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Entomology

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A REVIEW OF THE GENUS

UROSIGALPHUS OF SOUTH AMERICA (HYMENOPTERA: BRACONIDAE)

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Lester Paul Gibson, B.Sc.

* * * * *

The Ohio State University

1974

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INTRODUCTION

Previous works described only three species of South American *Urosigal phus* (Philippi 1873, Cushman 1926, Wilkinson 1931) and all known species from the United States and Canada (Gibson 1972a) and from Mexico, Central America, Panama, the Virgin Islands, the Dominican Republic, and the West Indies (Gibson 1972b). This paper describes all known species from South America 23 (20 new), and Trinidad (1 new).

Three subgenera are known to occur in South America. The subgenera *Microurosigal phus* Gibson and *Paraurosigal phus* Gibson are not known from South America. However, the subgenus *Microurosigal phus* is included in the key to subgenera. There no doubt are many more undescribed species in South America, so the subgenera key and species keys will form a basis for future studies. The subgenus *Bruchiurosigal phus* is represented by 4 (3 new) species; the subgenus *Urosigal phus* is represented by 5 (4 new) species; and the subgenus *Neurosigal phus* by 15 (14 new) species. The species of the genus *Urosigal phus* are internal parasites of Bruchidae and Curculionidae.
Philippi (1873) described *Ascogaster? rufiventris* from Chile. Ashmead (1889) proposed the genus *Urostigalphus* in the Sigalphinae of the Braconidae for the reception of his two new species, *U. armatus* from Tennessee and *U. robustus* from Virginia. He designated *U. armatus* as the genotype. Dalla Torre 1898, Ashmead 1900, Cameron 1904, Szepligeti 1904, and Brues 1910 placed the genus in Sigalphinae. Szepligeti (1904) placed *Urostigalphus* in synonymy under *Sigalphus* Latreille. He also called *A.? rufiventris* by the name *Sigalphus rufiventris* Philippi. Cameron (1904) proposed the genus *Rhysosigalphus* for the reception of the new species *rugosus* from Mexico. Crawford (1907) described two new species reared from *Anthonomus grandis* Boh. The one from Brownsville, Texas, he named *Urostigalphus anthonomi* and the other from Trece Aguas, Alta Vera Paz, Guatemala, he named *U. schwarzi*. Also Crawford (1907a) described *U. bruchi* bred from *Bruchus* in *Prosopis* from Victoria, Texas. Brues (1910) described a fossil as *Urostigalphus aeternus* from Florissant, Colorado. Smith (1910) lists *U. robustus* from Lakehurst, New Jersey.

Crawford (1914) revised the genus *Urostigalphus* and described eight new species: *U. hubbardi* from Chiricahua Mtns., Arizona; *U. barbari* from Las Vegas Hot Springs, New Mexico; *U. nigripes* from an oak twig gall collected at Fort Grant, Arizona; *U. punctifrons* from Las Vegas Hot Springs, New Mexico; *U. brachivorus* bred from *Bruchus* sp. in *Prosopis pubescens* at Indio, California; *U. arizonensis* reared from *Bruchus*
arizonensis from Fort Yuma, Arizona; *U. neomexicanus* from Las Cruces, New Mexico; and *U. femoratus* collected in Illinois.

Viereck (1916) described two new species: *U. mohawkorum* and *U. wampanoagorum* from New Haven, Connecticut.

Cushman (1922) described three new species: *U. crassisculptus* from Agricultural College, Michigan; *U. otidocephali* reared from *Otidocephalus* in Sycamore from Harrisburg, Pennsylvania; and *U. pini* collected on *Pinus attenuata* at Patrick's Creek, California. He also discussed additional localities and biological notes about *U. barberi* Crawford, *U. armatus* Ashmead, *U. femoratus* Crawford, and *U. neomexicanus* Crawford. Cushman (1926) described *U. eulechriopis* reared from *Eulechriops gossypii* Barber from Julao, near Lamas, Peru. Muesebeck (1928) listed four species as found in New York. Wilkinson (1931) described a new species, *U. chalcodermi*, a parasite of *Chalcodermus bondari* Mshl., from Bahia, Brazil. He also placed *Rhyssosigalphus rugosus* Cameron in synonymy under *Urosigalphus*. Brimley (1938) reported an undescribed new species from North Carolina. Hellen (1945) placed *Urosigalphus* under Sigalphini. Muesebeck and Walkley (1951) also placed *Rhyssosigalphus* Cameron in synonymy under *Urosigalphus* Ashmead and listed the 17 described species found in America north of Mexico and included the range and host, when known, of each species.

Thompson (1953) listed hosts for three species. Martin (1956) revised the genus and described three new species: *U. nigrescens* from the Santa Rita Mtns., Arizona; *U. forbesi* reared from *Curculio* from Birmingham, Alabama; and *U. trinocatus* from Needles, California. Muesebeck (1958) added notes on further distribution and/or host of 13 species. Muesebeck (1967) added notes on three species.
The genus *Urosigalphus* was placed by early authors in the *Sigalphinae* (Ashmead 1889, Dalla Torre 1898, Ashmead 1900, Cameron 1904, Szepligeti 1904, Brues 1910). Later authors placed the genus *Urosigalphus* in the subfamily Blacinae (Muesebeck and Walkley 1951; Martin 1956; Muesebeck 1958, 1967; Marsh 1963). Capek (1970) placed the genus in the subfamily Helconinae on the basis of the cephalic structures of the final-stage larva. Capek also divided the subfamily Blacinae into 4 parts. He placed *Pygostolus, Centistes, Syrrhisus,* and *Cosmophorus* in Centistinae; *Microtypus, Stantonia,* and *Orgilus* in the tribe Orgilini of Agathidinae; *Eubadison* in the Macrocentrinae; and *Blacus, Calyptus, Aliolus, Triaspis,* and *Urosigalphus* in the tribe Blacini of Helconinae.

Muesebeck (1970) discussed the placement of the Blacinae. He stated that Tobias in 1965 disposed of the Blacinae by transferring *Blacus* to Euphorinae. Then Tobias (1967) placed *Orgilus, Microtypus, Stantonia,* and *Eubadison* (in part) in Microtyphinae; these 4 genera were assigned to Orgilinae by Muesebeck (1970), because the name antecedes Microtyphinae by 18 years.

