Arquivos de Zoologia

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VOLUME 24, FASCÍCULO 1

MUSEU DE ZOOLOGIA DA UNIVERSIDADE DE SÃO PAULO
SÃO PAULO, 1973

Arquivos de Zoologia

ARQ. ZOOL., S. PAULO, VOL. 24 (1): 1-71 30.V.1973

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ABSTRACT

A reclassification of the species formerly included in the genera Prolepsis *Walker,* Dizonias *Loew,* Sphageus *Loew,* Tolmerolestes *Lynch Arribálzaga and* Cylicomera *Lynch Aribálzaga is proposed in the present paper.*

*Examination of types and dissection of male genitalia, among other characters studied, showed the close interrelationships among the species of the "*Prolepsis-*complex", now considered to belong to two genera, namely* Prolepsis *Walker and* Cylicomera *Lynch Arribálzaga.*

*The proposed new arrangement of the "*Prolepsis-*complex" is as follows: Genus* Cylicomera *Lynch Aribálzaga, 1881 with the following species:* rubrofasciata *Lynch Arribálzaga, 1881* [=fraterna *Lynch Arribálzaga, 1881*], *and genus* Prolepsis *Walker, 1851* [=Cacodaemon *Schiner, 1866;* =Dizonias *Loew, 1866;* (=Sphageus *Loew, 1866;* = Tolmerolestes *Lynch Arribálzaga, 1881;* = *Cacodaemonides Strand, 1928*], *including the following species:* fax (*Lynch Arribálzaga, 1881*) [= brethesi *Gemignani, 1936*], pluto (*Lynch Arribálzaga, 1881*) [= rubripes *Lynch Arribálzaga, 1881*], fenestrata (*Macquart, 1838*), rosariana (*Carrera, 1959*), tristis (*Walker, 1851*) [= quadrimaculatus *Bellardi, 1861;* = lucasi *Bellardi, 1861;* = phoenicurus *Loew, 1866;* = bicinctus *Loew, 1866;* = pilatei *Johnson, 1903;* = albifasciatus *Back, 1904;* = bromleyi *Carrera & d'Andretta, 1950*], chalcoprocta (*Loew, 1866*), sandaraca (*Martin, 1966*), elotensis (*Martin, 1966*), crabroniformis (*Schiner, 1866*), *and* lucifer (*Wiedemann, 1828*) [= satanas *Wiedemann, 1828;* = rufipennis *Macquart, 1838;* = fumiflamma *Walker, 1851;* = quadrinotatum *Bigot, 1878*].

The following new species are described herein: Cylicomera dissona, *from Argentina, Tucumán, San Pedro de Colalao,* Prolepsis huatajata, *from Bolivia, La Paz, Huatajata,* P. pseudopluto, *from Argentina, Tucumán, El Infiernillo,* P. colalao, *from Argentina, Tucumán, San Pedro de Colalao,* P. martini, *from Argentina, Córdoba, Villa de María,* P. indecisa, *from Argentina, Tucumán,* P. costaricensis, *from Costa Rica, Liberia, and* P. funebris, *from Brazil, Goiás, Jataí.*

*Two tentative keys to species are given, one based on external morphological characters, the other on the male genitalia, with an interpretation and discussion of the probable phylogeny of the "*Prolepsis-*complex" and the history of its geographical distribution.*

INTRODUCTION

Historical Sketch

Prolepsis was erected by Walker in 1851, monobasic for *fumiflamma* Walker, 1851, from "Brazil". Later (1854) Walker himself

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placed *fumiflamma* under *Dasypogon*. In 1866 Schiner described *Cacodaemon* for *Dasypogon lucifer* Wiedemann, stressing the probability that this species could prove identical with *Dasypogon satanas* Wiedemann, and that *Cacodaemon* might prove to be a synonym of *Prolepsis* Walker. He hesitated in considering *Cacodaemon* a synonym of *Prolepsis* because Walker's type had no wings. Bigot (1878: 220) demonstrated conclusively the synonymy between *satanas* and *lucifer* when he found in his own collection a ♂ of *satanas* and a ♀ of *lucifer* pinned together (i.e., collected *in copula*). This synonymy had been already suggested by Loew (1851), who considered *satanas* to be the valid name (first reviser's choice), but it went completely unnoticed. In his 1878 paper Bigot described a new Asilid species from "Chili", *Cacodaemon quadrinotatum*, and next year Lynch Arribálzaga (1879) showed that *Cacodaemon* Schiner was preoccupied by *Cacodaemon* Thomson, 1857 (Coleoptera), and in 1881 he placed *Cacodaemon* as a synonym of *Prolepsis*, thus avoiding the erection of a replacement name for the former; he considered *satanas*, *fumiflamma* and, with some doubt, *Dasypogon rufipennis* Macquart, as synonyms of *lucifer*. This point of view was accepted by later authorities: Williston (1891), Kertész (1909), and Martin & Papavero (1970). Carrera (1950b) and Hull (1962) considered *Cacodaemon quadrinotatum* Bigot as a mere synonym of *lucifer*, whilst Artigas (1970) revalidated it as a good species. *Cacodaemon crabroniformis* Schiner, from an unknown type-locality, was placed doubtfully in *Prolepsis* by subsequent authors. In 1928, ignoring Lynch Arribálzaga's synonymy, Strand proposed the new name *Cacodaemonides* as a replacement for *Cacodaemon*.

Dizonias was proposed by Loew (1866) to include *Dasypogon quadrimaculatus* Bellardi, *Dizonias phoenicurus* Loew, and *D. bicinctus* Loew. Later (1872) the same author added *Dasypogon lucasi* Bellardi. Osten Sacken (1874) added *Dasypogon tristis* Walker and, afterwards, two additional species were included in *Dizonias*, *pilatei* Johnson (1903), and *bromleyi* Carrera & d'Andretta (1950). During the hundred odd years elapsed since the original description of *Dizonias*, its species were alternately synonymized and revalidated.

Loew's *Sphageus* (1866) was erected for *chalcoproctus* Loew, and remained monobasic for a whole century, until Martin (1966) added *S. sandaracus* and *S. elotensis*.

Lynch Arribálzaga (1881) proposed the genera *Tolmerolestes* — for *fax* Lynch Arribálzaga, *pluto* Lynch Arribálzaga, and *rubripes* Lynch Arribálzaga —, and *Cylicomera* — for *rubrofasciata* Lynch Arribálzaga and *fraterna* Lynch Arribálzaga. In later years two species were added to *Tolmerolestes*, *brethesi* Gemignani (1936), and *rosarianus* Carrera (1959), both from Argentina.

Structure of the Group

In his work on the asilid genera of the world, Hull (1962: 133) stressed the strong similarities among *Prolepsis* Walker, *Dizonias* Loew,

Sphageus Loew, *Tolmerolestes* Lynch Arribálbaga and *Cylicomera* Lynch Arribálzaga:

"*Dizonias* is one of a small group of interrelated New World genera, each with few species and all noted for the abundance of stout bristles on the legs and face. These genera related to *Dizonias* are *Sphageus* Loew, *Prolepsis* Walker, *Tolmerolestes* Lynch Arribálzaga and *Cylicomera* Lynch Arribálzaga."

In his paper on the asilid male genitalia, Karl (1959: 651) noted the great similarity between the genitalia of *Prolepsis* and *Dizonias*, and described his impressions as follows:

"Sowohl *Prolepsis lucifer* Wied., als auch *Dizonias aequetinctus* Herm. [which, by the way, is a *nomen nudum*] haben ein um fast 180° gedrehtes Hypopygium. Das 8. Segment ist noch vorhanden und macht die Drehung des Hypopygiums ein Stück weit mit. Vor allem das Sternit des 8. Segmentes ist stark reduziert. Die Epandrienhälften hängen basal noch zusammen. Interessant sind die Gonopoden. Der Basistylus bildet nicht nur einen 'Seitenfortsatz'", sondern auch einen sich nahe dem Aedeagus befindenden 'inneren Auswuchs'. Ferner ist ein kräftiger Dististylus vorhanden. Der schlanke freie Teil des Aedeagus beider Arten biegt sich ventrad. Wichtig ist ferner, dass die 'Querapodeme' des Aedeagus in Reduktion begriffen sind und nur noch als kleine Stummel auftreten."

These characters are not only shared by *Prolepsis* and *Dizonias*, but *Sphageus*, *Tolmerolestes* and *Cylicomera* also show them to a variable extent. The five genera have in common the basistylus with a lateral process ("Seitenfortsatz") and an inner outgrowth ("inneren Auswuchs").

The "*Prolepsis*-complex" is composed of a number of closely interrelated species-groups which in the past were split in the five genera just mentioned. The study of the morphological characters dealt with in the present paper, suggests that the species studied may be divided in only two genera, as we shall see later.

MATERIAL AND METHODS

The Asilidae collection of the Diptera Section of the Museu de Zoologia da Universidade de São Paulo (MZUSP) and other scientific institutions, referred to in the Acknowledgments, constituted the basic research material for the development of the present study.

The male genitalia was prepared for examination by softening with hot 10 percent potassium hydroxide (KOH) and clearing with 10 vol hydrogen peroxide (H_2O_2), the material being washed with 95 percent alcohol. The dissected genitalia were stored in small poliethylene vials containing alcoholic glycerine, which were attached to their respective specimens. The external morphological structures and the male genitalia were drawn with help of a "camera lucida" attached to

a dissecting scope. The pilosity has been omitted in the male genitalia drawings.

The known localities of occurrence of the species are based on the material examined or on bibliographical references. The localities are presented and spelled as published in the "Index to Map of Americas 1:1,000,000" of the American Geographical Society (Hanson, 1945), and the "Índice dos topônimos contidos na Carta do Brasil 1:1.000.000 do I.B.G.E." (Vanzolini & Papavero, 1968).

ACKNOWLEDGMENTS

To my advisers, Drs. P. E. Vanzolini and N. Papavero, of the Museu de Zoologia da Universidade de São Paulo, Brazil, my sincere gratitude for their invaluable help, teaching and orientation.

I am also greatly indebted to Drs. Lindolpho R. Guimarães, José H. Guimarães and Naércio A. Menezes, MZUSP, J. W. Boyes, of the McGill University, Montreal, Canada, and Misael Guevara P., of the Universidad Nacional Mayor de San Marcos, Lima, Peru, and Messrs. José Lima de Figueiredo, MZUSP, and Pedro Cabello A., Universidade de Brasília, Brazil, for useful suggestions.

I want to express my gratitude to the "Fundação de Amparo à Pesquisa do Estado de São Paulo", São Paulo, Brazil, for Grant "Biológicas 70/671" that made possible the realization of the present research.

Loan of specimens for study from the following institutions and persons is acknowledged:

CAS	California Academy of Sciences, San Francisco, California (Dr. Paul H. Arnaud, Jr.)
CM	Dr. Charles H. Martin, Tucson, Arizona.
CNC	Canadian National Collection, Ottawa, Canada.
CSC	California State College, Long Beach, California (Dr. Eric M. Fisher)
FAG	Facultad de Agronomia, Universidad de la República, Montevideo, Uruguay (Dr. Carlos S. Carbonell)
FHUM	Facultad de Ciencias y Humanidades, Universidad de la República, Montevideo, Uruguay (Dra. Lucrecia de Zolessi)
FMNH	Field Museum of Natural History, Chicago, Illinois (Dr. Rupert L. Wenzel)
HUM	Zoologisches Museum der Humboldt-Universität zu Berlin, DDR (Dr. H. Schumann)
IML	Instituto Miguel Lillo, Tucumán, Argentina (Dr. Abraham Willink)
JW	Dr. Joseph Wilcox, Anaheim, California.

MBR Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina (Dr. Manuel J. Viana)

MCZ Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts (Dr. Howard E. Evans)

MUN Zoologische Sammlung des Bayerischen Staates, München, West Germany (Dr. Friedrich Kühlhorn)

OXF Hope Museum, Oxford, England (Dr. Ernest Taylor)

PARIS Muséum National d'Histoire Naturelle, Paris, France (Dr. Léonide Tsacas)

SAA Universidad Nacional "San Antonio Abad", Cuzco, Peru (Dr. Francisco Carrasco Z.)

TORO Museo e Istituto di Zoologia Sistematica, Università di Torino, Torino, Italy (Dr. M. Zunino)

USNM United States National Museum, Washington, D.C. (Dr. Lloyd V. Knutson)

WIEN Naturhistorisches Museum, Zoologische Abteilung, Wien, Austria (Dr. A. Kaltenbach)

CHARACTERS OF THE "*PROLEPSIS*-COMPLEX"

Head

Broader than high in anterior view; at antennal level approximately one-fourth of head's width, widening slightly towards oral margin; the greater part of the face occupied by a conspicuous gibbosity covered with stout mystax bristles. Gibbosity evenly rounded in *dissona* and *rubrofasciata* and somewhat abrupt in the other species. Mystax occupying from two-thirds (*elotensis, costaricensis* and *tristis*) to almost the whole face (*martini, huatajata, fax, dissona* and *rubrofasciata*), other species presenting intermediate extents. Sides of face (ocular margins) and a narrow transverse zone immediately below the antennae bare of pile and usually strongly pollinose. Lateral margins of frons pollinose, bearing a few hairy bristles. Ocellar tubercle usually evenly rounded, with few, stiff, long hairs, the three ocelli of about the same size. Occiput strongly pollinose along the ocular margin, bearing bristly hairs gently curved forwards.

Antennae always elongated, longer than the head. First segment cylindrical, 1.5-3 times longer than the second, both with short bristly hairs. Third segment always slender, 1.5 to almost 4 times longer than segments 1 and 2 together, without hairs or bristles; in *lucifer* this segment is laterally compressed, with the middle portion wider than the apex or base; in *rubrofasciata* and *dissona* it is slightly curved, with an undulated upper border, always more than three times longer than segments 1 and 2 together. The third antennal segment bears on apex a well-defined, spoon-shaped microsegment (*lucifer, fune-*

bris, crabroniformis, huatajata, fax, pluto, pseudopluto, colalao, indecisa and *martini*), or an apical pit (*costaricensis, tristis, fenestrata, sandaraca, elotensis, chalcoprocta, dissona* and *rubrofasciata*). Some specimens of *fenestrata, pluto* and *colalao* present intermediate situations between an apical pit and a spoon-shaped microsegment, while in *rosariana* approximately 50% of the specimens exhibit a pit and the remaining 50% a spoon-shaped microsegment.

Palpi two-segmented; apical segment always shorter and thicker than the basal, with large apical pore, and long, stout bristles.

Proboscis elongated, straight, dorsoventrally flattened in *dissona* and *rubrofasciata*, and laterally compressed in the other species, usually with a more or less elevated middorsal keel (absent in *dissona* and *rubrofasciata*). Apex bearing a crown of short, stiff hairs, the ventral side of the basal half presenting long, slender hairs.

Thorax

Pronotum with a collar of strong, stiff bristles. Mesonotum with pollinosity commonly restricted to the anterior and lateral margins, the pile short and sparse, and bristles restricted to lateral margins and posterior fourth, behind the transverse suture. Humeral and postalar calli densely pilose. Acrostical bristles absent or much reduced in *dissona* and *rubrofasciata*, well developed in the other species. Posterior margin of scutellum always pollinose and with strong marginal bristles, the latter varying from 2 (*lucifer, funebris, tristis* and *fenestrata*) to 8 (*pluto, pseudopluto, dissona* and *rubrofasciata*), the disc usually covered with sparse, short, thin pile. Postscutellum ("metanotum" *auct.*, cf. Wilcox & Papavero, 1971) bare, with one rounded pollinose spot on each lateral margin. Laterotergite ("metapleura" *auct.*, cf. Wilcox & Papavero, 1971) bare, with one rounded pollinose spot on each lateral margin. Laterotergite ("metapleura" *auct.*, cf. Wilcox & Papavero, *op. cit.*) with an appressed tuft of bristly hairs.

Abdomen

First tergite narrow, undivided, with a tuft of bristly hairs on each lateral margin. Tergite 2 wider, divided in two portions by a transverse row of small orifices, the hind portion wider and more pilose than the basal one, with two prominent callosities ("bullae", of unknown function; cf. Wilcox & Papavero, *op. cit.*). Bullae narrow and elongated, usually of the same coloration as the hind margin of the second tergite. Tergites 3-8 with short and thin pile. Sternites with long, slender hairs. Abdomen generally cylindroid, shorter than wings, parallel-sided in males and slightly tapered apically in females.

Male Genitalia: Hypopygium rotated 180° counterclockwise, eighth segment also somewhat rotated, eighth sternite reduced, eighth tergite also reduced, but to a lesser extent.

Epandrium almost completely divided in two halves, loosely united at the inner posterior angles, without surstyli; in *tristis* there are small apical projections.

Hypandrium free, somewhat reduced, triangular in shape, with lateral projections in *huatajata* (long and slender) and *fax* (short and stout); *fenestrata* and *rosariana* with a long, slender apical process, *tristis* with a shorter one, and *elotensis, chalcoprocta, huatajata* and *fax* with a very small apical bulge.

Gonopods stout; basistylus with a lateral horizontal process ("Seitenfortsatz" of Karl) of varied shape, and an inner outgrowth ("inneren Auswuchs" of Karl) usually poorly differentiated; dististylus emerging from the middle of the inner face of the basistylus, commonly hook-like and perpendicular to the "Seitenfortsatz".

Free terminal portion of aedeagus slender; medial portion bearing lateral wing-like projections in *huatajata, fax* and *colalao,* giving to this portion a rhomboidal appearance; apical portion always bent ventrad, and cross-apodemes ("Querapodeme" of Karl) reduced.

Ventral lamellae of proctiger straight, oblique, or L-shaped, surrounded by the cerci on both sides of the anal papilla. Cerci united in the middle, with an evident suture, commonly presenting complicate posterior processes.

Female Terminalia: Hind margin of ninth tergite with a circlet of strong spines and many short hairs.

Legs

Coxae densely pilose and pollinose. Anterior and middle femora usually with a patch or cluster of strong spines of varied density; *lucifer, funebris, crabroniformis, elotensis, chalcoprocta, martini, sandaraca* and *costaricensis* present a patch on the anterior femora, varying from a single row of spines (as in *funebris* and *crabroniformis*) to a well defined patch on the others; *lucifer, funebris, crabroniformis, elotensis, chalcoprocta, sandaraca* and *costaricensis* have a conspicuous patch on the middle femora (especially noticeable in *lucifer* and *funebris*), while *tristis, fenestrata* and *rosariana* present only a diffuse patch (most specimens of *tristis* and some of *fenestrata* have no patch at all, while some specimens of *crabroniformis* present it very reduced).

The presence of a patch of spines or stout bristles on the anterior and/or middle femora cannot be considered as a relevant generic feature. There is a continuous gradation in abundance and stoutness of femoral bristles, from a few short, slender bristles, as in most specimens of *tristis,* to abundant, short, heavy spines, as in *lucifer,* passing through intermediate stages of abundant, long, stout bristles and long, slender hairs like those present in *huatajata.*

The first tarsal segment is the longest, as long as segments 2-4 together; the fifth is approximately twice the length of the fourth. The

pulvilli reach three-fourths of the claws' length, which are strongly sharpened and curved on the apical third.

Wings

Wings are broad, transparent in *huatajata, fax* and *dissona,* and variously darkened in the others. *Indecisa, martini, colalao, rubrofasciata, fenestrata* and *rosariana* present dark and light zones on the wings. Marginal cell open; fourth posterior cell narrowly open, or closed and petiolate; anal cell narrowly open or closed on the wing margin.

Lucifer usually presents a number (1-7, or none) of supernumerary cross-veins in the subcostal cell. This character was considered diagnostic of the genus *Prolepsis* by past authors, but it was not regarded as a valid generic difference in the family Rhinotoridae by Steyskal (*in* Papavero, 1967: 1). The number of supernumerary cross-veins in *lucifer* varies even from wing to wing in the same specimen. None of the other species present these supernumerary cross-veins.

DISCUSSION OF PHYLOGENETIC RELATIONSHIPS

As has been already mentioned in the Introduction, the species of the "*Prolepsis*-complex" were considered in the past as members of five different genera. Carrera (1950b), Karl (1959) and Hull (1962) recognized the significant relationships among all these genera or some of them, based on morphological resemblances.

Hull (*op. cit.*: 120) divided the species of the genera *Prolepsis, Sphageus, Dizonias, Tolmerolestes* and *Cylicomera* by means of the following key:

"37. Ventral surface of middle femur with an anterior patch of dense, short, stout bristles; wings have fourth posterior cell narrowly closed with short petiole 38

Ventral surface of middle femur with at most 1 or 2 rows of regularly spaced bristles ..... 39 [43]

38. Antenna large, the third segment swollen through the middle; bristles of face strong; palpus longer than face; proboscis with ventral bristles in the middle. Subcostal cell with several supernumerary crossveins ..... *Prolepsis* Walker

Antenna slender and of uniform width; face bristles weak; palpus shorter than face. Proboscis without bristles in the middle below. No supernumerary crossveins present .... *Sphageus* Loew

43. Acrostical bristles absent or reduced to minute setae. Proboscis without dorsal ridge, except near the base. Base of third abdominal segment constricted. Male terminalia dorsally with a medial process. Scutellum with one pair of long bristles... ..... *Cylicomera* Lynch Arribálzaga

Acrostical bristles well developed. Proboscis with medial ridge. Abdomen nowhere constricted; scutellum with two or more pairs of long bristles 44

44. Abdomen stout basally, tapered to the apex .... *Tolmerolestes* Lynch Arribálzaga

Abdomen cylindroid with parallel sides ..... *Dizonias* Loew"

Couplet 37: I have already shown that there is a continuous gradations in the degree of stoutness and density of the femoral bristles, from a few, short, slender bristles to a well developed patch of strong spines. This character is not reliable to separate the species discussed in the present paper under different genera. In the specimens examined the fourth posterior cell of the wing exhibits strong variation as regards presence or absence of a petiole, or the degree of its opening on the wing margin; in many cases it has been observed even intraspecific variation of these wing characters.

Couplet 38: Only *lucifer* presents supernumerary crossveins in the subcostal cell, while *crabroniformis, chalcoprocta, elotensis, sandaraca* and *funebris* (which otherwise would fall under Hull's couplet 38) do not present them; the facial bristles are strong in *lucifer, crabroniformis, elotensis* and *funebris,* and all show slender bristles on the middle of the basal half of the proboscis. The palpi of all these species are shorter than the face. When describing *Sphageus* (p. 137) Hull writes: "these flies have strong facial bristles..."

Couplet 43: A constriction on the base of the third abdominal segment was not observed in *rubrofasciata* or in *dissona* (which would enter this couplet). When describing *Cylicomera,* Hull did not mention any constriction. Hull also claimed in the key that males exhibited a "medial process" on the terminalia, but on p. 137 he wrote the opposite: "The hypandrium [...] is densely bristly and without any terminal process". In all specimens examined the scutellum of *rubrofasciata* and *dissona* shows three or more pairs of marginal bristles, the same as the species formerly placed under *Tolmerolestes. Dissona* and *rubrofasciata* are readily distinguished from all other species of the "*Prolepsis*-complex" by the presence of a very long, slightly undulated, third antennal segment, always more than three times longer than segments 1 and 2 together, by the evenly rounded facial gibbosity, the dorsoventrally flattened proboscis, without middorsal keel, the reduced acrostical bristles, and their smaller size (ranging from 8 to 12 mm in *dissona* and *rubrofasciata* and from 14 to 27 in the other species).

