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Mariascopia n. gen. (Orthoptera, Eumastacoidea, Proscopiidae)

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Abstract

Mariascopia is a new genus with 3 species. It belongs to Proscopiinae, Proscopiidae. The structure of the spermathecae suggests it is closely related to *Orienscopia*; both genera have 3 different spermathecae. The genus is erected on the basis of the phallic complex. External features are similar to those of species of *Tetanorhynchus*, *Cephalocoema*, *Orienscopia*, *Scleratoscopia* and *Pseudastroma*. *Mariascopia* shows preferences for grasslands in the Chaco biogeographical region.

Key words

taxonomy, morphometry, acridomorpha, Neotropical fauna, male genitalia, female genitalia

Introduction

The type-series of *Cephalocoema costulata* Burmeister 1880 consists of one male and one female. The female belongs, without doubt, to the genus *Orienscopia* and was designated as type of the species (Bentos-Pereira 2000). The male is not conspecific with the female. It is not even congeneric with it, and does not belong to any described genus. Its phallic complex has a combination and disposition of sclerotized plates (Jago 1989) quite different from that of any known genus.

The new genus of this male described herein differs from *Orienscopia* only in male genital characters, and its species can be distinguished only by the same means. In the collection of the Museum National d'Histoire Naturelle of Paris, I found a number of specimens belonging to this same genus. These specimens allow me to now describe a new genus with 3 new species: *Mariascopia elegans*, *Mariascopia guarani* and *Mariascopia ronderosi*.

Materials and methods

All the specimens used for the present work belong to the Facultad de Ciencias Naturales y Museo, La Plata, Argentina (MLP) and the Museum National d'Histoire Naturelle, Paris, France (MNHNP). These acronyms are used in the text that follows to indicate the museums where holotypes and paratypes are deposited.

Male and female genitalia were rehydrated, dissected, cleared with an 8% solution of potassium hydroxyde and kept in microvials in glycerine, mounted in the same pin as the corresponding specimen. Each dissected specimen and its genitalia were marked with an additional label with the initials 'abp' followed by a number.

Measurements, taken as indicated in Bentos-Pereira 1997, were

made under a stereoscopic microscope with a Mitutoyo caliper rule, at a precision of 1/10 mm. These measurements and some related statistical data are in Table 2.

External morphology and genital anatomy were studied under stereoscopic microscopes (Nikon SMZ-10 or Wild). Drawings were made with the help of a camera lucida. Nomenclature of the sclerotized parts of the phallic complex follows that proposed by Jago (1989). The generic characters for males and females are summarized in Table 1. Geographical distribution of the species is shown on a map (Fig. 20) of the biogeographic provinces as defined by Cabrera & Willink (1973).

Mariascopia, n. gen.

Etymology.— Generic name dedicated to Dr. María Marta Cigliano.

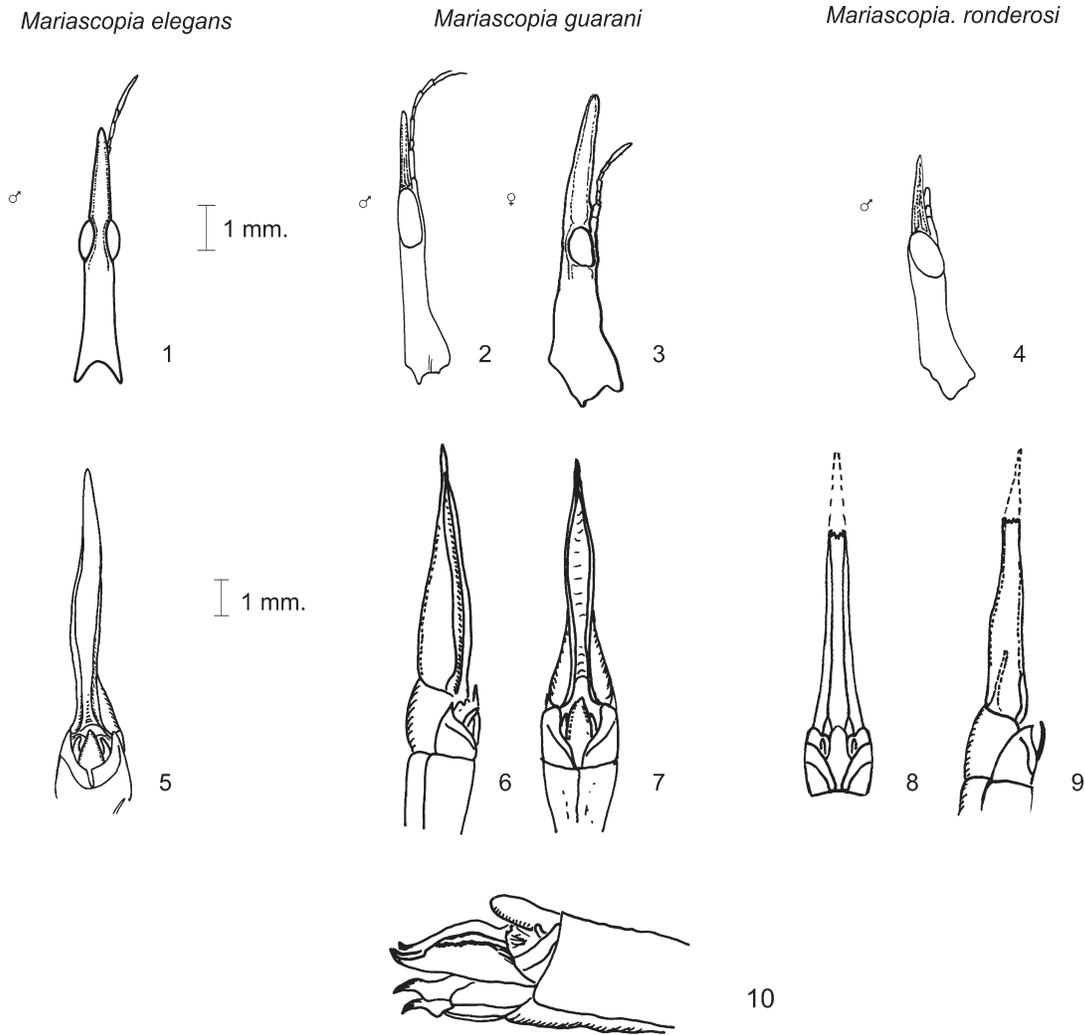
Type species.— *Mariascopia elegans* n. sp.