Tobias (1967) placed *Calyptus, Aliolus, Triaspis, Schizoprymmus,* and *Urosigalphus* along with 3 other genera in the Calyptinae. To do this he ignored the fact that Blacinae antecede the name Calyptinae by 49 years. He also ignored the fact that Granger's (1949) paper considers Blacinae before Calyptinae.

The genera *Blacus, Calyptus (Eubadison Nees), Aliolus, Triaspis, Schizoprymmus,* and *Urosigalphus* form a very distinct group. After studying Capek's excellent paper (1970), Tobias' papers, and Muesebeck's (1970) paper, I prefer to leave these genera in the Blacinae. They can be separated by the following key.
KEY TO GENERA OF BLACINAE

1 Abdomen with 2 or fewer visible transverse dorsal sutures;
   tergites forming a carapace ................................................. 2
1' Abdomen with at least 3 visible transverse dorsal sutures;
   tergites not forming a carapace ........................................... 5

2(1) Carapace segmented. .......................................................... Aliolus Say
2' Carapace not segmented but may be sutured ............................ 3

3(2') Carapace with sutures dorsally and laterally.  .  .  .  .  .  .  . Triaspis Haliday
3' Carapace without sutures or with sutures laterally only .......... 4

4(3') Carapace without sutures, ventral edge reflexed completely
   around apex; outer claw of hind tarsus larger than inner
   claw. ................................................................. Urosigalphus Ashmead
4' Carapace usually with short lateral sutures; ventral edge
   reflexed laterally only, outer claw of hind tarsus similar
   to inner claw ......................................................... Schizoprymnus Foerster

5(1') First cubital (first radial) cell open at apex.  .  .  .  .  .  . Blacus Nees
5' First cubital (first radial) cell closed at apex.  .  .  .  .  .  .  .  .  . Eubadison Nees
THE GENUS *UROSIGALPHUS* ASHMEAD, 1889


Type species: *Urosigalphus armatus* Ashmead 1889: 637 (by original designation).

*Sigalphus* Latreille, sensu Szepligeti 1904: 91. (in part).


*Triaspis* Haliday, sensu Fahringer 1934: 367; DeSaeger 1948: 213.
FEMALE.--Body length exclusive of ovipositor 2.0-7.8 mm. Entire body nitidous but covered with silvery hairs. Wings hyaline or tinted brown, iridescent.

The head varies, in front view, from nearly round to subquadrate and subtriangular. Face with anterior tentorial pit near each end of frontoclypeal groove. Face sculpture varies from finely punctate to rugoso-punctate. Clypeus usually transversely quadrate, sometimes semicircular, lower part impunctate and reflexed apically, lateral area of lower margin with an angulation near base of each mandible. Labrum punctate; labial palpi 3-segmented. Mandible broad basally, narrowing and bidentate apically. Maxillary palpi 5-segmented, elongate. Occipital carina varies from complete and well-developed to incomplete and present only laterally. Antennal scapes usually well separated. Antennal sulci present. Antenna 14- to 19-segmented, usually extending to base of carapace; flagellar segments longer than broad, closely and evenly reticulate with a dense short pile; scape and pedicel punctate; pedicel short, less than half as long as scape; flagellar segments progressively shorter distally, but apical segment usually longer than penultimate segment.

Thorax short, stout, chunky; shorter than carapace. Mesonotum usually as broad as long, notaulices always present, usually foveolate; area of notaulices convergence quadrate or triangular and foveolate or rugoso-punctate. Scutellar groove with dissecting carinae. Metanotum narrow centrally. Propodeum with a transverse carina, dorsal area usually narrow, posterior surface declivious but obliquely truncate in some, usually punctate or rugoso-punctate; propodeal spiracles small and circular,
usually raised slightly above general surface, as high as top of rugae. Mesepisternal groove usually partly foveolate but weakly so in some species. Pronotum punctate, upper posterior corner with a distinct bend, the area behind triangular. Tegula usually pear shaped but occasionally ovoid. Front wings (Fig. 1) with relatively strong veins; stigma lanceolate or broadly lanceolate; costa plus subcosta and radius closely appressed along anterior edge, medial-cubital vein sinuate; submedian cell as long as or slightly longer than median cell; all veins beyond stigma obsolete except radius and radial sector. Hind wing with submediellan cell approximately half as long as mediellan cell. Legs with coxa, femora, hind tibia, and hind tarsi enlarged; hind coxa usually nearly half as long as hind femur; hind femur 3-5 times as long as broad; hind tibia clavate; outer claw of hind tarsi larger than inner claw and with no basal tooth.

Abdomen shorter than thorax and head combined, basally broad and sessile. First 3 abdominal tergites fused into a rigid unsegmented and unsutured carapace which normally conceals the rest of the abdomen except for the ovipositor. Carapace usually longitudinally rugoso-punctate with sides rounded onto the venter, with a reflexed bordering margin completely surrounding the ventral opening; apex of carapace with or without apical tubercles (spines). Ventral opening of carapace narrower and shorter than carapace.

MALE.—Similar to female except for customary sexual differences and carapace modifications.

Biology.—There is relatively little life history or biological information available on the species of the genus. Most of the biological information is found in Martin's (1956) revision, Thompson's (1953) parasite-host catalogue, and Gibson (1972a & 1972b). Host records
indicate that the species of this genus are mostly parasites of seed-infesting curculionid and bruchid larvae. One subgenus contains species that are parasites of twig and gall-inhabiting weevils.

**Distribution.**—Species of this genus have been collected in Canada, United States, Mexico, Central America, Panama, South America, the Virgin Islands, the Dominican Republic, the West Indies, and Hawaii. Brues (1910) described a fossil braconid as *Urostigalphus aeternus* from Florissant, Colo.

**Remarks.**—The total number of specimens of most species in collections is very small. Only in a few cases have there been extensive collections, and these have been acquired through rearings from host material, mainly seed inhabitors and boll weevils, *Anthonomus grandis* Boheman.

*Urostigalphus* is similar to *Sohisoprymnus* Foerster, from which it can be separated by its more convex abdominal carapace, by the complete absence of transverse sutures on the carapace, by the reflexed lateral margin of the carapace completely bordering the ventral opening, by the more sinuate medio-cubital vein, and by the key characters. The *Urostigalphus* may be separated from all Blacinae genera by the outer claw of the hind tarsi being larger than the inner claw and usually with no basal tooth.

