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Author: Bentos-Pereira, Alba

Source: Journal of Orthoptera Research, 12(2) : 159-171

Published By: Orthopterists' Society

URL: [https://doi.org/10.1665/1082-6467\(2003\)012\[0159:TTTNOC\]2.0.CO;2](https://doi.org/10.1665/1082-6467(2003)012[0159:TTTNOC]2.0.CO;2)

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The tribe Tetanorhynchini, nov. (Orthoptera, Caelifera, Proscopiidae)

ALBA BENTOS-PEREIRA

Universidad de Guadalajara. Centro Universitario de Lagos. Dpto Transdisciplinar. Lagos de Moreno. Col. Paseos de la Montaña. Avda Enrique Díaz de León s/n CP 47460. Jalisco. Mexico. Email: albabentos@lagos.udg.mx

Abstract

Within the family Proscopiidae Serville 1839 (Orthoptera, Caelifera) the majority of the described genera belong to the subfamily Proscopiinae Liana 1980. They show sufficient differentiation to justify being divided into tribes. The present work deals with the first of these, Tetanorhynchini *tr. nov.*

This tribe consists of a homogenous assemblage of genera, *viz.* *Cephalocoema* Serville 1839, *Tetanorhynchus* Brunner von Wattenwyl 1898, *Orienscopia* Bentos-Pereira 2000, *Scleratoscopia* Jago 1989, *Pseudoastroma* Jago 1989, and *Mariascopia* Bentos-Pereira (in this issue) comprising at least 53 certain species and 31 doubtful ones, the types of the latter having been lost. All of these doubtful species belong to the genera *Tetanorhynchus* and *Cephalocoema* and the majority of them were described by Toledo Piza.

Here I present characters of the tribe. They are based on the external morphology and the male and female genitalia. A key to identify each genus is given. I further discuss the origins and relations of the family Proscopiidae, based on the distribution and characteristics of all the genera of the family, and postulate a center of origin in the Pre-Andean-Chaco shield.

Key words

Tetanorhynchus, *Cephalocoema*, *Mariascopia*, *Orienscopia*, *Pseudoastroma*, *Scleratoscopia*, taxonomy, biogeography

Introduction

Within the family Proscopiidae Serville 1839, the subfamily Proscopiinae Liana 1980 comprises the great majority of the known genera. Many of these genera are sufficiently different from each other to justify the creation of other divisions, possibly even at the subfamily level. The 3 groups which Liana (1972) proposed on the basis of aedeagal structure, do not correspond with the limits of the tribe Tetanorhynchini here proposed, nor with those of other tribes which will be defined in subsequent papers (Bentos-Pereira in prep.). The characters which Liana used separate closely related genera such as *Cephalocoema* and *Tetanorhynchus*. In defining new tribes we have tried to combine phallic structures, the spermathecae, external morphology, and the preferred habitats.

In order to avoid creating more confusion with suprageneric taxa we propose a new division of the subfamily into tribes. In this article we treat in detail the first of these tribes, Tetanorhynchini *nov.*

Tetanorhynchini is composed of a homogenous group of genera: *Cephalocoema* Serville 1839, *Tetanorhynchus* Brunner von Wattenwyl 1898, *Orienscopia* Bentos-Pereira 2000, *Scleratoscopia* Jago 1989, *Pseudoastroma* Jago 1989, and *Mariascopia* Bentos-Pereira (this issue).

All these genera are sufficiently similar to each other to necessitate a most scrupulous description and definition of characters. Some, such as *Cephalocoema*, *Orienscopia* and *Tetanorhynchus*, have had a complex taxonomic history, which clearly demonstrates the difficulty which previous investigators have experienced in characterizing them (Mello Leitao 1939 a,b; Piza 1943 a, b, c, 1946, 1955, 1977, 1979, 1981; Piza & Wiedl 1967, 1969; Liana 1972; Bentos-Pereira 2000).

We believe the tribe Tetanorhynchini, as here proposed, to be a natural group derived from a common ancestor, as indicated by the characters shared by all its genera and species.

Materials and Methods

The present work is based on the examination of the type specimens of the different species belonging to the family, taking as its starting points the catalogue of Carbonell (1977) and the revision by Jago (1989).

Some types were sent to the Zoologisches Institut of Basel University, borrowed by request of Prof. Dr. Hugh Rowell: the author examined them there. Some were examined in their Museum repository (Naturhistorisches Museum of Wien, Museum d'Histoire Naturelle de Paris, Museum d'Histoire Naturelle de Genève, Museu Nacional de Rio de Janeiro, Museu de Zoologia de Sao Paulo), some were sent to the Dpt of Entomology, Faculty of Sciences, Montevideo, Academy of Natural Sciences, Philadelphia, Museo de la Universidad de La Plata, Museo Argentino de Ciencias Naturales).

The male internal genitalia and female spermatheca were dissected out from rehydrated specimens and cleaned in 8% KOH solution. They were then preserved in microvials associated with the dried specimens, or put together with the specimen when this was preserved in alcohol, identifying by "abp" + the corresponding number.

The different parts of the male genitalia were identified using the nomenclature proposed by Jago (1989) (Fig.1). The scheme is further illustrated in Figs 2, 3 which are theoretical diagrams showing the characteristics of the tribe in dorsal and lateral aspects.

Drawings were made with the aid of a stereo microscope fitted with a squared eye-piece graticule and a drawing tube. The figures (Figs 4-20) show a comparative diagram of one species of each genus for masculine and feminine genitalia (Figs 4-14) and external morphological features (Figs 14-20). Table 1 lists the diagnostic characters of the Tetanorhynchini. Species are treated alphabetically within each genus and put in tables (Table 2).

The treatment of each genus consists 1) of a list of the species which were allotted to the genus up to the time of this study [ac-

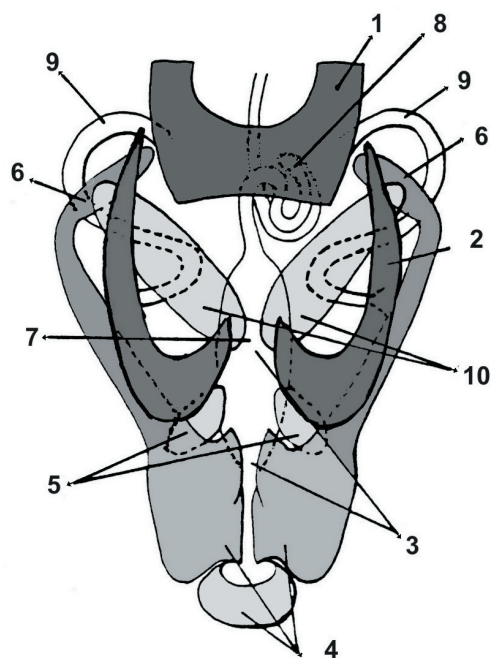


Fig. 1. Jago's theoretical numbered scheme of the Proscopiidae phallic-complex. Plates occurring in the Tetanorhynchini are shaded.

cording to the works of Carbonell (1977) and Jago (1989)], 2) a list of the species currently belonging to the genus, including those revised here and some which have not been examined, but whose systematic position does not seem to be in any doubt according to the available literature, and 3) a list of dubious species, the types of which could not be examined or which are lost (Table 2). There are some new species and new combinations which will be published later and are not mentioned here.

The distribution map is taken from Cabrera & Willink (1980) for the purpose of showing the distribution of the new tribe in the context of the biogeographic zones into which these authors divide South America (Fig. 23).