Diagnosis.— Apterous, without external sexual dimorphism except for difference in size. Head in dorsal view, sinuate, constricted behind the eyes, though not as markedly as in *Proscopia*, *Taxiarachus* or *Apioscelis*. Fastigium may or may not follow the same line as the dorsum of the head.

Pronotum clearly separated from prosternum by a suture and a thick carina that lies above it. Thorax depressed. Male subgenital plate moderately elongated, its apex acute and entire. Female subgenital plate identical to the preceding abdominal sternites. Ovipositor valves smooth. Ventral spines of hind tibiae only on external margin.

Phallic complex with plate 1 and plate 2 separated, never united. Plate 1 elongate, almost parallel to plates 2, the latter with lophi that do not form hooks. Plates 5, when present, placed in a proximal position, almost in the position of plates 10 in other species. Plates 10 always united with plates 6, with an aspect quite different from that seen in other genera of the tribe (see Bentos-Pereira, this issue) because they show a tendency to lie in the same plane and to be united at the middle and not at their extremities. Plate 4b generally divided transversely into 2 regions of different shapes and degrees of sclerotization in the different species. Endophallus always membranous. A small sclerite, sometimes annular, in the base of the ejaculatory duct.

Three spermathecae of complex shape inserted on the apical and dorsal portion of the bursa copulatrix.



Figs 1-10. External morphological characteristics of *Mariascopea* species.

Key for the species of *Mariascopea*

Mariascopea elegans n. sp.

Males

Type locality.— Altagracia, Prov. Córdoba, Argentina.
Type deposited.— Museo de La Plata, Argentina.

- 1 Endophallus entirely membranous 2
- Endophallus partially membranous, with some well-developed rod-like sclerites 2'
- 2 Plates 4b clearly divided in 2 parts 3
- Plates 4b divided in 2 parts that could be partially fused together 3'
- 3 Plates 5 fused at the midline *M. elegans*
- Plates 5 not fused at midline 4
- 4 Plates 5 well-defined, straight *M. guarani*
- Plates 5 not well defined and slightly curved *M. ronderosi*