Couplet 44: Hull had only female specimens of *Tolmerolestes* at hand; practically all females of the "*Prolepsis*-complex" I have studied have the abdomen slightly tapered apically (even in *tristis*).

All these observations led me to consider that it was not possible to establish an effective separation of the species dealt with in this paper in more than two different genera (i.e., *Prolepsis* Walker and *Cylicomera* Lynch Arribálzaga). It is considered that the following characters are held in common by all the species studied: long, slender antennae; third antennal segment showing a spoon-shaped microsegment, or an apical pit, or still intermediate stages between them; head and legs strongly hairy and bristly; wings broad and usually very dark; hypopygium rotated 180° counterclockwise; epandrium with halves loosely connected basally; hypandrium triangular; basistylus with "Seitenfortsatz" and "inneren Auswuchs"; dististylus usually hookshaped; apical end of aedeagus bent ventrad; and cross-apodemes of aedeagus reduced.

As valuable taxonomic characters for generic differentiation I consider: length and shape of third antennal segment, shape of proboscis, and state of reduction of acrostical bristles. Valuable taxonomic characters for interspecific differentiation include shape of apical end of antennae, presence or absence of a patch of stout spines on anterior and/or middle femora, color pattern of mesonotum and abdominal tergites, presence of apical and/or lateral processes of hypandrium, and shape of middle portion of aedeagus.

I have regarded the following characters as primitive: presence of a microsegment on third antennal segment, 4-8 marginal bristles on scutellum, absence of triangular pollinose spots on postero-lateral angles of abdominal tergites 2-3, absence of apical process on hypandrium, anterior and/or middle femora without patch or cluster of spines or heavy bristles, and clear wings. As derived characters: presence of a patch on anterior and/or middle femora, 2-4 marginal scutellar bristles, presence of triangular pollinose spots on postero-lateral angles of abdominal tergites 2-3, presence of an apical pit on third antennal segment, of an apical process on hypandrium, of lateral expansions on middle portion of aedeagus, and dark wings.

I believe that the "*Prolepsis*-complex" evolved from an ancestral group with the following characters: head circular, not wider than thorax; mystax well developed, with strong bristles; occipital bristles and bristly hairs numerous and strong; antennae three-segmented, segment 3 longer than segments 1 and 2 together; a well developed microsegment on apex of third segment; proboscis long, stout, with strong middorsal keel: mesonotum with reduced pile, bristles restricted to lateral margins and posterior third; scutellum with more than 4 marginal bristles; postscutellum glabrous; laterotergal bristles abundant and stout; abdomen elongated, parallel-sided in males and tapering apically in females; tergite 1 with lateral tufts of bristly hairs, tergite 2 with well developed "bullae", remaining tergites with sparse, short

pile; male genitalia rotated; epandrium almost completely divided, loosely united at basal inner angles; hypandrium triangular, without lateral or apical processes; gonopods stout, dististylus emerging from middle of inner face of basistylus, "Seitenfortsatz" well developed, "inneren Auswuchs" rudimentary; aedeagus slender, apical portion bent ventrad; cerci united; coxae densely pilose, femora and tibiae with slender bristles and thin hair, anterior and middle femora without patch; wings broad, clear, fourth posterior and anal cells closed.

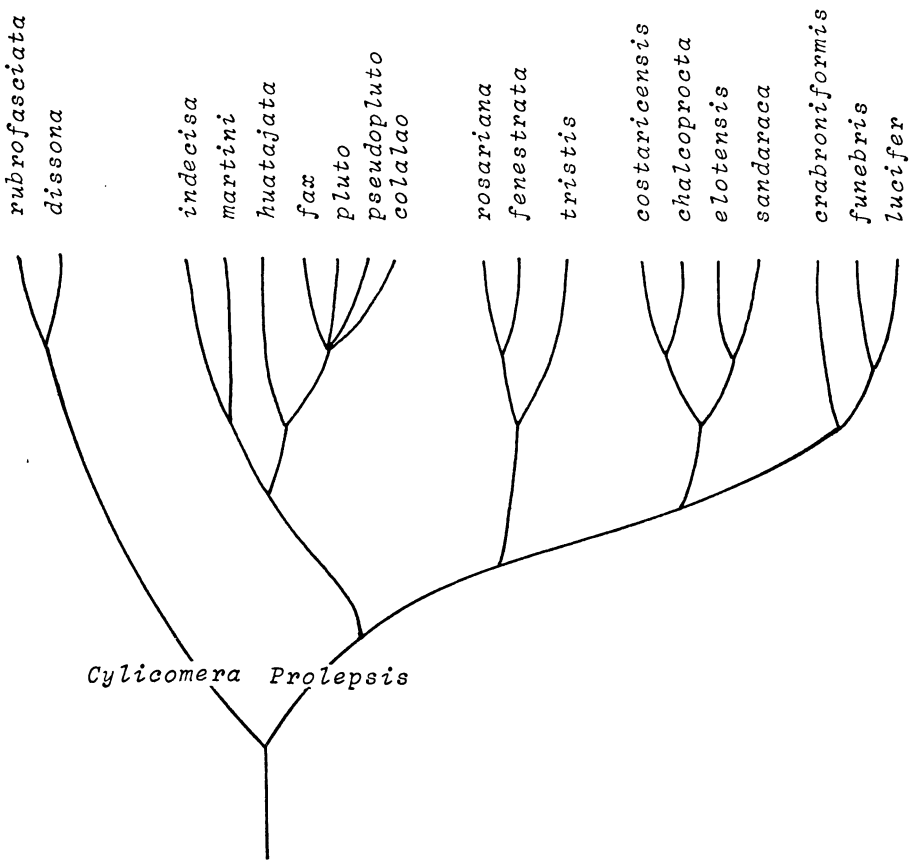


Fig. 1. Hypothetical phyletic dendrogram of the "*Prolepsis*-complex".

Figure 1 shows the hypothetical phyletic dendrogram proposed for the species groups of the "*Prolepsis*-complex", with two different branches, the first including two species of *Cylicomera,* the second those of *Prolepsis.* It is important to indicate that the differences among the groups of *Prolepsis* are not *sufficiently* great to separate them even in subgenera, due to the high degree of character overlap. The male genitalia of *funebris, crabroniformis, sandaraca, costaricensis, martini, pluto*

and *pseudopluto* could not be examined as I had only female specimens; their phylogenetic relationships have been deduced based exclusively on external morphological characters.

Group I: The two *Cylicomera* species, *dissona* and *rubrofasciata*, have: very elongated and slightly curved third antennal segment, with apical pit; proboscis short and dorsoventrally flattened, without middorsal keel; acrostical bristles poorly developed or absent; 4-8 marginal scutellar bristles; abdomen without triangular pollinose spots; wings clear (especially in males).

Group II: Includes *huatajata, fax, pluto, pseudopluto, colalao, indecisa* and *martini* ("*huatajata* species-group"), having in common an apical microsegment or a transitional stage between microsegment and pit on third antennal segment; proboscis laterally compressed, with well developed middorsal keel; acrostical bristles well developed; 4-8 marginal scutellar bristles; abdomen without triangular pollinose spots; middle portion of aedeagus with aliform lateral expansion (excluding *indecisa*); middle femoral patch absent; apical process of hypandrium absent or poorly developed; wings clear (especially in males).

Group III: The species of this group may be arranged in three subgroups, all of them presenting the following characters: proboscis laterally compressed, with well developed middorsal keel; acrostical bristles well developed; patch, or at least an indication of it on middle femora present (except most specimens of *tristis*); apical process of hypandrium poorly or greatly developed (excluding *lucifer*); triangular pollinose spots present at least on abdominal tergites 2-3 (except *funebris* and *lucifer*); and dark wings.

Subgroup (a) includes *rosariana, fenestrata* and *tristis* ("*tristis* species-group") characterized by the reduced pilosity; 2-4 marginal scutellar bristles; femoral patch weakly developed (*rosariana* and *fenestrata*) or absent (most specimens of *tristis*), hypandrium with well developed apical process; third antennal segment with apical pit (*tristis*) or a transitional stage between apical pit and a more or less coalesced microsegment (*rosariana* and *fenestrata*).

Chalcoprocta, costaricensis, sandaraca and *elotensis* form subgroup (b) ("*chalcoprocta* species-group"), characterized by the presence of an apical pit on third antennal segment; 4-6 marginal scutellar bristles; abdomen with triangular pollinose spots; anterior and middle femora with a well developed patch; hypandrium with incipient apical process.

Subgroup (c) includes *crabroniformis, funebris* and *lucifer* ("*lucifer* species-group"), with 2-4 marginal scutellar bristles; a well developed patch on anterior and middle femora; third antennal segment with microsegment; hypandrium without apical process; and very dark wings.

The probable phylogeny of the "*Prolepsis*-complex" may be expressed as follows: *Cylicomera* and *Prolepsis* branched early from an ancestral group characterized by the presence of a microsegment on

apex of third antennal segment, more than 4 marginal scutelllar bristles, anterior and middle femora without patch, wings clear, abdomen without triangular pollinose spots, and hypandrium lacking an apical process.

The first stem, today including *Cylicomera dissona* and *C. rubrofasciata*, was characterized by such primitive characters as: femoral patch absent, wings clear (especially in males), 4-8 marginal scutellar bristles, abdomen without triangular pollinose spots, and hypandrium without apical process. In turn it presented the following derived characters: an apical pit on third antennal segment, the latter greatly elongated and undulated, and proboscis dorsoventrally flattened, without middorsal keel. The acquisition of an apical pit is clearly a case of parallel evolution; in *Cylicomera* it is small, almost obliterated, less than half as wide as the largest width of third antennal segment. In the *Prolepsis* species with apical pit, its opening is round or spoon-shaped, nearly as wide as the largest width of third antennal segment.

The second stem gave rise to four branches. The first separated early, originating the "*huatajata* species-group", with the following primitive characters: 4-8 marginal scutellar bristles, no femoral patch or apical process on hypandrium. However, some species showed such features as a transitional stage between microsegment and pit on third antennal segment, and dark wings (especially in females of *colalao* and *pluto*). *Huatajata* is probably more primitive than the others, because the third antenal segment still presents a well developed spoon-shaped microsegment, without trace of fusion, and the wings are clear in both sexes (slightly tinged in females). *Colalao* seems more derived, because it shows many cases of transitional stages between microsegment and pit (many specimens show the microsegment wholly fused), and wings are dark in all females and most males.

The three other branches gave rise to the *tristis, chalcoprocta* and *lucifer* species-groups. The *tristis* species-group presented 2-4 marginal scutellar bristles, triangular pollinose spots on abdomen, dark wings and a well developed apical process on hypandrium. *Tristis* has a well developed spoon-shaped pit on third antennal segment, a medium-sized apical process on hypandrium and lacks a femoral patch (except for the few specimens already mentioned). On the other hand, *rosariana* and *fenestrata* are more related to each other than to *tristis*, both presenting a more or less coalesced microsegment (in some specimens it is fully fused), a very conspicuous apical process on hypandrium, and a poorly developed femoral patch (more evident in *fenestrata*).

In the *chalcoprocta* species-group the microsegment became fully fused, forming an apical pit, the number of marginal scutellar bristles reduced to 4-6, a well built patch developed on anterior and middle femora and wings became very darkened.

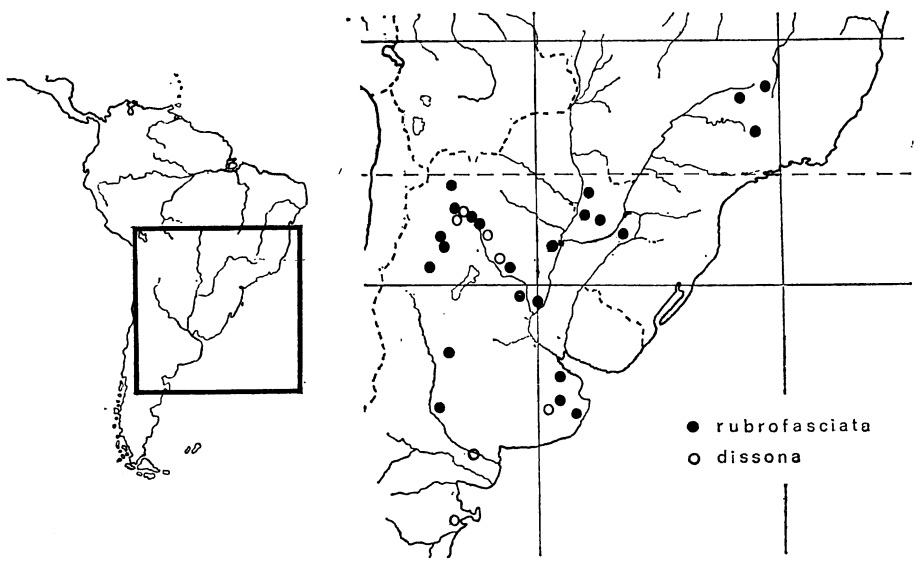
Species of the *lucifer* group presented only 2-4 marginal scutellar bristles, the femoral patch increased in size and density and the

wings became much darker. Species of this last group still exhibit such primitive characters as a well developed microsegment and hypandrium without trace of apical process. *Lucifer* presents two new characters, unique in the "*Prolepsis*-complex", supernumerary cross-veins in subcostal cell and a somewhat widened third antennal segment, flattened in the middle. These particular features seem to indicate that *lucifer* is the most derived species of the complex, this assumption being reinforced by the fact that it presents the best developed femoral patch and the shortest and thickest middle femora found throughout the complex.

GEOGRAPHICAL DISTRIBUTION OF THE "*PROLEPSIS*-COMPLEX"

The 19 species of the "*Prolepsis*-complex" are found in the Americas, from the southern United States (St. Louis, Missouri, is the northernmost locality) to central-southern Argentina (Chubut).

It is likely that the species studied are limited to open vegetation zones of the Americas (see vegetation maps in Hueck, 1966, Küchler, 1964, and Veloso, 1966, for South America, North America and Brazil, respectively). Those open formations comprise savannas, "cerrados" and "campos" of central Brazil, "chaco" and "esteros" of Paraguay and northern Argentina, "pampas" of southern Brazil and central Argentina, and the Titicaca plateau of Peru and Bolivia, and desertic or semidesertic zones such as those found on the Andes and in southern United States and Mexico. No specimens of the "*Prolepsis*-complex" have ever been recorded from the Neotropical rain forests or along the Pacific coast of South America.



Map 1. Distribution of *Cylicomera* Lynch Arribálzaga.

In the Discussion of the Phylogenetic Relationships we saw that the "*Prolepsis*-complex" could be divided in three groups, the third subdivided in three subgroups. Group I (genus *Cylicomera*), composed by *rubrofasciata* and *dissona*, occurs in the Andean-Patagonian region of South America (Map 1). Group II (*P. huatajata* species-group) has almost the same range as Group I, but one species (*huatajata*) extends into the Titicaca plateau (Map 2). Subgroup IIIa (*tristis* species-group) has a disjunct distribution: *tristis* in the Northern Hemisphere (southern United States to Mexico, with one doubtful record from British Honduras), and *rosariana* and *fenestrata* in the Andean-Patagonian region and central Brazil. Subgroup IIIb (*chalcoprocta* species-group) is restricted to the Northern Hemisphere: Mexico (*elotensis* and *sandaraca*), Cuba (*chalcoprota*), and Costa Rica (*costaricensis*), while subgroup IIIc (*lucifer* species-group) is exclusively found in the Andean-Patagonian region (*lucifer* and *crabroniformis*) and central Brazil (*funebris*) (Map 3).

The present distribution of the "*Prolepsis*-complex" may have been accomplished through the following steps (see fig. 2).

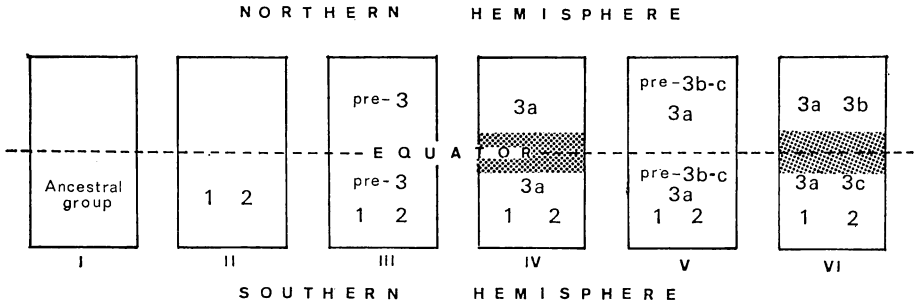


Fig. 2. Sketch of the history of the geographical distribution of the "*Prolepsis*-complex". The stippled areas refer to an ecological barrier (the South American rain forests). 1: Genus *Cylicomera;* 2: *Prolepsis huatajata* species-group; 3a: *P. tristis* species-group; 3b: *P. chalcoprocta* species-group; 3c: *P. lucifer* species-group.

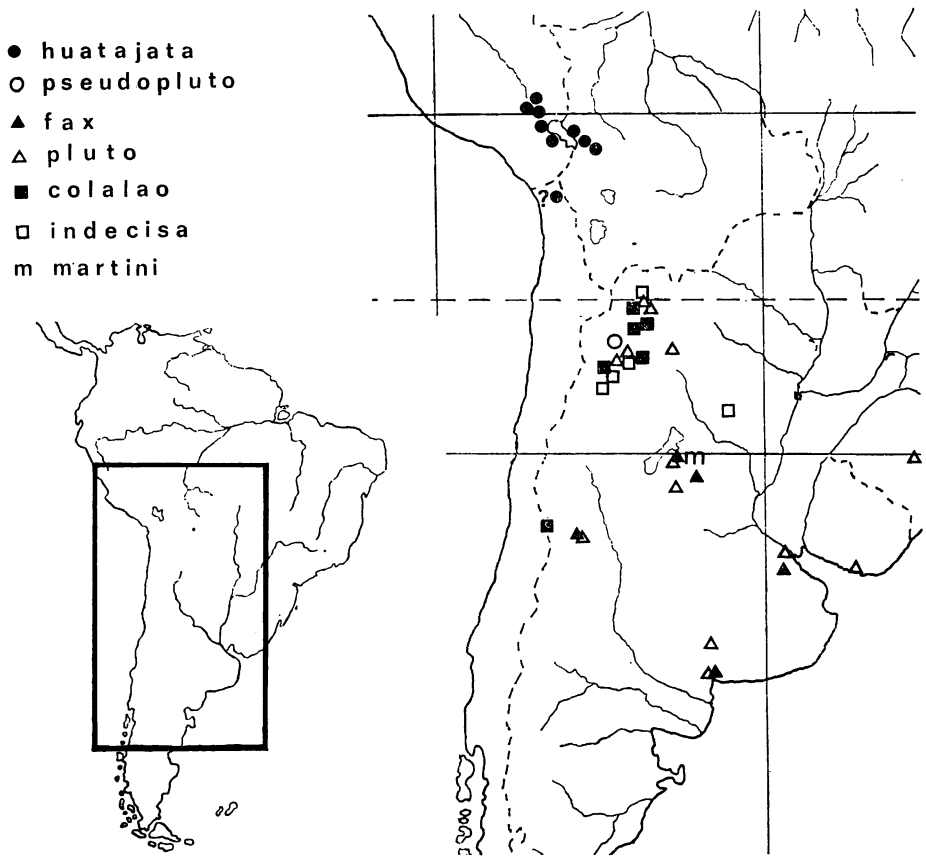
(i) The ancestral group split early in two stocks, giving rise to *Cylicomera* and *Prolepsis*. *Cylicomera* spread north-eastward, while the *huatajata* species-group spread north-westward, reaching the Titicaca plateau.

(ii) Later, during a retraction period of the Neotropical rain forests (Haffer, 1969; Vanzolini & Williams, 1970; Vuilleumier, 1971), a stock of *Prolepsis* had the opportunity to spread northwards, crossing the Amazonian area, reaching North America across the Panamanian land-bridge already formed (Haffer, 1970). This stock apparently found in North America an empty ecological niche, spreading across the whole southern United States and eastern Mexico, developing the species known as *tristis*.

Meanwhile, members of the same stock remained in South America, and on the following expansion period of the forests, receded to the open formations of central and southern Brazil and northern Argentina (*fenestrata* and *meridionalis*).

(iii) An almost identical process occurred again. During the next forest retraction period a new stock crossed the Amazonian area, entering Central America, reaching North America. However, this new stock had seemingly entered in competition with the already formed *tristis*, and was defeated, being now limited to western Mexico (*elotensis* and *sandaraca*). A stock that remained in Costa Rica evolved into *costaricensis*, and another entered Cuba, where it evolved into *chalcoprocta*.

The stock that remained in South America was again pushed backwards by the expanding forests, and developed into the *lucifer* species-group, limited to the open formations of central and southern Brazil and Argentina.



Map 2. Distribution of *Prolepsis huatajata* species-group.

Map 3. Distribution of *Prolepsis tristis, P. chalcoprocta* and *P. lucifer* species-groups.

Discussion: In a recent work by Allen (1972) at least 39 species of Tiphiinae (Hymenoptera, Tiphiidae) are listed [36 of them being *Tiphia* (*Tiphia*)], all apparently from open formations of southern Brazil, Uruguay and northern Argentina. I believe that those "Southern South America" Tiphiinae and groups I, II and IIIc of the "*Prolepsis*-complex" evolved in a similar manner.

Vuilleumier (1971) summarizes the geological and biological data regarding the glacial and interglacial episodes in southern South Americana. During glacial periods ice advances and glacial lakes may have isolated populations of the "*Prolepsis*-complex" (and the Tiphiinae) in several refugia, where they evolved into different species. Moreover, during interglacial episodes, sea transgressions and formation of large inland fresh-water lakes in Argentina occurred (cf. Vuilleumier, *op. cit.*, fig. 2), that may have produced new splittings of the populations in those areas. As it is known that at least 3 glaciations occurred in the area under discussion, with an equivalent number of interglacial episodes, it is easy to understand the high number of congeneric species found in comparatively small areas (5 species of *Prolepsis* and 6 of *Tiphia* (*Tiphia*) have been found in the Tucumán province of northwestern Argentina, the smallest of the country).

This apparent "burst" of species in the Andean-Patagonian open vegetation zones could be explained in a different manner, following La Greca's (1971: 22) ideas of speciation for the fauna of open formations of Africa:

"Toute cette pullulation d'espèces et de races est un cas typique d'evolution explosive par radiation adaptative, qui n'a rien à envier pour son extension aux classiques pinsons de Darwin des îles Galapagos et qui constitue une confirmation ultérieure du fait que, dans les milieux âpres (surtout si ils sont caractérisés par une notable hétérogénéité à mosaïque du sol et de la végétation) les consummateurs primaires, contraints pour survivre à exploiter la moindre disponibilité de nourriture, se distribuent dans les niches écologiques les plus différents qu'offre l'écosystème, en fractionnant la compétition et en stimulant la spéciation.