In the course of this study all relevant type specimens deposited in the following museums have been examined: Museo de Historia Natural de Buenos Aires, Museo de Ciencias Naturales de

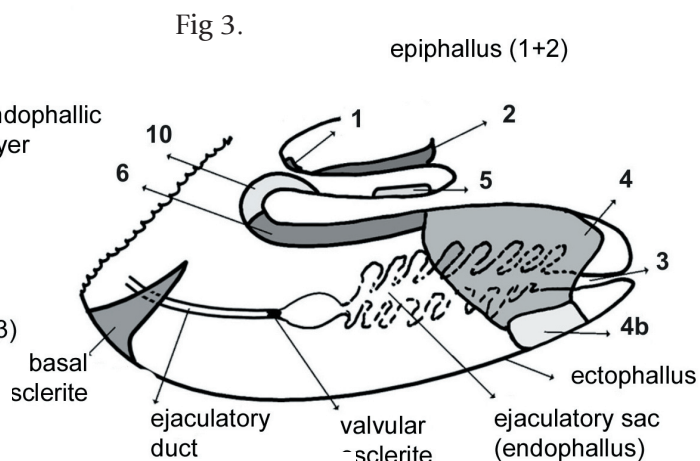
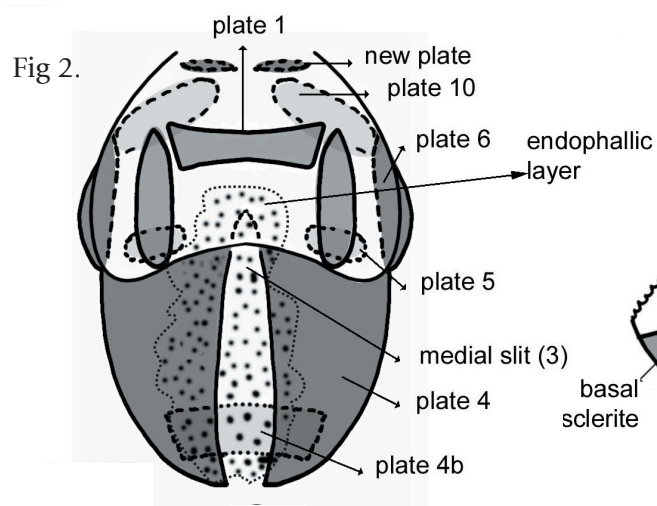
Table 1. Diagnosis.

<i>Tetanorhynchini tr. nov.</i>
Fastigium conical in most species in both males and females
Pronotum and prosternum differentiated, often well delimited by carinas and sutures
Apterous without any wing rudiments
Subgenital plates in males elongated and sharply pointed (very often bifid)
Subgenital plates in females simple and rounded
Hind tibiae always with ventral spines
Endophallus membranous and simple
Ejaculatory duct membranous, sometimes with a small medial sclerite
Ventral Plates 4b (Jago nomenclature) always present
Plates 2 (hook-like lophi) of variable size in the different genera but always present
Multiple spermathecae

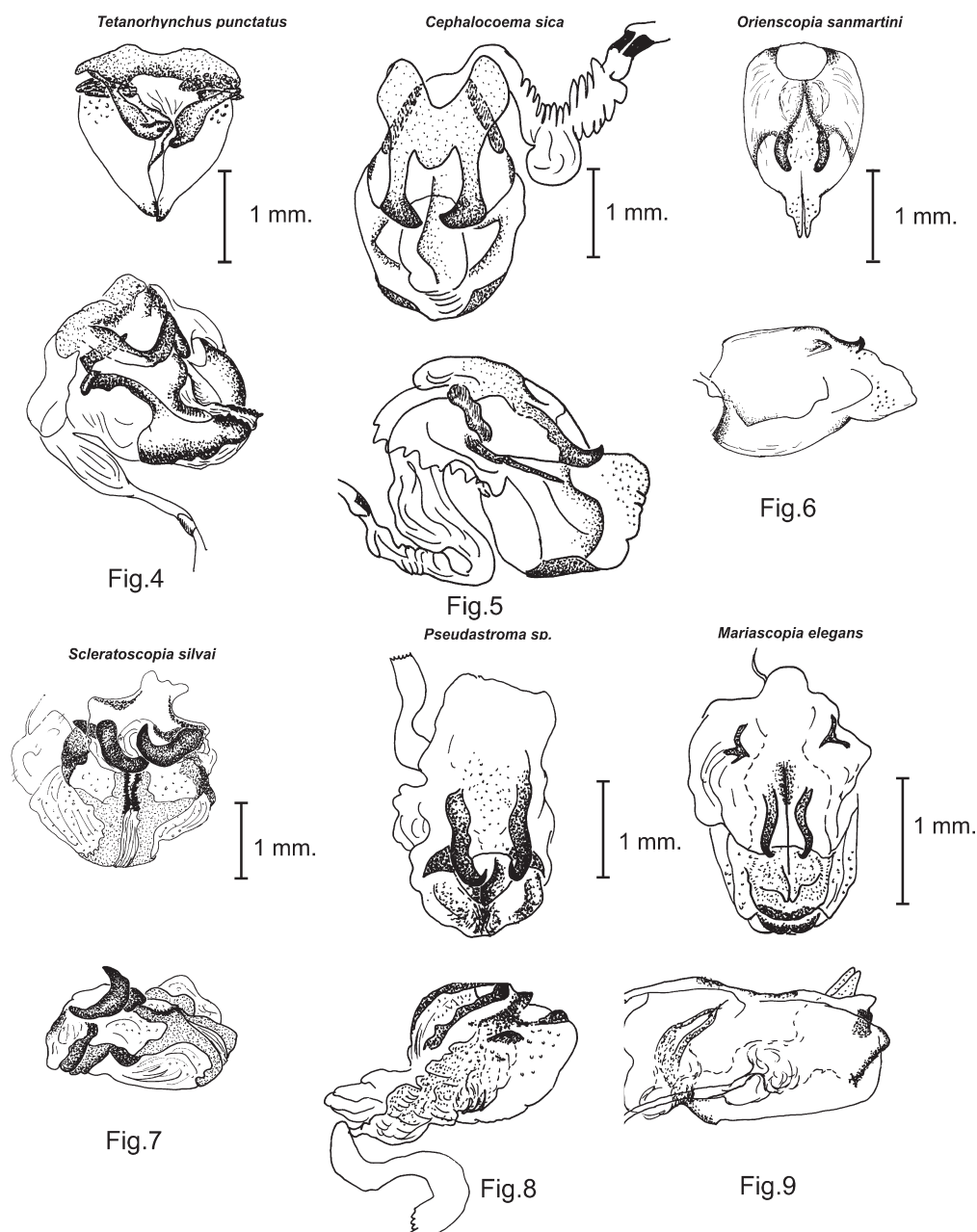
La Plata [Argentina]; Museo de Zoología de la Escola Agrícola Luiz de Queiroz de Piracicaba, Museu de Zoologia de São Paulo, and Museu Nacional de Rio de Janeiro [Brazil]; Natural History Museum, London [England]; Museum National d'Histoire Naturelle [Paris, France]; Museum d'Histoire Naturelle [Genève, Switzerland]; Naturhistorisches Museum [Wien, Austria]; Museo Regionale di Scienze Naturali [Torino, Italy]; Museum der Naturkunde der Humboldt-Universität Berlin, Staatliches Museum für Naturkunde in Stuttgart, and the Zoologisches Museum der Universität Hamburg [Germany]; Academy of Natural Sciences of Philadelphia [USA]; Museum and Institute of Zoology, Polish Academy of Sciences [Warszawa, Poland] and Facultad de Ciencias, Universidad de la República [Montevideo, Uruguay].

Results and Discussion

Male and female genital characters.— (Figs 1-14) The typical structures of the phallic complex of Acridoidea cannot be readily identified in the Proscopiidae. Jago (1989) proposes a very useful classification



Figs 2,3. Jago's theoretical scheme of numbered phallic-complex sclerites adapted to Amédègnato's proposal of 3 phallic layers. Ectophallic layer sclerites shaded. 2. Dorsal view. 3. Lateral view.