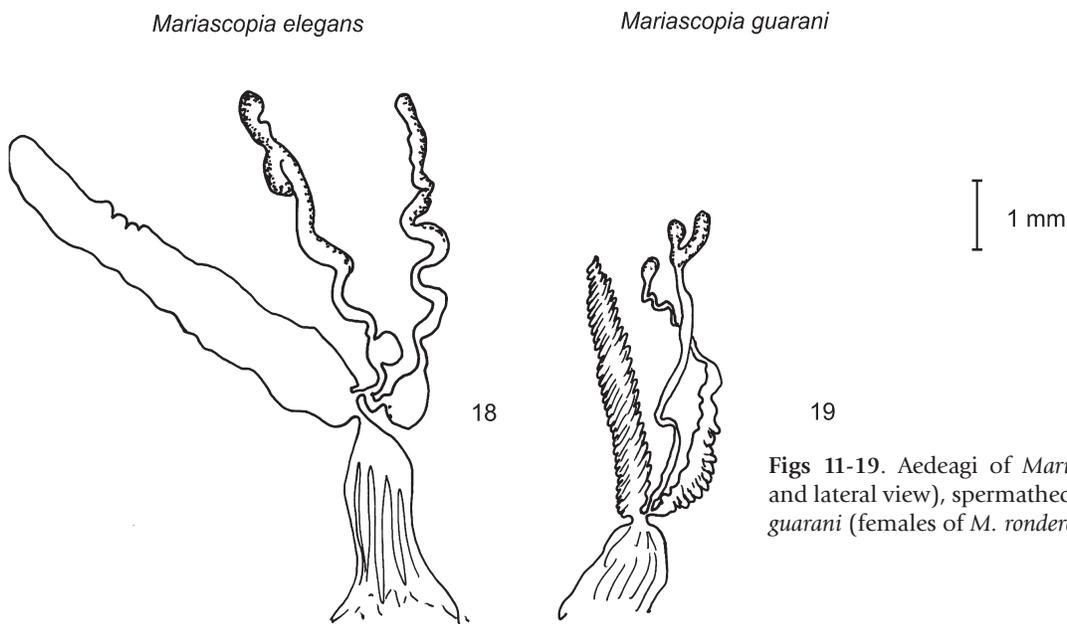
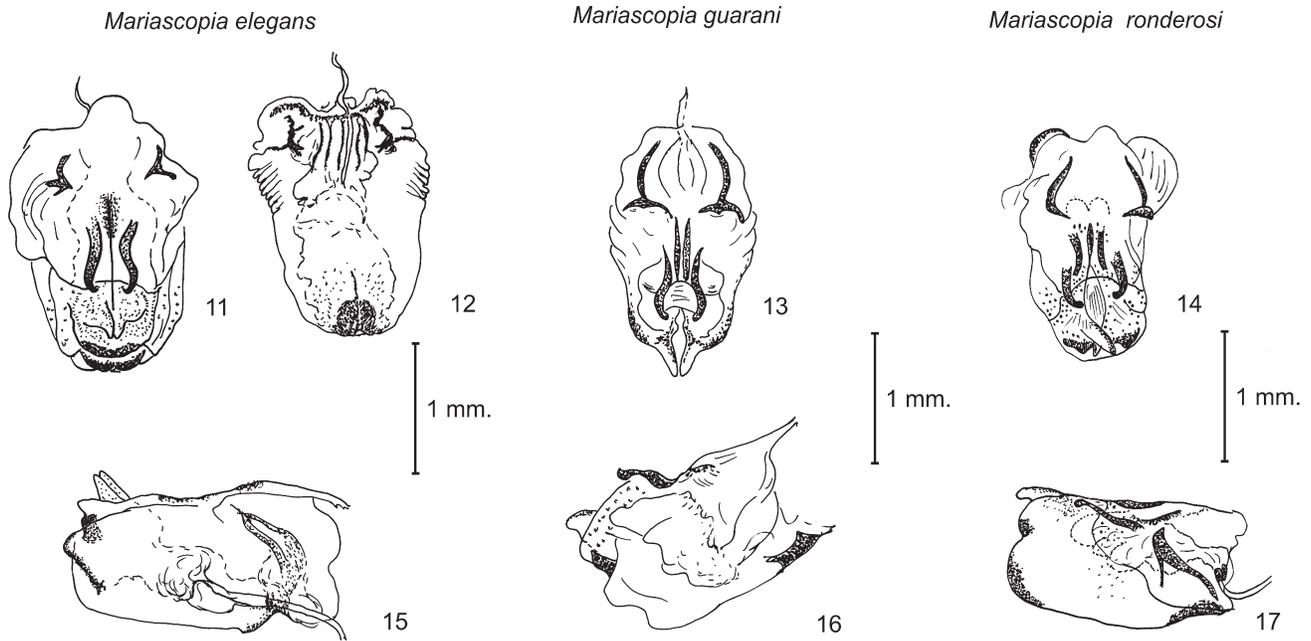
Etymology.— From Latin, *elegans*, elegant, fine, delicate; alluding to its aspect.

Specimens examined.— Holotype male, from Argentina, Córdoba, Altagracia, La Granja, Enero 1939, C. Bruch leg., abp 245. Formerly considered as belonging to the type series of *Cephalocoema costulata* Burmeister 1880, in MLP. Paratypes: 4♂♂ 3♀♀ Argentina, Chaco, Parque Nacional del Chaco, 9-10/ I /1972, M. Descamps leg., abp 410, 411, 412, 413, 414, 415, 416. 1♂ 1♀ Argentina, Formosa, Clorinda, 12/I/1972, M. Descamps leg., abp 418, - 417. 2♂♂ 2♀♀ Argentina, Santa Fe, Las Garzas, Ruta 11, abp 429, 430 - 427, 428, All in MHNP.

Females

- 1 Three different spermathecae: the basal one smooth, larger than the other 2 which arise from it *M. elegans*
- Three different spermathecae of similar size, the basal one strongly folded *M. ronderosi*

Description.— **Male**: Of medium size (see Table 2), slender. Fastigium pyramid-shaped, long and pointed, slightly inclined downwards, its ventral face narrower than its dorsal one, with fine rather indistinct carinae on its edges. Carinae on dorsal edges continued to posterior



Figs 11-19. Aedeagi of *Mariascopea* species (dorsal and lateral view), spermathecae of *M. elegans* and *M. guarani* (females of *M. ronderosi* are unknown).

part of eyes. Between eyes a dorsal carina extending to occiput. Antennae of 7 segments, apical one very long, approximately 3× as long as penultimate. Lenticular organs on segments 6 and 7. Integument of head smooth, neither punctate nor granulate. Eyes inconspicuous, almost flat, elongated. Sides of head concave below eyes. Prothorax with legs inserted on its middle, contiguous inferiorly. Pronotosternal suture clearly marked, the notum forming a thick carina above the suture, marked with a color lighter than the rest of the prothorax. Sides of pronotum concave in its anterior half, straight in the posterior one. Anterior and posterior edges straight and smooth. A weak dorsal median carina is marked by lighter coloration. All the integument finely punctate.