La savane africaine offre précisément toutes ces conditions particulières: [...] La savane donc n'est pas une biocénose, mais un ensemble de communautés qui ne sont pas des systèmes clos, mais qui se complètent les uns avec les autres et qui offrent de notables possibilités d'échange avec les écosystèmes voisins."

However, I believe that the first explanation, based on a model of classical geographical speciation, is less complicated and more likely to have occurred.

Why the same process did not occur with *tristis* (living in similar conditions in the southern United States and Mexico) may be explained by its comparatively recent arrival to that zone. *Tristis* is presently undergoing a process of spliting in at least two major populations, one located on most of the southern United States, the other from Arizona south to eastern Mexico (see discussion under *P. tristis* for

more details). The assumption that *tristis* arrived rather recently to North America may be supported by the fact that it has had no time to evolve as a separate genus.

As no "*Prolepsis*-complex" specimen has ever been recorded from the Central or South American rain forests, it seems safe to admit that these are a strong ecological barrier for those species, and the easiest way to explain their crossing the Amazonian area is postulating that it happened during the rain forest retreat periods.

TAXONOMIC TREATMENT

KEY TO GENERA AND SPECIES OF THE "Prolepsis-COMPLEX" BASED ON EXTERNAL MORPHOLOGICAL CHARACTERS

1. Third antennal segment long, almost four times longer than segments 1 and 2 together, somewhat curved, with apical pit; facial gibbosity gently rounded; proboscis dorsoventrally flattened, middorsal keel inconspicuous (*Cylicomera*) 2

   Third antennal segment never more than three times longer than segments 1 and 2 together, straight, with apical microsegment or pit; facial gibbosity abruptly convex; proboscis laterally compressed; middorsal keel evident (*Prolepsis*) 3

2. Abdominal tergites black to dark reddish brown, never red; legs black or orange; pile and bristles generally white .... *dissona*, sp. n.

   Abdominal tergites 3-4 (♂) or usually 2-8 (♀) almost wholly red; legs black to dark reddish brown, never orange; pile and bristles generally black .. *rubrofasciata* Lynch Arribálzaga

3. Third antennal segment laterally compressed, in the middle broader than remainder of antenna; mesonotum with four, more or less triangular, white pollinose spots; subcostal cell commonly with supernumerary veins ..... *lucifer* (Wiedemann)

   Not as above 4

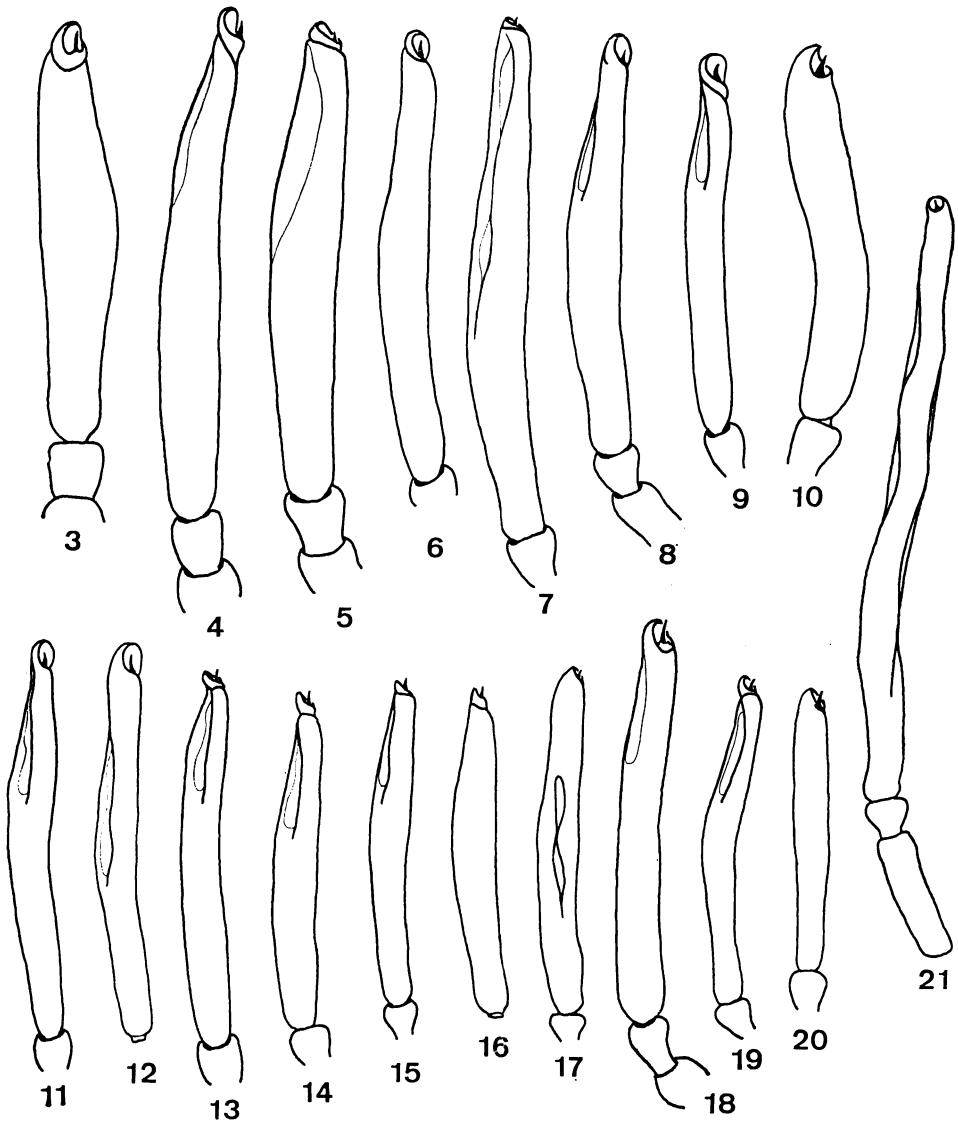
4. Wings dark, with lighter wedge-shaped portion on middle; first abdominal tergite with a white pollinose band on hind margin; a predominantly black species ..... *rosariana* (Carrera)

   Not as above 5

5. Mesotonum brick-red; a black round spot on disc of scutellum, extended into a triangular black spot on hind margin of mesoscutum; middle femora with patch of stout spines .... *costaricensis*, sp. n.

   Not as above 6

6. Abdominal tergites 2-3 dark brownish red with red posterior margin; tergites 4-6 orange red with reddish brown lateral margins; tergites 7-8 dark brownish red with a middorsal



Third antennal segment. 3, *P. lucifer* (Wiedemann) ♂; 4, *P. funebris*, sp. n.; 5, *P. crabroniformis* (Schiner); 6, *P. rosariana* (Carrera) (Argentina, Córdoba); 7, *P. indecisa*, sp. n.; 8, *P. tristis* (Walker) ♂; 9, *P. fenestrata* (Macquart) ♂; 10, *P. fenestrata* (Macquart) ♀; 11, *P. rosariana* (Carrera) (Brazil, Paraná); 12, *P. costaricensis*, sp. n.; 13, *P. huatajata*, sp. n., ♀; 14, *P. fax* (Lynch Arribálzaga); 15, *P. pluto* (Lynch Arribálzaga); 16, *P. pseudopluto*, sp. n.; 17, *C. dissona*, sp. n., ♂; 18, *P. elotensis* (Martin); 19, *P. colalao*, sp. n., ♂ (Argentina, San Pedro de Colalao); 20, *P. colalao*, sp. n., ♂ (Argentina, San Pedro de Colalao); 21, *C. rubrofasciata* Lynch Arribálzaga, ♀.

orange red band; wings yellowish brown, with apical third and posterior margin dark brown ..... *pseudopluto,* sp. n.

Not as above 7

7. Wings clear, at most a yellowish brown tinge on costal margin .. 8
Wings dark 12

8. Abdomen and legs black, the former sometimes with white pollinose bands 9

Not as above 11

9. Ventral side of anterior and middle femora and tibiae with very long, fine, and abundant pile ..... *huatajata,* sp. n.

Pile on anterior and middle femora and tibiae not especially long or fine 10

10. A conspicuous white pollinose band around lateral margins of mesonotum and posterior edge of scutellum: white pollinose bands on abdominal tergites 1-4; wings slightly tinged with dark brown along the veins ..... *indecisa,* sp. n.

Without pollinose bands either on thorax or abdomen; wings tinged with yellowish brown on costal margin ..... *martini,* sp. n.

11. Pile and bristles mostly orange red; abdominal tergites 4-8 orange red, 1-3 black, sometimes with orange red spots .... *fax* (Lynch Arribálzaga)

Pile and bristles black, white, or mixed black and white, never orange red; abdomen wholly black, or posterior tergites red; legs black or red ..... *huatajata,* sp. n.

12. Thorax wholly black 13

Thorax red with at least one longitudinal, middorsal black stripe 16

13. A well developed patch on middle femora 14

Middle femora without patch 15

14. No pollinose bands on abdominal tergites; wings with basal half yellowish brown and distal half dark brown .. *funebris,* sp. n.

Abdominal tergites 2-6 with bands or spots of white and brown pollinosity; wings wholly dark brown .... *elotensis* (Martin)

15. Abdomen wholly black (females) or with white pollinose bands on tergites 1-4 (males), never with red tergites .... *colalao,* sp. n.

Males; abdomen wholly black with white pollinose bands or spots on tergites 2-3, or tergites 1-2 black and 3-8 red, with white pollinose bands or spots on tergites 2-3 .... *tristis* (Walker)

Abdomen with tergites 1-3 black, 4-8 red, without white pollinose bands ..... *pluto* (Lynch Arribálzaga)

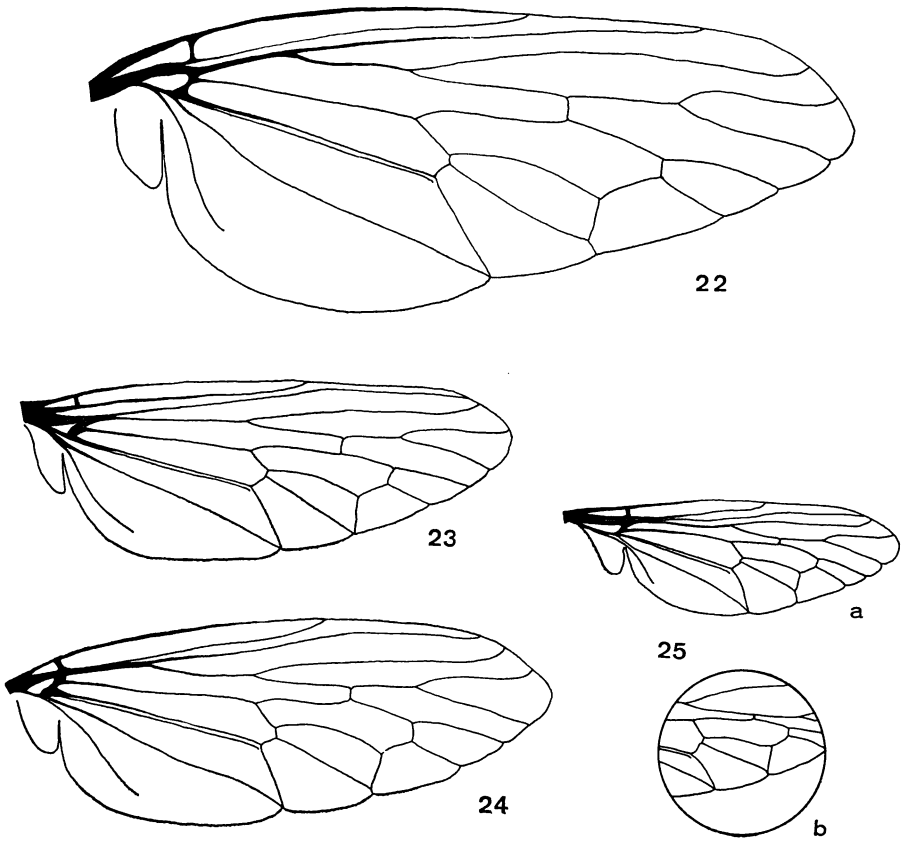
16. A well developed patch on middle femora 17

Middle femora without patch 21

17. Basal half of wings yellowish brown, apical half dark brown .. 18
Wings uniformly dark brown or with posterior margin lighter . 19

18. Third antennal segment slightly more than twice segments 1 and 2 together, with apical pit; mesonotum yellowish brown, black-spotted; legs yellowish brown (Cuba) .... *chalcoprocta* (Loew)
Third antennal segment three times longer than segments 1 and 2 together, with spoon-shaped microsegment; mesonotum reddish brown, black-spotted; legs red (S. Brazil and Argentina) ..... *crabroniformis* (Schiner)

19. Legs wholly reddish brown; discal cell almost transparent, lighter than remainder of wing ..... *fenestrata* (Macquart)



Wings. 22, *P. crabroniformis* (Schiner); 23, *P. costaricensis*, sp. n.; 24, *P. huatajata*, sp. n., ♂; 25, *C. dissona*, sp. n.: (a) female; (b) detail of hind margin of male wing, showing short petiole of fourth posterior cell.

Legs reddish brown or with dark femora; discal cell concolorous with remainder of wing 20

20. Females: scutellar disc bare; femora black anteriorly .... *sandaraca* (Martin)

Females: scutellar disc with sparse, long, thin pile; femora wholly reddish or darkened dorsally ..... *tristis* (Walker)

21. Females: abdomen wholly black ..... *colalao*, sp. n.

Abdomen at least with some reddish tergites 22

22. Females: abdominal tergites 2-5 with yellowish pollinose bands; wings darkened uniformly ..... *tristis* (Walker)

Abdominal tergites 2-3 with white pollinose bands or spots; wings with anterior margin darker, discal cell almost transparent .. .. *fenestrata* (Macquart)

KEY TO MALES OF THE "PROLEPSIS-COMPLEX", BASED ON GENITALIA

1. Aedeagus with lateral expansions resembling wings, giving to its middle portion a rhomboidal appearance 2

Aedeagus without such lateral expansions 4

2. Hypandrium with long, slender lateral processes .... *Prolepsis huatajata*, sp. n.

Hypandrium without such lateral processes 3

3. Hypandrium triangular, without lateral or apical processes .... *P. colalao*, sp. n.

Hypandrium with three small processes, one apical and two lateral ..... *P. fax* (Lynch Arribálzaga)

4. Hypandrium with an apical process of varied length 5

Hypandrium without apical process 10

5. Apical process of hypandrium as long or longer than dististylus 6

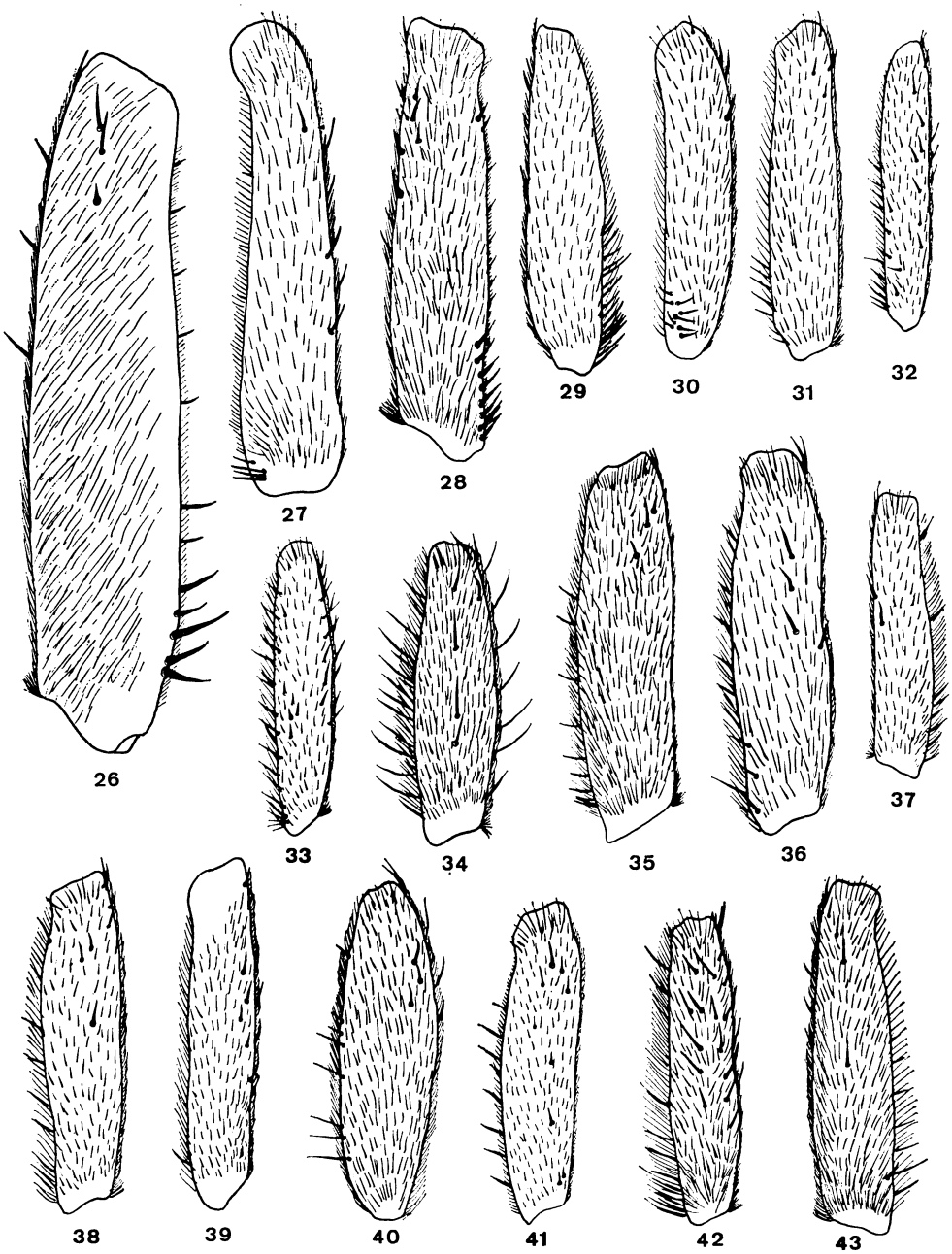
Apical process of hypandrium shorter than dististylus 7

6. Apical process of hypandrium broad, borders strongly undulated ..... *P. fenestrata* (Macquart)

Apical process of hypandrium slender, slightly undulated .... *P. rosariana* (Carrera)

7. Hypandrium triangular, without lateral processes, apical process very small ..... *P. chalcoprocta* (Loew)

Hypandrium with or without small lateral processes, apical process medium-sized 8



Outer face of anterior femora (R = right femur; L = left femur). 26, *P. funebris,* sp. n., R; 27, *P. lucifer* (Wiedemann), L; 28, *P. crabroniformis* (Schiner), R; 29, *P. elotensis* (Martin), R; 30, *P. chalcoprocta* (Loew), L; 31, *P. costaricensis,* sp. n., L; 32, *P. pseudopluto,* sp. n., L; 33, *P. martini,* sp. n., L; 34, *C. rubrofasciata* Lynch Arribálzaga, L; 35, *P. tristis* (Walker), L; 36, *P. colalao,* sp. n., L; 37, *P. pluto* (Lynch Arribálzaga), R; 38, *P. indecisa,* sp. n., L; 39, *P. fax* (Lynch Arribálzaga); L; 40, *C. dissona,* sp. n., L; 41, *P. fenestrata* (Macquart), L; 42, *P. huatajata,* sp. n., L; 43, *P. rosariana* (Carrera), R.

8. Hypandrium sharp-cornered at base, in lateral view .... *P. indecisa,* sp. n.

   Hypandrium rounded at base, in lateral view 9

9. Epandrium with small apical process; apical process of hypandrium well developed ..... *P. tristis* (Walker)

   Epandrium without apical process; apical process of hypandrium poorly developed ..... *P. elotensis* (Martin)

10. Basistylus with a small lamella on inner margin; apex of dististylus sharp ..... *P. lucifer* (Wiedemann)

    Basistylus without a lamella on inner margin; apex of dististylus blunt 11

11. "Seitenfortsatz" of basistylus slender; aedeagus much broadened on middle portion ..... *Cylicomera dissona,* sp. n.

    "Seitenfortsatz" stout; aedeagus slightly broadened on middle portion ..... *C. rubrofasciata* Lynch Arribálzaga

Genus **Cylicomera** Lynch Arribálzaga

Cylicomera Lynch Arribálzaga, 1881: 115. Type-species, *rubrofasciata* Lynch Arribálzaga, by subsequent designation (Hull, 1962: 137); Williston, 1891: 70; Kertész, 1909: 148; Hull, 1962: 135, figs. 181, 478, 1034, 1043; Martin & Papavero, 1970: 15.

Diagnosis: Small-sized Stenopogonini (*sensu* Hull, 1962), characterized by the very long, slender, and undulated third antennal segment, almost four times longer than segments 1 and 2 together, with apical pit; facial gibbosity gently rounded; proboscis dorsoventraliy flattened, without conspicuous middorsal keel; acrostical bristles absent or reduced; no cluster of heavy bristles or spines on anterior and middle femora; and a cylindroid abdomen, shorter than wings, parallel-sided in males and slightly tapered apically in females.