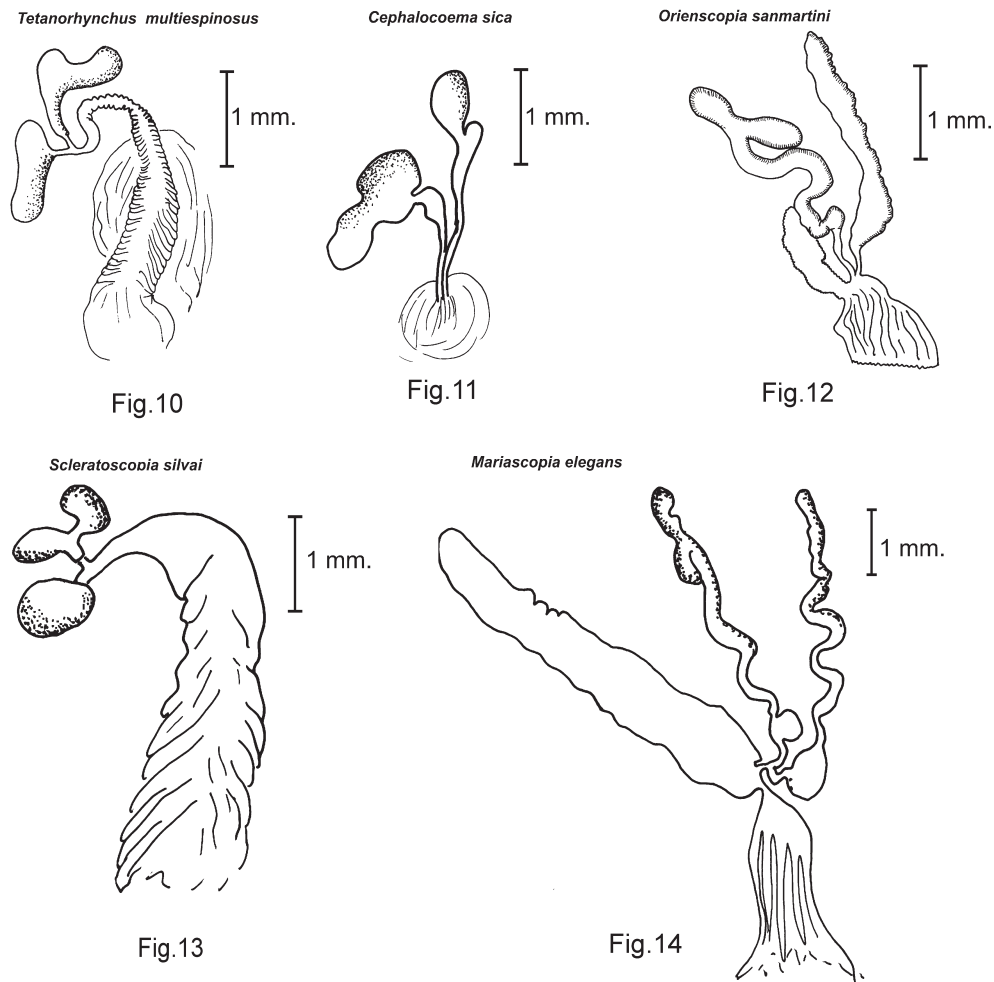


Figs 4-9. Phallic complex of Tetanorhynchini genera. Dorsal view above, lateral view below.

of the sclerites of this family, which allows a precise description of each species. We have based all our descriptions on Jago's diagram (Fig. 1) and numbering scheme. According to Amedegnato (1985) it is very difficult to establish homologies between the various parts of the phallic complexes of Proscopiidae and Acridoidea, or even to be sure that they exist at all. Nonetheless, in most species of the tribe one can readily recognize the basic structure proposed (1976) by this author, consisting of 3 concentric layers of membrane (Figs 2, 3).

Within the phallic complex we have given priority to endophallic structures in creating our new tribes. The endophallus is a true intromittent organ in this group, which is reflected in the extreme abundance and complexity of sensory receptors found on all the aedeagi studied (Bentos-Pereira 1996).

The ectophallic layer contains a sclerite apparently analogous to the epiphallus of the Acridoidea, consisting of a medial, unpaired component (Jago's plate 1) and 2 symmetrical longitudinal components (Jago's plates 2). Plates 1 and 2 may be separated or united. Plate 1 may be absent, but plates 2 (lophi) are always present, even though they show different degrees of development and sclerotization. They almost always terminate in sharp tips, either directed inwards and upwards or erect, and are concerned with the function of depressing the male epiproct during copulation, as is seen in the Acridoidea. In this external layer we also find 2 proximal sclerites, plates 11 (new plate, Fig. 2), not described by Jago, which are invariably present in all described species of *Scleratoscopia* (Fig. 7) and in some other species of other genera (undescribed species of *Tetanorhynchus*).



Figs 10-14. Spermathecae of Tetanorhynchini genera.

In the ectophallic layer there is a medial slit (the phallotreme) identified by the number 3 in Jago (*op. cit.*). It is bordered by sclerites (valvular plates, r plates 4) of variable size and degree, but which are invariably present in all species of all genera of the tribe, and tend to form a structure similar to a sheath. These structures are called the ectophallic valves by Amedegnato (*op. cit.*), a term we will use. However, this author calls the medial slit a gonopore, which we believe should be called the phallotreme. The gonopore (Fig. 21, arrow) is the orifice through which are vented the sperm or the spermatophore, and this name corresponds to the orifice where the ejaculatory duct opens into the endophallus, which in turn is everted through the medial slit, as can be clearly seen in some photographs (Figs 21, 22).

A ventral and distal sclerite (4b) is almost always present in the ectophallus of this group; it closes the medial slit. In *Mariascopia* (Fig. 9), sclerite 4b is divided into 2 parts, anterior and posterior, which makes this genus readily recognizable. Other structures present in this layer are the lateral articulations formed by the union of plates 6 with parts of plates 4, and plates 10, situated somewhat more proximally and below the epiphallus.

The endophallic layer is in large part membranous, especially the ejaculatory duct and the endophallus. The sclerotized internal structures found in some other genera are here reduced to a simple sclerite, the valvular sclerite (Fig. 3), at the distal end of the ejaculatory duct. These sclerotized structures appear homologous with

those that support the spermatophore sac in the Eumastacidae, named "penis" by Descamps (1973b) and "endophallic plate" by Rowell and Bentos-Pereira (2002). The structure which Amedegnato (1993) calls the spermatophore sac appears to be homologous with that described by Descamps (1973b) in the Eumastacidae. In some eumastacids (Rowell & Bentos-Pereira 2002), it is pleated and completely amorphous when not filled. When it is everted in copulation it becomes turgid (very conspicuous in some species of Tetanorhynchini). It is an elongate organ, almost as large as the rest of the phallic complex in repose, with 2 wings laterally and distally and the gonopore protruding medially (Figs 21, 22).

In most or perhaps all species of the tribe there is a wide medial plate ventrally and proximally, named the basal sclerite (Fig. 3), which supports the phallic complex. This plate has a long medial apodeme on which muscles insert. There is no homologous structure in the typical phallic complex of the Acridoidea.

In the female genitalia, the presence of multiple spermathecae is an important diagnostic character of the tribe. Other groups of genera generally have a single spermatheca of various degrees of complexity, except for *Bolydorhynchus* and *Hybusa*, the last being extremely atypical in many other ways. *Tetanorhynchus*, *Cephalocoema* and *Scleratoscopia* have 2 spermathecae (Amedegnato 1984, 1985) *Orienscopia* and *Mariascopia* have 3 (Bentos-Pereira 1996, 2000; Descamps 1973a; Slifer 1943) (Figs 10-14).

External morphological characters.— (Figs 15-20). All the genera of this tribe show restricted sexual dimorphism in size and, with few exceptions, in the direction of the fastigium. In the majority of males this latter is inclined downwards, whereas in the females it continues the line of the head (Figs 16, 17). The fastigium of *Tetanorhynchus* tends to show some ornament, such as carinae which are wider apically than basally, truncate apices, or apices in the form of elongated pyramids slightly flared or parallelepipeds (Fig. 15). *Mariascopia*, *Orienscopia*, *Cephalocoema*, *Scleratoscopia* and *Pseudastroma* have fastigia with carina, but apically are acute or truncate, never flared (Figs 16-20).