Meso-metanotum and notum of first abdominal segment similar

to those of pronotum, with narrow dark carina marking the pleural suture. The latter continues a narrow dark band which begins on the pronotum, marking the union between the broad median dorsal area and the light-colored band over the notopleural suture. Transverse limits between segments straight.

Beginning on the metanotum and continuing over all the dorsal region of the abdomen, there are 2 well-marked paramedial carinae. The light-colored lateral band that begins on the pronotum continues as indicated on the meso-metathorax and also along the sides of the abdomen.

Legs: First pair with femora of circular section; tibiae of square section, with carinated edges; with 10 outer and 12 inner spines, all black, small, acute. Second pair of legs similar to first, but their

femora dilated distally; tibiae with 8 inner, 10 outer spines. Third pair with femora of almost uniform thickness throughout; knees without spines (except in the male from Clorinda, Formosa, where rudiments of spines are seen on the knee); tibiae of square section, edges smooth, with 11 outer dorsal spines and 7 outer ventral spines, 12 inner dorsal spines, none ventral. Insertion of spines does not reach apex of tibiae; no dorsal spurs present.

Abdomen smooth, with a well-marked median dorsal line. Epiproct triangular, wider than long. Cerci large (surpassing half total length of epiproct), incurved and acutely pointed. Subgenital plate long, narrow, its apex simple; pallium smooth; median ventral carina well marked.

Phallic complex: lophi (plates 2) and transverse plate (plate 1) at the epiphallus not united; the lophi converging to their caudal ends, diverging anteriorly, forming an extended figure S; only their posterior ends are well sclerotized; with small and delicate hooks, curved horizontally inwards. Plate 1 median, formed by one sclerotized plate, parallel to the lophi, with an almost linear median region strongly sclerotized; this sclerotization diminishes towards the edges of the plate, where it becomes almost nonexistent. The epiphallus embedded in a subtle membrane that partially covers the median slit and continues forward, forming a median tongue-like projection that probably continues in a membrane under the epiproct. Plates 4 placed along sides of median slit forming a structure that in lateral view is shaped like a bird's beak. All of this area covered by large sense organs. These plates are not disposed in the form of a sheath as in *Cephalocoema*, but rather as a wide plate of indistinct edges as happens in *Orienscopia*. Plates 10 large and sclerotized, united to plates 6, forming a single, proximal structure of a shape completely different from that present in other genera. Plates 10 and 6 are here united by the median part of the latter, forming a 3-branched structure. The basal plate is always present, forming a basal half-ring on which lies the rest of the genitalia. In the present case it is not strongly sclerotized, but is clearly visible. Ventrally, on the caudal end of the median slit is plate 4b, quadrangular in form, with well-defined edges; this plate is divided into 2 parts; a distal one, smaller and less ventral than the proximal one, the distal larger and more sclerotized. Both these plates have well-defined and sclerotized edges which are darker than the rest of the plate. The endophallus is formed by a folded membranous sac, slightly sclerotized, leaning caudally on plate 4b; on its anterior end it has several elongated sclerites surrounding a tube-shaped chamber that leads to a completely membranous ejaculatory duct.

Female: Head conical. Eyes small in relation to size of head, flat, barely elevated over head surface. Fastigium with pointed apex, its edges well marked but only slightly carinated; its ventral surface straight, smaller than the dorsal, which is convex; without median carina. Integument smooth. Antennae like those described for the male, lenticular organs more prominent, in the same segments as in the male.

Pronotum as described for the male; the lateral carina over the notopleural suture is narrower. There is a very slightly marked median dorsal carina. Meso-metanotum as described for the male except for a more marked median dorsal carina. Legs of the first pair with femora of circular section, tibiae of square section, with slightly serrated edges; spines: 10 internal, 7 external. Second pair of legs similar to first, with 8 tibial internal spines, and 8 external ones. Third leg pair with femora only slightly thickened in basal half; knees without spines or with only rudiments of them; tibiae of square section with well-marked and slightly serrated edges;

dorsal spines whose insertions do not reach the end of the tibiae, 12 internal and 14 external; 8 internal ventral spines; no dorsal spurs present.

Abdomen with 5 dorsal longitudinal carinae of which only the median one is well marked, the others being rather indistinct. Epiproct elongated with rounded apex, the latter noticeably narrower than the basal part of this sclerite. Cerci very small, acutely pointed. Ovipositor valves small, their apices acute; dorsal valve smooth, with only one apical, rather small, tooth; ventral valve with 2 basal teeth, the proximal with a rather flat top, the other larger and acute; distad of these teeth there is a wide flat area and then a large, sharp, apical tooth. Subgenital plate with rounded posterior edge, no other distinctive features.

