

Bergicoris, a new genus for neotropical species previously placed in *Cnemodus* Herrich-Schaeffer, and a new species from Argentina (Heteroptera, Lygaeoidea, Rhyparochromidae)

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Abstract

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Key Words

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Bergicoris, a new genus within the Myodochini is proposed to accommodate *B. albimaculus* Berg comb. n. and *B. multifarius* Berg comb. n. and a new species from Argentina. Berg's species were originally described from Argentina, Bolivia and Uruguay, and assigned to *Cnemodus*. The male syntype of *Bergicoris albimaculus* is here designated as the lectotype. A photograph of habitus of the species and illustrations of male genitalia are presented. A key to separate the three species of this new genus is given.

Introduction

The genus *Cnemodus* was established by Herrich-Schaeffer (1850) and is characterized by shagreened body surface, absence of ocelli, lateral margins of both pronotal lobes rounded, aedeagus with short and robust holding sclerites, an anterior collar present and demarcated posteriorly, buccular juncture V-shaped, mesepimeron enclosed, evaporative area extensive, profemora with double-ranked spines and male protibiae with a single spine. The absence of ocelli is the most conspicuous character to distinguish the species of *Cnemodus* from any other Myodochini. At present this genus contains four species: the Nearctic *C. hirtipes* Blatchley and *C. mavortius* (Say), and the Neotropical *C. albimaculus* Berg and *C. multifarius* Berg.

In this contribution I revise the type material of *C. albimaculus* and *C. multifarius* deposited at the Museo de La Plata (MLP) and the Museo Argentino de Ciencias Naturales (MACN), and additional material from these Museums and the personal collection of Dr. Diego J. Carpintero (CC).

The South American species exhibit characters that differ from those that define *Cnemodus* and the other myodochine genera; consequently, I assign the South

American species that were described in genus *Cnemodus*: *C. albimaculus* and *C. multifarius*, as well as a new species, to a new genus described herein; a key to separate the species of the new genus is given.

Results

Bergicoris Dellapé, gen. n.

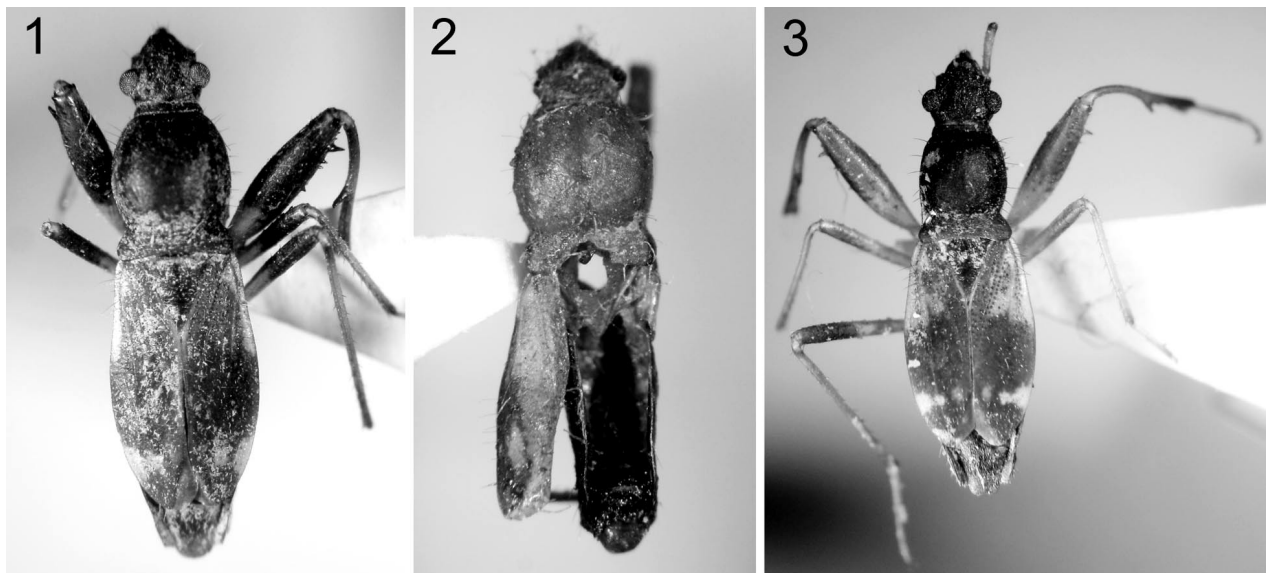
Cnemodus multifarius Berg 1894: 26.