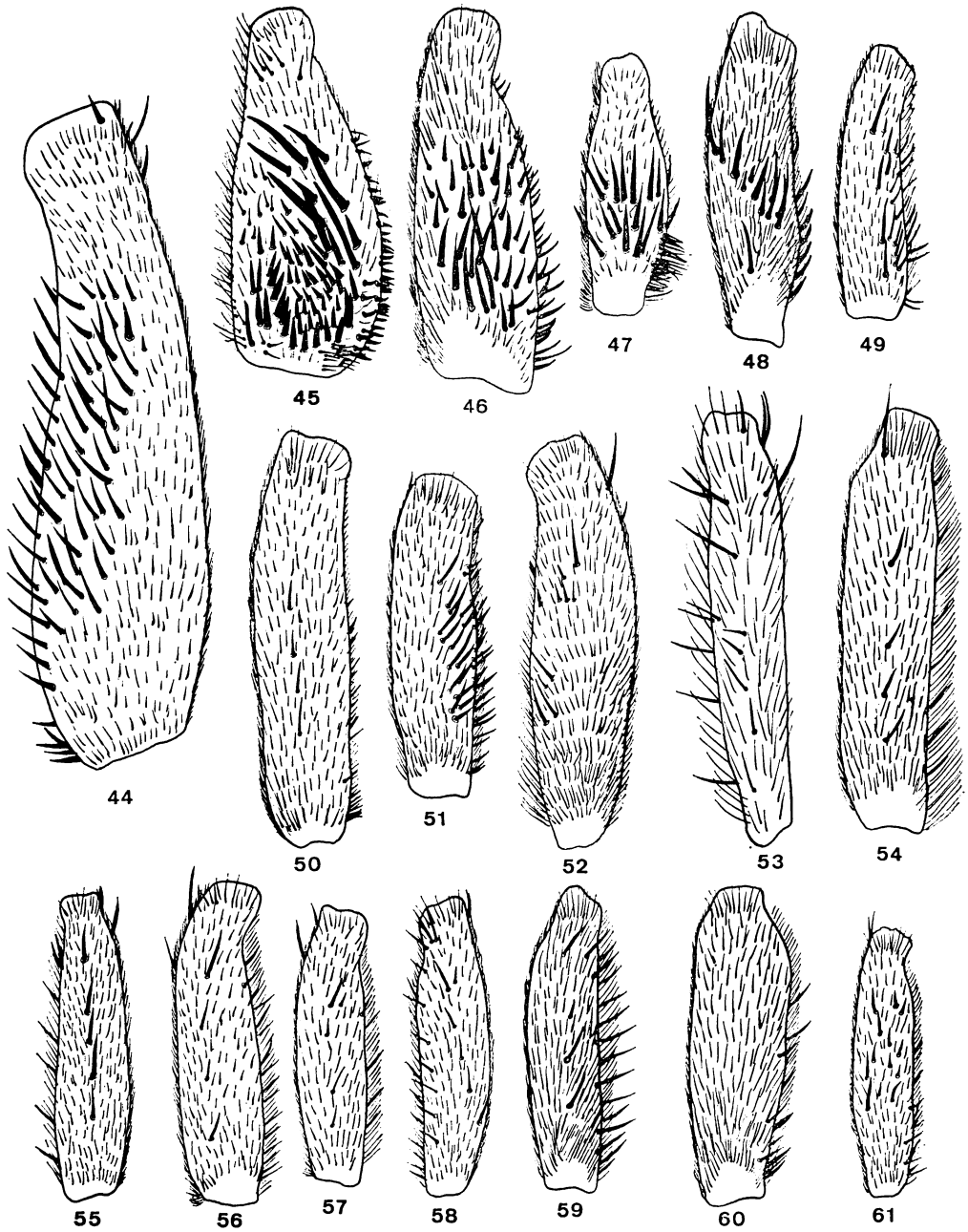
Cylicomera rubrofasciata Lynch Arribálzaga

(Figs. 21, 34, 58, 95-97)

Cylicomera rubrofasciata Lynch Arribálzaga, 1881: 119. Type-locality: Argentina, Buenos Aires, Chascomús and Chacabuco. Lectotype, MBR.

Cylicomera fraterna Lynch Arribálzaga, 1881: 117. Type-locality: Argentina, Buenos Aires, Chacabuco, Lectotype, MBR. *Syn. n.*

Cylicomera rubrofasciata; Lynch Arribálzaga, 1883: 141; Williston, 1891: 70, Brèthes, 1907: 286; Kertész, 1909: 148; Hull, 1962; 137, figs. 478 (wing), 1034, 1043 (head); Martin & Papavero, 1970: 15.



Inner face of middle femora (R = right femur; L = left femur). 44, *P. funebris,* sp. n., R; 45, *P. lucifer* (Wiedemann), L; 46, *P. crabroniformis* (Schiner), L; 47, *P. elotensis* (Martin), L; 48, *P. chalcoprocta* (Loew), L; 49, *P. costaricensis,* sp. n., L; 50, *P. tristis* (Walker), L; 51, *P. fenestrata* (Macquart), L; 52, *P. rosariana* (Carrera), R; 53, *P. huatajata,* sp. n., R; 54, *P. colalao,* sp. n., L; 55, *P. fax* (Lynch Arribálzaga), R; 56, *P. indecisa,* sp. n., L; 57, *P. pluto* (Lynch Arribálzaga), L; 58, *C. rubrofasciata* Lynch Arribálzaga, R; 59, *P. martini,* sp. n., L; 60, *C. dissona,* sp. n., L; 61, *P. pseudopluto,* sp. n., L.

Cylicomera fraterna; Lynch Arribálzaga, 1883: 141; Williston, 1891: 70; Brèthes, 1907: 286; Kertész, 1909: 148; Hull, 1962: 137; Martin & Papavero, 1970: 15.

Male - Length: 9 mm; wing length: 7 mm.

Head black; face, frons, vertex and occiput black, sparsely yellowish pollinose; antennae black, first segment 2.5 times longer than second, third segment long, slender, slightly undulated, almost four times longer than segments 1 and 2 together, with an apical pit with black spine; mystax mixed black and white, covering almost completely the whole length of face; bristles of antennae, frons and ocellar tubercle black; occipital bristles black, some white on upper margin; beard mixed black and white; palpi black, bristles black; proboscis black, reddish on apex.

Thorax black; mesototum black, sparsely white pollinose; pile and bristles black; scutellum black, 6 black marginal bristles; pleura black, yellowish pollinose spots above coxae, laterotergal bristles black; halteres reddish yellow.

Abdomen: Tergite 1 black, white pollinose, lateral bristly hairs black; tergite 2 dark reddish brown, hind margin reddish; tergites 3-4 red, tergites 5-7 brownish black, with a longitudinal, middorsal red band, broader on tergite 5 and narrower on 7; sternites dark reddish brown, second to fourth reddish; pile black; genitalia brownish black with mixed black and yellowish white hairs.

Legs: Coxae black, anterior pair with mixed black and white bristles, middle and hind pairs with black bristles; remainder of leg black; pile white with some black hairs intermixed, bristles black, some white; basal fourth of claws reddish, remainder black; pulvilli grayish yellow.

Wings brown, center of cells lighter; veins dark brown; costal hairs black; fourth posterior cell closed and petiolate; anal cell closed.

Female - Length: 12 mm; wing length: 10 mm.

Similar to male; tergites 5-7 dark reddish brown with a longitudinal, middorsal red band, narrower on tergite 5 and broader on seventh; wings usually darker.

Material examined: 44 specimens (23 ♂♂, 21 ♀♀)

ARGENTINA. *Buenos Aires*: 1 ♀, Chacabuco (lectotype of *fraterna*) (MBR); 2 ♂♂, Buenos Aires (MBR); 1 ♀, Piletas de los Tres Picos (MZUSP); 1 ♂, Tandil, Cerro Claray (MBR); 1 ♂, Tandil, 250 m (MZUSP). *Cordoba*: 2 ♀♀, El Sauce, Calamuchita (MBR); 1 ♀, Villa de María (MZUSP). *Chaco*: 4 ♂♂, 2 ♀♀, Resistencia (MBR), *Jujuy*: 1 ♀, Jujuy (MBR). *La Pampa*: 1 ♀, Pampa Central (MBR). *Misiones*: 1 ♀, Misiones (MBR). *San Luis*: 1 ♂, Potrero de los Funes (MBR). *Santa Fé*: 1 ♀, Las Garzas (MZUSP). *Santiago*

del Estero: 2 ♂♂, 2 ♀♀, Averías (MZUSP, PARIS); 1 ♀, Bandera (PARIS). *Tucumán*: 1 ♂, San Pedro de Colalao (MZUSP).

BRAZIL. *Minas Gerais*: 1 ♂, Santa Bárbara, Serra Caraça, 1380 m (MZUSP); 1 ♀, Araguari (MZUSP); 1 ♀, Arceburgo (MZUSP).

PARAGUAY. *Concepción*: 1 ♂, Concepción (USNM). *Guaira*: 2 ♂♂, 2 ♀♀, Villarrica (MCZ, MZUSP, USNM). *La Cordillera*: 2 ♂♂, 2 ♀♀, San Bernardino (MUN, USNM, WIEN).

NO DATA. 4 ♂♂, 2 ♀♀ (1 ♀, lectotype of *rubrofasciata*) (MBR, OXF).

Remarks: Lynch Arribálzaga (1881) separated *rubrofasciata* from *fraterna* based on differences of shape and length of antennae, color-pattern of body pile and bristles, and color-pattern of wings. I have not found any reliable differences between them. Moreover, there is a gradation between the characters employed by Lynch Arribálzaga to separate these species.

First antennal segment 2.5-3 times longer than first, third segment more or less undulated; beard bristles black, or mixed black and white; 4-8 black or white marginal scutellar bristles; laterotergal bristles black or white; bristly hairs on first abdominal tergite black or white; tergites 3-4 red, sometimes with dorsal dark brown spots; abdominal pile black or mixed black and white; wing color-pattern ranging from almost uniformly dark brown to light brown (females) or almost transparent (males), with apical third and costal margin darker; fourth posterior cell closed and petiolate, or narrowly open; anal cell closed or narrowly open; anterior coxae with white or mixed black and white bristles.

None of these characters were observed to correlate with geographical distribution, and their differences do not allow a separation of the specimens examined in two or more groups. *Fraterna* is an absolute synonym of *rubrofasciata*.

Cylicomera dissona, sp. n.

(Figs. 17, 25, 40, 60, 98-100)

A small species, characterized by the black abdomen with violet-blue metallic shine, and the predominantly white body pile and bristles.

Male - Length: 10 mm; wing length: 7.5 mm.

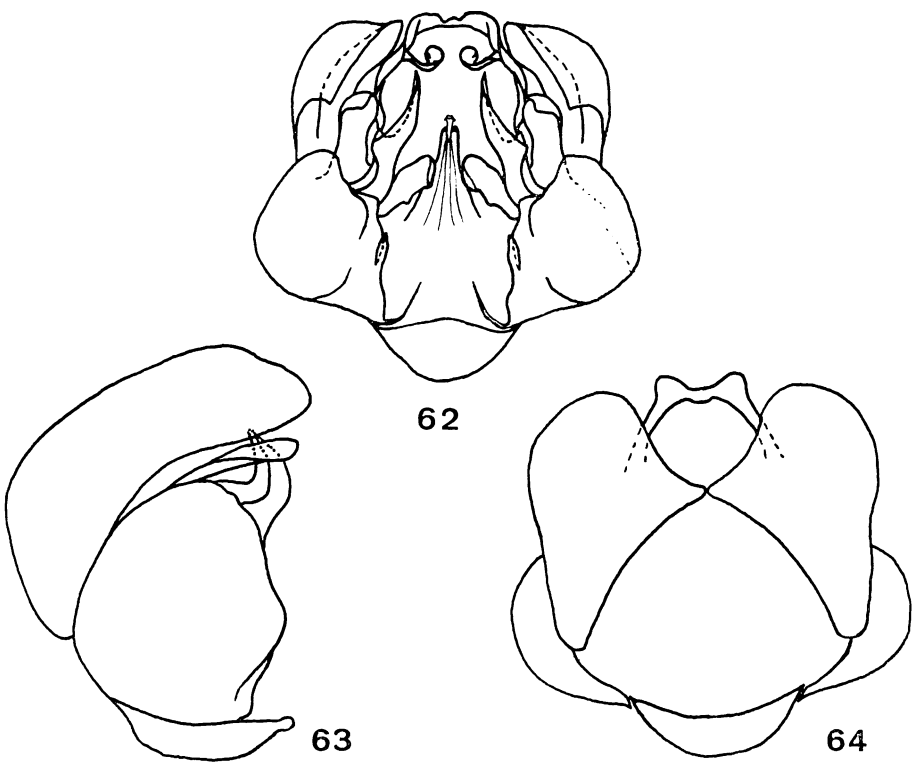
Head black, face bright white tomentose; vertex dirty white pollinose; frons and occiput white tomentose; first and second antennal segments black, third segment black with yellowish white pollinosity; first segment 2.5 times longer than second, third segment almost four times longer than segments 1 and 2 together, with apical pit with

black spine; mystax pure white, covering almost completelly the whole length of face; bristles of antennae, frons and ocellar tubercle mixed black and white; bristles of occiput and beard pure white; palpi black, bristles black; proboscis short, black.

Thorax grayish white, dirty white pollinose, pile and bristles white, some black bristles on lateral sides of pronotum humeral calli, and posterior fourth of mesoscutum; scutellum black, white pollinose, 8 white marginal bristles; pleurae black, yellowish pollinose, laterotergal bristles white; halteres reddish yellow.

Abdomen black with violet-metallic shine, dirty yellowish white pollinose, except for two small, bare triangular portions on antero-lateral angles of tergites 2-5; sternites black, dirty white pollinose on distal half; pile and bristly hairs bright white, some black hairs intermixed; genitalia black with black and some white hairs.

Legs: Coxae black, yellowish white pollinose, with white bristles; femora orange, tibiae and tarsi dark reddish brown; pile white, bristles black; basal third of claws reddish, remainder black; pulvilli reddish brown.



P. lucifer (Wiedemann), ♂ genitalia: 62, ventral view; 63, lateral view; 64, dorsal view.

Wings clear, slightly tinged with brown; veins dark brown; costal hairs white; fourth posterior cell closed and petiolate; anal cell closed.

Female - Length: 10 mm; wing length: 7.5 mm.

Very similar to male; fourth posterior cell petiole always well developed and conspicuous.

Type-material: All from Argentina. Holotype ♂, San Pedro de Colalao, Tucumán, II.1949 (Arnau); 2 ♂♂ and 1 ♀ paratypes, same data as holotype (II.1948-I.1949); 1 ♀ paratype, San Pedro de Colalao, Tucumán (Terán); 1 ♂ paratype, Estancia Aráoz, Tucumán, 8.I.1924; 2 ♂♂ paratypes, Rio Colorado, Rio Negro, 13-21.XI.1946 (Hayward & Willink); 1 ♀ paratype, Felipe Solá, Buenos Aires, 1.1954 (Martínez); 1 ♀ paratype, Mistol, Santiago del Estero, 1918 (Wagner); 1 ♂ paratype, Icaño, Santiago del Estero, 1904 (Wagner), all in MZUSP. 1 ♂ and 3 ♀♀ paratypes, Chubut (Burmeister), in MBR. 1 ♂ paratype, Icaño, Santiago del Estero, 1904 (Wagner); 1 ♀ paratype, Mistol, Santiago del Estero, 1908 (Wagner); 1 ♀ paratype, La Paliza, Santiago del Estero, 1903 (Wagner), in PARIS.

Remarks: There is slight variation in some characters: mystax black or white; 6-10 marginal scutellar bristles; abdomen black to dark reddish brown; fourth posterior cell petiole usually poorly developed or absent in males; femora orange or black, tibiae and tarsi dark reddish brown to black.

Genus **Prolepsis** Walker

Prolepsis Walker, 1851: 101. Type-species, *fumiflamma* Walker (mon.) = *lucifer* (Wiedemann).

Prolepsis; Walker, 1854: 436; Schiner, 1866: 672, 702; Lynch Arribálzaga, 1881: 26; Williston, 1891: 70; Kertész, 1909: 147; Bromley, 1932: 263; Carrera, 1950a: 107; Carrera, 1950b: 85; Hull, 1962: 138, figs. 187, 459, 919, 928, 1763, 1766, 1947; Martin & Papavero, 1970: 15; Artigas, 1970: 165.

Cacodaemon Schiner, 1866: 671, 678, 702. Type-species, *Dasypogon lucifer* Wiedemann (orig. des.: junior homonym of *Cacodaemon* Thomson, 1857).

Dizonias Loew, 1866: 29. Type-species, *phoenicurus* Loew (Coquillett, 1910: 534) = *tristis* (Walker). *Syn. N.*

Sphageus Loew, 1866: 32. Type-species, *chalcoproctus* Loew (mon.). *Syn. N.*

Dizonias; Schiner, 1866: 846; Osten Sacken, 1874: 180; Osten Sacken, 1878: 68; Williston, 1883: 2; Osten Sacken, 1887: 169; Williston, 1888: 31; Williston, 1891: 69; Williston, 1896: 55; Aldrich, 1905: 257; Williston, 1908: 109; Kertész, 1909: 148; Back, 1909: 218; Coquillett, 1910: 534; McAtee & Banks, 1920: 18; Bromley, 1934: 78, 81; Curran, 1934: 175; Carrera, 1950a: 106; Carrera, 1950b:

85; Hull, 1962: 133, figs. 110, 471, 951, 960, 1770, 1773, 1927; Martin & Wilcox, 1965: 372; Martin & Papavero, 1970: 14.

Sphageus; Schiner, 1866: 847; Osten Sacken, 1874: 179; Osten Sacken, 1878: 68; Williston, 1888: 31; Aldrich, 1905: 256; Back, 1909: 211; Kertész, 1909: 82; Coquillett, 1910: 607: Bromley, 1929: 277; Curran, 1934: 175; Hull, 1962: 137, figs. 117, 474, 912, 921, 1576A-B, 1740, 1901, 2051, 2055; Martin, 1966: 215; Martin & Papavero, 1970: 15.

Tolmerolestes Lynch Arribálzaga, 1881: 27. Type-species, *fax* Lynch Arribálzaga (*D. lax,* lapsus; Kirby, 1882: 243). *Syn. N.*

Tolmerolestes; Williston, 1891: 70; Kertész, 1909: 148; Gemignani, 1936: 44, pl. 4; Carrera, 1950a: 107; Carrera, 1950b: 85; Hull, 1962: 134, figs. 113, 472, 913, 922, 1922, 1968; Martin & Papavero, 1970: 15.

Cacodaemonides Strand, 1928: 48. Type-species, *Dasypogon lucifer* Wiedemann (aut.) (Unn. *nom. nov.* for *Cacodaemon* Schiner).

Diagnosis: Medium-sized Stenopogonini (*sensu* Hull, 1962) characterized by the long, slender third antennal segment, with apical pit or spoon-shaped microsegment; numerous bristles on head and legs; proboscis laterally compressed, with middorsal keel; acrostical bristles well developed; cylindroid abdomen, shorter than wings, parallel-sided in males and slightly tapered apically in females; and broad wings, usually much darkened.

Prolepsis indecisa, sp. n.

(Figs. 7, 38, 56, 71-73)

Very similar to *P. rosariana* (Carrera), distinguished by the absence of an apical process on hypandrium and without wedge-shaped transparent portion on wings.

Male - Length: 19 mm; wing length 16 mm.

Head dark brown; face, frons, vertex and occiput dark brown, white pollinose; antennae dark reddish brown, third segment almost black, sparsely yellowish pollinose; first segment 2 times longer than second, third segment 2.5 times longer than segments 1 and 2 together, with a very small microsegment, with black spine; mystax yellowish white with some black bristles intermixed, covering three-fourths of face; antennal and ocellar tubercle bristles black; bristles of frons, occiput and beard black with some white intermixed; palpi dark yellowish brown, bristles black; proboscis black, reddish below.

Thorax dark brown, slightly white pollinose, a conspicuous white pollinose stripe around lateral margins; humeral and postalar calli reddish; pile and bristles black; scutellum dark reddish brown, a conspicuous white pollinose stripe on posterior edge and 4 black mar-

ginal bristles; pleurae black, white pollinose spots above coxae, laterotergal bristles mixed black and white; halteres yellowish brown.

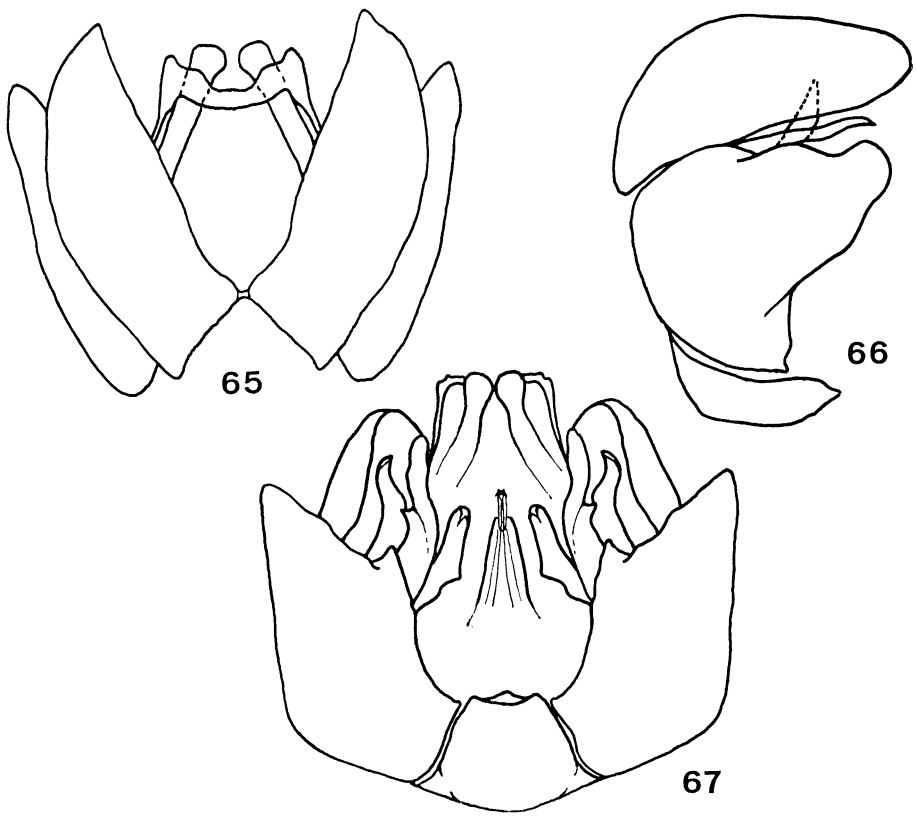
Abdomen black with violet-blue metallic shine; short white pollinose stripes on lateral sides of hind border on tergites 1-4, their inner end touching on middorsal line, remainder of abdomen black; bristly hairs on tergites 1 and 2 mixed yellowish white and black, pile mixed black and white; genitalia black, hairs white and some black intermixed.

Legs dark reddish brown, coxae lighter, with white bristles; pile and bristles black; claws black, basal end reddish; pulvilli reddish yellow.

Wings clear, slightly tinged with dark brown, darker on costal margin; veins dark brown; forth posterior cell closed and petiolate; anal cell closed.

Female: Unknown.

Type-material: All from Argentina. Holotype ♂, Tucumán, Tucumán, XI.1946 (Cordoba); 1 ♂ paratype, San Ramón, Tucumán,



P. clotensis (Martin), ♂ genitalia: 65, dorsal view; 66, lateral view; 67, ventral view.

XI.1947 (Garcia); 3 ♂♂ paratypes, La Rioja, 1919 (Séguy), all in MZUSP. 1 ♂ paratype, Catamarca (Gómez); 3 ♂♂ paratypes, Concepción de Catamarca, Catamarca, III. 1928 (Gómez); 1 ♂ paratype, Jujuy (Spegazzini); 1 ♂ paratype, La Rioja (Giacomelli), in MBR. 4 ♂♂ paratypes, La Rioja, 1919 (Séguy): 1 ♂ paratype, Icaño, Santiago del Estero, 1909 (Wagner), in PARIS. 1 ♂ paratype, Tambo de Pucará, Catamarca, 6.I.1968 (Willink, Willink & Chani); 1 ♂ paratype, Belén, Catamarca, 27.I.1960 (Tomsic & Willink), in IML.

Remarks: The body pile and bristles may be black, white, or mixed black and white.

Prolepsis huatajata, sp. n.

(Figs. 13, 24, 42, 53, 80-82)

Tolmerolestes pluto; Carrera, 1959: 2 [misident.]