Spermathecae: 3 very similar to those of *O. costulata*. The largest is elongate, digitiform and fairly wide, its cuticle thick and somewhat pleated. The other 2 arise from the base of the first by a short common duct. The median one has a very twisted two-lobed apex, and a duct as long as the largest of the spermathecae; in all the studied specimens this duct has a globular widening at its base. The third spermatheca is the simplest, having a duct as long as that of the second spermatheca, extremely twisted and without any distal dilation. Like the second one, it has a globular basal widening which is larger than that of the second spermatheca. All this complex arises from a small and elongated bursa copulatrix.

Mariascopia guarani n. sp.

Type locality.— Sapucay, Prov. Paraguari, Paraguay.

Type deposited.— Museum National d'Histoire Naturelle, Paris.

Etymology.— Named after the Amerindian nation whose tribes lived in the region.

Specimens examined.— Female holotype from Paraguay, Prov. Paraguari, Sapucay, 14-15/1/1972, M. Descamps leg., abp 372. MNHP.

Paratypes: 9♀♀, 6♂♂. same data as the holotype, abp 373, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463. 1♀ from Corrientes, Argentina, 1834, D'Orbigny, leg. abp 465. All in MNHP.

Description.— **Male:** Apterous, considerably smaller than female (see Table 2). Head slightly constricted behind eyes. Eyes small, not prominent. Fastigium short, depressed, dorsal surface convex, following dorsal line of head. Edges of fastigium with thin carina of lighter color than rest of head. Antennae long, 7-segmented, lenticular organs on segments 5 and 7. First pair of legs inserted slightly before middle of prothorax, dividing it into 2 unequal parts; the anterior part shorter, narrower, with concave sides; the posterior one longer, its sides straight. Dorsally with a slightly marked median carina, which becomes more noticeable on meso-metathorax. Integument of pronotum finely punctated, with short and thin transverse striae. Posterior edge with 2 small paramedian tubercles at end of 2 short carinae, which are more marked by the color of the tegument than by their texture. These carinae are prolonged caudad by the pleural sutures of the meso-metathorax. Pleural suture of prothorax very noticeable and marked dorsally by edge of notum, which forms a thick carina of a bright yellow color. This color also on pleurae and legs. Meso- and metanotum similar to pronotum, the median carina more noticeable: it becomes most marked on dorsum of

Table 1: Diagnosis.

<i>Mariascopia gen.nov.</i>	
Male	Female
Plates 1 and 2 of phallic complex (epiphallus) not fused	
Plates 5 present	
Plates 10 and 6 joined in the middle of plate 10, forming a characteristic structure	
Plate 4b divided in two parts, with different kinds of sclerification	Three spermathecae, with globular expansions Two of them join to one another basally
Endophallus and ejaculatory duct membranous; <i>M. elegans</i> with well-developed series of rod-like sclerites in the endophallus. Small ring-shaped sclerite at final part of ejaculatory duct is always present	
Subgenital plate elongated and pointed	Subgenital plate not different from the preceding abdominal sternite
Sexual dimorphism restricted to size and external genitalia	

first abdominal segment. Abdomen smooth, with median dorsal line. Epiproct narrow, elongated, apex acute. Cerci large, cylindrical, with rounded apices. Subgenital plate long with apex entire and well marked ventral median carina. Pallium membranose, with a thickened margin.

Phallic complex: small, weakly sclerotized; all plates very tenuous. Lophi short, curved, apices obtuse, facing each other as in *Orienscopia*. Plate 1 not visible. Median slit (3) flanked by weakly sclerotized plates 4, placed so that seen from the side their distal end is shaped like a bird's beak; these plates continued in a not very noticeable form to the anterior part. Plates 6 short and sclerotized, united to plates 10, which are not divergent and are placed at the sides of the epiphallus, almost parallel to the lophi. Under the lophi are 2 plates 5, angularly bent, well sclerotized. Endophallus formed by membrane, partially sclerotized but without visible plates. Ejaculatory duct membranous, with ring-like sclerification in its union with the ejaculatory sac. Below the median slit, a single plate 4b, not united to plates 4. The division that in other species is seen in plate 4b is not evident in the present one.