Distribution. Argentina, Bolivia, Uruguay.

Description. – (Figs 1–3). Body elongate, head, pronotum and scutellum basally shagreened; hemelytra pruinose: short adpressed silver setae and long erect setae present on head, pronotum, scutellum and hemelytra. Head not declivent anteriorly. Eyes set shortly from anterior pronotal angles. Antenniferous tubercles slightly divergent. Antenna elongate, slender, terete, distiflagellomere fusiform. Buccular juncture V-shaped. Ocelli located closer to posterior margin of head than to margin of eye.

Anterior collar complete, very narrow, ring-like, delimited posteriorly by a sharp deeply impressed line. Lateral margin of both pronotal lobes rounded. Clavus

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Figures 1–3. 1. *Bergicoris multifarius* (Berg), comb. n.; 2. *Bergicoris albimaculus* (Berg) comb. n.; 3. *Bergicoris riojanus* new species.

with 3 complete rows of punctures and a series of scattered ones on distal half between inner and median rows. Apical corial margin adjacent to membrane lacking a series of punctures. Brachypterous specimens with corium moderately expanded posteriorly, outer margin strongly convex, membrane of hemelytra reduced and hind wings reduced to a small flap. Mesepimeron enclosed. Evaporative area extensive, covering inner two thirds to three fourths of metapleuron, and extending narrowly along posterior margin of mesopleuron. Procoxae with a prominent spine. Profemora incrassate, with double-ranked spines, less developed in females. Male protibiae curved on anterior half and straight distally, with a large spine medially. Male mesofemora spined. Female protibiae straight and unarmed, and mesofemora unarmed.

Abdomen lacking a stridulitrum. Aedeagus (Figs 8, 17): vesica with two lateral sclerotized lobes, conjunctiva with small spines or unarmed.

Etymology. The genus is named after Carlos Berg (1843–1902). The gender of the name is masculine.

Species included

Bergicoris albimaculus (Berg), comb. n.

Bergicoris multifarius (Berg), comb. n.

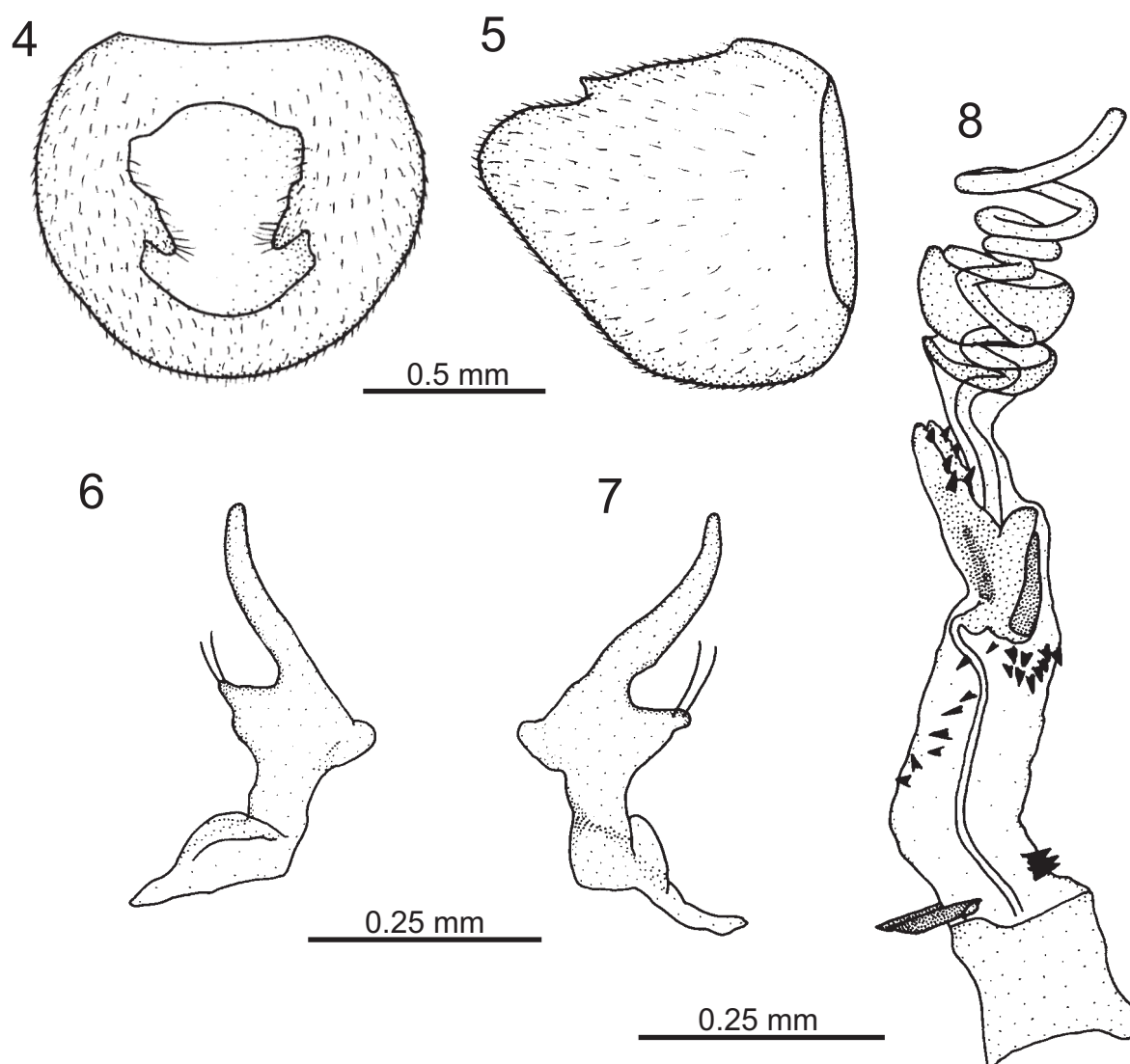
Bergicoris riojanus sp. n.

