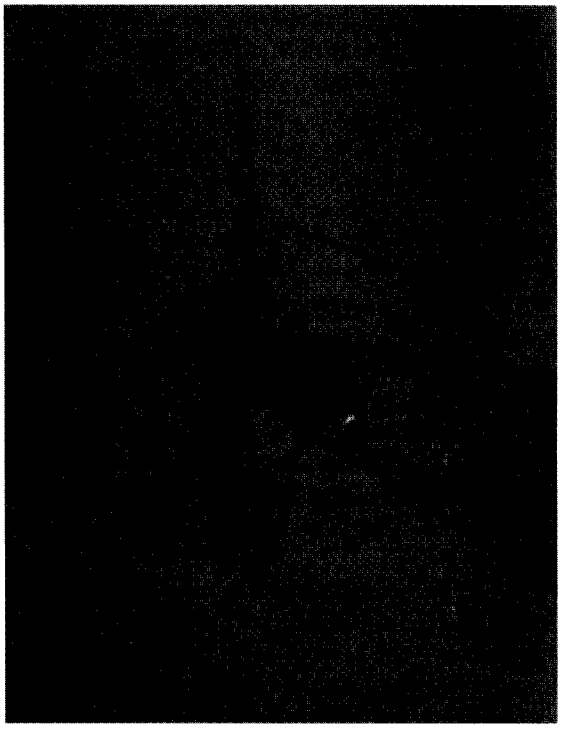
(Figs. 3-4)

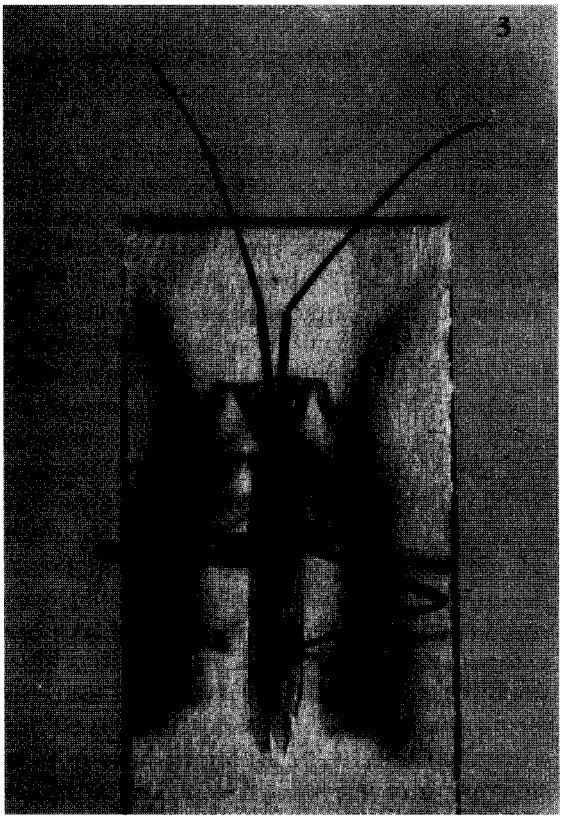
Type species. *Trigonotylus costicollis* Berg, 1878 (monotypic).

Diagnosis. The new genus is characterized for the very short pilosity on the antennae and the projecting and straight frons, the long anal tube, the strongly curved left paramere, and the right paramere bifurcated apically.

Description. MALE: Dorsal aspect. General coloration pale yellowish, with reddish or light







Figs. 1-4. 1: *Spartinomiris pampeanum* n. sp., male, dorsal view; 2: *S. pampeanum* n. sp., female, dorsal view; 3: *Cynodonmiris costicollis,* male, dorsal view; 4: *C. costicollis,* female, dorsal view.