The characters used for subgeneric separation are consistent and make separation easy. The shape of the abdominal carapace and the number of antennal segments indicate that the subgenus *Microurostigalphus* and the subgenus *Bruchiruosigalphus* are more closely related to each other than
to the other subgenera. However, some species of subgenus *Neurosigalphus* and some of subgenus *Microurosigalphus* show modifications of the intero-cellular triangle that is so prominent in the subgenus *Urosigalphus*.

The terminology used for wing veins and cells is essentially Ross' (1936) terminology as used by Riegel (1948) which I have modified slightly.

The male genitalia offer good diagnostic characters but have not been used in this paper except for length and color of the external parameres. The reasons for not using the genitalia to a greater extent were that several species are not represented by male specimens and also because the number of specimens was quite small. Figures 2 and 3 show the relative lengths of the parameres and the genital structures of two North American male *Urosigalphus*. 
KEY TO SUBGENERA OF THE GENUS *UROSIGALPHUS*

1  Second radial cell open, radial sector
   incomplete (Fig. 4) ........................................... *Microurosigalphus* Gibson

1' Second radial cell distinctly closed, radial sector
   complete (Figs. 1, 5-7) ....................................... 2

2(1') Ocellar triangle raised into pyramidal
   projection (Fig. 5) ........................................... *Urosigalphus* Ashmead

2' Ocellar triangle not raised into pyramidal projection
   (Figs. 6 & 7) .................................................. 3

3(2') Scutellum elevated into a point and triangular
   (Fig. 6) .................................................... *Brachiurosigalphus* Gibson

3' Scutellum not elevated into a point
   Fig. 7) ..................................................... *Neourosigalphus* Gibson

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1/ Not known south of Guatemala and El Salvador, Central America.
Fig. 1. Typical *Urosigalphus* wings. Veins: C--costa, Sc--subcosta, R--radius, M--median, Cu--cubitus, A--anal. Cross-veins: r--radial, r-m--radial-medial, m-cu-medial-cubital. Cells: r--radial, rs--radial sector, m--median, me--medial, sm--submedian, cu--cubital, a--anal, co-costellan, ra-radiellen, med--mediellan, smed--submediellan, cub--cubitellan, anel--anelellan.
Fig. 2 & 3. Ventral aspect of $\sigma$ genitalia of *Urosigalpbus* spp.
Fig. 4. Subgenus *Microurosigalphus* wing, Rs vein incomplete, radial cell open (A).

Fig. 5. Subgenus *Urosigalphus* showing vein complete and radial cell closed (A), ocellar triangle produced pyramidally (B), scutellum not elevated (C). X 12.

Fig. 6. Subgenus *Bruchiurosigalphus* showing Rs vein complete (A), ocellar triangle not produced pyramidally (B), scutellum elevated dorsoposteriorly (C). X 25.

Fig. 7. Subgenus *Neurosigalphus* showing Rs vein complete (A), ocellar triangle rounded (B), scutellum rounded (C). X 12.
SUBGENUS BRUCHI UROSIGALPHUS GIBSON

Type-Species.—Urosigalphus bruchi Crawford.

Distribution.—Known from Venezuela, Argentina, and Chile.

Hosts.—One of the four species is a known parasite of Bruchidae. The other three species are probably parasites of bruchids.

REMARKS

Members of the subgenus Bruchiurosigalphus can be separated from all other subgenera by their dorso-posteriorly produced scutellum (Fig. 6). They have the radial sector complete. The antennae are 14-segmented. The carapace usually bears a pair of apical spines.
KEY TO SPECIES OF THE SUBGENUS BRUCHIUSOSIGALPHUS

1 Carapace tubercles well developed, pointed ............... 2
1' Carapace tubercles short, blunt, closely spaced ................ addabruchus n. sp.
2(1) Carapace black; hind femur light brown ........ australis n. sp.
2' Carapace red; hind femur dark red-brown ........ rubicarapace n. sp.

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2/ U. rufiventris is not included in this key since not enough information is available in the species description.

17
UROSIGALPHUS (BRUCHIUROSIGALPHUS) ADDABRUCHUS N. SP.

Fig. 8

Size and Color.—Length 3.6 mm. Head, thorax, and carapace black; abdomen dark brown; clypeus light brown apically, labrum light brown; mandible light brown with darker brown apex; palpi light yellow-tan; antennae dark brown; fore and midlegs yellow-tan, hind legs testaceous, the hind tibia and tarsi darker brown dorsally, hind coxae have a dark basal infusion. Tegula dark red-brown. Wings with nearly colorless hairs, the costa tan basally and darker brown apically; stigma dark brown, the remaining veins pale brown distally, paler to almost colorless basally.

FEMALE.—Head: Roundly quadrate, more or less densely rugoso-punctate. Vertex, temples, and genal regions with dense small punctures and shiny. Lower face rounded more evenly, finely rugoso-punctate; fronto-clypeal groove well impressed with a small, deep, round anterior tentorial pit. Clypeus rather quadrate; evenly punctate; the lower part narrow, impunctate, central margin straight in outline. Labrum evenly punctured. Mandible with teeth long and narrow, outer surface rather finely rugose. Antennal scapes well separated, with a rugoso-punctate groove in the interantennal area, with small, well formed marginal carinae, and a deep, narrow, punctate antennal sulcus extending to rear of vertex. Ocelli circular, interocellar triangle slightly raised without a depressed median groove anteriorly. Antennal scape long and relatively
slender, the inner margin slightly rounded; pedicel nearly round, almost half as long as scape. Occipital carina incomplete; well developed laterally but absent from the dorsal region.