Discussion. Harrington (1980) revised the Myodochini of the world and proposed four lineages based on four types of male genitalia. The presence of lateral sclerotized lobes adjacent to the ejaculatory reservoir, here interpreted as “the short and robust holding sclerites” of Harrington, places *Bergicoris* in the group of genera that possess Harrington’s Type IV aedeagus. The sparse and small spines in the aedeagus of *B. multifarius* and

B. riojanus seem different from the spines of Harrington’s Type III aedeagus (lacking holding sclerites and with a conjunctiva adorned with many spines). Harrington pointed out that some genera with phallic type IV presented a conjunctiva with spines that were probably not homologous with those of phallic type III. A more thorough review of the characters of the genera with phallic type III and IV is necessary to clarify their homologies and phylogenetic relationships.

The shagreened body surface and the long body hairs of *Bergicoris* relate it to *Ashlockaria* Harrington and the monotypic *Zeropamera* Barber, both Nearctic genera. *Zeropamera nigra* Barber has a scapus nearly as long as the head, extending beyond its apex by more than one half of its length; the basal rostral segment extends to the base of head; the anterior pronotal lobe is twice as long and one third narrower than the posterior pronotal lobe, and the anterior tibia is straight with a row of short inclined setigerous spinules on the apical 3/4. On the other hand, in *Bergicoris* the first antennal segment is approximately one half of the head length rather than extended beyond the apex; the basal rostral segment does not reach the base of head and the anterior pronotal lobe is about three times as long and slightly narrower than the posterior pronotal lobe.

The species of *Ashlockaria* exhibit an abdominal stridulitrum over abdominal segments II to IV and a plectrum formed by a field of spines at the base of the hind femur; and the male protibiae are multispined. The species of this new genus are very similar in general aspect to the species of *Ashlockaria*, but they can be easily distinguished by the absence of an abdominal stridulitrum and the curved male protibiae with a large spine medially.



Figures 4–8. *Bergicoris multifarius* (Berg), comb. n.; male genitalia. **4.** Pygophore, dorsal view; **5.** Pygophore, lateral view; **6.** Right paramere, inner view; **7.** Right paramere, outer view; **8.** Aedeagus.

Key to the species of *Bergicoris*

1. Species smaller than 7.3 mm, male anterior pronotal lobe strongly globose (Fig. 2), antennal segment IV unicolorous. Humeral angles contrastingly dark. Aedeagus with conjunctiva unspined. *Bergicoris albimaculus* (Berg) comb. n.
- Species larger than 7.5 mm, male anterior pronotal lobe globose, but not extremely globose as in 2 (Figs 1, 3); antennal segment IV with a yellowish band. Posterior pronotal lobe unicolorous. Aedeagus with conjunctiva spined (Figs 8, 17) **2**
2. Male anterior pronotal lobe globose (Fig. 1). Paramere with a digitiform outer projection (Figs 6, 7). Aedeagus with spines on the lateral lobes (Fig. 8) *Bergicoris multifarius* (Berg) comb. n.
- Male anterior pronotal lobe slightly globose (Fig. 3). Paramere with a rounded outer projection (Figs 15, 16). Aedeagus without spines on lateral lobes (Fig. 17) *Bergicoris riojanus* sp. n.