brown areas; segment I of antenna and extreme base of segment II with minute reddish spots at base of hairs; a slender longitudinal line along frons, two longitudinal fasciae (one on each side) on vertex along the internal margin of eye.
VESTITURE: Body finely rugulose, subglabrous, with short, sparse and adpressed hairs on dorsal and ventral surfaces. Antenna with segment I and basal portion of II with very short stiff, pale setae, much shorter than half width of segments; femora and tibiae with short hairs and spiniform setae.
HEAD: Acutely pentagonal in dorsal view, vertex sulcate longitudinally, frons projecting acutely in front almost covering *clypeus;* eyes contiguous with *pronotum.* Antennae with segment I as long as *pronotum* and head together; segment II almost twice as long as I. *Rostrum* reaching base of middle coxae.
THORAX: *Pronotum* with lateral margins subparallel, markedly carinated; apical and basal margins concave. *Mesoscutum* and *scutellum* confluent medially, *mesoscutum* widely exposed. Only macropterous forms are known. Nervures of hemelytra strongly prominent; cuneus five times longer than wide at base. Legs with metafemora surpassing end of abdomen.
ABDOMEN: Anal tube extending much beyond ventral margin of pygophore (Fig. 10), longer than in *Megaloceroea* (Fig. 11). Genitalia with *vesica* of *aedeagus* with two thin and sinuated sclerotized *spicula* and membranous lobes. Left paramere strongly curved, with characteristic apical portion (Figs. 23-24). Right paramere simple, bifurcate apically (Fig. 32), easily distinguishable from pointed and recurved right paramere of *Megaloceroea, Dolichomiris* and *Trigonotylus.*
FEMALE: Similar to male, slightly more robust.

Etymology. Named for the occurrence of this taxon on grasses of the genus *Cynodon* Richard, 1805.

Distribution. The single species of this genus is present in Argentina (Buenos Aires, Córdoba, Corrientes, Entre Ríos, La Rioja, and Misiones), Brasil (southern states), and Uruguay (Rocha).

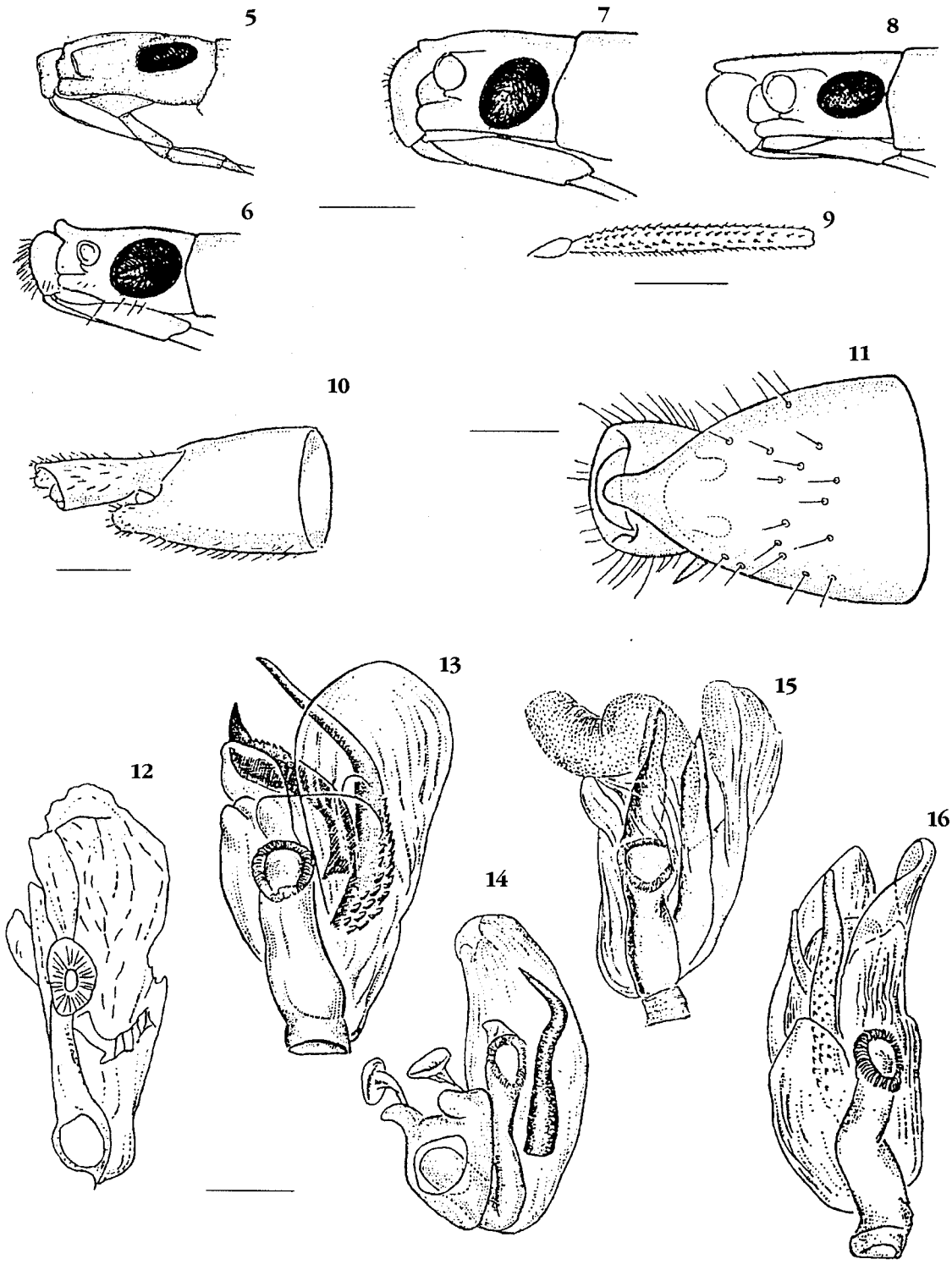
Discussion. The species *M. costicollis* is transferred from the genus *Megaloceroea* Fieber, 1858 to *Cynodonmiris* by its longer antennae, the characteristic spots on the base of the hairs of segments I and II, the different frons (Figs. 7-8), the length of *rostrum*, and for male genitalia, with a different morphology of *spicula* and membranous lobes on *vesica* of *aedeagus,* and left paramere markedly hooked.