The males of *huatajata* are very similar to those of *indecisa*, but lack the pollinose spots on abdominal tergites and have the middle portion of the aedeagus resembling a rhomboid. The females are very similar to *pluto, pseudopluto, colalao* and *martini*, but may be distinguished through the following features; absence of patch on anterior femora, a spoon-shaped microsegment on third antennal segment, mesonotum completely black, usually some abdominal tergites red, never with pollinose fasciae, bands or spots on abdomen, and very long and fine pile on anterior and middle femora and tibiae below.

Male - Length: 18 mm; wing-length: 15 mm.

Head black; face yellowish white pollinose; vertex, frons and occiput dirty white pollinose; antennae black, segment 3 slightly dark reddish brown at basal end; first segment twice the length of the second, third segment 2.5 times longer than segments 1 and 2 together, with spoon-shaped microsegment with black spine; mystax pure white with some black bristles, covering almost completely the whole length of face; bristles of antennae, frons, ocellar tubercle and beard black; occipital bristles black; proboscis black with reddish apex.

Thorax grayish black, sparsely dirty white pollinose, pile and bristles black, some white bristles on postalar calli; scutellum black, 6-8 marginal bristles; pleurae black, dirty yellowish white pollinose, pteropleurae slightly dark red, laterotergal bristles black; halteres reddish yellow.

Abdomen black with strong violet-blue metallic shine; hind border of tergites 1-4 yellowish red; sternites black; pile and bristles black; genitalia black, hairs black.

Legs reddish black; pile mixed black and white, very long, fine and abundant on ventral side of anterior and middle femora and tibiae,

bristles black, some white; basal third of claws reddish, remainder black; pulvilli grayish yellow.

Wings clear, slightly grayish brown; veins dark reddish brown; fourth posterior cell closed and petiolate; anal cell closed.

Female - Length: 17 mm; wing length: 14 mm.

Similar to male; coxal bristles mixed black and white; legs red or dark reddish brown (excluding coxae, which are reddish black); many specimens show red abdominal tergites as in *pluto* and *pseudopluto,* others have a black or dark reddish brown abdomen.

Type material

BOLIVIA. *La Paz*: Holotype ♂, Huatajata, Lago Titicaca, 4000 m, 15.I.1954 (Forster); 1 ♂ paratype, La Paz, 4000-4500 m, 4.III.1952 (Forster); 1 ♀ paratype, Lequepalca, 3250 m, 14.I.1949, all in MZUSP.

CHILE. 1 ♂ paratype, "Chili" (MUN).

PERU. *Cuzco*: 1 ♂, 2 ♀♀ paratypes, La Huerta, 3800 m, XI.1955 (Peña); 1 ♀ paratype, Urubamba, 15.I.1965 (Carrasco); 1 ♀ paratype, Cuzco, 6.II.1970 (Carrasco); 1 ♀ paratype, Lucre, 25.IX.1964 (Carrasco), all in MZUSP; 4 ♂♂ paratypes, Limatambo, 10.IV.1967 (Carrasco); 1 ♀ paratype, Lucre, 21.IV.1968 (Carrasco); 1 ♂ paratype, Urubamba, 8.II.1968 (Carrasco); 1 ♂ paratype, Kosñipata, 6.VIII.1966 (Carrasco), in SAA. *Puno*: 1 ♂ paratype, Juliaca, 20.II. 1969 (Carrasco); 1 ♂ paratype, Puno, in MZUSP; 1 ♂, 1 ♀ paratypes, Puno (JW); 1 ♂ paratype, Puno (German) (USNM); 1 ♀ paratype, same data (MCZ); 1 ♀ paratype, Juliana, 20.II.1969 (Carrasco) (SAA).

NO DATA. 1 ♀ paratype (MCZ).

Remarks: The body pile and bristles may be black, white, or mixed black and white. The anal cell may be narrowly open.

Prolepsis martini, sp. n.

(Figs. 33, 59)

A black species with strongly shining violet-blue abdomen, and clear wings, the latter slightly tinged with yellowish brown.

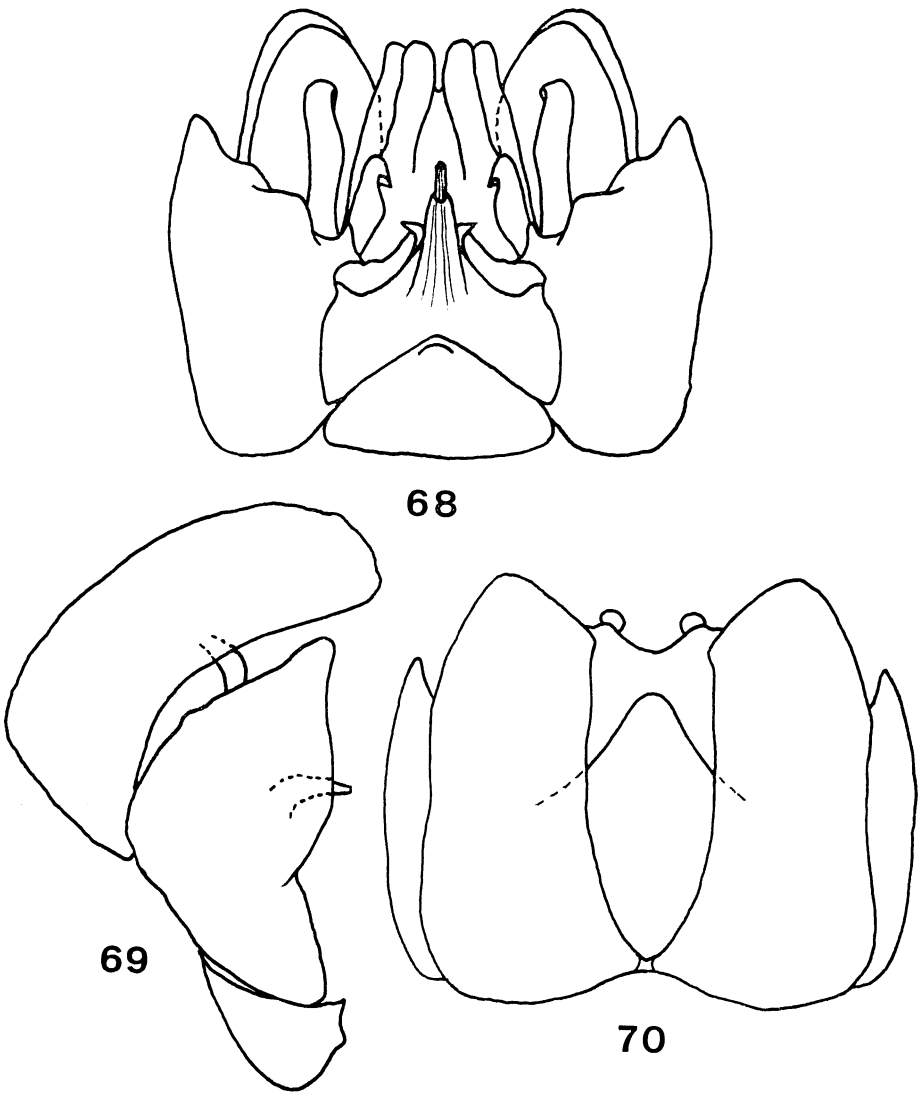
Female - Length: 17 mm; wing length: 15 mm.

Head black; face, frons, vertex and occiput black, white pollinose; antennae black, third segment with basal end and a well developed microsegment reddish; first segment twice the second, third segment almost three times longer than segments 1 and 2 together; mystax black, covering almost completely the length of face; bristles of antennae,

frons, ocellar tubercle, occiput and beard black; palpi dark reddish brown, bristles black; proboscis black above and reddish below.

Thorax black, humeral and postalar calli reddish; pile and bristles black; scutellum black, 6 marginal bristles; postscutellum black; pleurae black, laterotergal bristles black; halteres reddish yellow, basal portion darker.

Abdomen black with strong violet-blue metallic shine, tergites with reddish hind border, a small, oval, white pollinose spot on each latero-



P. chalcoprocta (Loew), ♂ genitalia: 68, ventral view; 69, lateral view; 70, dorsal view.

posterior angle of tergite 3; sternites dark reddish brown; pile and bristly hairs black.

Legs dark reddish brown, coxae dirty white pollinose; pile and bristles black, short reddish hairs on ventral side of tarsi; anterior femora with a patch of stout black spines on basal half of ventral side, and the suggestion of a patch on middle femora; basal two-fifths of claws reddish, remainder balck; pulvilli reddish yellow.

Wings clear, slightly tinged with yellowish brown, a darker broad band running through hind margin, from apex to base; fourth posterior and anal cells closed on wing margin.

Male: Unknown.

Type-material: Holotype ♀, Villa de María, Córdoba, Argentina, 16.II.1955 (Monrós) (MZUSP).

Remarks: The species is named in honor of Dr. Charles H. Martin, in recognition for his work on Asilidae.

Prolepsis fax (Lynch Arribálzaga), comb. n.

(Figs. 14, 39, 55, 77-79)

Tolmerolestes fax Lynch Arribálzaga, 1881: 30. Type-locality: Argentina, Buenos Aires, Baradero. Type: lost?

Tolmerolestes fax; Lynch Arribálzaga, 1883: 141; Williston, 1891: 70; Brèthes, 1907: 286; Kertész, 1909: 141; Hull, 1962: 135; Martin & Pavavero, 1970: 15.

D. lax; Kirby, 1882: 243 (lapsus).

Tolmerolestes brethesi Gemignani, 1936: 43. Type-locality: Argentina, San Luis, Potrero de los Funes. Type, MBR. *Syn. n.*

Tolmerolestes faz; Gemignani, 1936: 42 [lapsus].

Tolmerolestes brethesi; Hull, 1962:135; Martin & Papavero, 1970: 15.

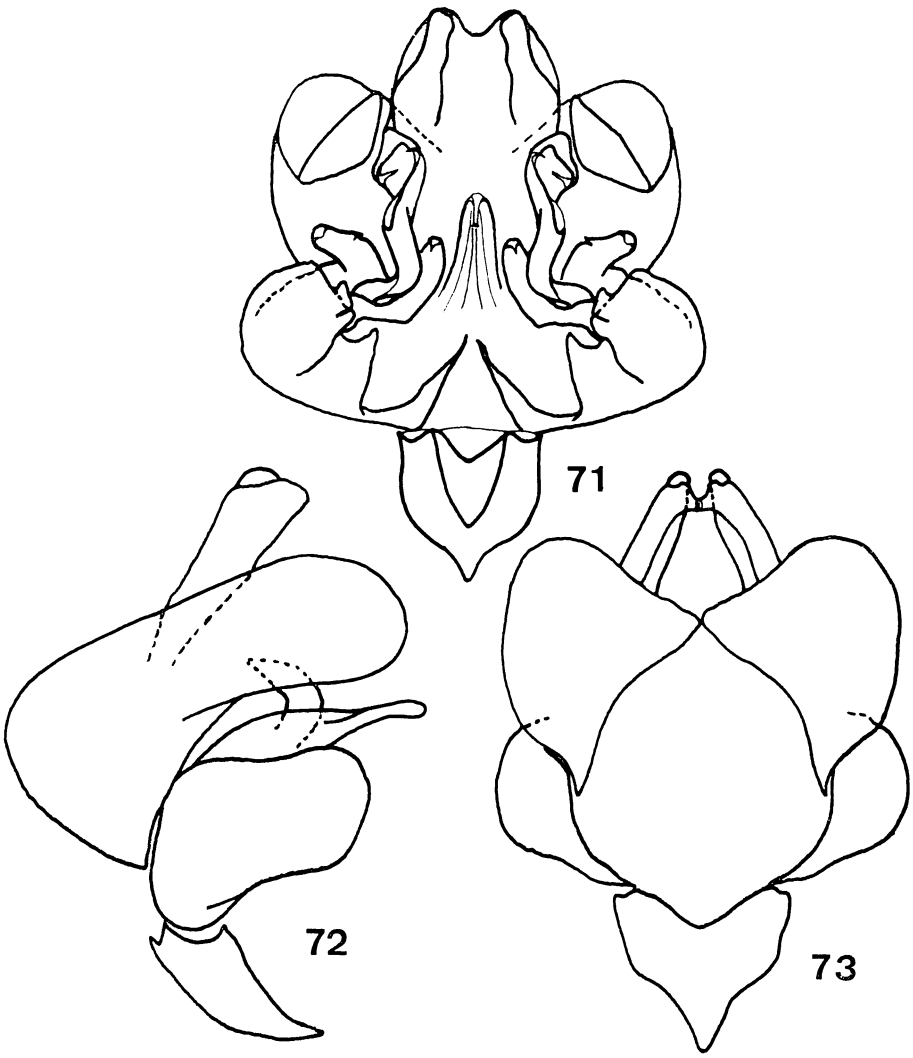
Male - Length: 15 mm; wing length: 12 mm.

Head black; face, frons, vertex and occiput pollinose; antennae dark reddish brown, segment 1 twice the second, third segment 2.5 times longer than segments 1 and 2 together, with an apical spoon-shaped microsegment with reddish spine; mystax with mixed black and white bristles, covering almost the whole length of face; bristles of antennae, frons, and ocellar tubercle black; occipital bristles white and some black; palpi reddish with black and white bristles; beard white; proboscis reddish brown.

Thorax black, sparsely dirty white pollinose; pronotum with black bristles; mesonotum with long, white pile and bristles (especially on posterior half); four black marginal scutellar bristles; laterotergal

bristles white, some black; halteres reddish yellow, basal portion darker.

Abdomen: Tergites 1-3 black with rose-violet metallic shine, hind margin of tergite 3 orange red, tergites 1-2 also show some orange red marks on dorsum, tergites 2-4 with white pollinose hind border, remainder of tergites orange red with rose-violet shine and black lateral borders; pile and bristly hairs white, some black pile; sternites 1-5 dark reddish brown, remainder orange red, pile mixed black and orange; genitalia orange red, hairs orange.



P. indecisa, sp. n., ♂ genitalia: 71, ventral view; 72, lateral view; 73, dorsal view.

Legs dark reddish brown; coxae with mixed black and white bristles; femora, tibiae and tarsi with white pile and mixed black and some yellowish white bristles, ventral side of tarsi with short orange hairs; basal half of claws reddish, remainder black; pulvilli white.

Wings clear, slightly tinged with light yellowish brown, basal region and proximal half of costal margin more tinged; veins yellowish brown; fourth posterior cell closed on wing margin; anal cell closed.

Female: Unknown.

Material examined: 12 males.

ARGENTINA. *Buenos Aires*: 1 ♂, Bahia Blanca (MBR); 1 ♂, Mercedes (MBR). *Córdoba*: 1 ♂, Agua de Oro (MBR); 1 ♂, El Sauce, Calamuchita (MBR). *San Luis*: 3 ♂♂, Potrero de los Funes (MBR, holotype and paratypes of *brethesi*); 2 ♂♂, San Luis (MBR, MZUSP).

NO DATA. 3 ♂♂ (MBR, OXF).

Remarks: Gemignani's *brethesi* is just a variety of *fax*, in which most of the body pile and bristles are orange instead of white.

Gemignani (1936) mentioned the existence of the type-material of *Tolmerolestes fax* Lynch Arribálzaga at the Museo "Bernardino Rivadavia" of Buenos Aires, but I have been unable to locate it.

The variation observed in this species is not very high: body pile and bristles mixed black and white (or orange), 4-6 marginal bristles on scutellum, fourth posterior cell narrowly open, or closed on wing margin, sometimes with a short petiole.

Prolepsis pluto (Lynch Arribálzaga), comb. n.

(Figs. 15, 37, 57)

Tolmerolestes pluto Lynch Arribálzaga, 1881: 112. Type-locality: Argentina, Buenos Aires, Baradero. Lectotype, MBR.

Tolmerolestes rubripes Lynch Arribálzaga, 1881: 114. Type-locality: Argentina, San Luis. Type, MBR. *Syn. N.*

Tolmerolestes pluto; Lynch Arribálzaga, 1883: 141; Williston, 1891: 70; Brèthes, 1907: 286; Kertész, 1909: 148; Gemignani, 1936: 45; Hull, 1962: 135, figs. 472 (wing), 913, 922 (head), 1922 (♀ genitalia); Martin & Papavero, 1970: 15.

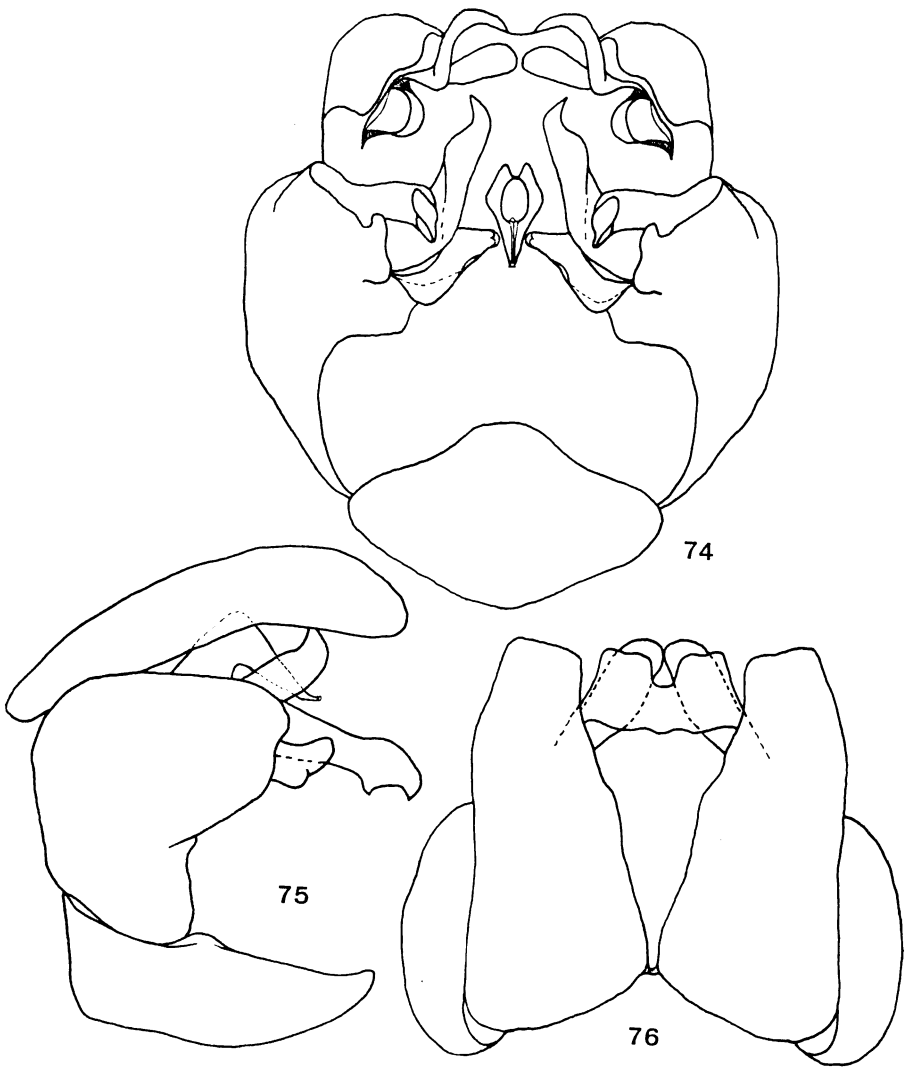
Tolmerolestes rubripes; Lynch Arribálzaga, 1883: 141; Williston, 1891: 70; Brèthes, 1907: 286; Kertész, 1909: 148; Gemignani, 1936: 45; Hull, 1962: 135, fig. 113 (antenna); Martin & Papavero, 1970: 15.

Female - Length: 15 mm; wing length: 12 mm.

Head black; face, frons, vertex and occiput black with white pollinosity; antennae black, segment 1 twice the second, third segment

2.5 times longer than segments 1 and 2 together, with a small spoon-shaped microsegment or a more or less coalesced one, with reddish spine; mystax bristles mixed black and white, covering three-fourths to almost completely the length of face; bristles of antennae, frons, ocellar tubercle and beard black; occipital bristles black, some white on upper margin; palpi black, bristles black; proboscis black.

Thorax dark brown, almost black, sparsely white pollinose, except on lateral margins, where pollinosity is abundant; humeral and postalar calli reddish; pile and bristles black, some white bristles on postalar



P. colalao, sp. n., ♂ genitalia: 74, ventral view; 75, lateral view; 76, dorsal view.

calli; scutellum black with white pollinose hind margin and 4-8 black marginal bristles; pleurae black, laterotergal bristles black; halteres yellowish brown.

Abdomen: Tergites 1-3 black with reddish hind margin, remainder of tergites red with black lateral margins, tergites 2-4 with small white pollinose spots on postero-lateral angles; sternites black; pile and bristly hairs black.

Legs dark reddish brown, almost black, or bright red; coxal bristles mixed black and white, remainder of legs with pile and bristles black, some bristles white; basal third of claws reddish, remainder black; pulvili yellowish.

Wings yellowish brown to dark brown, darker along veins, with a narrow yellowish stripe over basal half of costal margin; veins dark brown; fourth posterior cell closed and petiolate; anal cell narrowly open on wing margin.

Male: Unknown.

Material examined: 43 females.

ARGENTINA. Buenos Aires: 1 ♀, Bahía Blanca (MBR); 1 ♀, Baradero (MBR, lectotype of *pluto*); 1 ♀, Cura Malal (MBR). *Catamarca*: 2 ♀♀, Concepción de Catamarca (MBR). *Córdoba*: 1 ♀, Alta Gracia (MBR), 2 ♀♀, Agua de Oro (MBR), *Jujuy*: 2 ♀♀, Jujuy (MBR). *La Rioja*: 1 ♀, Estancia Amado (MBR); 6 ♀♀, La Rioja (MBR, MZUSP, PARIS); 1 ♀, Villa Castelli (IML). *Salta*: 1 ♀, Salta (MBR). *San Luis*: 1 ♀, Potrero de los Funes (MBR); 5 ♀♀, San Luis (MBR, including the holotype of *rubripes*). *Tucumán*: 15 ♀♀, San Pedro de Colalao (MZUSP); 1 ♀, Siambón (MZUSP); 1 ♀, Tucumán, 450 m (MZUSP); 1 ♀, Villa Nougues (MZUSP).

BRAZIL. *Rio Grande do Sul*: 1 ♀, Santa Maria (MZUSP).

Remarks: This may be the female of *P. fax* (Lynch Arribálzaga).

Lynch Arribálzaga (1881) described *rubripes* as different from *pluto* on the basis of leg color pattern (red in *rubripes* and black in *pluto*). However, I consider it as a normal intrapopulational variation, among other variable characters.

In the specimens examined the color of pile and bristles varies between black and pure white on mystax, beard, marginal bristles of scutellum, laterotergites, abdomen and legs, usually presenting mixed black and white pile and bristles.

Prolepsis pseudopluto, sp. n.

(Figs. 16, 32, 61)

Female - Length: 14 mm; wing length: 12 mm.