Bergicoris multifarius (Berg 1894) comb. n.

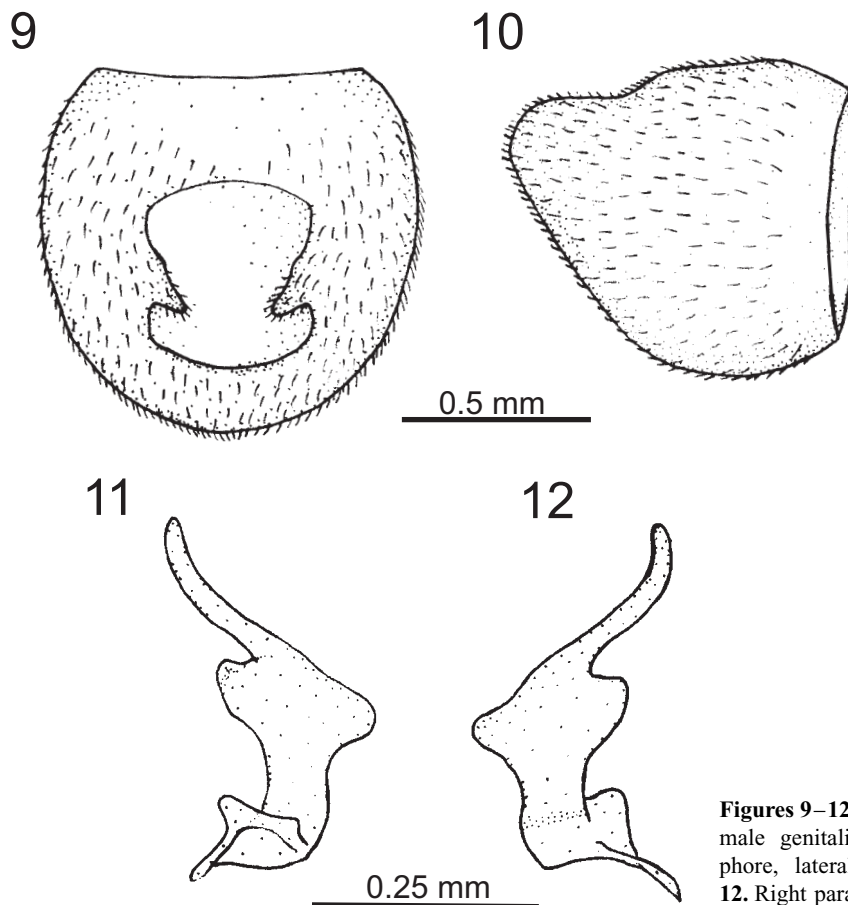
Cnemodus multifarius Berg 1894: 26.

Redescription (male). – (Fig. 1). Head dark brown. Rostrum brown, reaching mesocoxae. Antennae light brown, distiflagellomere with a broad yellowish band sub-basally. Pronotum dark brown. Collar narrow, impunctate; anterior pronotal lobe globose, posterior pro-

notal lobe short with scattered punctures. Scutellum dark brown. Hemelytra: clavus brown, paler on internal apex; corium light brown basally, the rest brown with a yellowish irregular transverse spot distally.

Pleura dark brown except acetabular area of meso- legs and metaepimeron yellowish.

Legs light brown except procoxae, protrochanters, distal 2/3 of profemora and 1/2 of meso- and metafe-



Figures 9–12. *Bergicoris albimaculus* (Berg), comb. n.; male genitalia. **9.** Pygophore, dorsal view; **10.** Pygophore, lateral view; **11.** Right paramere, inner view; **12.** Right paramere, outer view.

mora dark brown. Distal 1/2 of protibiae with small tubercles each bearing a spiniform seta directed at apex. Mesofemora with two rows of small spines. Meso- and metatibiae with spiniform setae. Abdomen dark brown, with abundant short decumbent setae. Genitalia: Pygophore (Figs 4–5). Parameres: (Figs 6–7) blade elongate, outer projection digitiform with two long setae. Aedeagus (Fig. 8) with a set of small spines basal to the ejaculatory reservoir and on the lobes; and with two large spines posteriorly and three smaller ones anteriorly, at base of conjunctiva.