As previously noted by Liana (1972), the eyes of proscopiids vary notably in correlation with the environment in which they live. This relationship was first noted by Uvarov (1966) in the Acridoidea. The members of the tribe Tetanorhynchini, which live in relatively open habitats, such as pasture land or savanna or caatinga, mostly on the ground or in bushes of medium size and clumps of grass, have relatively small eyes in proportion to the size of the head, rather flattened, elongated and not very protuberant. This agrees with Uvarov's observations.

The first pair of legs, which are inserted ventrally, divide the prothorax visually into 2 distinct parts. In many species, especially in the genus *Tetanorhynchus*, the 2 parts of the pronotum have different aspects. The anterior half is generally much narrower and with concave sides. The posterior half is somewhat wider and has straight sides. Usually these different shapes are accompanied by slight differences in sculpturing of the cuticle.

The distribution of this cuticular sculpturing usually is repeated in the central part of the meso/metathorax, uniformly in all species, making their identification on the basis of external morphology very difficult. The color patterns also repeat themselves similarly. A medial zone, generally darker than the rest, extends from the neck up to the first abdominal segment. Laterally one sees lighter bands, which can coincide with zones of smoother cuticle, principally in the meso/metathorax. More laterally on the pronotum there is usually a narrow dark band which either coincides with the carinae, which mark the pleural sutures of the pterothorax or, in their absence, with the sutures themselves. The clear bands of the marginal carinae of the pronotum above the pleural sutures correspond in color with that of the pleura of the meso/metathorax. This pattern of coloration is generally constant, with few exceptions, throughout the genera *Cephalocoema*, *Mariascopia* and *Tetanorhynchus*.

Some *Tetanorhynchus* and all *Scleratoscopia* spp. have the segments of the pterothorax more or less inflated, as in the genera *Nodutus* and *Corynorhynchus*. The majority of *Tetanorhynchus* species have a transverse fold in the metanotum which begins in the notum and ends in the pleura. This fold may or may not join its contralateral homologue in the midline. When this occurs, the junction is generally marked by a short transverse carina or a low medial tubercle.

The legs are extremely homogeneous in structure, varying only slightly, principally in presence or absence of more or less well developed spines at the distal extremity of the femur in the dorsal part of the knee. The tibial spines are very variable in size and number and can be different on the right and left sides of the same individual or between males and females of the same species. What does not vary is the manner in which they are distributed, for example in being clustered at one end or the other or distributed evenly over the tibia. Liana (1972) made the important observation that *Tetanorhynchus* and *Cephalocoema* have a variable number of ventral spines on the external and/or internal face of the hind tibia, of almost constant shape. This observation was confirmed in the genus *Orienscopia* by

Bentos-Pereira (1996, 2000). Here we extend this character to the entire tribe, being a diagnostic external character of great importance, not present in any other proscopiid group of genera nor, for that matter, in any other grasshopper. Note however that the character is the presence or absence of the spines and their distribution, not their number, which is very variable on both the dorsal and ventral carinae. By the same token, keys to species and descriptions based on the number of these spines (for example those of Mello Leitao, 1939) are erroneous and useless.

The absence of a significant inflation of the base of the hind femur has given rise to some unjustified conclusions by Liana (*op. cit.*). This author claims that the typical saltatorial jumping muscles are here poorly developed, and that the Proscopiidae in general are slow and sluggish insects, slow walkers and poor jumpers. Nothing could be farther from the truth. Although not having the extreme speed of other grasshoppers, they are very agile in moving between the branches of their host plants, to the point of being very difficult to capture. The Proscopiidae are expert jumpers, although they do not jump as far, or as frequently, as other grasshoppers. These qualities are possessed by all members of the tribe Tetanorhynchini, and they owe their survival to them and, to a lesser extent, to their cryptic habit and resemblance to the dominant plants of their environment, threatened as they are by reptiles and birds.

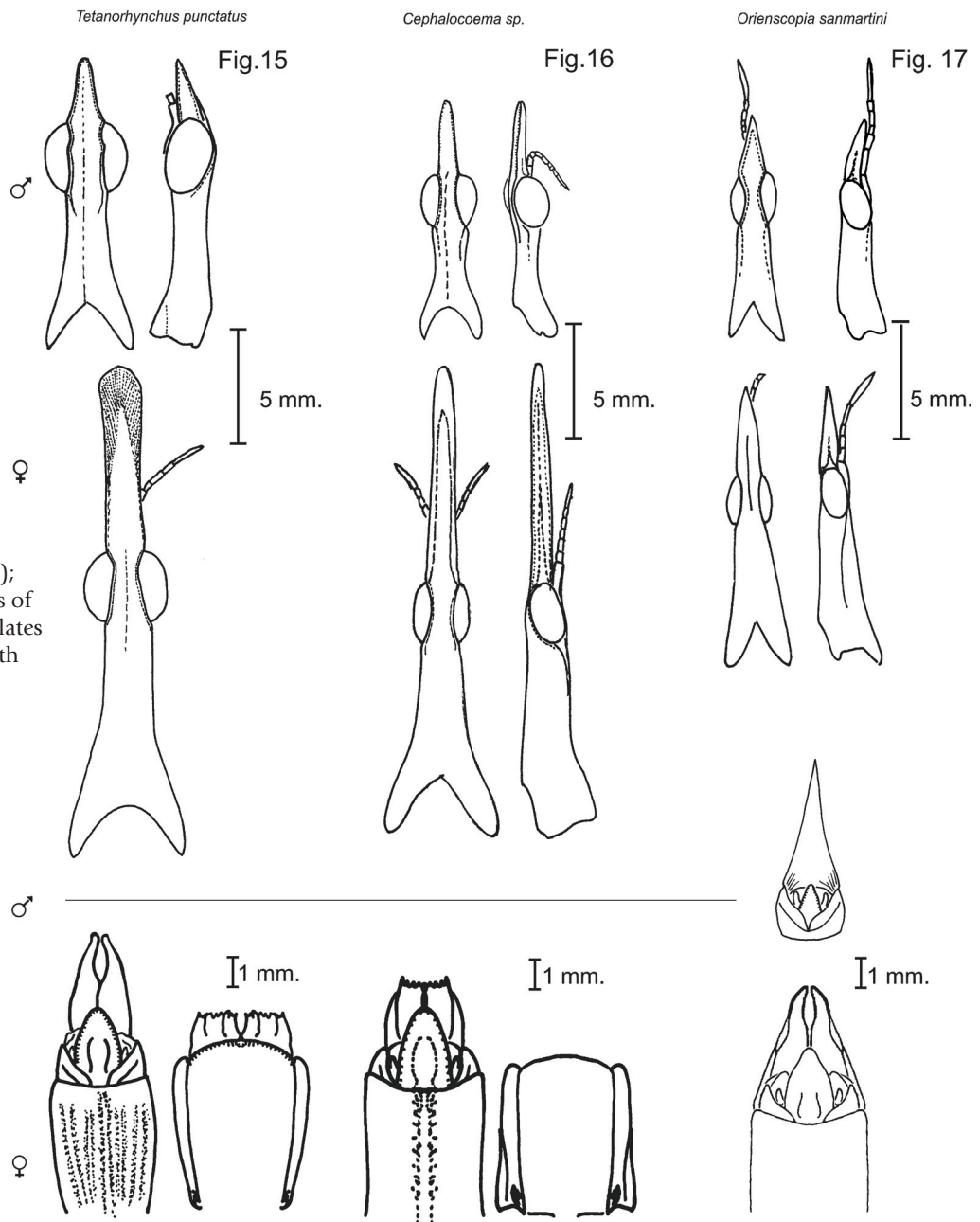
Except for the 1st abdominal segment, which always shares the characteristics of the thoracic segments, the abdominal segments are rather simple. In general the integument is different from that of the rest of the body, being much smoother and more opaque and of a uniform coloration, without bands, although spots are not rare. The medial dorsal carina is extremely fine, but almost always present. Other carinae are much less constant.