Similar to *pluto;* antennal segments 1 and 2 reddish brown, segment 3 darker; first segment 1.5 times longer than segments 1 and 2 toge-

ther, with an apical spoon-shaped microsegment; palpi reddish brown; abdominal tergites 2-3 dark reddish brown with red hind margin and a red middorsal spot, tergites 4-6 orange red with dark reddish brown lateral margins, tergites 7-8 dark reddish brown with a middorsal longitudinal orange red stripe; sternites dark reddish brown; wings yellowish brown, apical third and a broad band on hind margin dark brown.

Male: Unknown.

Type-material: Holotype ♀, El Infiernillo, Tucumán, Argentina, 3000 m, XII.1945 (Willink) (MZUSP).

Remarks: This may possibly be only a variation of *pluto,* but as the single available specimen shows a rather different color-pattern, and as it has been collected at a higher altitude than ever recorded for any *pluto* specimen, I am inclined to consider *pseudopluto* a good species.

Prolepsis colalao, sp. n.

(Figs. 19, 20, 36, 54, 74-76)

The male of this species is characterized by the black thorax, black abdomen with violet-blue metallic shine, tergites 1-4 with white pollinose hind margins, and dark reddish brown to orange brown legs. The females usually present a red thorax with a middorsal longitudinal black band across the mesonotum and postscutellum (sometimes the thorax is completely black), a black abdomen with violet blue metallic shine, and wings usually orange brown with apical third and hind margin dark brown (sometimes the wings are completely reddish brown to dark brown).

Male - Length: 15 mm; wing length: 12 mm.

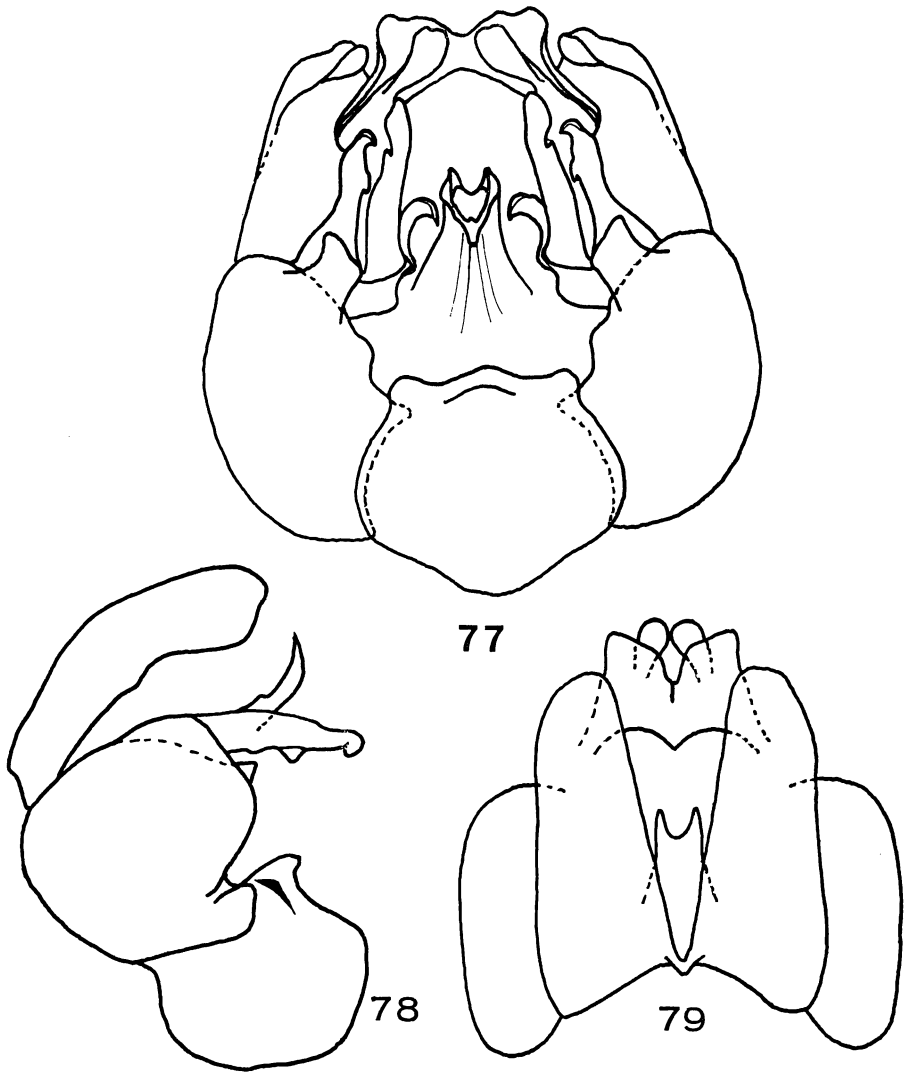
Head black; face, frons, vertex and occiput white pollinose; first and second antennal segments dark reddish brown, second darker, third antennal segment 2.5 times longer than segments 1 and 2 together, with a spoon-shaped microsegment with black spine; or a more or less coalesced one; mystax white, golden or black, commonly mixed black and white, or black and golden, covering four-fifths of length of face; bristles of frons, ocellar tubercle and occiput black, the latter with some white bristles on upper margin; beard bristly hairs mixed black and white; palpi dark reddish brown, bristles black; proboscis black, reddish on apex.

Thorax black, white pollinose on lateral margin; pile and bristles black, some white bristles on lateral margins and postalar calli; scutellum black, four black marginal bristles; pleurae black, laterotergal bristles black; halteres yellowish white.

Abdomen black with strong violet-blue metallic shine; tergites 1-4 with distal half white pollinose, a narrow reddish band on hind margin,

with a small, oval, white pollinose spot placed laterally on hind margin of tergites 2-4; sternites reddish brown; pile mixed black and white, or black and yellowish; bristly hairs on first tergite white or yellowish; genitalia dark reddish brown with mixed black, white and yellowish hairs.

Legs: Coxae dark brown with mixed black and white bristles; femora, tibiae and tarsi dark reddish brown to orange brown; pile mixed white and golden, with some black hairs, bristles mixed black



P. fax (Lynch Arribálzaga), ♂ genitalia: 77, ventral view; 78, lateral view; 79, dorsal view.

and orange yellow; basal third of claws reddish, remainder black; pulvilli yellowish white.

Wings dark brown to reddish brown, darker on basal region and costal margin; veins dark brown, Rs darker; fourth posterior cell closed on wing margin or petiolate; anal cell closed or narrowly open on wing margin.

Female - Length: 16 mm; wing length: 13 mm.

Similar to male in many respects; third antennal segment dark brown; mystax and beard mostly black; pronotum black; mesonotum completely black or red, with a broad middorsal longitudinal black band, more broadened over transverse suture; scutellum black, 4-6 black marginal bristles; postscutellum black or red, with a broad dorsal black band; thoracic pile and bristles mostly black; abdomen black with strong violet-blue metallic shine, hind border of tergites with a dark reddish brown stripe; abdominal pile and bristly hairs black, wings orange brown with apical third and hind margin dark brown, or fully dark brown to reddish brown; legs dark reddish brown to orange brown, coxae black, femora mostly with black pile and bristles, tibiae and tarsi with fixed black and white pile and mostly black bristles.

Type-material: All from Argentina; holotype ♂ from San Pedro de Colalao, Tucumán, II.1949 (Arnau) (MZUSP).

Paratypes: *Catamarca*: 1 ♂, Pomán, 17.I.1960 (Willink) (IML). *Jujuy*: 5 ♂, 1 ♀, Jujuy (Spegazzini) (MBR). *Mendoza*: 2 ♀♀, Puente del Inca, 2500 m (Spegazzini) (MBR). *Salta*: 1 ♀, Salta (Burmeister) (MBR). *Tucumán*: 11 ♂♂, 11 ♀♀, same data as holotype (I-II.1949); 3 ♂♂, 5 ♀♀, same data as holotype (1.1948); 1 ♂, San Pedro de Colalao, I.1934; 1 ♂, Siambón, XII.1945 (Olea); 1 ♂, San Rafael, 11.I.1950 (Aczél); 1 ♂, Trancas, San Pedro de Colalao, XII.1950 (Arnau); 1 ♂, San Pedro de Colalao (Walz) (all in MZUSP); 1 ♀, Tucumán, 4.XII.1928 (Jaynes) (USNM).

Remarks: As usual, there is a certain amount of variation in both sexes: the third antennal segment has from a well differentiated apical spoon-shaped microsegment to a coalesced one, the latter having a wide-open pit; pile and bristles black, white or golden, or a mixture of them.

Prolepsis rosariana (Carrera), comb. n.

(Figs. 6, 11, 43, 52, 92-94)

Tolmerolestes rosarianus Carrera, 1959: 2, fig. 1 (head). Type-locality: Argentina, Rosario. Type, MUN.
Tolmerolestes rosariana; Martin & Papavero, 1970: 15.

Male - Length: 16-21 mm; wing length: 12-17 mm.

Head black; face black to dark reddish brown, white pollinose; frons, vertex and occiput black, white pollinose, the pollinosity less

abundant on vertex; antennae dark reddish brown to black, segment 2 the lighter and 3 the darker; first segment 2.5 times longer than second, third segment slightly more than twice longer than segments 1 and 2 together, with spoon-shaped pit or small spoon-shaped microsegment. the latter more or less coalesced with apex of segment; mystax black with some white bristles near oral margin, covering three-fourths of length of face; bristles of antennae, frons and ocellar tubercle black; bristles of occiput and beard black with some white ones; palpi black, bristles black; proboscis black, a little reddish below.

Thorax black, white to yellowish white pollinose, mainly on lateral margins; humeral and postalar calli reddish; pile black or white, bristles black; scutellum black to dark reddish brown, with a white pollinose spot on middle of hind margin and 4 black marginal bristles; postscutellum black; pleurae black with golden pollinose spots above coxae, laterotergal bristles black; halteres light reddish brown to yellowish brown.

Abdomen black with violet-blue metallic shine; tergite 1 with hind margin yellowish white pollinose, lateral bristly hairs white, or black and white; tergites 2-3 with one triangular white to yellowish white pollinose spot on each side similar to those present in *tristis*, those on tergite 3 usually coalescing on middorsal line; remainder of abdomen black; sternites 2-3 with some white pollinosity; pile black or white; genitalia black with white and some black hairs; hypandrium with a long, slender, apical process.

Legs black to reddish black; coxal bristles black and white; middle femora with diffuse patch on ventral, inner and outer sides; pile and bristles of femora, tibiae and tarsi mixed black and white, tarsi with short yellowish hairs on ventral side; basal third of claws reddish, remainder black; pulvilli grayish yellow.

Wings blackish brown, center of cells lighter, commonly with a triangular, wedge-shaped lighter portion comprising parts of the discal, second, third and fourth posterior cells, the discal cell being the lighter; veins black to blackish brown, the costa, Rs and cubital are the darker; fourth posterior cell closed and petiolate; anal cell closed.

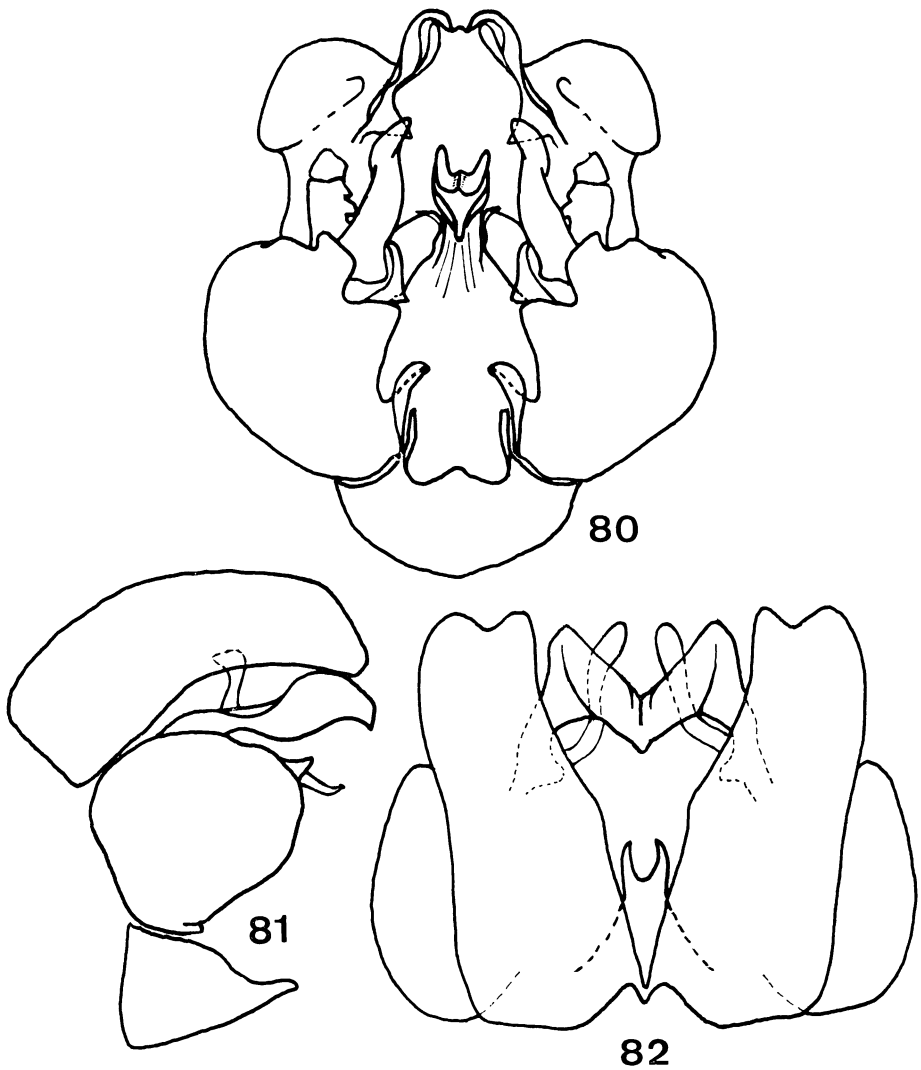
Female: Unknown.

Material examined: 9 males.

ARGENTINA. *Córdoba*: 1 ♂, Alta Gracia, La Granja (MBR); 1 ♂, Córdoba (MCZ); 2 ♂♂, El Sauce, Calamuchita (MBR). *Santa Fé*: 1 ♂, Rosario (MZUSP, paratype).

BRAZIL. *Paraná*: 1 ♂, Ponta Grossa (MZUSP). *Santa Catarina*: 1 ♂, Nova Teutônia (CSC). *São Paulo*: 1 ♂, Campos do Jordão (MZUSP); 1 ♂, Cássia dos Coqueiros, Cajuru (MZUSP).

Remarks: Carrera (1959), describing this species, assigned it to *Tolmerolestes* Lynch Arribálzaga on the basis that the third antennal segment exhibited a small microsegment on apex. I have not found a well differentiated microsegment on third antennal segment, only a more or less coalesced microsegment or a spoon-shaped pit. The presence of an intermediate stage between microsegment and pit, of a diffuse patch on middle femora and an apical process on hypandrium place this species very near *fenestrata* (Macquart) and far apart from the *huatajata* species-group (*Tolmerolestes* of authors).



P. huatajata, sp. n., ♂ genitalia: 80, ventral view; 81, lateral view; 82, dorsal view.

Prolepsis fenestrata (Macquart), comb. n.

(Figs. 9, 10, 41, 51, 89-91)

Senobasis fenestrata Macquart, 1838: 53 (1839: 169). Type-locality: Brazil, western Minas Gerais. Type, PARIS.
Senobasis fenestrata; Walker, 1854: 500; Williston, 1891: 75; Martin & Papavero, 1970: 89.
Dasypogon fenestrata; Williston, 1891: 68.
Stenobasis fenestrata; Kertész, 1909: 124.
Blepharepium fenestrata; Hull, 1962: 233.

A reddish brown species, similar to *chalcoprocta,* but readily distinguished by the almost transparent discal cell and the conspicuous apical process on hypandrium.

Male - Length: 22 mm; wing length: 16 mm.

Head: Face reddish brown, yellowish pollinose; frons, vertex and occiput black, white pollinose; antennae reddish brown, segment 3 darker; first segment 2.5 times longer than segments 1 and 2 together, with a well developed spoon-shaped microsegment or a partially coalesced one, with reddish spine; mystax orange red to yellowish brown, sometimes with mixed black and white bristles, covering three-fourths of length of face; bristles of antennae, frons, ocellar tubercle, occiput and beard orange red to yellowish brown; palpi dark reddish brown with orange brown bristles; proboscis dorsally black and reddish below.

Thorax: Pronotum black, white pollinose; mesonotum reddish brown with black fasciae like *chalcoprocta,* in addition to narrow black stripes surrounding hind border of humeral calli and hind margin of mesonotum; scutellum reddish, 2-6 orange red to yellowish brown marginal bristles; postscutellum black; pile and bristles orange red to yellowish brown; pleurae black, white pollinose spots above middle and posterior coxae, laterotergal bristles orange red to yellowish brown; halteres dark reddish brown.

Abdomen: Tergite 1 almost completely black with a reddish yellow pollinose stripe on hind margin, or sometimes tergite 1 red with a black transverse band; tergites 2-7 reddish brown with black hind margin, tergites 2-3 with triangular yellowish pollinose spots on lateral sides, tergites 5-7 usually completely black; pile and bristly hairs orange red to yellowish brown; genitalia reddish brown, hairs orange red, white and some black, hypandrium with a long, slender, apical process.

Legs red, coxae black with orange red bristly hairs; anterior and middle femora darker on inner side, middle femora with a small patch of stout black spines on middle third of anterior and inner sides; pile and bristles reddish brown, some bristles black; claws black, basal end reddish; pulvilli yellowish white.

Wings dark brown, center of cells and hind margin lighter; discal cell almost transparent; fourth posterior cell closed and petiolate; anal cell closed.

Female - Length: 20 mm; wing length: 15 mm.

Similar to male; third antennal segment almost black, in all specimens examined, with a spoon-shaped pit with yellowish spine; mystax black with some white bristles of antennae, frons, ocellar tubercle, occiput and beard mixed orange, black and white; bristles of palpi black; abdominal tergites 4-8 almost black with some metallic violet-blue shine; abdominal pile and bristly hairs mixed orange brown, black and white; femora not darkened, patch on middle femora smaller than in males.

Material examined: 10 specimens (4 ♂♂, 6 ♀♀)

ARGENTINA. *Chaco*: 1 ♀, Resistencia (MBR). *Misiones*: 1 ♀, Loreto (MZUSP).

BRAZIL. *Goiás*: 1 ♂, Fazenda Aceiro, Jataí (MZUSP). *Minas Gerais*: 1 ♀, Belo Horizonte (MZUSP). *São Paulo*: 1 ♀, Águas de Lindóia (CM); 2 ♂♂, 1 ♀, Fazenda Campininha, Mogi-Guaçu (CNC).

PARAGUAY. *Guaira*: 1 ♂, 1 ♀, Villarrica (USNM).

Prolepsis tristis (Walker), comb. n.

(Figs. 8, 35, 50, 83-88)

Dasypogon tristis Walker, 1851: 93. Type-locality: "U.S.A.". Type. BM.

Dasypogon tristis; Walker, 1854: 423; Schiner, 1866: 705.

Dasypogon quadrimaculatus Bellardi, 1861: 180 (80), pl. 1, fig. 8 (whole insect). Type-locality: "Mexico". Type, TORO.

Dasypogon lucasi Bellardi, 1861: 181 (81), pl. 1, fig. 7 (whole insect). Type-locality: "Mexico". Type, TORO. *Syn. n.*

Microstylum lucasi; Schiner, 1866: 702.

Microstylum quadrimaculatus; Schiner, 1866: 702.

Dizonias quadrimaculatus; Loew, 1866: 31; Schiner, 1866: 847; Loew, 1872: 68; Osten Sacken, 1874: 180; Osten Sacken, 1878: 68, 230.

Dizonias phoenicurus Loew, 1866: 29. Type-locality: Mexico, Tamaulipas. Type ?.

Dizonias bicinctus Loew, 1866: 30. Type-locality: U.S.A., New Mexico. Type, MCZ.

Dizonias phoenicurus; Schiner, 1866: 848; Osten Sacken, 1874: 180; Osten Sacken, 1878: 68; Osten Sacken, 1887: 170; Aldrich, 1905: 257; Kertész, 1909: 148; Coquillett, 1910: 534; Hull, 1962: 134, fig. 110 (antenna), 471 (wing), 951, 960 (head).

Dizonias bicinctus; Schiner, 1866: 848; Osten Sacken, 1874: 180; Osten Sacken, 1878: 68, 230; Wulp, 1882: 96 (Argentina: error !); Osten Sacken, 1887: 168; Williston, 1901: 304; Martin & Wilcox, 1965: 372.

Dizonias lucasi; Loew, 1872: 60; Osten Sacken, 1874: 180; Osten Sacken, 1878: 68; Osten Sacken, 1887: 170; Williston, 1901: 304;

Aldrich, 1905: 257; Kertész, 1909: 148; Hine, 1922: 3; Hull, 1962: 134, figs. 1770, 1773 (♂ genitalia); Martin & Wilcox, 1965: 372; Martin, 1965b: 121, figs. 9 (♂ abdomen), 10 (♀ abdomen); Martin & Papavero, 1970: 14.

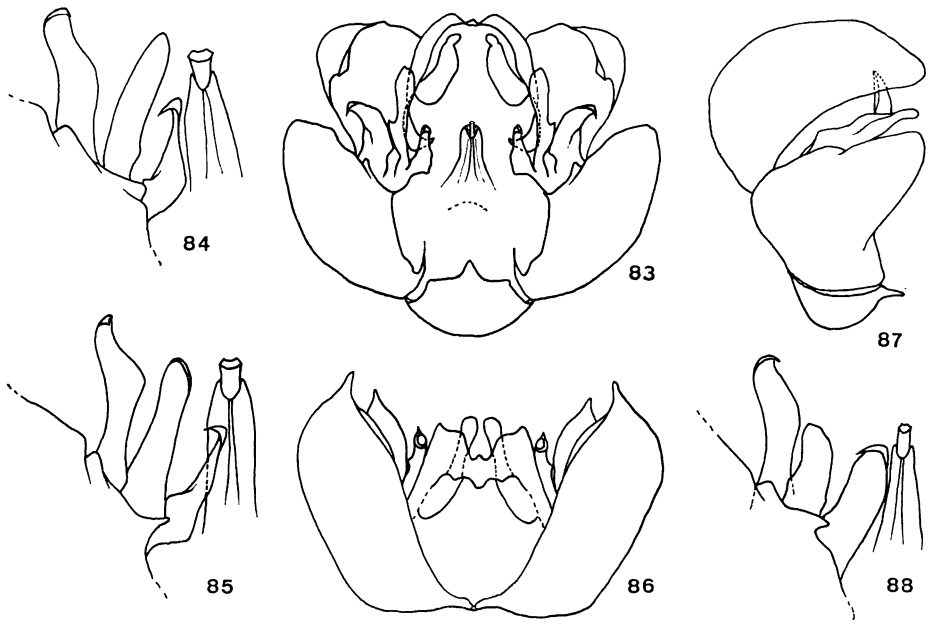
Dizonias pilatei Johnson, 1903: 112, fig. 5 (antenna). Type-locality: U.S.A., Georgia, Tifton. Type ? *Syn. n.*

Ospriocerus albifasciatus Back, 1904: 292. Type-locality: U.S.A., Florida, Indian River. Type, MCZ?