Female – Similar to male in all aspects, except anterior pronotal lobe less globose and armature of legs reduced.

Material examined. Holotype: female, (**Bolivia**) Tarija (MACN) [only preserves the scutellum, abdomen, hemelytra and one hindleg].

Additional material examined. 1 male, **Argentina**: Tucumán: San Pedro de Colalao, XI-(19)41, Viana col. (CC). 1 female, Argentina: Córdoba: Anizacate, Julio (19)74 (CC). 1 female, Argentina: Salta: Tartagal, XII-(19)54 (CC)

***Bergicoris albimaculus* (Berg 1878) comb. n.**

Cnemodus albimaculus Berg 1878: 261–262.

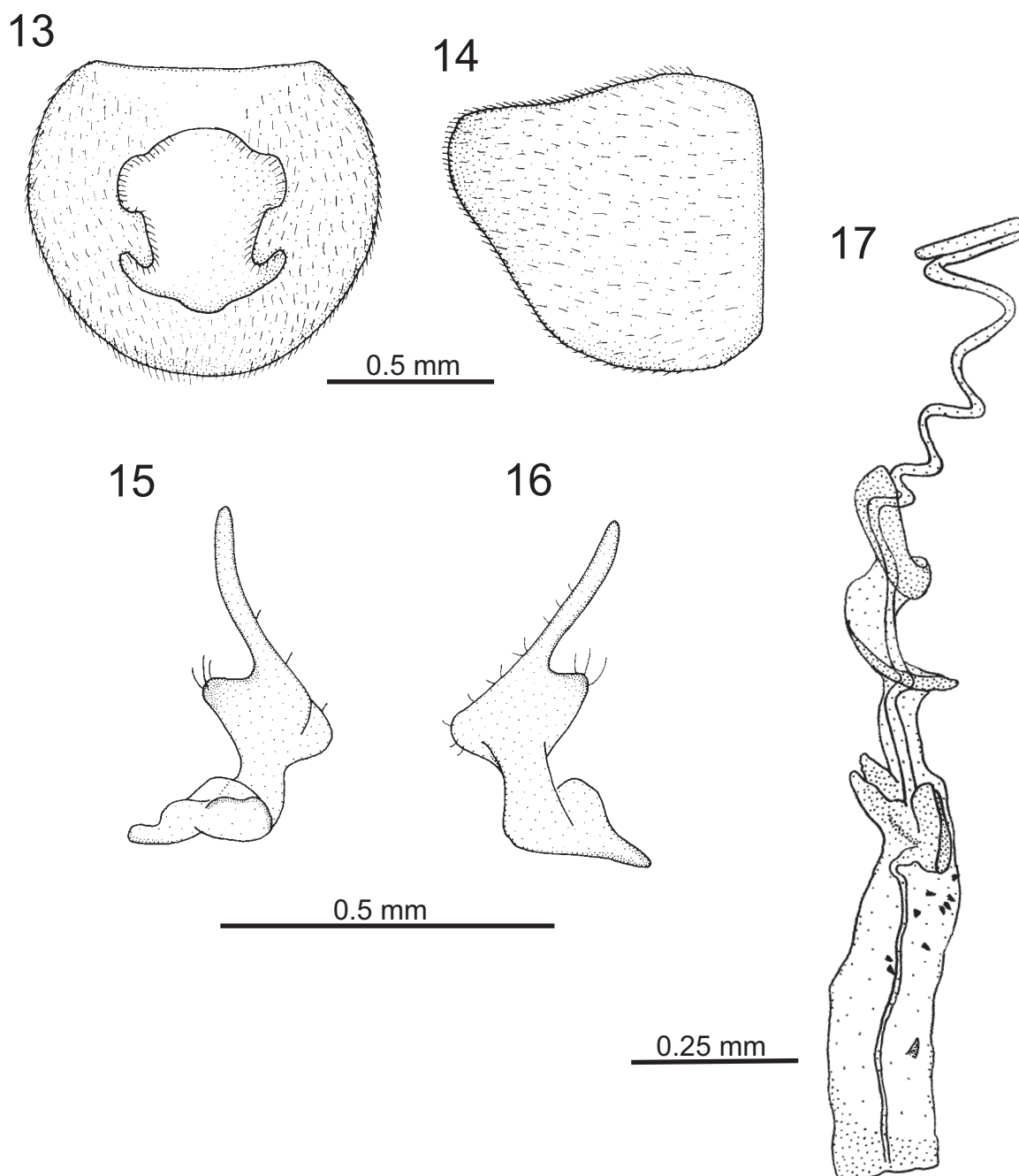
Redescription (male lectotype). – (Fig. 2). Head brown tinged with red. Rostrum brown, article IV darker; reaching mesocoxae.