The majority of epiprocts, male and female, are rather large, with rounded tips or, at the most, with some small slightly projecting points. There is a poorly marked medial groove. Juveniles, almost without exception, have an elongate epiproct, triangular and acutely pointed. The paraprocts are pleated and scarcely visible when the genitalia are at rest.

The cerci of either sex are generally only half the length of the epiproct, those that are larger being considered big. They tend to be cylindrical, with the apex pointed and strongly recurved towards the midline.

The entire family is characterized by a simple female subgenital plate, with no externally visible egg-guide (Figs 15, 16, 18). The total absence on its inner surface of columellae, egg-guide and other structures present in the large majority of grasshoppers, correlates well with the extremely simple and reduced epiphallus. The subgenital plate, which in other groups of proscopiids has a complex distal margin, wavy or with medial prolongations (*e.g.*, Bentos-Pereira & Rowell 1999), is almost always simple, at the most having the distal margin rounded or truncate. The genus *Scleratoscopia* is the only genus of the tribe which has a more complex margin (Fig. 18).

The male subgenital plate is always elongate, the degree varying between moderate in some *Tetanorhynchus* species to extreme in *Cephalocoema*. It is globose proximally and narrows rapidly towards its tip. It always has a well-marked ventral medial carina, which may or may not extend to its apex. The pallium is flat or excavated, except in the genus *Pseudastroma*, in which at least one undescribed species has a convex pallium. The margin of the pallium has a conspicuous fold, which in most species extends to the apex and forms a bifid tip. In general the pallium completely covers the phallic complex, of which no part is visible in repose.



Figs 15-17. Heads (dorsal and lateral views) of males (first row) and females (second row); subgenital plates and epiprocts of male (third row); subgenital plates and epiprocts of females (fourth row). Tetanorhynchini genera.

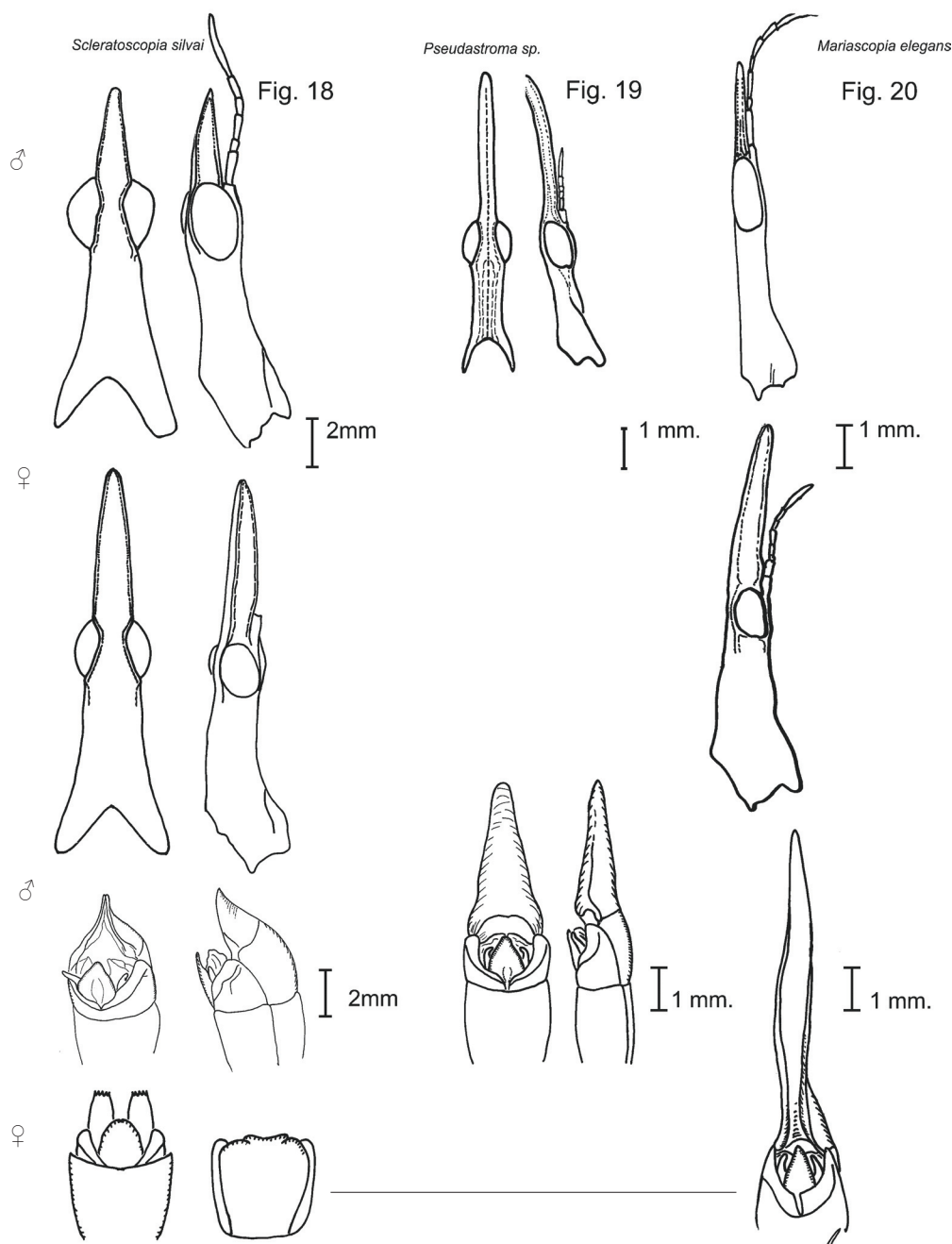
The ovipositor valves are smooth, pointed at the tip, and not very strong. The ventral valve has occasional teeth, but not commonly. In general the type of ovipositor agrees with that described by Zolessi (1957) (Figs 15, 17).

Biogeographical characteristics.— The Tetanorhynchini are found principally on the Brazilian shield as shown in Fig. 23. This distribution is limited in the South by Argentina, the Province of Buenos Aires, extending northwards to Brazil in the States of Rio Grande do Norte and Pará. It thus comprises part of the Provinces Chaqueña, Espinal, Cerrado, Pampeana, Paranaense, and Caatinga and some parts of the Amazonian Province (Cabrera & Willink 1980) (Fig. 23), and in agreement with the biogeographic classification of Morrone (2001), the Provinces of Pantanal and Pará (very restricted) in the Amazonian Subregion, and all of the Chaco subregion except El Monte.

All of the species of the tribe have a clear preference for open habitats, with low trees, and a well-developed stratum of herbs and shrubs, in which grasses (although these are not the preferred food plants of the group) and leguminous plants are dominant.

It is not impossible that species of this group also exist in the savannas of Venezuela and Colombia, but the proscopiid fauna of these areas is practically unknown. The only datum we have is an undescribed species of *Orienscopia* from Colombia, living in a humid savanna in the lowlands near the city of Cali (E. Florez, pers. comm.).

The origin of the proscopiids and their affinities with other groups of the higher Caelifera have not yet been established to general satisfaction. Since 1820, when Klug described the genus *Proscopia*, up to the present day, various authors have speculated on this theme without arriving at a consensus. All agree that the group is very old, and has certain affinities with the Eumastacidae.



Figs 18-20. Heads (dorsal and lateral views) of males (first row) and females (second row); subgenital plates and epiprocts of males (third row); subgenital plates and epiprocts of females (fourth row). Tetanorhynchini genera.