Thorax: Unevenly punctate. Mesonotum notalices broad, shallow, with moderately large punctures, area of convergence a broad, rather quadrate depressed area with moderately large punctures; median lobe irregularly punctate with a suggestion of a central ridge; lateral lobes flattish, sparsely, finely punctured, with a very small lateral carina, and with fairly deep, broad depressions; posterolateral carina poorly developed, and very weakly flangelike. Scutellar groove shallow and narrow medially. Scutellum triangular, produced posteriorly into a blunt point, with irregular small to moderate punctures dorsally, deeply rugoso-punctate laterally; posterior surface strongly declivious, irregularly, finely rugoso-carinate. Metanotum with strong, transverse rugae. Propodeum flat posteriorly, with a fairly strong transverse carina; central dorsal carina strongly developed, joining the strong transverse carina which proceeds down both sides in an arc to the point of abdominal articulation; dorsal surface with carinae delimiting irregular depressions; posterior surface densely rugoso-punctate; lateral areas rather rounded in cross-section and rather irregularly rugoso-punctate; propodeal spiracles small, raised above top of rugae. Mesopleura with middle central area shiny and smooth; upper anterior portion densely, finely, rugoso-punctate, lower central area depressed with a few elongate rugae in a mesopleural groove; mesosternum irregularly rugoso-punctate. Lateral regions of pronotum mostly densely and irregularly punctured with fairly large deep punctures and irregular rugae; upper posterior corner
with a slight bend, the triangular area behind it rather finely rugoso-punctate. Tegula pear shaped, finely punctate basally. Legs relatively short and stout; all femora and the hind coxa, tibia, and tarsi thickened.

Abdomen: Carapace rather elongate and gently rounded dorsally, to a point apically; the general surface longitudinally rugoso-punctate; apex of carapace with two very short, blunt, closely set apical spines separated by a groove. Ovipositor 0.8 mm long, 1/2 as long as the carapace; the sheath slender, brown, clothed with fine hairs.

MALE.--Unknown.

Holotype.--♀ Limache, Chile; USNM No. 70358.

Distribution.--Limache, Lampa, and Til-Til, Chile.

Host.--Bruchidae in Prosopis sp. seeds; ex Bruchus ferrugineipennis.

Specimens Examined.--12♀ as follows: CHILE -- 4♀ Limache, ex Bruchus ferrugineipennis; Apr. 1940, L. Duran #27; 7♀ Lampa, ex Bruchids in Prosopis seeds, 16 July 1924, W. B. Wood; 1♀ Til-Til, with Bruchids on Prosopis sp. #11, 10 Oct. 1943, R. Cortes (USNM).

REMARKS

Similar to australis but easily separated by the key characters.
UROSIGALPHUS (BRUCHIUROSIGALPHUS) AUSTRALIS N. SP.

Fig. 9

Size and Color.—Length 3.8 mm. Head, thorax, and carapace black; abdomen rufo-testaceous; clypeus dark brown apically, labrum testaceous; mandible yellow-tan with red-brown base and dark red-brown or red apex; palpi light yellow; antennae tan basally, medium brown apically, scape red-brown, pedicel yellow; fore and midlegs yellow-tan; the hind femur light brown, the hind coxa and tibia red-brown, and tarsi darker red-brown. Tegula dark red-brown. Wings with nearly colorless hairs, the costa light tan basally and dark brown apically; stigma dark brown, the remaining veins medium brown distally, paler to almost colorless basally.

FEMALE.—Head: Round but slightly quadrate, more or less densely punctate. Vertex, temples, and genal regions rather finely punctured and shiny. Lower face uneven, more irregularly finely rugoso-punctate; fronto-clypeal groove well impressed with a small, deep, round anterior tentorial pit. Clypeus with upper part evenly punctate; the lower part narrow, relatively impunctate, central margin nearly straight. Labrum evenly punctured. Mandible very broad basally and narrow apically, the teeth long and narrow, outer surface with longitudinal carinae from base to near apex. Antennal scapes well separated, with a depressed rugoso-punctate groove in the area between the antennal fossae with poorly formed marginal carinae and with a deep, narrow, irregularly, sparsely punctate antennal sulcus. Ocelli roundly triangular, interocellar
triangle slightly raised with a short, depressed median groove anteriorly and poorly developed carinae in front of dorsal ocelli. Antennal scape long and relatively slender, the inner margin slightly rounded; pedicel short, nearly round. Occipital carina incomplete; well developed laterally but absent from the dorsal region.

**Thorax:** Mesonotum notaulices broad, shallow, with moderately large-sized deep punctures, area of convergence a broad, rather quadrate depressed area with large punctures; median lobe irregularly punctate with large and small punctures, and with a suggestion of a central ridge anteriorly; lateral lobes flattish, sparsely, finely punctured, with a very small obsolete lateral carina, and with large, deep depressions; posterolateral carina poorly developed, and very weakly flange-like. Scutellar groove rather shallow, and narrow centrally. Scutellum produced posteriorly, smooth in dorso-central area with irregular moderate to large punctures laterally; posterior surface somewhat rounded, rugoso-punctate, with a short central carina. Metanotum with weak, transverse rugae. Propodeum flat posteriorly, with a fairly strong transverse carina; central dorsal carina short but strongly developed, joining the transverse carina which proceeds down both sides in an arc to the point of abdominal articulation; dorsal surface with carinae delimiting irregular depressions; posterior surface fairly smooth and densely punctate; lateral areas rather irregularly rugoso-punctate; propodeal spiracles raised nearly even with top of rugae. Mesopleura with middle central area impunctate, upper area with a horizontal line of large deep punctures which extend down caudal margin; lower central area depressed with a few punctures in a mesopleural groove; mesosternum smooth centrally, densely
covered with small to moderate punctures. Lateral regions of pronotum moderately and regularly punctured with fairly deep punctures; upper posterior corner with a strong bend, the triangular area behind it rather finely rugoso-punctate, dorsal region with a transverse band of deep punctures. Tegula pear-shaped, impunctate.

**Abdomen:** Carapace rather elongate but slightly truncate apically; the general surface longitudinally rugoso-punctate; apex of carapace with a pair of well-formed sharp spines. Ovipositor 1.0 mm long, 2/3 as long as the carapace; the sheath slender, dark brown, clothed with fine hairs.

**MALE.**—Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia very short and dark brown.

*Holotype.*—♀ Venezuela, USNM No. 70356.

*Distribution.*—Venezuela and Argentina.

*Host.*—Unknown.

*Specimens Examined.*—2♀, 7♂ as follows: VENEZUELA --1♂ in dividivipods, 20 Feb. 1942 (NY 91707, 42-2175); 1♀ among fruit Caesalpinia coriaria, (NY 49666). ARGENTINA -- 1♀, 6♂ Tucuman, 29 March 1917, Zizyphus mistol, E. F. Schultz, F. H. B. Quaintance #21177 Hymen. Lot No. 9186, H. L. Sanford Colr. (USNM).