Pronotum brown tinged with red, humeral angles of posterior pronotal lobe dark. Collar narrow, anterior pronotal lobe elongate, large and convex, strongly globose. Transverse pronotal impression complete. Posterior pronotal lobe short, punctate. Scutellum reddish brown. Hemelytra brown, lighter basally with a yellowish subapical spot. Pleura brown, mesepisternum postero-ventrally and metepimeron ventrally whitish. Legs brown to light brown. Distal half of protibiae with two tubercles bearing a spiniform setae directed at apex. Meso- and metatibiae with spiniform setae.

Abdomen dark brown, almost black, with segments 2, 3 and 4 tinged with red, with abundant short decumbent silvery setae and long semierect setae more abundant ventrally. Genitalia: Pygophore (Figs 9–10). Parameres: (Figs 11–12) blade elongate, outer projection rounded. Aedeagus unspined.

Female – Similar to male in all aspects, except anterior pronotal lobe less globose, rostrum reaching metacoxae, and armature of legs. Antennae light brown, except distal region of basiflagellomere and distiflagellomere darker.

Material examined. Types: Lectotype, male (**New designation**), *Cnemodus albimacula*, Banda Oriental, 1478 (MLP) [only conserves the scapus, one proleg, one hindleg, and one hemelytron]. Paralectotype, 1 female, typus, Banda Oriental, 1478 (MLP) [only conserves one proleg, one mesoleg, and one hemelytron] [both collected in **Uruguay**: cerca del río Corralito, Enero, 1878 (Berg 1878)].



Figures 13–17. *Bergicoris riojanus* sp. n.; male genitalia. **13.** Pygophore, dorsal view; **14.** Pygophore, lateral view; **15.** Right paramere, inner view; **16.** Right paramere, outer view; **17.** Aedeagus.

There are two nymphs from Chacabuco (Argentina) collected by F. Lynch that are deposited in MLP as part of the type series, as cited Coscarón (2000). I consider that these nymphs do not belong to the type series. Berg (1978) comments that (in addition to the male and female) has one immature and gives some characters but he doesn't mention another locality that "Respublica (sic) Uruguayensis", besides that these immatures doubtfully correspond to the same species that the adults.

Additional material examined. 1 male, **Argentina:** San Luis: Piedra Blanca, II-(19)49 (CC); 1 female. **Argentina:** Córdoba: Anizacate, Julio (19)74 (CC).

Remarks. I have examined one macropterous male specimen from CC that represents the first macropterous specimen known for this new genus. Unfortunately I

have not been able to determine if this specimen corresponds to a macropterous form of *B. albimaculus* or to a new species. The genitalia of this specimen are quite similar to *B. albimaculus*, but the coloration pattern of the hemelytra is different and the anterior pronotal lobe is remarkably less globose, besides the fact that it is a macropterous form.

***Bergicoris riojanus* sp. n.**

Description (Holotype male). – (Fig. 3). Head brown, with short decumbent silvery setae. Rostrum brown, reaching mesocoxae. Antennae: Scapus light brown, rest missing.

Table 1. Measurements of *Bergicoris* species. Measurements are given in millimeters. (*: because the specimen is collapsed only the antennae were measured)