Spartinomiris new genus

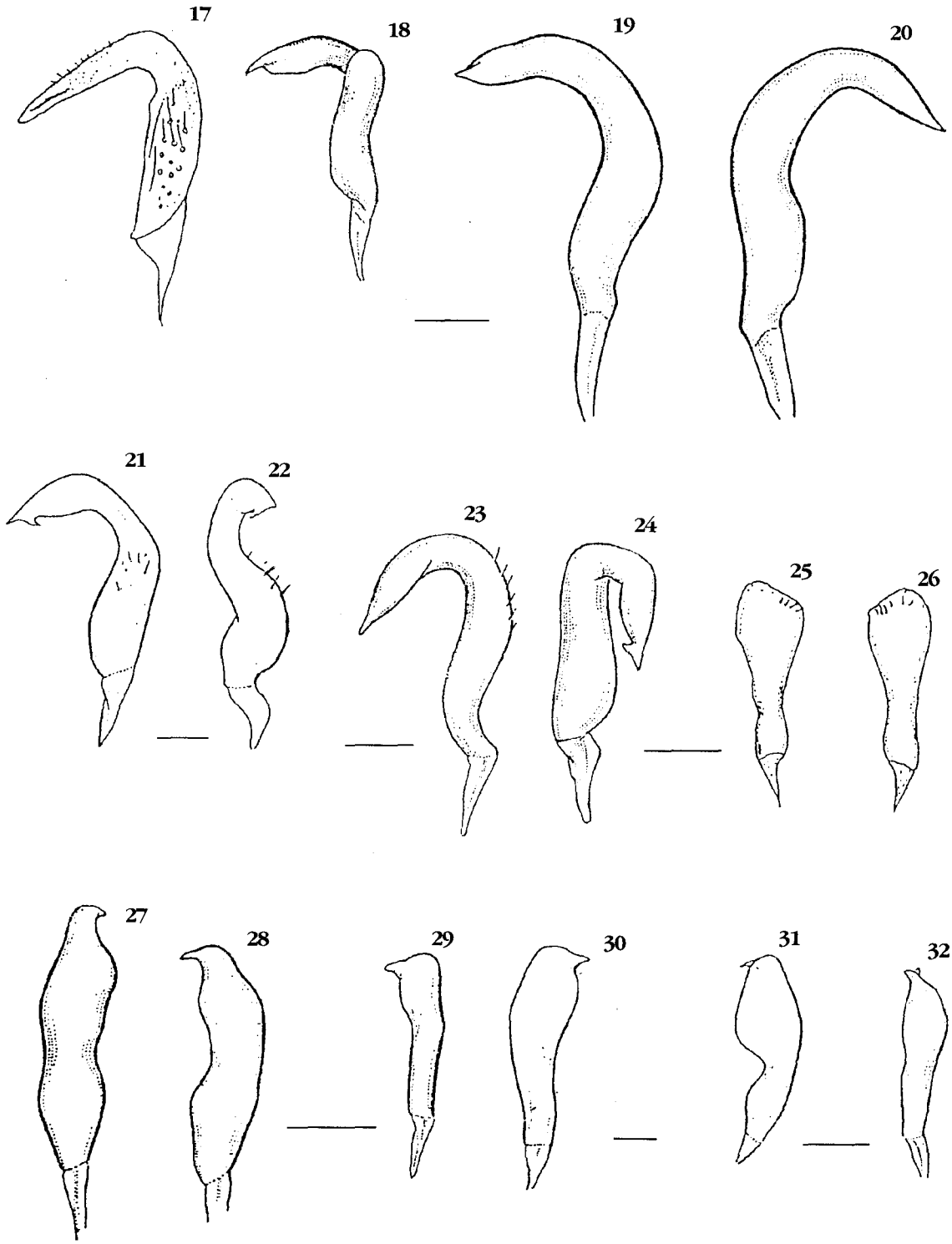
Type species. *Spartinomiris pampeanum* new species.