**REMARKS**

Similar to *addabruchus* but separable by the key. Carapace more strongly angulate ventrally than either *addabruchus* or *rubicarapace.*
**UROSIGALPHUS (BRUCHIUROSIGALPHUS) RUBICARAPACE N. SP.**

**Fig. 10**

*Size and Color.*—Length 3.9 to 4.1 mm. Head and thorax black; carapace red, darker red to maroon basally; clypeus dark red-brown apically, labrum dark red-brown; mandible brown with red-brown base and apex; palpi light tan; antennae dark red-brown; front legs light brown, tarsi tan, coxa dark red-brown, mid and hind legs dark red-brown, the hind tibia and tarsi blackish red-brown. Tegula black basally, deep maroon distally. Wings with the costa medium brown, tan basally; stigma dark brown, the remaining veins brown distally, paler basally.

**FEMALE.--Head:** Anterior outline roundly triangular; densely punctate with small, deep punctures. Vertex, temples, and genal regions densely, deeply punctured and shiny. Lower face finely rugoso-punctate, with a short fine carina extending from the side of the antennal fossa and running apically near the eye; fronto-clypeal groove well impressed, with a small, shallow, round, anterior tentorial pit. Clypeus with deep irregular punctures; the lower part narrow, transversely striate above, the margin impunctate, central margin straight. Labrum densely punctate with small punctures. Mandible very broad basally and narrow apically, teeth long and narrow, outer surface rather finely carinate. Antennal scapes well separated, with a depressed area in the intervening space, its sides more or less margined and with a small carina centrally, and a narrow,
deep, rounded impunctate antennal sulcus. Ocelli circular, interocellar triangle slightly raised and densely rugoso-punctate extending caudally. Antennae broken but probably 14-segmented; scape elongate and rather narrow, the inner margin rather rounded; pedicel short, nearly round. Occipital carina complete but very poorly developed.

*Thorax:* Irregularly punctate. Mesonotum very irregularly punctate; notauleses broad, shallow, with moderate-sized punctures, area of convergence shallowly, irregularly punctate; median lobe gently rounded, finely punctate, with a central moderately punctate line instead of a central ridge; lateral lobes flattish, shallowly, very finely punctured, with a narrow lateral carina, and with large shallow depressions; posterolateral carina very poorly developed or obsolete. Scutellar groove rather broad and deep with strong dissecting carinae. Scutellum narrowly trigonal in dorsal outline produced into a tri-spined point with large, deep, irregular punctures and strong, elongate rugae on its surface, with poorly developed central and lateral carinae. Metanotum with small, transverse rugae in the rectangular lateral areas. Propodeum flat posteriorly, with a very strong transverse carina; central dorsal carina well developed, joining the strong transverse carina which proceeds down both sides in an arc to the point of abdominal articulation, dorsal surface with strong carinae delimiting deep, wide depressions; posterior surface rather densely rugoso-punctate; lateral areas strongly rugoso-punctate; propodeal spiracles raised even with top of rugae. Mesopleura smooth centrally; upper anterior corner with few moderate punctures and a dense silvery pile; lower central area slightly depressed, with moderate-sized punctures in a mesopleural groove; anterior margin with a low, rounded, narrow
ridge; mesosternum irregularly punctate. Lateral regions of pronotum irregularly punctured with shallow punctures; upper posterior region with deeper irregular punctures; the posterior corner rather rugose having a dense silvery pile. Tegula pear-shaped, rather finely punctured basally. Legs relatively short and slender, hind coxa and femur swollen, hind tibia and tarsi incrassate.

**Abdomen:** Carapace elongate; the general surface longitudinally rugoso-punctate anteriorly and finely rugoso-punctate distally; apex of carapace rounded with a pair of well-developed pointed spines. Ovipositor 0.6 mm long, less than 1/2 as long as the carapace; the sheath clothed with fine hairs.

**MALE.**—Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia very short and tan.

**Holotype.**—♀ Santiago, Chile; USNM No. 70357.

**Distribution.**—Known from 8 specimens from Santiago, Chile, and 1 specimen from Oran, Salta, Argentina.

**Host.**—Possibly a parasite of *Megatorhipis leyboldi* Phil.


**REMARKS**

Not closely related to either *addabruchus* or *australis*. Separable by the key and by the more elongate scutellar pyramid.
UROSIGALPHUS (BRUCHIUROSIGALPHUS) RUFIVENTRIS (PHILIPPI)

NEW COMBINATION


I have not seen specimens nor could I locate the type of this species. The following species description has been freely translated from Philippi (1873) by me: Black, heavily rugoso-punctate; scutellum produced posteriorly, emarginate, almost bidentate; abdomen longitudinally subcostate, apex bidentate, red. Body length 4 1/2 mm; wing spread almost 8 mm.

Habitat: Chile. (Specific location unknown).

The head is obliquely placed and has an ocellar tubercle on the vertex. The compound eyes are situated on the sides of the head; they are egg shaped, bare, and their outer edge almost reaches the top of the head. The antennae arise near the upper 1/2 of the eyes, filiform, 15-segmented, nearly 2/3 as long as the body; the first segment does not reach the apex of the head, the second segment is the smallest, the third and the following segments are similar and nearly as long as the first. A curved groove divides the epistome from the rest of the head. The thorax is thickly and heavily punctured, rugose or granulated and is covered with short silver hair. The organs of the mouth are hidden with only the thin filiform tip of the palpi projecting. The thorax is coarsely, deeply punctured and as long as the abdomen. The prothorax is small and not visible from above. The thorax forms a straight line to the end of the
scutellum; the scutellum is large, produced dorso-posteriorly, crenate, two-pointed; the part of the metasternum directly behind is flat, smooth, and shiny; an elevated margin slopingly divides the rear surface (of the propodeum); no longitudinal cleavage is visible through furrows or raised lines. The abdomen (carapace) is sessile, as long and wide as the thorax, linearly elliptical, and examined from above consists of one piece; its foremost part is slanted perpendicular from a raised defined transverse margin (or edge); its apex extends out into two points, that are directed posteroventrally. The upper surface is covered with large bordering punctations whose intervals—especially in the anterior part—form elevated ridges; the carapace is covered with silver hair as is the head and thorax. Beneath is the abdominal cavity which appears almost like the lower lip (of the flowers) of Cypripedium or Calceolaria; at the rear edge of the cavity the hind segments project in the shape of a knob. The front wings have a very large stigma nearly halfway out the wing; the radial cell reaches the front margin nearly halfway between the stigma and the wing tip; there are two cubital cells, the second is incomplete; the second discoidal cell is large, diamond-shaped; the third absent. The wings are clear with dark veins. The hind legs are very much thicker than the front legs, and their femur almost clavate; the tibia are almost clavate, the apex is as thick as the femur and has a short tibial spine; the tarsi are scarcely longer than the tibia, likewise considerably thicker than the front legs, particularly their first segment, which is as long as the three following; the fifth segment is longer than the two preceding.
Holotype.--Location unknown.