Dizonias pilatei; Aldrich, 1905: 257; Kertész, 1909: 148; Back, 1909: 221, pl. 3, fig. 5 (antenna), pl. 7, fig. 2 (whole insect); Fattig, 1945: 15; Carrera & d'Andretta, 1950: 165; Hull, 1962: 134; Martin & Wilcox, 1965: 372.

Dizonias bromleyi Carrera & d'Andretta, 1950: 164, fig. 26 (wing). Type-locality: Mexico, Michoacán, Apatzingán, Type, FMNH.

Dizonias bromleyi; Hull, 1962: 134.



P. tristis (Walker), ♂ genitalia: 83, ventral view, U.S.A., Arkansas; 84, detail of dististylus and aedeagus, Mexico, Guadalajara; 85, detail of dististylus and aedeagus, U.S.A., Arizona; 86, dorsal view, U.S.A., Arkansas; 87, lateral view, U.S.A., Arkansas; 88, detail of dististylus and aedeagus, "British Honduras".

Male - Length: 15-25 mm; wing length: 12-21 mm.

Head black; face, frons, vertex and occiput black, white pollinose; first and second antennal segments dark reddish brown, second lighter, segment 3 reddish to black; segment 1 twice the second, third segment

2.5-3.0 times longer than segments 1 and 2 together, with a spoon-shaped pit with black or dark reddish brown spine; mystax black, white, or mixed black and white, covering two-thirds of length of face; antennal bristles black; bristles of frons and ocellar tubercle black or white; occipital bristles black, some white ones on upper margin; beard bristly hairs black, reddish or white; palpi black, bristles black; proboscis black, reddish below on distal half.

Thorax black to reddish brown, covered with white pollinosity which is usually more abundant on lateral margins; pronotum black, sometimes reddish, its bristles black or mixed black and white; mesonotum completely black, with black, white, or mixed black and white pile and bristles, or mesonotum reddish with a middorsal longitudinal black stripe and two oblique black stripes over transverse suture, similar as those in *chalcoprocta,* with black pile and bristles; scutellum black, white pollinose on hind margin, with 2-4 black or white marginal bristles; postscutellum black; pleurae black, white to golden yellow pollinose, a round pollinose spot above each coxa; laterotergal bristles black or white; halteres light yellowish brown to dark reddish yellow.

Abdomen: Tergite 1 black, sometimes with red hind margin, bristly hairs black or white; tergite 2 black to dark reddish brown, usually two triangular white pollinose spots on each side of distal half, the base of triangle lying on lateral border and the apex running towards middorsal line, frequently coalescing there, sometimes two more small pollinose spots on proximal half, remainder of tergite black, with two lateral red spots, or hind margin completely red; tergite 3 black, red, or black with red hind margin, also with two triangular pollinose spots, less frequently united on middorsal line than in second tergite; tergites 4-8 black, or dark red to orange red, pile black or white; sternites black to reddish, usually the apical ones lighter, sternites 2-3 commonly with a white pollinose transverse band, pile black or white; genitalia black, dark red or orange red, hairs black, white or mixed black and white.

Legs: Coxae black, white to yellowish pollinose, bristles black, white or mixed black and white; femora, tibiae and tarsi black to reddish brown, pile and bristles black or white, a weak patch on middle femora of some individuals, and some short reddish hairs on ventral side of tibiae and tarsi; claws black, basal third or half reddish; pulvilli light yellowish brown.

Wings brownish black, center of cells lighter; veins brownish black to dark reddish brown; fourth posterior cell closed and petiolate or narrowly open; anal cell closed.

Female - Length: 14-27 mm; wing length: 13-21 mm.

Head yellowish brown; face yellowish brown, white to golden pollinose; frons, vertex and occiput dark brown, white to golden pollinose; antennae yellowish brown, segment 3 usually darker;

segment 1 twice the second, third segment a little more than twice longer than segments 1 and 2 together, with a spoon-shaped pit with yellowish to reddish spine; mystax yellowish brown, covering two-thirds of length of face; bristles of antennae, frons, ocellar tubercle, occiput and beard yellowish brown to reddish yellow; palpi yellowish brown, bristles yellowish brown; proboscis black above and reddish below.

Thorax reddish brown with yellowish white pollinosity mainly restricted to lateral margins; a middorsal longitudinal black stripe through pronotum and anterior four-fifths of mesonotum, and two oblique black bands over transverse suture, generally coalesced to longitudinal stripe; scultellum yellowish brown,, usually a black round spot on disc, hind margin white pollinose, 2-4 yellowish brown marginal bristles; pile and bristles yellowish brown; pleurae black with white to yellowish pollinose spots above coxae, or pleurae reddish brown with black spots, laterotergal bristles reddish or yellowish; halteres reddish brown to yellowish white.

Abdomen: Tergite 1 dark reddish brown to black; tergites 2-5 reddish brown to dark brown, usually with triangular yellowish pollinose spots as in tergites 2-3 of males, coalesced on middorsal line or not, sometimes inconspicuous or even absent, except those on tergites 2-3, which are always present; sternites dark reddish brown to yellowish, usually with broad transverse yellowish pollinose bands; pile and bristles yellowish brown.

Legs: Coxae black to dark reddish yellow, with white bristles, posterior pair sometimes with yellowish brown bristles; femora completely reddish brown or with a black longitudinal band; tibiae and tarsi yellowish; pile white to golden, bristles mixed yellowish brown, reddish brown and black; distal half of claws black, proximal half yellowish brown; pulvilli yellowish.

Wings yellowish brown, center of cells lighter; veins dark brown to reddish yellow; fourth posterior cell closed and petiolate, or narrowly open; anal cell closed.

Material examined: 241 specimens (166 ♂♂, 75 ♀♀)

UNITED STATES. *Alabama*: 4 ♂♂, Meadow Pond, Town Creek (MZUSP); 1 ♂, Tuskegee (JW), *Arizona*: 1 ♂, Arlington (USNM); 1 ♀, Chiricahua Mts., Cochise (JW); 1 ♀, Goldfield, Pinal Co. (MCZ); 1 ♀, Madera Canyon, Sta. Rita Mts., 4000' (CM); 1 ♀, Phoenix (JW); 3 ♂♂, 2♀♀, Roll (CM); 1 ♂, 1 ♀, Sacaton (JW, USNM); 1 ♀, 12 mi N Sunylow, Cochise Co. (MCZ). *Arkansas*: 1 ♂, Arkansas (CM); 4 ♂♂, 3 ♀♀, Conway (JW, USNM); 1 ♂, Desha (JW); 1 ♂, 5 mi S Watson, Desha (CM). *California*: 1 ♂, Blythe (USNM). *Florida*: 1 ♂, 3 ♀♀, Alachua (JW, USNM); 4 ♂♂, 3 ♀♀, Enterprise (USNM); 1 ♂, Flagler (JW); 1 ♀, Florida (USNM); 4 ♂♂, Ft. Lauerdale (JW, USNM); 2 ♂♂, Gainesville (USNM); 1 ♂, 1 ♀,

Georgiana (USNM); 1 ♂, 1 ♀, Hendry, Labelle (CM); 4 ♂♂, Key Biscayne (MZUSP, USNM); 4 ♂♂, Lacoochee (Cm, MZUSP); 1 ♂, Lake Placid (CM); 1 ♂, Long Key, Monroe (USNM); 1 ♂, Miami (USNM); 2 ♀♀, Plant City (JW); 1 ♂, Sanford (CM). *Georgia*: 1 ♀, Bainbridge (MZUSP); 1 ♀, Georgia (WIEN); 2 ♂♂, 1 ♀, South Georgia (USNM); 1 ♀, Thomasville (MZUSP); 3 ♂♂, Waycross (USNM). *Louisiana*: 1 ♂, 1 ♀, Crowley (USNM); 1 ♂, Greenwell Springs (CM); 2 ♂♂, New Orleans (USNM); 6 ♂♂, Opelousas (MZUSP, USNM, WIEN); 1 ♂, Shrevport (USNM); 1 ♂, 1 ♀, Southwestern Lafayette (USNM). *Mississippi*: 1 ♀, Iuka (JW); 1 ♂, 1 ♀, Lafayette (MZUSP), 1 ♂, State College, Mississippi (USNM). *Missouri*: 1 ♂, Missouri (USNM); 1 ♀, St. Louis (USNM). *New Mexico*: 1 ♀, Beack (USNM); 1 ♀, 17 mi S Cloverdale (JW); 5 ♂♂, 3 ♀♀, Grant (JW, USNM). *Oklahoma*: 1 ♀, Bryan (USNM); 1 ♂, Butler (USNM); 3 ♂♂, Garvin (USNM); 1 ♀, Guthrie (USNM); 2 ♂♂, Hitchita (USNM); 1 ♂, Johnston (USNM); 2 ♀♀, Lake Texoma (JW); 2 ♂♂, 2 ♀♀, McIntosh (MZUSP, USNM); 15 ♂♂, 1 ♀ Millerton (MZUSP, USNM); 1 ♀, Okfuskee (USNM); 1 ♀, Oklahoma City (USNM); 1 ♂, Pawnee (USNM); 1 ♂, Tulsa (USNM); 1 ♀, Vinson (USNM). *South Carolina*: 1 ♀, Manning (USNM). *Texas*: 1 ♀, Bastrop (CM); 4 ♂♂, Bexar (JW, USNM); 1 ♂, 1 ♀, Brazos (JW); 2 ♂♀, Burleson (USNM); 13 ♂♂, 8 ♀♀, College Station, Texas (CM, HUM, JW, MZUSP, USNM); 2 ♂♂, 2 ♀♀, Cuero (CAS, JW); 4 ♂♂, Del Rio (USNM); 1 ♂, Denison (JW); 4 ♀♀, 3 ♀♀, Forestburg (MZUSP, USNM); 1 ♂, Hidalgo (USNM); 2 ♂♂, Liberty (CM, JW); 6 ♂♂, Madison (JW, USNM); 4 ♂♂, 1 ♀, McLennan (CM, JW); 1 ♂, Presidio (USNM); 1 ♀, Sabinal (JW); 1 ♀, Trinity (USNM); 1 ♂, Warda (USNM); 1 ♀, Wharton (USNM); 1 ♂, Weslaco (USNM).

MEXICO. *Colima*: 1 ♂, 1 mi S Colima, 1500' (CM). *Guerrero*: 1 ♂, Iguala (CM), 2 ♂♂, 25 mi S Iguala, 2400' (CM). *Jalisco*: 6 ♂♂, 6 ♀♀, Guadalajara, 5000' (CM, MZUSP); 1 ♂, 1♀, 8 mi S Guadalajara (CM); 1 ♂, 2 mi S Guadalajara, 5000' (CM); 1 ♂, 2 mi W Junction, Highway to Ameca (CM); 1 ♀, 22 mi S La Piedad (CM); 1 ♂, San Blas (CM). *Michoacán*: 1 ♀, Apatzingán (holotype of *bromleyi*) (FMNH). *Morelos*: 1 ♂, 17 mi S Cuernavaca (MZUSP). *Nayarit*: 2 ♂♂, 44 mi E Tepic (CSC). *Vague*: 2 ♂♂, "Méxique" (holotypes of *quadrimaculatus* and *lucasi*) (TORO).

DOUBTFUL. 1 ♂, "British Honduras" (USNM).

Remarks: No consistent morphological differences were found to permit separations of the specimens studied in two or more species. Therefore, I have considered all the proposed names as synonyms.

In the past it was believed that *tristis* could be divided in at least two species, based on color-pattern differences and geographical distribution. The predominantly black males from the southern United States were known as *tristis* Walker and the predominantly reddish brown males from Mexico as *lucasi* Bellardi.

Dissection of several male genitalia, together with a careful examination of other morphological characters and color-patterns revealed the existence of a more or less regular clinal variation pattern, going from the southern United States to central Mexico. Males of the northernmost part of the cline, ranging from 20 to 25 mm, predominantly black, presenting a slender aedeagal pit and a noticeable hook-shaped dististylus, are mostly "typical" *tristis*. Members of the southernmost area (central Mexico), ranging from 15 to 22 mm, predominantly reddish brown, with a stouter aedeagal pit and the sharp angle of the dististylus hook being less conspicuous, are mostly "typical" *lucasi*. Intermediate specimens between both extremes are found in Florida, Texas, Arizona, Alabama, New Mexico, Oklahoma, Arkansas and Louisiana.

These data seem to indicate the presence of two subspecies or perhaps two semispecies which have undergone a certain degree of differentiation, but still present a great amount of gene flow between both major populations. As there is much intergradation and character overlap, and it is practically impossible to differentiate the females of both populations, I have not tried to separate them in different subspecies.

In several individuals a more or less noticeable patch of stout spines appears on the middle femora, especially in specimens from the marginal areas of distribution. The best developed femoral patch has been observed in two males from Nayarit, Mexico.

Prolepsis costaricensis, sp. n.

(Figs. 12, 23, 31, 49)

Very related to *chalcoprocta, elotensis* and *sandaraca,* this species is characterized by the round black spot on scutellar disc and the completely black hind femora.

Female - Length: 19 mm; wing length: 15 mm.

Head: Face dark reddish brown; frons white tomentose, vertex and occiput black; antennal segments 1 and 2 reddish, segment 3 dark reddish brown; segment 1 twice as long as the second, third segment 2.5 times longer than segments 1 and 2 together, with a spoon-shaped pit with yellowish spine; mystax reddish, covering two-thirds of length of face; bristles of frons, ocellar tubercle, occiput and beard reddish; palpi reddish brown, bristles reddish; proboscis black, red below.

Thorax red, mesonotum with a very narrow longitudinal middorsal black stripe and two narrow lines over transverse suture; scutellum red, a black round spot on disc, spread into a triangular black spot on mesonotal hind margin, four red marginal bristles; pleurae black, with white pollinose spots above coxae, laterotergite black with reddish bristles; halteres reddish yellow.

Abdomen reddish, narrow dark bands on hind margin of tergites, tergites 2-5 with a conspicuous white pollinose transverse band; pile and bristly hairs white.

Legs red; anterior femora with dorsum and inner side black, middle femora only with outer side red, posterior pair completely black; middle femora a little swollen, with a dense patch on ventral and inner sides, anterior pair with the patch reduced to ventral side of basal fifth; claws black, basal end reddish; pulvilli yellowish.

Wings yellowish brown, apical third and hind margin brown, center of cells lighter; fourth posterior cell closed, not petiolate, anal cell closed on wing margin.

Male: Unknown.

Type-material: Holotype ♀, Liberia, Costa Rica, 400 feet, 29.VII. 1963 (Seullen & Bollinger) (CM).

Prolepsis chalcoprocta (Loew), comb. n.

(Figs. 30, 48, 68-70)

Sphageus chalcoproctus Loew, 1866: 32. Type-locality: Cuba, La Habana, Playa del Chivo. Type, HUM.

Sphageus chalcoproctus; Schiner, 1866: 848; Osten Sacken, 1874: 179; Osten Sacken, 1878: 68; Aldrich, 1905: 256; Kertész, 1909: 82; Back, 1909: 212; Coquillett, 1910: 607; Bromley, 1929: 277; Hull, 1962: 137, figs. 117 (antenna), 474 (wing), 912, 921 (head), 1576A-B (leg), 1740 (♂ genitalia), 1901 (♀ genitalia), 2051 (pretarsus), 2055 (palpus); Martin & Papavero, 1970: 15.

Male - Length: 16 mm; wing length: 13 mm.

Head dark reddish brown, yellowish tomentose; antennae light reddish brown, segment 2 darker; segment 1 twice the second, third segment somewhat more than twice longer than segments 1 and 2 together, with an apical pit with reddish spine; mystax yellowish, covering three-fourths of length of face; bristles of frons, ocellar tubercle, occiput and beard yellowish; palpi yellowish brown, bristles yellowish; proboscis black, reddish below.

Thorax yellowish brown with abundant yellowish pollinosity, a broad longitudinal middorsal black band over pronotum, mesonotum and scutellar disc, and two oval oblique black spots over transverse suture, beside the middorsal band; 6 yellowish marginal scutellar bristles; pleurae black, a white pollinose spot above each and some on laterotergite and pteropleura, laterotergal bristles yellowish; pile and bristles yellowish; halteres yellowish white.

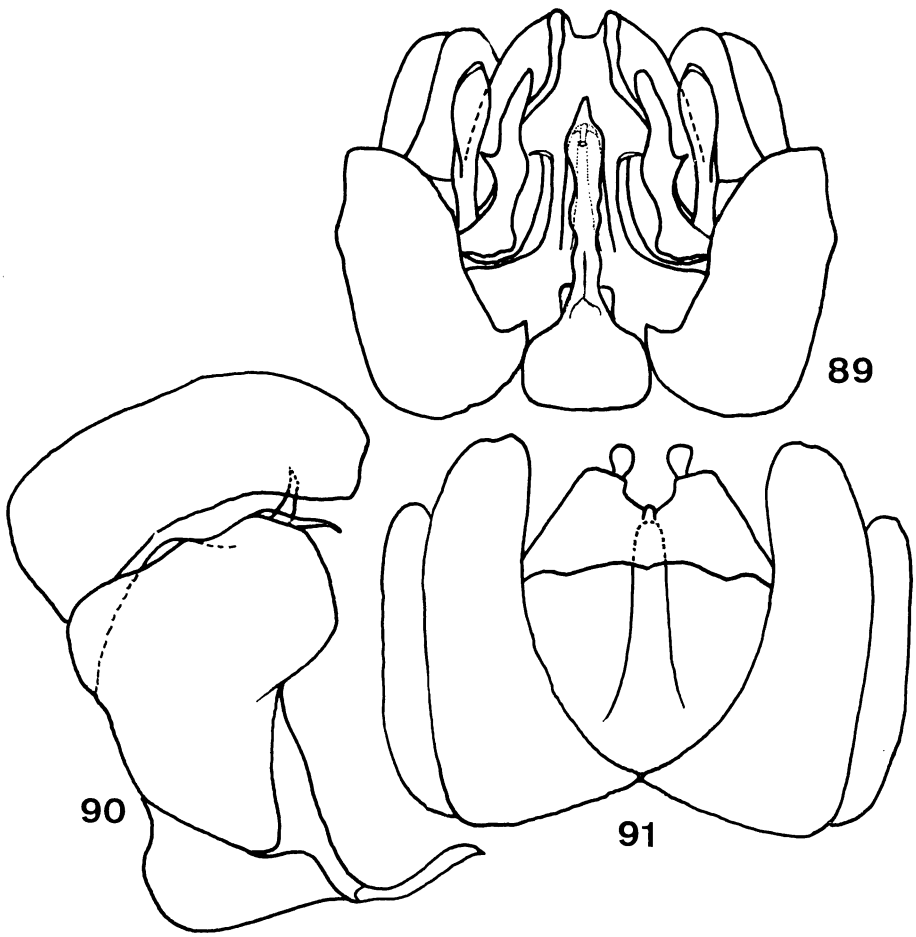
Abdomen yellowish brown; tergite 1 dark reddish brown, posterior margin lighter, tergites 2-6 with a triangular white pollinose spot on

each side, tergites 2-4 with hind margin dark reddish brown; sternites yellowish brown; pile and bristly hairs yellowish; genitalia yellowish brown with yellowish hairs.

Legs yellowish brown, coxae dark reddish brown, yellowish white pollinose; pile yellowish, bristles mixed black and yellowish, anterior femora with a small patch on basal fifth of ventral side, middle femora with a well developed patch on ventral and inner sides; claws black, basal half reddish; pulvilli yellowish white.

Wings yellowish brown, apical half and hind margin darker, center of cells lighter; veins brown; fourth posterior cell closed and petiolate, anal cell closed on wing margin.

Female - Length: 16 mm; wing length: 13 mm.



P. fenestrata (Macquart), ♂ genitalia: 89, ventral view; 90, lateral view; 91, dorsal view.

Similar to male; pile and bristles predominantly white, triangular pollinose spots on abdominal tergites larger than in male, placed on tergites 1-5 (almost wanting on fifth segment); fourth posterior cell open.

Material examined: 3 specimens (2 ♂♂, 1 ♀)

CUBA. *La Habana*: 1 ♂, Playa del Chivo (HUM, holotype of *chalcoproctus*); 1 ♂, Playa del Chivo (USNM). *Pinar del Río*: 1 ♀, Consolación del Sur (USNM).

Prolepsis elotensis (Martin), comb. n.

(Figs. 18, 29, 47, 65-67)

Sphageus elotensis Martin, 1966: 216, figs. 6 (middle leg), 8 (♂ abdomen). Type-locality: Mexico, Sinaloa, Elota. Type, CAS.

Sphageus elotensis; Martin & Papavero, 1970: 15.

Material examined: 4 males.

MEXICO. *Sinaloa*: 1 ♂, 40 mi S Culiacán (CM, paratype); 1 ♂, 1 mi N Mazatlán (CSC). *Sonora*: 1 ♂, 1 mi NW Navojoa (CSC); 1 ♂, Obregón (MZUSP).

Prolepsis sandaraca (Martin), comb. n.

Sphageus sandaracus Martin, 1966: 217, fig. 7 (♀ abdomen). Type-locality: Mexico, Sinaloa, Elota. Type, CM.

Sphageus sandaracus; Martin & Papavero, 1970: 15.

No specimens have been studied; very probably this is the female of *elotensis.*

Prolepsis crabroniformis (Schiner)

(Figs. 5, 22, 28, 46)

Cacodaemon crabroniformis Schiner, 1866: 702 [indication, no description].

Cacodaemon crabroniformis Schiner, 1867: 375. Type-locality: unknown. Type, WIEN.