Our own studies indicate that the relationship Proscopiidae-Eumastacidae is the most acceptable among the various possibilities. Whatever the eumastacid group which is most closely related to the proscopiids, we believe that the primitive nucleus of grasshoppers which gave rise to the proscopiids was localized in a southern region of South America, which comprised that which is now the pre-Andes Chaco shield (including the Chilean side), the pre-Cordillera of Argentina and the Chaco region of Argentina, Paraguay and Bolivia (Fig. 24). This area has today the greatest diversity of species, being a zone where the tribe Tetanorhynchini meets the group *Bolidorhynchus-Microcoema*, the group *Anchotatus-Anchocoema*, and the genus *Astroma*, all being members of the subfamily Proscopiinae.

The eumastacids have diversified particularly in the tropics of Central America and the central and northern parts of South America. They have dispersed throughout the cloud forest and the lowland

rain forest. Only a few species are established towards the south of Amazonia and there is a single relict genus in the Sierra de la Ventana, Argentina. It is probable that the primitive proscopiids evolved originally in a relatively depopulated niche in the pre-Andean Chaco region (as mentioned above), extending secondarily to the North-Andean regions and the Pacific slope, and also to the grasslands to the southeast, then to the forest of the Selva Atlantica in Brasil, to the amazonian forest and finally to parts of Central America, whence 2 species have been described (Bentos-Pereira & Rowell 1999). We believe that the most primitive existing group within the family is represented by the genera of the Andean-Chaco region. Liana (1980: 259) expresses a similar opinion. Our studies in progress on the whole family, which include comparisons of the morphology and anatomy of the different groups and their distribution in the various biogeographic regions, support this hypothesis of the origin and subsequent radiation of the group.

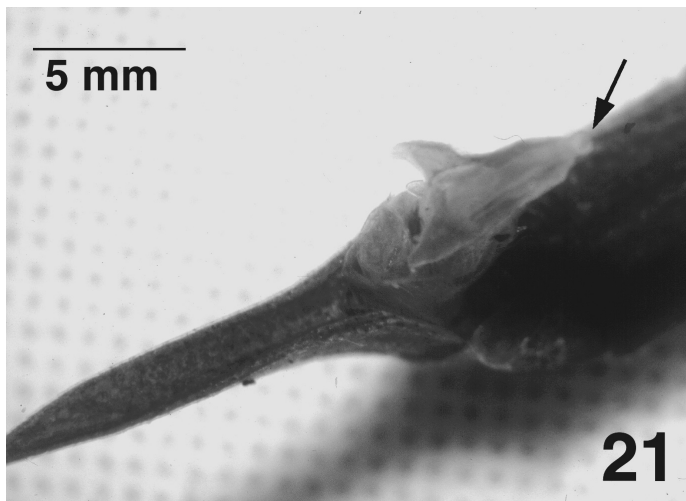


Fig. 21. Everted edeagus of *O. samartini*. Dorsal view; arrow

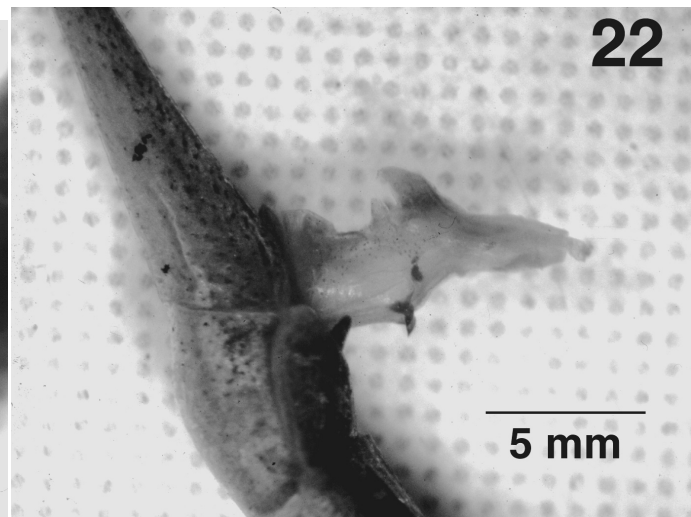


Fig. 22. Everted edeagus of *O. sanmartini*. Lateral view.

Acknowledgements

I wish to thank the following persons: Professors C.S. Carbonell and Hugh Rowell for their constant support, stimulation, instruction and generous help; Dr. Christiane Amedegnato for a wonderful sojourn and for her ever-instructive conversation; numerous curators and researchers of the museums of America and Europe, especially the following: Dra. Ulrike Aspöck and Mr. Frank Barth in Vienna, Dr. Mauro Daccordi in Turin, Dr. Michael Ohl in Berlin, Dra. Ana Liana in Warsaw, Dra. Judith Marshall in London, Dra. Eliana Cancellato in Sao Paulo, Dr. Miguel A. Monné in Rio de Janeiro, Dr. Axel Bachman in Buenos Aires, Dra. María Marta Cigliano in La Plata, Mr. Donald Azuma in Philadelphia and Mr. Simon Poulain in Paris. To J. Odriozola and A. Olmos appreciation for technical support and help. PEDECIBA (UNESCO-PNUD) and CSIC (University of the Republic, Uruguay) partially funded this investigation.

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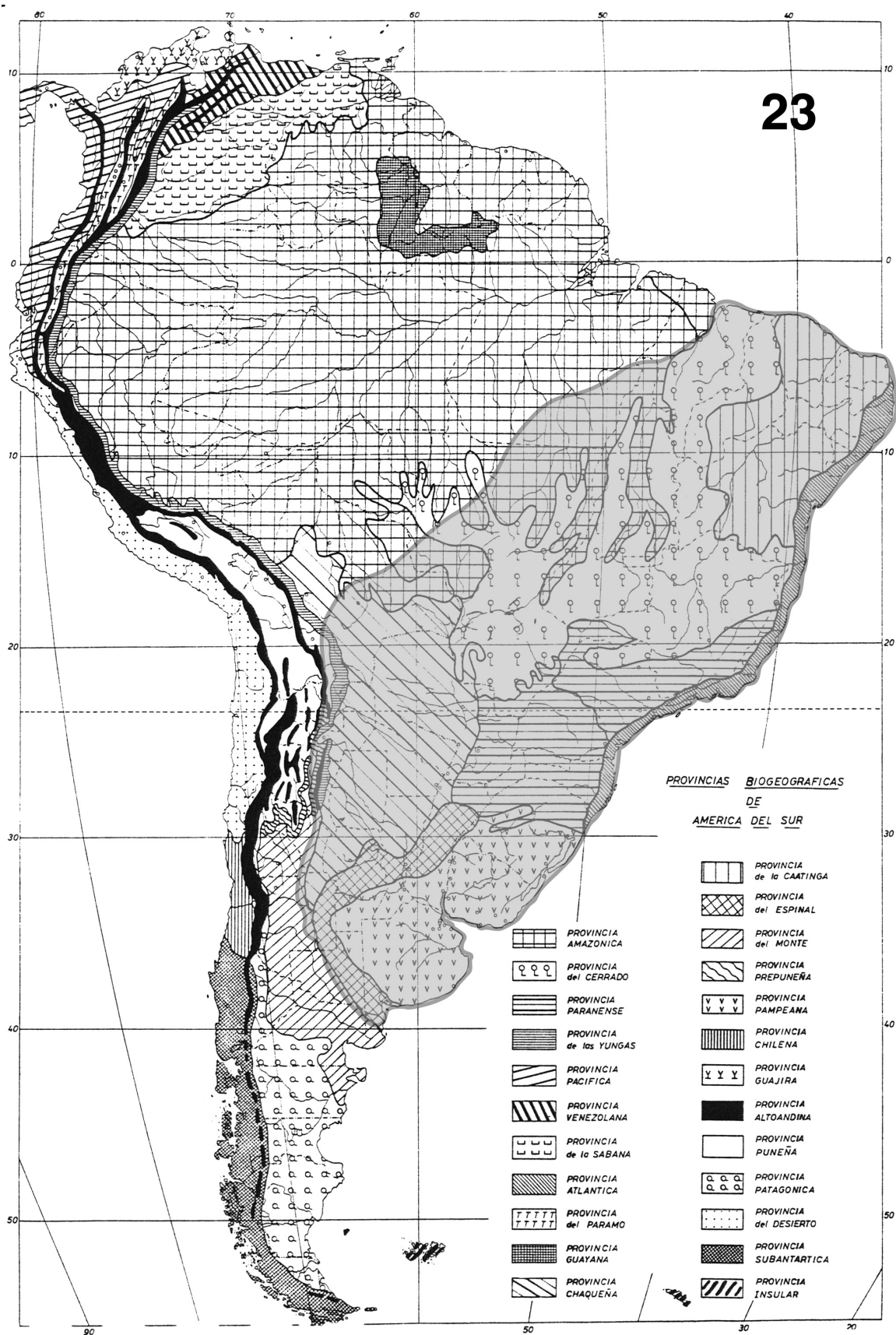


Fig. 23. Distribution map of Tetanorhynchini. (Map modified from Cabrera & Willink 1973).