Distribution.--Chile.

Host.--Unknown.

REMARKS

If the type of this species is located it may prove to be the same as *rubicarapace* n. sp. The text does not say, but Figure 11 shows the type to be a male. This species differs from *rubicarapace* in that *rubicarapace* specimens are shorter than the type described here. Also, this species is described as having 15 antennal segments. Even though all *rubicarapace* specimens have the antennae broken, it is assumed since all other (*Bruchiusosigalphus*) have 14 antennal segments, that *rubicarapace* has 14.
Fig. 8. *U. (B.) addabbruchus* n. sp., type 70358. X 12.

Fig. 9. *U. (B.) australis* n. sp., type 70356. X 18.

Fig. 10. *U. (B.) rubicarapace* n. sp., type 70357. X 25.

Fig. 11. *U. (B.) rufiventris* (Philippi), views from 1873 paper.
SUBGENUS *UROSIGALPHUS* ASHMEAD

Type-Species.--*Urosigalphus armatus* Ashmead.

*Distribution.*--Five species are known from South America and one from Trinidad.

*Host.*--Very little is known. Two species have been reared from *Chalcodermus* spp.

**REMARKS**

This subgenus is easily separated from other subgenera by the ocellar triangle which is elevated into a subpyramidal projection (Fig. 5). The radial cell is closed by a complete radial sector. The number of antennal segments varies from 14 to 19.
KEY TO SPECIES OF THE SUBGENUS UROSIGALPHUS

1  Apex of carapace without tubercles. ............................................. .2
1' Apex of carapace with tubercles .................................................. .3
2(1) Thorax and carapace reddish ................................................... .rubicorpus n. sp.
2' Thorax and carapace black ......................................................... .trinidadensis n. sp.
3(1') Carapace with long, well-developed tubercles. ......................... .4
3' Carapace with short, poorly formed tubercles. .......................... .sanguineus n. sp.
4(3) Carapace tubercles sharp-pointed; wings
   clear ................................................. .chaloodermi Wilkinson
4' Carapace tubercles blunt tipped; wings tinted
   brown ................................................ .venezuelensis n. sp.
UROSIGALPHUS (UROSIGALPHUS) CHALCODERMI WILKINSON

Fig. 12, 13, & 14


Size and Color.--Length 2.75 to 4.2 mm. Head dark red-black to black, thorax red to black, carapace all black or tan to dark red-brown laterally, darker dorsally and distally; abdomen dark testaceous to dark brown, clypeus dark red-brown apically; labrum red-brown; mandible tan or testaceous with dark red base and apex; palpi yellow-tan; antennal scape and pedicel medium to dark red-brown, rest of antenna dark brown or light to medium brown basally becoming darker distally; fore and midlegs testaceous, hind legs testaceous to rufo-testaceous, the hind tibia and tarsi yellow brown to dark brown. Tegula yellow-tan. Wings hyaline, clear, with brown hairs, the costa medium to dark brown, stigma dark brown, the remaining veins medium brown but becoming very pale basally.

FEMALE.--Head: General anterior outline, quadrate with high, broad, ocellar pyramid; more or less densely rugoso-punctate with small to large punctures. Vertex and temples coarsely rugoso-punctate; genal regions finely, densely punctured or rugoso-punctate. Face densely punctured, fronto-clypeal groove well impressed laterally, not very deep medially, and with a small, deep, round, anterior tentorial pit. Clypeus transverse; upper part with sparse punctures; the lower part wide, the margin impunctate and reflexed, central margin nearly straight in outline.
Labrum transverse, punctate, the anterior margin rounded. Antennal scapes well separated, with a wide, irregularly punctate or carinate, shallowly grooved to slightly raised area in the intervening space, its sides margined by high carinae, its center with a small anterior carina, groove extends dorsally to median ocellus; and with a rather narrow, very short, coarsely rugoso-punctate antennal sulcus. Ocelli large and ovoid. Antenna 14-segmented; scape short, swollen, the inner margin arcuate; pedicel short, round; first flagellar segment slightly longer than second. Compound eyes with an irregular bordering carina. Antennal fossae carinate laterally. Occipital carina complete.

*Thorax:* Short, stout, chunky, nearly same length as carapace, irregularly punctate. Mesonotum very irregularly punctate; notaulices narrow, fairly deep, with moderate-sized punctures; area of convergence deeply rugoso-punctate with large punctures; median lobe rugoso-punctate, with a short central carina anteriorly; lateral lobes flattish, shallowly finely punctured, with a small lateral carina bordered by large irregular depressions; posterolateral carina flangelike. Scutellar groove rather broad and deep with three central carinae. Scutellum triangular in dorsal outline, deeply rugoso-punctate dorsally, irregularly rugoso-punctate laterally and posteriorly. Propodeum flat posteriorly, with a strong transverse carina; in profile with a narrow dorsal area, the posterior surface abruptly dropping to point of abdominal articulation; central dorsal carina short and strongly developed, joining the strong transverse carina which proceeds down both sides in an arc to the point of abdominal articulation; dorsal surface with strong carinae delimiting deep, irregular depressions; posterior surface rather smooth with regular punctures
centrally, with larger punctures and irregularly parallel carinae dorsally and laterally; lateral areas rather rounded in cross-section and irregularly, coarsely rugoso-punctate; propodeal spiracles small, circular, raised slightly above the general surface. Mesopleura smooth centrally; upper margin with a few large deep depressions; lower central area slightly depressed, with a few elongate depressions and rugae in a mesopleural groove; anterior margin with a low, rounded, broad ridge; posterior margin with large depressions and rugae and a bordering carina; mesosternum differentiated from pleural area by a rugose, slightly carinate line; mesosternum smooth centrally. Lateral regions of pronotum evenly punctured with moderate, deep punctures except in center groove, the posterior corner separated by a carina and slightly rugose having a dense silvery pile; dorsal region very narrow and irregularly punctate. Tegula broadly pear-shaped, smooth and shiny. Wings hyaline.