	<i>B. albimaculus</i>				<i>B. multifarius</i>			<i>B. riojanus</i>				
	Lectotype		Paralecto- type					Holotype	Paratypes			
	♂	♀			♂*	♀	♂		♀	♀	♂	♀
Total length	6.93	7.20	–	7.06	8.53	8.26	8.66	7.86	7.60	7.50	8.13	7.86
Head length	1.20	1.25	–	1.25	1.52	1.50	1.55	1.55	1.50	1.41	1.54	1.50
Head width	1.25	1.31	–	1.34	1.47	1.42	1.57	1.39	1.39	1.30	1.46	1.36
Interocular space	0.88	0.83	–	0.83	0.80	0.77	0.85	0.78	0.80	0.72	0.78	0.77
Interocellar space	1.43	0.51	–	0.51	0.59	0.50	0.62	0.56	0.61	0.53	0.54	0.61
Rostral article I	0.85	0.90	–	0.96	1.12	1.12	1.20	1.09	1.04	1.02	1.12	1.12
Rostral article II	0.91	0.88	–	–	1.20	1.20	–	1.17	1.07	1.06	1.12	1.20
Rostral article III	0.66	0.69	–	–	0.96	1.15	–	–	0.96	–	0.98	1.09
Rostral article IV	0.51	0.51	–	–	0.50	0.56	–	–	0.56	–	0.56	0.56
Scapus	0.53	0.59	0.61	0.56	0.88	–	0.96	0.93	–	0.72	0.88	–
Pedicellus	–	1.18	1.15	1.09	1.92	–	1.95	–	–	1.36	1.86	–
Basiflagellomere	–	1.02	0.96	0.96	–	–	1.76	–	–	–	1.60	–
Distiflagellomere	–	1.34	1.38	–	–	–	2.11	–	–	–	1.89	–
Collar length	0.10	0.10	–	0.13	0.13	0.14	0.11	0.13	0.16	0.13	0.14	0.14
Ant. Pronotal lobe length	1.70	1.12	–	1.17	1.33	1.79	1.54	1.44	1.46	0.96	1.36	1.10
Post. Pronotal lobe length	0.38	0.34	–	0.40	0.48	0.48	0.46	0.38	0.38	0.34	0.40	0.50
Collar width	0.99	1.07	–	1.15	1.18	1.09	1.26	1.04	1.04	0.93	1.07	1.10
Ant. Pronotal lobe width	1.82	1.52	–	1.54	1.57	1.86	1.70	1.54	1.54	1.26	1.49	1.36
Post. Pronotal lobe width	1.73	1.70	–	1.73	1.86	1.82	1.98	1.63	1.57	2.94	1.63	1.66
Abdominal length	2.53	3.20	–	3.33	3.86	3.46	4.06	2.86	3.33	3.20	3.80	3.53

Pronotum brown. Collar narrow, anterior pronotal lobe globose; posterior pronotal lobe short with a few punctures. Scutellum dark brown. Hemelytra: clavus brown, paler at apex. Corium light brown basally, rest brown with a yellowish transverse spot distally. Pleura dark brown, except acetabular area of mesoleg and metepimeron light brown. Legs light brown except procoxae, protrochanters and distal half of femora darker. Protibiae with three tubercles over distal half, each bearing a spiniform setae. Mesofemora with two rows of small spines. Meso- and metatibiae with spiniform setae.

Abdomen dark brown, with abundant short decumbent setae, more abundant and longer semierect setae distally. Genitalia: Pygophore (Figs 13–14). Parameres (Figs 15–16) blade slightly curved, outer projection rounded. Aedeagus (Fig. 17) with a few small spines on conjunctiva.

Female – Similar to male in all aspects except anterior pronotal lobe less globose, rostrum reaching metacoxae, and armature of legs. Antennae brown to light brown, distiflagellomere with a yellowish band sub-basally.

Etymology. The name refers to the Argentinean province where the specimens of this new species were collected.

Material examined. Holotype: male, **Argentina**: La Rioja: Ilías, Mateo Gomez col. (MACN).

Paratypes: 2 females, 1 male. Argentina: La Rioja: Ilías, Mateo Gomez col. (MACN). 1 female. Argentina: La Rioja: Patquía, II-(19)59, Viana col. (CC).

Discussion

Brailovsky (1981) described *Pseudocnemodus martinezi* and assigned it to that genus because of the presence of a stridulitrum over the head and propleura; however, he noted that the stridulitrum was very difficult to distinguish. Brailovsky & Barrera (1984) noted the affinities between the Neotropical species of *Cnemodus* and *P. martinezi* and suggested that *C. albimaculus*, *C. multifarius* and *P. martinezi* should be included in a new genus.

The detailed description and dorsal habitus photograph of *P. martinezi* in Brailovsky's 1981 paper fit the *Bergicoris* species. Unfortunately, I have not been able to examine specimens of *P. martinezi* to determine the correct generic position of this species.

Acknowledgements

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