Diagnosis. The new genus is distinguished from other genera in the *Megaloceroea* group (see key), by shorter *rostrum*, slightly surpassing anterior coxae, oval-shaped eyes, dorsally subglabrous body, and male genitalia, without sclerotized *spicula* on *aedeagus,* particularly shaped right paramere, and occurrence of brachypterism.

Description. MALE: Dorsal aspect. Body smooth, elongate, parallel sided.
VESTITURE: Almost glabrous. Antennal segment I with very short, scattered, whitish hairs; II, III and IV with longer hairs, equal in length to width of the segments; dorsally with scattered black and short setae.
HEAD: Wide, horizontal, with a deep *sulcus* longitudinally, eyes small, narrow, elongated antero-posteriorly in lateral view, far from *pronotum* by a distance equal to width of second antennal segment; *clypeus* wide, rounded in front in lateral view. Antennae with segment I as long as length of head plus *pronotum,* and segments I+II+III+IV much longer than length of body. *Rostrum* thick, slightly surpassing anterior coxae.
THORAX: *Pronotum* subrectangular, flat, slender, lateral margins parallel, carinated; anterior and posterior margins concave; *calli* obsolete; basal third rugose, finely punctured. *Mesoscutum* and *scutellum* broadly exposed. Hemelytra smooth, opaque; macropterous and brachypterous forms present. Legs with tibiae bearing abundant, adpressed short pilosity and long, scattered setae.
ABDOMEN: Covered with whitish, erect, long hairs. Anal tube long. Genitalia with *vesica* of *aedeagus* without sclerotized *spicula,* membranous lobes smooth. Left paramere angular (Figs. 17-18), differing from *Dolichomiris* with curved left paramere (Figs. 19-20), with long hairs in basal half; right paramere short, rounded apically (Figs. 25-26).
FEMALE: Similar to male, more robust and predominantly brachypterous, sometimes



Figs. 5-16. 5-8: Head in lateral view, scale bar= 0.5 mm. 5: *Spartinomiris pampeanum;* 6: *Dolichomiris linearis;* 7: *Megaloceroea recticornis;* 8: *Cynodonmiris costicollis;* 9: segment I of antenna, *C. costicollis,* scale bar= 1mm; 10-11: Pygophore: 10: *C. costicollis,* lateral view; 11: *Trigonotylus dohertyi,* dorsal view; 12-16: *Vesica* of *aedeagus:* 12: *Spartinomiris pampeanum;* 13: *Dolichomiris linearis;* 14: *T. dohertyi;* 15: *Megaloceroea recticornis;* 16: *C. costicollis.* Scale bars= 10-16= 100 µ.