**Abdomen:** Carapace lanceolate or ovate acuminate in dorsal view, irregularly so in lateral view, the general surface coarsely longitudinally rugoso-punctate dorsoanteriorly, less so laterally and distally; laterally with the sides rounded onto the venter, apex of carapace tuberculately acuminate with a pair of long, sharp pointed spines. Ovipositor 1.0 to 1.3 mm long, shorter than the carapace; the sheath dark brown, clothed with fine hairs.

**MALE.**—Parameres of external genitalia small, being nearly obsolete; tan.

*Holotype.*—♂ Bahia, Brazil, 1930, Dr. G. Bondar, BM(NH).

*Distribution.*—Known from Bahia, Recife (Pernambuco), and Fortaleza (Ceara), Brazil, and Tucuman, Argentina.
Host.—Parasite of larva of Chalcodermus bondari Mshl. damaging cotton twigs.


REMARKS

Similar to the North American species anthonomi Cwfd. Easily separated by antennal scape, pedicel, and wing costa color. Also separable by the rugosity of the vertex.
Fig. 12. *U. (U.) chalcoodermi* Wilkinson ♂. X 12.

Fig. 13. *U. (U.) chalcoodermi* Wilkinson ♀. X 12.

Fig. 14. *U. (U.) chalcoodermi* Wilkinson (Fig. 13 enlarged X 2).
UROSIGALPHUS (UROSIGALPHUS) RUBICORPUS N. SP.

Fig. 15

Size and Color.—Length 3.8 - 4.4 mm. Head dark maroon to black, thorax light red variably blackish ventrally; carapace red-orange dorsally and distally but orange laterally; abdomen medium brown; clypeus dark red to maroon; labrum red-brown; mandible tan to red with darker reddish base and dark red apex; palpi tan; antennal scape and pedicel dark red-brown, rest of antenna red-brown; front legs light yellow-tan, midlegs yellow-tan to red brown, hind legs tan to red except tarsi dark red-brown. All legs sometimes may have dark red coxa. Tegula light yellow-tan. Wings tinted brown, with brown hairs, the costa dark red-brown, stigma dark red-brown, the remaining veins dark red-brown.

FEMALE.—Head: General anterior outline quadrate with short, broad, carinate ocellar pyramid; more or less densely rugoso-punctate with small punctures. Vertex strongly transversely carinate; temples and genal regions densely punctured and shiny. Lower face densely, irregularly punctured and rugose, fronto-clypeal groove well impressed laterally, not very deep medially, and with a moderate, deep, oval anterior tentorial pit. Clypeus transverse; upper part slightly rounded in cross-section, with dense punctures; the lower part wide, the margin impunctate, reflexed, central margin nearly straight. Labrum transverse, the anterior margin rounded, regularly punctured. Antennal scapes well separated, with a broad, relatively impunctate depressed groove in the intervening space,
its sides margined by strong carinae that extend dorsally, continuous with the sides of the ocellar pyramid, the groove sometimes dissected by carinae between antennal fossae and again just dorsal to median ocellus; a deep impunctate antennal sulcus extending to dorso-lateral ocelli. Ocelli large and nearly circular. Antennal scape short and rather broad, the inner margin rounded; pedicel short, nearly round; first and second flagellar segments subequal. Antennal fossae obsolesely carinate laterally. A poorly defined rugose carina completely surrounds compound eye. Occipital carina complete.

Thorax: Short, stout, chunky, shorter than carapace and nearly impunctate. Mesonotum sparsely, irregularly punctate; notaulices narrow, fairly deep, short with small, shallow punctures, proceeding caudally towards the scutellar groove; area between convergence deeply, rugoso-punctate; median lobe sparsely finely punctate, and evenly rounded dorsally, antero-laterally rugoso-punctate; lateral lobes rounded, shallowly, sparsely, finely punctured, with a narrow lateral carina, posterolateral carina well developed and flangelike. Scutellar groove rather deep, with four moderate dissecting carinae. Scutellum trigonal in dorsal outline, impunctate dorsally with a poorly developed median carina and a well developed lateral carina, laterally concave and rugose. Metanotum with moderate transverse carinae. Propodeum sloping posteriorly, with a fairly weak transverse carina; in profile with a narrow dorsal area, the posterior surface sloping to point of abdominal articulation; central dorsal carina strongly developed, joining the transverse carina which proceeds down both sides in a jagged arc to the point of abdominal articulation; dorsal surface with moderate and weak rugae delimiting irregular
depressions; posterior surface with a central extension of central
dorsal carina and a midlateral parallel carina each side of central
carina, rest of surface sparsely rugose and sparsely punctate; lateral
areas rather rounded in cross-section and irregularly, very weakly
rugose; propodeal spiracles small, circular, raised slightly above
the general surface. Mesopleura entirely smooth centrally; upper margin
with a few obsolete depressions and a longitudinal carina; lower central
area with a few weak bordering rugae; anterior margin with a low, rounded,
broad ridge; posterior margin with moderate depressions and rugae and
a bordering rounded ridge; mesosternum smooth, not differentiated from
pleural area but with small sparse punctures in median line. Lateral
regions of pronotum impunctate; the posterior corner and upper edge
rugose; dorsal region very narrow and weakly rugose. Tegula broadly
pear-shaped, rather finely punctate basally. Wings opaque; submedian
cell longer than median basally. Legs relatively short and slender.

Abdomen: Carapace oval; the general surface longitudinally carinate
and punctate dorsoanteriorly; apex of carapace rounded, without spines.
Ovipositor 2.0 to 2.2 mm long, slightly longer than length of carapace.

MALE. --Unknown.

Holotype. --♀ Chaco, Argentina; USNM No. 70371.

Distribution. --Known only from Argentina.

Host. --Unknown.