Female: Apterous, of median size (see Table 2). Head conical in dorsal view, its integument smooth, with some micropunctations. Eyes small, flat, not prominent. Fastigium elongated, apex acute, its edges carinated: its 4 sides subequal, slightly convex, without median carinae or sulci. Antennae 7-segmented, antennal organs on segments 5 and 7. Pronotum without carinae, with a wide incision in middle of its anterior edge, posterior edge straight. Pleural suture well marked, mainly by thick carina of pronotum above it. First pair of legs inserted on middle of prothorax, dividing it into 2 parts of equal length and width, the anterior with slightly concave sides, the posterior with straight sides. Meso- and metanotum subequal in size and slightly inflated, like notum of first abdominal segment; with wide and flat median carina where integument is strongly punctated, clearly marked laterally by light-colored lines. Laterad to this, over the pleural sutures, 2 longitudinal bands where integument is smooth and light-colored. Pleural sutures marked by narrow, prominent carinae. First abdominal segment somewhat

different from meso-metanotal ones; the median carina becomes narrower and better marked and the light-colored lateral lines turn into carinae. Line between mesonotum and abdomen not marked by any sculpturing or tubercles. Abdomen with median dorsal line extending over its whole length. Epiproct very elongated, covering medially the basal part of ovipositor. Cerci small, acutely pointed. Subgenital plate simple, rounded posteriorly.

Spermathecae: Complex, formed by 3 spermathecae as in the other species of the genus. Spermatheca 1 large, digitiform, membranous, pleated, inserted on an apical prolongation of bursa copulatrix. From its base arises a short pedicel, from which arise the other 2. Spermatheca 2 with its duct very thin and twisted at its base, widening in its medial part where it forms a wide duct with 2 terminal ampullae, one of them small, the other more elongated. Spermatheca 3 extremely long, with basal part wide and membranous as in spermatheca 1, prolonged by narrow duct that ends in small globose ampule.

Mariascopia ronderosi n. sp.

Type locality.— Villarica, Prov. Guaira, Paraguay.

Type deposited.— Museum National d'Histoire Naturelle, Paris.

Etymology.— Dedicated to the memory of Dr. Ricardo A. Ronderos.

Specimens examined.— Male holotype (only specimen known) from Paraguay, Prov. Guaira, Villarica 16/171972, M.Descamps leg., abp 338. In MNHNP.

Description.—**Male:** Small, apterous. Fastigium slightly inclined downwards, apex moderately acute; dorsal surface slightly convex, ventral one straight; edges markedly carinated; well-marked median carinae on its sides. Eyes small, not prominent; between them arises median carina changing into sulcus midway to occiput. Antennae missing.

Prothorax with first pair of legs inserted ventrally on its middle. Anterior edge straight, just posterior a small elongated depression from which originates a slightly marked median carina and 2 small paramedian tubercles that give rise to paramedian carinae. The pronotum is thus marked by a slight median and 2 more marked paramedian carinae, the latter continued through the meso- meta-thorax and abdomen. Posterior edge of pronotum wavy. Pleural suture marked above by a thick yellow carina; between it and dorsal part of pronotum, a rather thin dark line that continues on meso-metathorax, and gives dark color to carinae that mark the pleural sutures. Pleurae of meso-metathorax show same bright yellow color of lateral carinae of pronotum. Divisions between meso- and metanotum and between the latter and first abdominal segment, as in other species of the genus, are almost invisible.

Legs: First pair with fairly strong femora of circular section; tibiae of square section, with numerous and relatively strong spines. Second pair of legs similar to first, slightly smaller. Third pair with femora slightly dilated over first half; its knees with rudiments of spines; hind tibiae with 12 dorsal internal spines, 11 external, and 7 external ventral spines.

Abdomen: Epiproct elongated, its apex acute. Cerci large, cylindrical. Subgenital plate elongated, ventral carina well marked; plate apex broken in the available specimen. Pallium membranose, a regular narrow carina along its whole margin.

Phallic complex: Lophi very weak, not pointed, slightly dilated distally. Plate 1 represented by elongated sclerotized plate placed between lophi. Epiphallus embedded in transparent membrane that dorsally covers phallic complex. Plates 5 present, simple, elongated, anterior ends of lophi leaning on them. Plate 10 extremely large, placed anteriorly and somewhat laterally of rest of the complex, with thick, heavily sclerotized margin and flat, weakly sclerotized part: it articulates by its middle part with the end of a small, transverse plate 6. Median slit (3) wide and long; in its distal dorsal part flanked by 2 sclerotized lip-like structures formed by plates 4. Ventrally and caudad of the median slit is a very sclerotized part of plate 4b which does not reach distal parts of plates 4. Also distally but in a more proximal position is the other part of plate 4b, less sclerotized than the above, weakening gradually to its rounded edges.

Discussion

The present genus is closely related to *Orienscopia*, from which it differs mainly in the structure of its phallic complex.

Diagnostic of the genus are the following 2 characters: 1) the peculiar and unique way in which plates 6 and 10 unite by their proximal parts forming a branched structure; 2) the presence of a plate 1 (when visible), sometimes paired and placed longitudinally. The divided ventral plate 4b, as present in *M. elegans* and *M. ronderosi*, is also peculiar to this genus. Plate 4b is different in the 3 described species. In *M. elegans* it is divided, and its 2 parts are well delimited, almost equal in size and degree of sclerotization. It is also divided in *M. ronderosi*, but here the proximal part is smaller and less well defined, with a tendency to be just a central sclerotized nucleus surrounded by a much less sclerotized area with indistinct edges. In *M. guarani* plate 4b is difficult to see; probably its 2 parts are fused together forming a single plate. These divided plates 4b are the only ones heretofore detected among all proscopiid genera. Together with plates 10 and 6, united in the form mentioned above, they constitute an important genitalic character found only in the phallic complex of the species of *Mariascopia*.