Figs. 17-32. 17-18: Left paramere, external view; 17: *Spartinomiris pampeanum;* 18: *Trigonotylus dohertyi;* 19-24: Left paramere, external and internal view; 19-20: *Dolichomiris linearis;* 21-22: *Megaloceroea recticornis;* 23-24: *Cynodonmiris costicollis*; 25-30: Right paramere, external and internal view; 25-26: *S. pampeanum;* 27-28: *D. linearis*; 29-30: *M. recticornis*; 31-32: Right paramere, external view; 31: *T. dohertyi;* 32: *C. costicollis.* Scale bars= 100 µ.

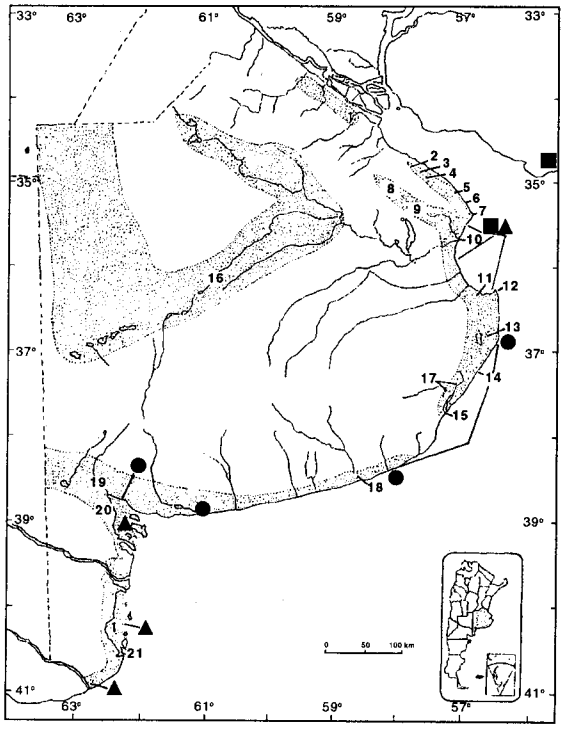


Fig. 33. Map of Buenos Aires province showing the distribution of the genera *Spartina* and *Spartinomiris gen. nov.* Dotted areas= *Spartina densiflora*; triangles= *S. alterniflora;* circles = *S. ciliata*; square= *S. longispica.* (See distribution).

macropterous forms also present.

Etymology. Named for its habitat on grasses of the genus *Spartina* Schreber, 1789.

Spartinomiris pampeanum new species
(Figs. 1-2)

Description. Male: As in generic description and general coloration greenish, antennal segments II, III and IV reddish; median line whitish, with their margins brownish, along *pronotum* and *scutellum*; internal margin of *clavus* and *endocorium*, and membrane, brownish; *tarsi* and rostral apex black. Measurements (in mm; n=10): mean, (minimum-maximum), and holotype. Length: 3.39 (3.05-3.75) 3.35. Width: 0.59 (0.55-0.65) 0.56. Head, length: 0.61 (0.57-0.65) 0.61; width: 0.46 (0.45-0.47) 0.46; vertex: 0.27 (0.25-0.29) 0.25. Antenna, length, segment I: 0.98 (0.90-1.05) 1.00; II: 1.49 (1.42-1.57) 1.54; III: 1.93 (1.80-2.00) 2.00; IV: 0.58 (0.55-0.60) 0.60. *Pronotum*, length: 0.43 (0.40-0.45) 0.44; width at base: 0.56 (0.52-0.59) 0.52.
Female: As in generic description, colour as male. Measurements (in mm): mean, (minimum-maximum). Length: 4.40 (4.00-4.65). Width: 0.68 (0.65-0.71). Head, length: 0.69 (0.65-0.72); width: 0.51 (0.49-0.54); vertex: 0.33 (0.31-0.35). Antenna, length, segment I: 1.11 (1.00-1.20); II: 1.67 (1.57-1.82); III: 2.17 (2.05-2.25); IV: 0.69 (0.62-0.75). *Pronotum*, length: 0.47 (0.40-0.54); width at base: 0.61 (0.57-0.67).