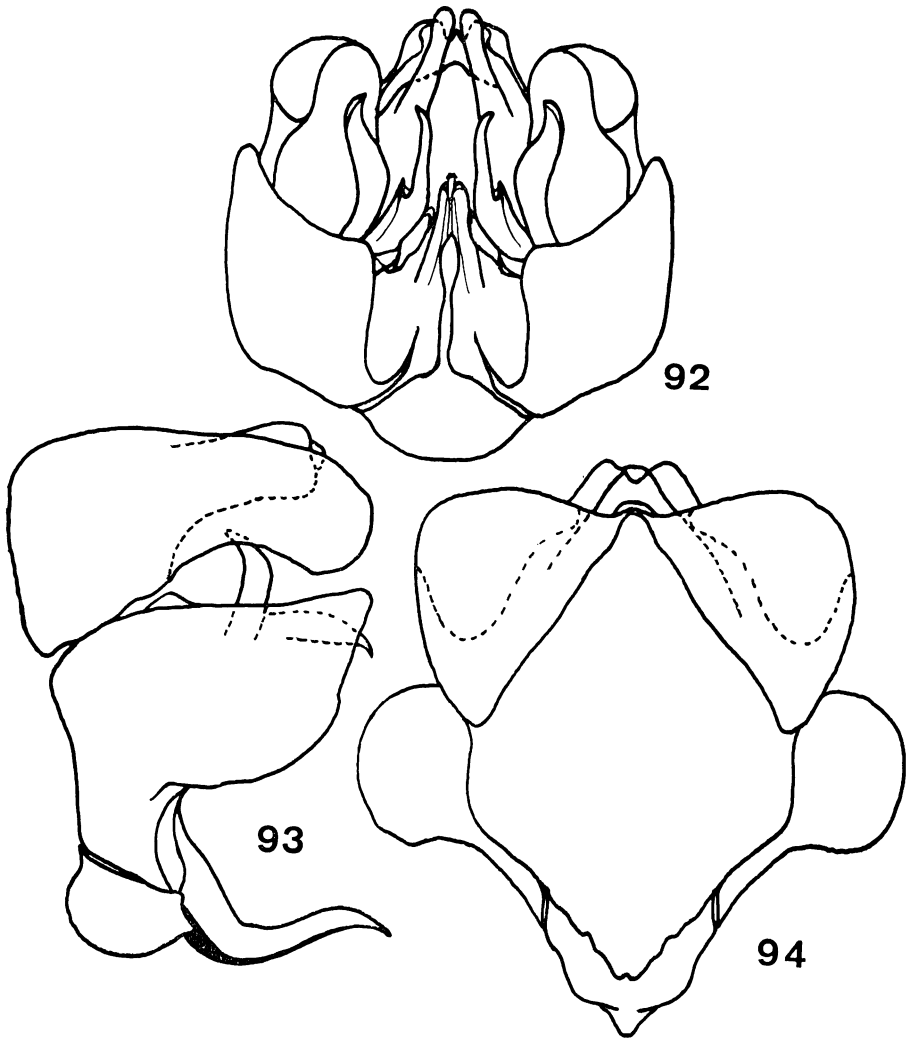
Prolepsis crabroniformis; Williston, 1891: 70; Kertész, 1909: 147; Carrera, 1950b: 84; Hull, 1962: 139.

Prolepsis cabroniformis; Martin & Papavero, 1970: 16 [incorrect spelling].

Closely related to *lucifer* and *funebris*, but resembling *sandaraca*, *chalcoprocta* and *costaricensis*. It may be distinguished from *lucifer* and *funebris* by its general reddish color-pattern, and from *sandaraca*, *chalcoprocta* and *costaricensis* by the presence of a spoon-shaped microsegment on third antennal segment.

Female - Length: 20-24 mm; wing length: 17-20 mm.

Head yellowish red; face white tomentose on ocular margins, a dark brown spot on lower external angle, below eye; a white pollinose band from eye to eye immediately below antennae; frons, vertex and occiput



P. rosariana (Carrera), ♂ genitalia: 92, ventral view; 93, lateral view; 94, dorsal view.

black, the latter white pollinose; antennal segments 1 and 2 yellowish red, segment 3 dark brown with reddish basal end; first segment 1.5-2.0 times longer than second, segment 3 three times longer than segments 1 and 2 together, with a small spoon-shaped microsegment with yellowish spine; head pile and bristles orange, some beard bristles black; palpi yellowish red, bristles orange; proboscis black, red below.

Thorax: Pronotum black, two longitudinal orange bands on middorsal line, bristles orange; mesonotum orange, a middorsal longitudinal black band, expanded in two oblique black spots over transverse suture (sometimes the oblique spots may be almost indistinguishable), pile and bristles orange; scutellum orange, 4 orange marginal bristles; postscutellum black, lateral sides reddish orange; pleurae black, large yellowish tomentose spots above each coxa and over laterotergite and pteropleura; halteres yellowish red.

Abdomen: Basal half of tergite 1 dark brown, remainder reddish with black hind margin; tergites 2-3 orange red, with black hind margin and a yellowish pollinose triangular spot on each lateral side, which on tergite 3 are united on middorsal line by means of a pollinose band; tergite 4 completely black, tergite 5 completely covered by yellowish pollinosity, except for a narrow black band on hind margin, remainder of tergites reddish (sometimes the black marks are very small or wanting); sternites copying tergal color pattern, pollinosity on fifth sternite reduced; pile and bristly hairs reddish yellow.

Legs orange red, coxae darker, the hind pair with a large yellowish tomentose spot, bristles mixed black and white; anterior femora with a single row of red spines on ventral side; middle femora with one row of stout black and red spines on ventral side and a patch on inner side, less developed than in *lucifer;* pile golden, bristles red and some short black ones on ventral side of tarsi; claws black, basal fifth reddish; pulvilli reddish yellow.

Wings reddish yellow, a brown band on apical third and hind margin; fourth posterior cell closed and petiolate, petiole long, anal cell narrowly open on wing margin.

Male: Unknown.

Material examined: 10 females.

ARGENTINA. *Córdoba*: 1 ♀, Agua de Oro (MBR); 1 ♀, La Granja, Alta Gracia (MBR); 5 ♀♀, El Sauce, Calamuchita (MBR, MZUSP). *Santa Fé*: 1 ♀, Rosario (MUN).

BRAZIL. *Paraná*: 1 ♀, Jaguariaiva (MZUSP); 1 ♀, Rio São Jorge, Ponta Grossa (MZUSP).

Remarks: Schiner's type lacks the third antennal segment, the scutellum has a black round spot on disc and only abdominal segments 1-3 are still present. I have not been able to examine this type, but Dr A. Kaltenbach, of the Vienna Museum, has kindly sent me an excellent description.

Prolepsis funebris, sp. n.

(Figs. 4, 26, 44)

P. funebris is a black species, closely related to *lucifer*, distinguished from the latter by the reduced patch on anterior femora and the absence of pollinose spots on mesonotum and supernumerary crossveins on subcostal cell.

Female - Length: 25 mm; wing length: 20 mm.

Head black; a reddish longitudinal spot between face and ocular margins; first and second antennal segments black, third segment dark reddish brown, grayish pollinose; segment 1 twice the second, third segment 2.5 times longer than segments 1 and 2 together, with a spoon-shaped microsegment with black spine; mystax black, covering three-fourths of length of face; bristles of antennae, frons, ocellar tubercle, occiput and beard black; palpi black, bristles black; proboscis black.

Thorax black, pile and bristles black; scutellum with white pollinose hind margin and two black marginal bristles; pleurae with a white pollinose spot above each coxa, laterotergal bristles black; halteres reddish brown.

Abdomen black with violet-blue metallic shine, slightly grayish pollinose on tergites 2-3, pile and bristly hairs black.

Legs black, coxae with some white bristles; anterior femora with a row of stout black spines on basal fifth of ventral side, middle femora with a coarse patch of black spines on ventral and inner sides; pile mixed black and white, bristles black, some short reddish hairs on ventral side of tarsi; claws black; pulvilli reddish yellow.

Wings yellowish brown, apical and distal half of hind margin brown, center of cells lighter; fourth posterior cell closed and petiolate, petiole long; anal cell closed on wing margin.

Male: Unknown.

Type-material: Holotype ♀, Fazenda Aceiro, Jataí, Goiás, Brazil, X.1962 (Exp. Dep. Zool.) (MZUSP).

Prolepsis lucifer (Wiedemann)

(Figs. 3, 27, 45, 62-64)

Dasypogon lucifer Wiedemann, 1828: 388. Type-locality: Uruguay, Montevideo. Type, HUM.

Dasypogon satanas Wiedemann, 1828: 401. Type-locality: Uruguay, Montevideo. Type, HUM.

Dasypogon rufipennis Macquart, 1838: 45. Type-locality: Uruguay, "depuis l'embouchure de l'Uruguay jusqu'aux Missiones". Type, PARIS.

Prolepsis fumiflamma Walker, 1851: 101, pl. 3, fig. 6 (whole insect), 6a (head). Type-locality: "Brazil". Type, BM.

Dasypogon satanas; Loew, 1851: 13; Walker, 1854: 432.

Dasypogon lucifer; Walker, 1854: 432.

Dasypogon fumiflamma; Walker, 1854: 437.

Dasypogon rufipennis; Walker, 1854: 438; Schiner, 1866: 704; Lynch Arribálzaga, 1880: 29; Wulp, 1882: 98.

Cacodaemon lucifer; Schiner, 1866: 672, 679, 702; Bigot, 1878: 220; Lynch Arribálzaga, 1879: 152; Wulp, 1879: xxii.

Prolepsis fumiflamma; Schiner, 1866: 702.

Cacodaemon satanas; Schiner, 1866: 672, 679, 702; Wulp, 1879: xxii.

Cacodaemon quadrinotatum Bigot, 1878: 431. Type-locality: "Chili". Type, OXF.

Cacodaemon quadrinotatum; Lynch Arribálzaga, 1879: 152.

Prolepsis lucifer; Lynch Arribálzaga, 1881: 26; Wulp, 1882: 97; Lynch Arribálzaga, 1883: 140; Williston, 1891: 70; Brèthes, 1907: 286; Kertész, 1909: 147; Giacomelli, 1922: 227, fig. 8 (photo, whole insect); Bromley, 1946: 108; Carrera, 1950b: 86, fig. 1 (antenna), 2-3 (middle femur and tibia), 4 (wing); Carrera, 1953: 276; Carrera, 1960: 47; Carrera & Vulcano, 1961: 69; Hull, 1962: 139, figs. 187 (antenna), 459 (wing), 919, 928 (head), 1763, 1766 (♂ genitalia), 1947 (♀ genitalia); Martin & Papavero, 1970: 16.

Prolepsis quadrinotata; Williston, 1891: 70; Kertész, 1909: 148.

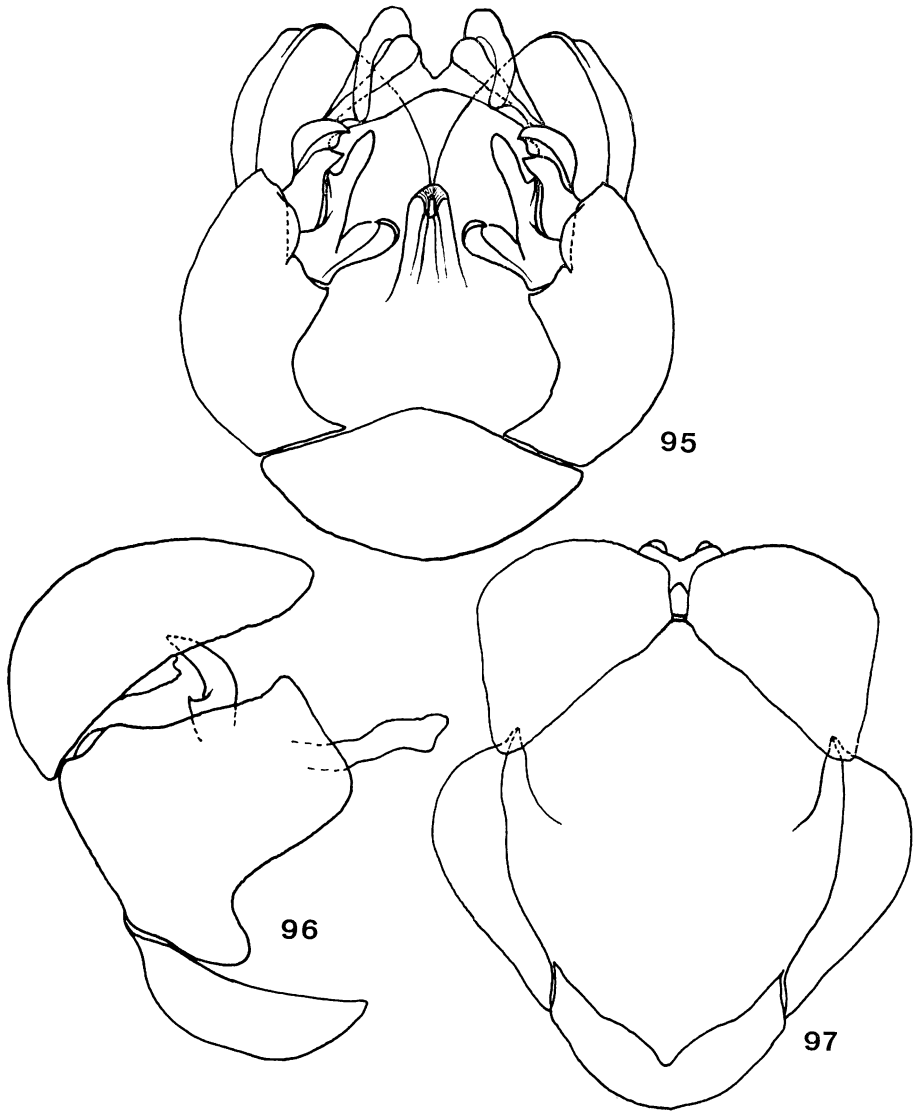
Prolepsis 4-notata; Brèthes, 1909: 89.

Prolepsis quadrinotatum; Stuardo, 1946: 83; Martin & Papavero, 1970: 16; Artigas, 1970: 166, figs. 142 (middle femur), 143 (head), 144 (apex of third antennal segment), 145 (wing), 146-147 (♂ genitalia).

Male - Length: 14-17 mm; wing length: 11-14 mm.

Head dark reddish brown to black; face, frons and vertex dark reddish brown with white pollinosity, a broad white tomentose band between upper portion of mystax and base of antennae; antennae reddish brown, third segment darker, sometimes apex reddish; segment 1 twice the second, segment 3 a little more than twice longer than segments 1 and 2 together, broader, laterally compressed, bearing an apical spoon-shaped microsegment with reddish spine; mystax black, pure white or mixed black and white, covering four-fifths of length of face; antennal bristles dark reddish brown to yellowish; frons, ocellar tubercle and occiput with white or mixed black and white bristles; beard bristly hairs black to yellowish white; palpi dark reddish brown, bristles black; proboscis reddish brown with some long, thin hairs on middle of ventral border.

Thorax dark brown, almost black; mesonotum with two oblique, white pollinose triangular spots on anterior third, near humeral calli, and two club-shaped spots over transverse suture, a light shade of dirty yellowish pollinosity unites the triangular and club-shaped spots; humeral and postalar calli, reddish; pile white on anterior half and black on posterior one, bristles black, some white ones on pronotum; scutellum black, posterior margin white pollinose, 2-4 black marginal bristles;



C. rubrofasciata Lynch Arribálzaga, ♂ genitalia: 95, ventral view; 96, lateral view; 97, dorsal view.

pleurae dark reddish brown to black, laterotergal bristly hairs black; halteres dark brown to black.

Abdomen dark reddish brown with strong violet-blue metallic shine; sternites reddish brown; tergites 1-2 with black or white bristly hairs; pile black or mixed black and white; genitalia dark reddish brown with black or mixed black and white hairs.

Legs: Coxae dark reddish brown with black or white bristly hairs; femora dark reddish brown, pile and bristles black, middle femora noticeably shorter and stouter than anterior and posterior pairs, with a conspicuous patch of heavy spines on basal half of inner ventral sides, anterior femora also with a patch on basal third of ventral side, but smaller; tibiae and tarsi dark reddish brown, pile and bristles black, some short golden hairs on ventral side; claws black, basal portion reddish; pulvilli dark reddish yellow.

Wings dark brown, apex and hind margin lighter, sometimes a longitudinal yellowish spot over costal, subcostal and marginal cells, and other irregular yellowish spots over distal half of discal cell and fourth posterior cells; subcostal cell with a varied number of supernumerary veins (ranging from 1 to 7, sometimes absent); fourth posterior cell closed and petiolate, petiole always well developed, anal cell closed or narrowly open on margin.

Female - Length: 16-20 mm; wing length: 12-15 mm.

Similar to male, except in the following:

Third antennal segment orange; marginal scutellar bristles slender; wings orange, a light spot on apex and another over discal cell and portions of second, third and fourth posterior cells; a dark band between the apical and discal spots, another over portions of fourth and fifth posterior cells, and at least one over portions of anal and axillary cells.

Material examined: 80 specimens (27 ♂♂, 53 ♀♀)

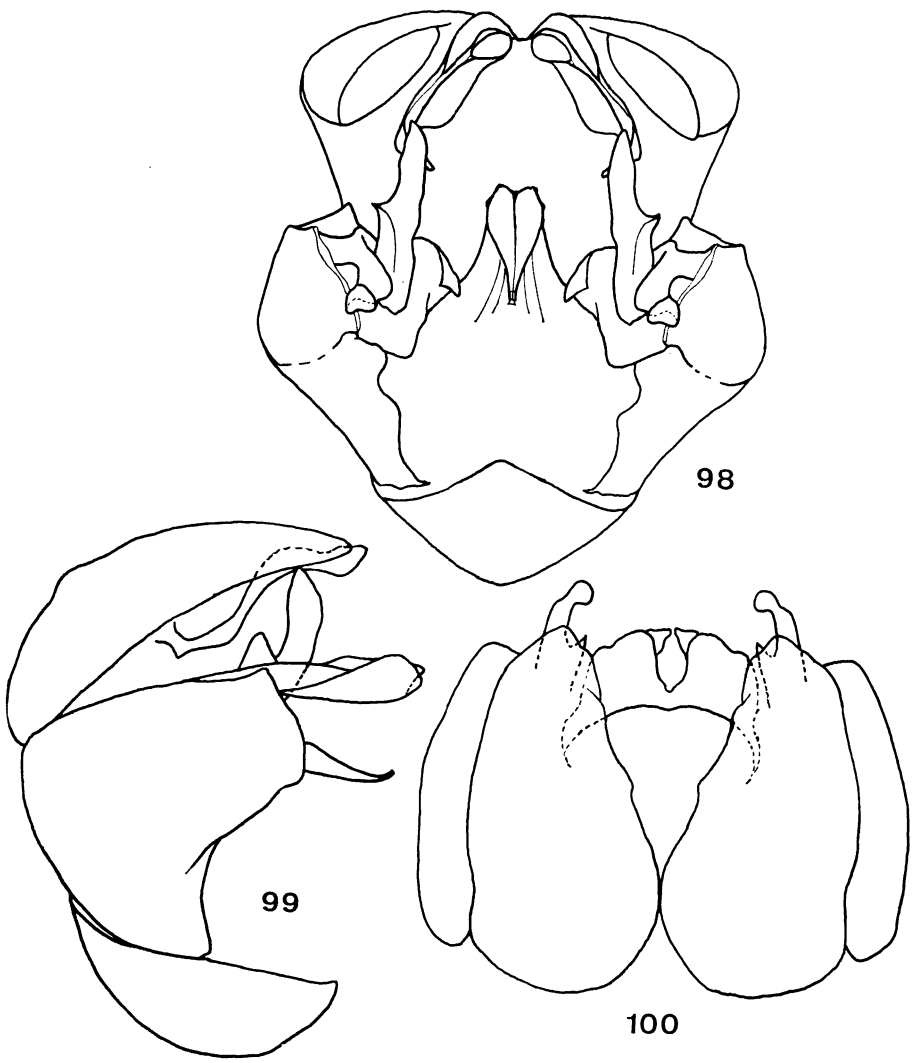
ARGENTINA. *Buenos Aires*: 2 ♀♀, Abra de la Ventana, Tornquist (IML, UNSM); 1 ♂, 4 ♀♀, Buenos Aires (MBR, MZUSP); 1 ♀, Chacabuco (MBR); 1 ♂, 1 ♀, El Jabalí (USNM); 1 ♀, Hurlingham (MZUSP); 1 ♂, 4 ♀♀, Río Quequén Salado (MBR); 1 ♀, Rosas (MBR); 1 ♂, 1 ♀, Tandil (IML, MZUSP); 1 ♀, Uribelarrea (MZUSP). *Catamarca*: 1 ♀, Hualfín (USNM). *Córdoba*: 1 ♀, Bel Ville (MZUSP); 1 ♂, 1 ♀, Córdoba (IML, MCZ); 1 ♀, El Sauce, Calamuchita (MBR); 1 ♂, General San Martín (IML); 1 ♀, La Granja, Alta Gracia (MBR), *Chubut*: 1 ♂, 2 ♀♀, Chubut (MBR). *La Pampa*: 3 ♂♂, 3 ♀♀, General Pico (MBR, MZUSP, USNM). *Mendoza*: 2 ♂♂, 4 ♀♀, Cacheuta, Puente del Inca, 2500 m (MBR); 1 ♂, 2 ♀♀, Mendoza (MBR, USNM). *Neuquén*: 2 ♂♂, 1 ♀, Neuquén (IML, MZUSP). *Río Negro*: 1 ♀, Río Colorado (IML). *Salta*: 1 ♀, Tacuara (MZUSP). *San Luis*: 1 ♂, 2 ♀♀, Potrero de los Funes

(MBR); 1 ♀, San Luis (MBR). *Santa Fé*: 2 ♂♂, 2 ♀♀, Carcarañá (CM). *Santiago del Estero*: 1 ♂, Río Salado (MZUSP). *Tucumán*: 2 ♂♂, 2 ♀♀, Aráoz (IML, MZUSP, USNM). *Vague*: 1 ♂, "Gordes" (MBR); 1 ♀, "Pampa Central" (MBR).

BRAZIL. *Rio Grande do Sul*: 1 ♂, Rio Grande do Sul (MUN); 1 ♀, Santa Cruz (USNM).

CHILE. 1 ♂, "Chili" (OXF, holotype of *quadrinotatum*).

URUGUAY. *Colonia*: 3 ♀♀, Puntas Arenal (FAG). *Lavalleja*: 1 ♀, Tapes de Godoy (FHUM). *San José*: 2 ♂♂, 1 ♀, Ruta 1, Km 42 (FAG). *Vague*: 1 ♀, "La Plata" (HUM, holotype of *lucifer*).



C. dissona, sp. n., ♂ genitalia: 98, ventral view; 99, lateral view; 100, dorsal view.

NO DATA: 1 ♂, 2 ♀♀ (MBR).

Remarks: In spite of Loew' (1851) choice (as first reviser) of *Dasypogon satanas* Wiedemann as the correct name to be applied to this species, later authors preferred the usage of *Dasypogon lucifer* Wiedemann, first employed by Lynch Arribálzabga in 1879. The International Code of Zoological Nomenclature (Stoll *et al.*, 1964) in its article 24(a) prescribes that, in case of two names published simultaneously, relative priority will be established by the action of the first reviser (in this case, Loew, 1851). Therefore, the name to be employed should be *satanas* Wiedemann. However, in 1969 the Commission adopted an improvement of article 23(b) of the Code which fortunately settles this question, favoring the name *lucifer* (cf. Mayr, Simpson & Eisenmann, 1971). The name *satanas* shall be considered a *nomen oblitum*.

Cacodaemon quadrinotatum Bigot, considered as a valid species by Artigas (1970) is no more than a variation of the "typical" *lucifer;* I have seen several Argentinian specimens almost identical to the *quadrinotatum* type.

Bigot (1878) stated the type-locality of *quadrinotatum* as being "Chili", a fact considered questionable by subsequent authorities. Papavero (1971) has demonstrated that during 1848-1867 a French collector named Pierre Pissis was sending Chilean insects to Macquart and Bigot, and probably the *quadrinotatum* type-specimen was among them.

Giacomelli (1922) has suggested a mimetic relationship between *lucifer* and the Pompilid wasp *Salius* (= *Cryptocheilus*) *ferrugipennis* Hal.

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