The presence of sclerites as seen in the endophallus of *M. elegans* is uncommon within the group of more closely related genera (*Orienscopia*, *Cephalocoema*, *Tetanorhynchus*, *Pseudastroma* and *Scleratoscopia*), characterized by the extreme simplicity of their endophalli, which are membranous for the most part, or have a small ring-like sclerite at the base of the ejaculatory sac.

The multiple and complex spermathecae in this genus are similar to those described for *Orienscopia* (Bentos-Pereira 2000). They show, however, an important difference: the presence of globose dilations of different sizes at their bases. On the other hand, the length of the spermathecal ducts, which is decisive for the separation of the species of *Orienscopia*, is here similar in the 2 species whose females are known. Each of these characters in itself marks a considerable difference between *Orienscopia* and the rest of the related genera, which justifies the status of *Mariascopia* as a separate genus.

The external aspect of the 3 species of *Mariascopia* is extremely similar, especially in their color pattern. It is also similar to that of the species of *Orienscopia*, from which they cannot be separated on the basis of their external characters.

Mariascopia spp. share with other genera some distinctive features. In their external morphology, the shape of the head, alike in males and females, with fastigia simple and tending to a conical form, they are similar to certain species of *Cephalocoema*. In their thorax there is a well-marked division of pronotum and prosternum, by a well-marked suture with a thick carina above it. To this we may add a tendency to a noto-sternal depression. Both characters are similar to those of *Orienscopia*. Absence of wing vestigia and the presence of ventral spines on hind tibiae are characters shared with *Tetanorhynchus*, *Cephalocoema*, *Scleratoscopia*, *Pseudastroma* and *Orienscopia*.

Examination of measurements (Table 2) shows the great intra-specific variability of the length of the fastigium, whole head and subgenital plate. However it can be seen in *Mariascopia elegans*, of which a greater number of specimens was available, that in the females the cephalic length equals the pronotum, while in the males the head is considerably shorter, as in *Orienscopia*.

The geographical distribution of the species of the present genus (Fig. 20) seems clearly defined by the known localities. It forms a band that extends in a NNW line from Córdoba in Central Argentina through the province of Santa Fé, and along the Paraná River to Paraguay. Its northern limit is probably the Chaco. All its species markedly prefer grasslands, with scattered shrubs or trees in some cases. From the distribution map it can be seen that, according to the biogeographic provinces of Cabrera and Willink (1973), its distribution runs along the border between the Chaqueña province and the Espinal and, more northerly, the Chaqueña and the Paranaense. There is a single specimen from the Prov. of Corrientes, Argentina, which indicates that at least in this area, *Mariascopia* and *Orienscopia* are sympatric. That specimen has a label indicating it belongs to the old D'Orbigny collection in the Paris Museum, and has an identification label by Blanchard that reads "*Cephalocoema strigiventris*": this is without doubt a *nomen museum*.

Acknowledgments

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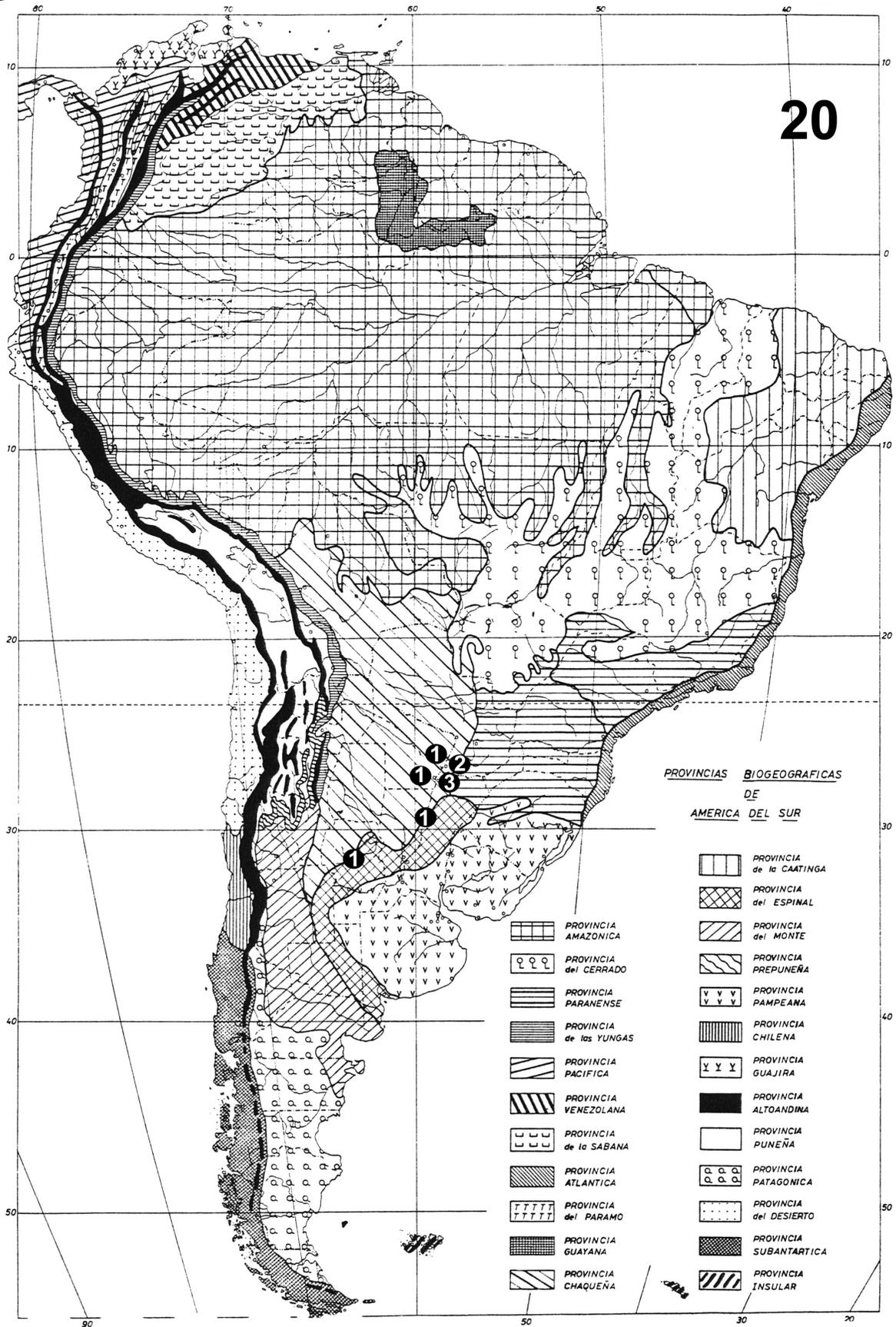