Etymology. Named for the occurrence of this taxon in the Pampean biogeographical province.

Distribution. Argentina (Buenos Aires) and Uruguay (Montevideo).

Host plant. *Spartina densiflora* and *S. x longispica* (Gramineae).

Types. Holotype male, Argentina, Buenos Aires Province, Samborombón river mounding, IV-92, Carpintero; deposited in the Museum of La Plata, Argentina. Paratypes, 13 males and 13 females, same data as holotype, Argentina, Buenos Aires: 1 male, 3 females, Las Gallinas stream and route 11, Gral. Madariaga, XI-96, Carpintero; 2 males, 1 female, Luján stream and route 9, Escobar, III-96, Carpintero; 2 males, 1 female, Mar Chiquita, I-97, Carpintero; 3 males, 1 female, Villa Elisa, XII-96, Carpintero; 2 males, 1 nymph, Los Horcones pond, G. Madariaga, I-96, Carpintero; 2 males, 1 female, Punta Piedras, VII-94, Carpintero. Uruguay: female, Montevideo, Unión, 30-X-63, L. A. de Gambardella, deposited in the Museum of La Plata.

Remarks. Macropterous and brachypterous forms as well as eggs and immature stages of *S. pampeanum* were found in the sampled areas covered by *Spartina densiflora* in Buenos Aires Province from 34° S to 38° S, being the austral distributional limit for this bug.

In the areas where *S. densiflora* grows with *S. longispica* this mirid was found on both grasses, but *S. longispica* was the dominant species. *Spartinomiris pampeanum* was also found in communities conformed by *S. densiflora*, *S. longispica,* and *S. alterniflora*. We have no records of eggs or immature stages on the two last mentioned species. Mostly macropterous forms are recorded on *S. longispica* and *S. alterniflora* only if *S. densiflora* is present. We never found *S.*

pampeanum in areas covered only by *S. longispica, S. alterniflora* or *S. ciliata.*

Spartinomiris pampeanum is closely associated with *S. densiflora.* The scabrous margins of its leaves give a suitable habitat for the development of the all stages of this mirid.

We consider *S. densiflora* as the preferential host of *S. pampeanum.*

Geographical distribution. The genus *Spartina* is widely distributed in the province of Buenos Aires (Fig. 33), and also many localities are known for the new genus *Spartinomiris.* The collecting sites of this Stenodemini genus are indicated with a number on the map (Fig. 33). 1: Luján stream (Partido de Escobar); 2: Hudson (Partido de Berazategui); 3: Villa Elisa (Partido de La Plata); 4: Ensenada (Partido de Ensenada); 5: Cañada de Arregui (Partido de Magdalena); 6: Punta Indio (Partido de Punta Indio); 7: Punta Piedras (Partido de Punta Indio); 8: Samborombón river (Partido de Brandsen); 9: Samborombón river (Partido de Chascomús); 10: mounding of Samborombón and Salado rivers (Partido de Chascomús); 11: small estuaries of Partido de Gral. Lavalle; 12: Punta Rasa (Partido de la Costa); 13: Los Horcones pond (Partido de Gral. Madariaga); 14: Mar Azul (Partido de Villa Gesell); 15: Mar Chiquita pond (Partido de Mar Chiquita); 16: Vallimanca river (Partido de Bolívar); 17: Mar Chiquita pond affluents (Partido de Mar Chiquita); 18: Quequén river (Partido de Necochea); 19: Sauce Chico river (Partido de Bahía Blanca); 20: Salar de la Vidriera (Partido de Villarino); 21: San Blas bay (Partido de Patagones).

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