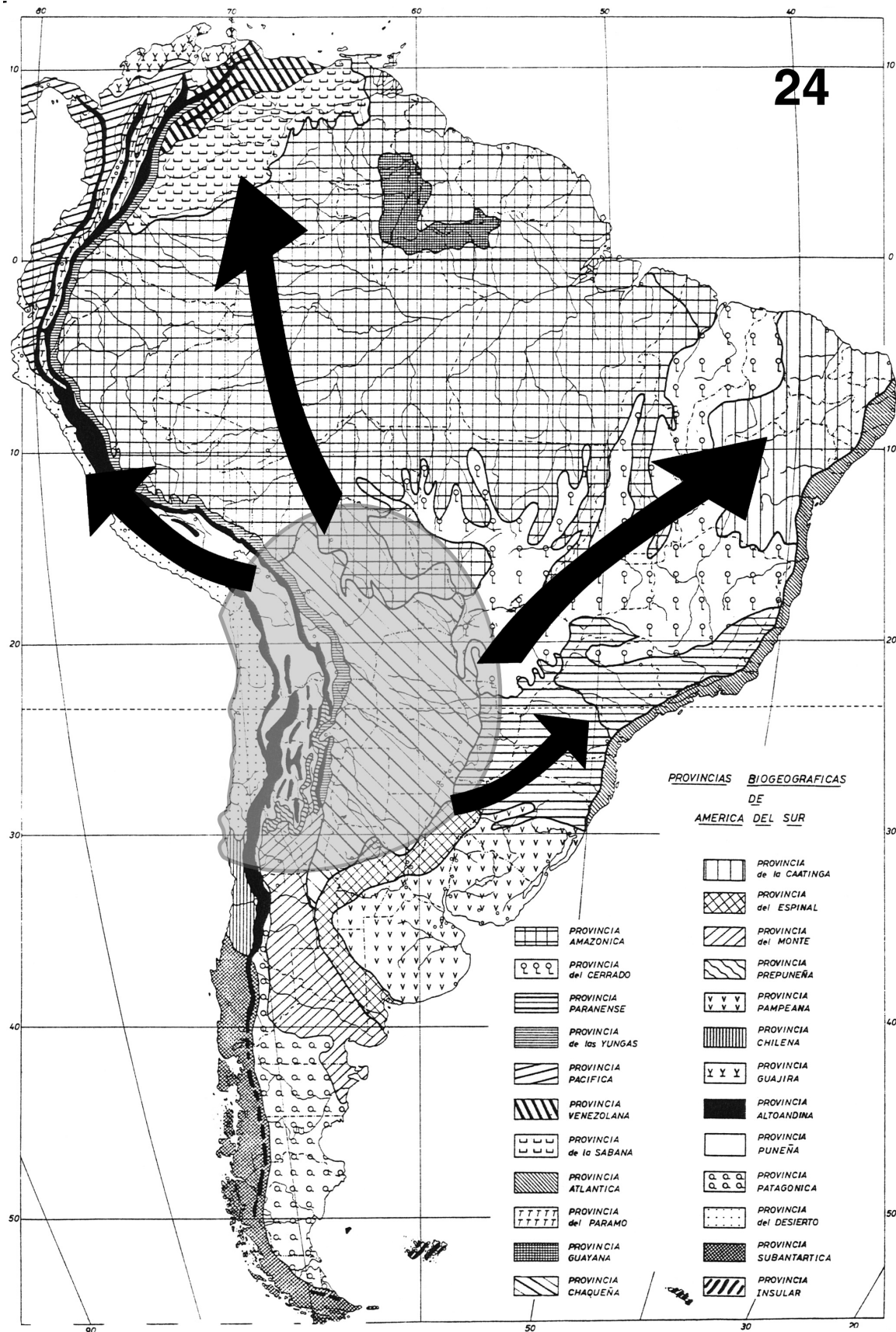


Fig. 24. Possible original center of origin of Proscopiids.

Table 2. *Tetanorhynchini*, genera and species.

<i>Tetanorhynchus</i> Brunner von Wattenwyl, 1898- Type species: <i>Tetanorhynchus punctatus</i> (Klug, 1820)		
Species That belonged to the genus in writings of Carbonell (1977) and Jago(1989)	Species that belong to the genus now	Species not examined (type lost)
<i>Tetanorhynchus bicentenari</i> Piza and Wiendl, 1967	<i>Tetanorhynchus bihastatus</i> Rehn, 1904	<i>Tetanorhynchus bolivianus</i> Piza, 1977
<i>Tetanorhynchus bihastatus</i> Rehn, 1904	<i>Tetanorhynchus borero</i> Rehn, 1957	<i>Tetanorhynchus carbonelli</i> Piza, 1977
<i>Tetanorhynchus bolivianus</i> Piza, 1977	<i>Tetanorhynchus calamus</i> (Burmeister, 1880)	<i>Tetanorhynchus corumbaensis</i> Piza, 1981
<i>Tetanorhynchus borero</i> Rehn, 1957	<i>Tetanorhynchus civis</i> Piza, 1946	<i>Tetanorhynchus fornicator</i> Piza, 1981
<i>Tetanorhynchus calamus</i> (Burmeister, 1880)	<i>Tetanorhynchus dubius</i> Mello-Leitao, 1939	<i>Tetanorhynchus guairai</i> Piza, 1981
<i>Tetanorhynchus carbonelli</i> Piza, 1977	<i>Tetanorhynchus humilis</i> Giglio-Tos, 1897	<i>Tetanorhynchus lacustris</i> Piza, 1981
<i>Tetanorhynchus civis</i> Piza, 1946	<i>Tetanorhynchus longirostris</i> Brunner v Wattenwyl, 1890	<i>Tetanorhynchus mamanguapensis</i> Piza, 1981
<i>Tetanorhynchus corumbaensis</i> Piza, 1981	<i>Tetanorhynchus longicornis</i> Bruner, 1913	<i>Tetanorhynchus martinezi</i> Piza, 1981
<i>Tetanorhynchus dubius</i> Mello-Leitao, 1939	<i>Tetanorhynchus propinquus</i> Brunner v. Wattenwyl, 1890	<i>Tetanorhynchus modestus</i> (Piza & Wiendl, 1969)
<i>Tetanorhynchus fornicator</i> Piza, 1981	<i>Tetanorhynchus proximus</i> Piza, 1977	<i>Tetanorhynchus montanus</i> Piza, 1977
<i>Tetanorhynchus guairai</i> Piza, 1981	<i>Tetanorhynchus punctatus</i> (Klug, 1820)	<i>Tetanorhynchus pizai</i> Wiendl, 1969.
<i>Tetanorhynchus humilis</i> Giglio-Tos, 1897	<i>Tetanorhynchus smithi</i> Rehn, 1904	<i>Tetanorhynchus proximus</i> Piza, 1977
<i>Tetanorhynchus insignis</i> Hebard, 1931		<i>Tetanorhynchus rostratus</i> Piza, 1977
<i>Tetanorhynchus lacustris</i> Piza, 1981.		<i>Tetanorhynchus spitzi</i> Piza, 1981
<i>Tetanorhynchus leonardosi</i> (Mello-Leitao, 1939).		<i>Tetanorhynchus taeniatus</i> Piza, 1981
<i>Tetanorhynchus longicornis</i> Bruner 1913		<i>Tetanorhynchus uruguaiensis</i> Piza, 1977
<i>Tetanorhynchus longirostris</i> Brunner v. Wattenwyl, 1890		
<i>Tetanorhynchus mamanguapensis</i> Piza, 1981		
<i>Tetanorhynchus martinezi</i> Piza, 1981		
<i>Tetanorhynchus montanus</i> Piza, 1977		
<i>Tetanorhynchus pizai</i> Wiendl, 1969		
<i>Tetanorhynchus propinquus</i> Brunner v. Wattenwyl, 1890		
<i>Tetanorhynchus proximus</i> Piza, 1977		
<i>Tetanorhynchus punctatus</i> (Klug, 1820)		
<i>Tetanorhynchus rostratus</i> Piza, 1977		
<i>Tetanorhynchus spitzi</i> Piza, 1981		
<i>Tetanorhynchus taeniatus</i> Piza, 1981		
<i>Tetanorhynchus uruguaiensis</i> Piza, 1977		