Fig. 20. *Mariascopia* species distribution map. Map altered from Cabrera & Willink 1973. 1, *M. elegans*; 2, *M. guarani*; 3, *M. ronderosi*.

Table 2. Measurements.

		<i>Mariascopia gen.nov.</i>						
		fastigium	eye	head	pronotum	mesonotum	metanotum	subgenital plate
<i>Mariascopia elegans</i> n. sp.								
female								
Paratype	abp414	7.99	2.35	15.2	16.15	3.95	2.85	
	abp418	7.5	2.2	14.3	17.2	3.45	3	
	abp415	7	2.15	13.55	17.05	3.95	2.4	
	abp416	7.7	2.2	15.1	15.5	3.7	3.05	
	mean	7.6	2.2	14.7	16.6	3.82	2.92	
	standard deviation	0.416	0.08	0.77	0.79	0.23	0.29	
	variance	0.17	0.007	0.59	0.63	0.05	0.08	
male								
Holotype	abp245	3.1	1.75	8.35	10.25	2.25	2	3.2
	abp407	3.49	2.1	9.25	12.25	3.34	2.35	7.15
	abp410	3.15	1.84	8.4	13.55	3.14	2.15	6.85
	abp411	3.85	2.05	8.49	11.36	2.9	1.85	7.6
	abp412	3	1.95	7.85	12.45	2.5	2.2	5.8
	abp417	3.85	1.7	8.9	12.15	2.7	2.35	6.95
Paratype	abp413	4.15	2.15	10.35	14	2.9	2.35	8.85
	mean	3.67	2	8.69	12.35	2.9	2.27	7.05
	standard deviation	3.67	2	8.69	12.35	2.9	2.27	7.05
	variance	0.20	0.02	0.74	0.94	0.09	0.03	1.006
<i>Mariascopia guarani</i> n.sp.								
female								
Holotype	abp372	8.4	2.05	16.1	16.55	3.7	2.85	
Paratype	abp450	8.1	2.5	15.8	15.65	4.15	2.65	
Paratype	abp451	6.4	2	13.85	14.4	4.05	2.7	
Paratype	abp452	7.4	2.4	10.45	11.95	3.45	3.2	
	mean	7.75	2.22	14.82	15.02	3.87	2.77	
	standard deviation	7.75	2.22	14.82	15.02	3.87	2.77	
	variance	0.78	0.06	6.75	3.98	0.10	0.06	
male								
Paratype	abp373	2.65	2.15	8.6	10.95	2.55	2.35	6.65
	abp453	3.35	2.05	8.35	10.7	2.45	2.06	6.45
	abp454	3.2	2.15	8.55	10.05	2.55	2	5.8
	abp455	3.2	2.1	8.7	11.04	3	1.8	6.4
	mean	3.2	2.125	8.575	10.825	2.55	2.03	6.425
	standard deviation	0.30	0.047	0.14	0.44	0.24	0.22	0.36
	variance	0.09	0.002	0.02	0.19	0.06	0.05	0.13
<i>Mariascopia ronderosi</i> n.sp.								
male								
Holotype	abp 338	2.8	1.9	8.05	10.3	2.2	2.05	5.3