Table 2. continued.

<i>Cephalocoema</i> Serville 1839		
Type species: <i>Cephalocoema sica</i> (Serville, 1839)		
<i>Cephalocoema acus</i> Piza, 1946	<i>Cephalocoema apucaranaensis</i> (Liana, 1972)	<i>Cephalocoema bonariensis</i> Piza, 1981
<i>Cephalocoema apucaranaensis</i> (Liana, 1972)	<i>Cephalocoema borelli</i> (Giglio-Tos, 1894)	<i>Cephalocoema caaguazu</i> Piza, 1977
<i>Cephalocoema bonariensis</i> Piza, 1981	<i>Cephalocoema canaliculata</i> (Guerin, 1844)	<i>Cephalocoema carinata</i> Wiendl, 1971
<i>Cephalocoema borellii</i> (Giglio-Tos, 1894)	<i>Cephalocoema chapadensis</i> Rehn, 1904	<i>Cephalocoema dimidiata</i> Piza, 1979
<i>Cephalocoema caaguazu</i> Piza, 1977	<i>Cephalocoema hastata</i> (Scudder, 1875)	<i>Cephalocoema furva</i> Wiendl, 1971
<i>Cephalocoema canaliculata</i> (Guerin, 1844)	<i>Cephalocoema moogeni</i> Mello-Leitao, 1941	<i>Cephalocoema gaucha</i> Piza, 1977
<i>Cephalocoema carinata</i> Wiendl, 1971	<i>Cephalocoema nigrotaeniata</i> Mello-Leitao, 1939	<i>Cephalocoema ignorata</i> Piza, 1984
<i>Cephalocoema chapadensis</i> Rehn, 1904	<i>Cephalocoema pustulosa</i> Mello-Leitao, 1939	<i>Cephalocoema insolita</i> Piza, 1979
<i>Cephalocoema chapmani</i> Mello-Leitao, 1939	<i>Cephalocoema sica</i> (Serville, 1839)	<i>Cephalocoema ituana</i> Piza, 1984
<i>Cephalocoema curtirostris</i> Mello-Leitao, 1939	<i>Cephalocoema simillima</i> Piza, 1943	<i>Cephalocoema lutescens</i> Piza, 1984
<i>Cephalocoema daguerrei</i> Mello-Leitao, 1939	<i>Cephalocoema tucumana</i> Mello-Leitao, 1939	<i>Cephalocoema malkini</i> Piza, 1981
<i>Cephalocoema dimidiata</i> Piza, 1979	<i>Cephalocoema zilkari</i> Piza, 1943	<i>Cephalocoema meridionalis</i> Piza, 1977
<i>Cephalocoema flavirostris</i> (Blanchard, 1851)		<i>Cephalocoema pacata</i> Wiendl, 1971
<i>Cephalocoema furva</i> Wiendl, 1971		<i>Cephalocoema pararostrata</i> Piza, 1981
<i>Cephalocoema fusca</i> Kuthy, 1911		<i>Cephalocoema rostrata</i> Piza, 1981
<i>Cephalocoema gaucha</i> Piza, 1977		
<i>Cephalocoema glabra</i> Liana, 1972		
<i>Cephalocoema hastata</i> (Scudder, 1875)		
<i>Cephalocoema ignorata</i> Piza, 1984		
<i>Cephalocoema insolita</i> Piza, 1979		
<i>Cephalocoema insulae</i> Piza, 1946		
<i>Cephalocoema ituana</i> Piza, 1984		
<i>Cephalocoema lutescens</i> Piza, 1984		
<i>Cephalocoema malkini</i> Piza, 1981		
<i>Cephalocoema meridionalis</i> Piza, 1977		
<i>Cephalocoema moogeni</i> Mello-Leitao, 1941		
<i>Cephalocoema multispinosa</i> Brunner v Wattenwyl, 1890		
<i>Cephalocoema nigrotaeniata</i> Mello-Leitao, 1939		
<i>Cephalocoema pacata</i> Wiendl, 1971		
<i>Cephalocoema pararostrata</i> Piza, 1981		
<i>Cephalocoema patagonica</i> Mello-Leitao 1939.		
<i>Cephalocoema pustulosa</i> Mello-Leitao, 1939		
<i>Cephalocoema rostrata</i> Piza, 1981		
<i>Cephalocoema sica</i> (Serville, 1839)		
<i>Cephalocoema simillima</i> Piza, 1943		
<i>Cephalocoema sublaevis</i> (Brunner v.Wattenwyl, 1890)		
<i>Cephalocoema teretiusecula</i> Brunner v.Wattenwyl, 1890		
<i>Cephalocoema tucumana</i> Mello-Leitao, 1939		
<i>Cephalocoema zilkari</i> Piza, 1943		
<i>Orienscopia</i> Bentos-Pereira 2000		
Type species: <i>Orienscopia sanmartini</i> Bentos-Pereira 2000		
<i>Tetanorhynchus angustirostris</i> Brunnerv.Wattenwyl 1890	<i>Orienscopia sanmartini</i> Bentos-Pereira, 2000	
<i>Cephalocoema costulata</i> Burmeister, 1880	<i>Orienscopia angustirostris</i> (Brunnerv.Wattenwyl, 1890)	
	<i>Orienscopia costulata</i> (Burmeister, 1880).	
<i>Scleratoscopia</i> Jago 1989.		
Type species: <i>Scleratoscopia protopeirae</i> (Amedegnato, 1985)		
<i>Scleratoscopia protopeirae</i> (Amedegnato, 1985)	<i>Scleratoscopia protopeirae</i> (Amedegnato, 1985)	
<i>Scleratoscopia silvai</i> (Rehn, 1957)	<i>Scleratoscopia silvai</i> (Rehn, 1957)	
<i>Scleratoscopia spinosa</i> Jago, 1989	<i>Scleratoscopia spinosa</i> Jago, 1989	
<i>Pseudastroma</i> Jago 1989		
Type species: <i>Pseudastroma gracilis</i> (Bruner, 1913)		
<i>Pseudastroma gracilis</i> (Bruner, 1913)	<i>Pseudastroma gracilis</i> (Bruner, 1913)	
<i>Pseudastroma perducta</i> (Mello-Leitao, 1939)	<i>Pseudastroma perducta</i> (Mello-Leitao, 1939)	
<i>Mariascopia</i> Bentos-Pereira (in press)		
Type species : <i>Mariascopia elegans</i> Bentos-Pereira (in press)		
	<i>Mariascopia elegans</i> Bentos-Pereira (in press)	
	<i>Mariascopia guarani</i> Bentos-Pereira (in press)	
	<i>Mariascopia ronderosi</i> Bentos-Pereira (in press)	