Specimens Examined. --ARGENTINA -- 3♀ as follows: 1♀ Chaco,
No. 674.21, Montevideo, So. Amer. Paras. Lab.; May 1942; swept; coll.
Berry; 1♀ RA Santiago Del Estero, Lago Muyo, 29 Mar. - 22 Apr. 1957,
REMARKS

This species is unique. It differs greatly from the other known species of this subgenus. Its overall shape somewhat resembles a North American species *U. (U.) confusor* Gibson. Some specimens are colored like *sanguineus* n. sp., but this is the only resemblance. The type's antennae are broken off.
UROSIGALPHUS (UROSIGALPHUS) SANGUINEUS N. SP.

Fig. 16

Size and Color.—Length 6.0 mm. Head black; thorax red anterodorsally, darkening to partly black posterio-dorsally and black ventrally; carapace red, darker distally; abdomen dark red-brown; clypeus black; labrum maroon; mandible red with dark red base and black apex; palpi light brown; antennae entirely maroon, pedicel with narrow lighter apical band, front and midlegs with coxa, trochanters, femora, tibia, and tarsi yellow-tan, tarsal claws dark red-brown; hind legs orange except the hind tibia distally and tarsi red-brown. Tegula 1 red and 1 black. Wings hyaline, tinted brown, with brown hairs, the costa dark red-brown, stigma dark red-brown, the remaining veins dark brown, but becoming paler basally.

MALE.—Head: Quadrate with small ocellar pyramid; consisting mainly of a central rugoso-punctate area bordered laterally with strong carinae. Vertex coarsely rugoso-carinate; temples rugose, and genal regions more finely punctate. Lower face finely punctate, fronto-clypeal groove well impressed, with a moderate, round, anterior tentorial pit. Clypeus transverse; upper part slightly rounded in cross-section, finely punctate; the lower part wide, transversely carinate above, the margin reflexed, central margin gently concave. Labrum regularly punctured. Mandible surface rugose. Antennal scapes well separated, interantennal area depressed, rugoso-carinate and punctate; a rather broad, short, rugoso-punctate antennal sulcus. Ocelli larger and nearly semicircular. Antenna
15-segmented; scape as long as first flagellar segment and rather broad, the inner margin rounded; pedicel short, nearly round; second flagellar segment longer than first. Antennal fossae carinate laterally. Occipital carina complete.

Thorax: Shorter than carapace. Mesonotum nearly impunctate; notaulices narrow, fairly deep, with small punctures, area of convergence triangular, deeply, coarsely punctate; lateral lobes gently rounded with a narrow lateral carina bordered by sparse rugosities, posterolateral carina well-developed and flangelike. Scutellar groove moderately broad and deep with three strong, central carinae. Scutellum roundly triangular, coarsely rugoso-punctate. Propodeum flat posteriorly, with a strong transverse carina; in profile with a narrow dorsal area, the posterior surface abruptly dropping to point of abdominal articulation; central dorsal carina very strongly developed, joining the transverse carina, which proceeds down both sides in an arc to the point of abdominal articulation; dorsal surface with strong rugae delimiting large, deep, irregular, depressions; posterior surface rather finely punctate and rugose; lateral areas strongly rugoso-punctate; propodeal spiracles small, circular, raised above rugae. Mesopleura smooth, impunctate; with a few small punctures in the mesopleural groove; posterior margin with moderate punctures along the bordering rounded ridge; mesosternum nearly flat and finely punctate with a distinct median line. Lateral regions of pronotum smooth centrally, rest finely rugoso-punctate; dorsal region very narrow and smooth. Tegula pear-shaped, very finely punctate. Wings with the stigma long and broad, lanceolate; submedian cell longer than median basally.
Abdomen: Carapace elongate, flattened dorso-ventrally; the general surface longitudinally rugoso-punctate dorsoanteriorly; apex of carapace rounded with a pair of short, blunt, narrowly spaced, poorly formed tubercles. Parameres of external genitalia short.

FEMALE.--Unknown.


Distribution.--Known only from type locality.

Host.--Unknown.

Specimens Examined.--Holotype only.

REMARKS

This unique species is similar in color to some rubicorpus specimens but has the carapace flattened like species of Schisoprymnus Foerster.
UROSIGALPHUS (UROSIGALPHUS) TRINIDADENSIS N. SP.

Fig. 14

Size and Color.—Length 5.5 mm. Head black; thorax black; carapace black; abdomen dark brown; clypeus maroon apically; labrum red; mandible orange with red base and black apex; palpi maroon but apical segment tan; antennal scape and pedicel deep maroon, pedicel with narrow, tan apical band, rest of antenna dark red-brown; front and midlegs with coxa, trochanters, and femora medium brown, tibia and tarsi light brown; hind legs dark maroon except the trochanter and base of tibia brown. Tegula dark red-brown. Wings hyaline, tinted brown being darker anteriorly, with brownish hairs, the costa dark red-brown, stigma dark red-brown, the remaining veins dark brown, but becoming paler basally.

MALE.—Head: Broadly quadrate with small ocellar pyramid. Vertex coarsely punctate and rugoso-carinate, temples and genal regions finely, densely punctate. Face finely punctate, fronto-clypeal groove well impressed with small, round, anterior tentorial pits. Clypeus finely punctate; the lower part wide, the margin reflexed, and gently concave. Labrum evenly punctured. Mandible surface finely rugoso-punctate. Antennal scapes well separated, with two strong carinae dividing the intervening area into three equal rugoso-punctate parts, carinae extending dorsally and joining the ocellar pyramid carinae; a broad, coarsely rugoso-punctate, antennal sulcus. Ocelli small and ovoid. Antenna
14-segmented; scape short and rather broad, the inner margin rounded; pedicel short, nearly round; first and second flagellar segments subequal. Antennal fossae carinate laterally. Occipital carina complete.

Thorax: Shorter than carapace, and irregularly punctate. Mesonotum with notaulices broad, fairly deep, with rugae and with large to small punctures, area of convergence quadrate, deeply, coarsely rugoso-punctate; median lobe finely punctate posteriorly, with a small central carina anteriorly and a transverse carina, coarsely rugoso-punctate laterally; lateral lobes flattish, finely punctured, with a wide lateral carina bordered by large punctures, posterolateral carina well developed and flangelike. Scutellar groove rather narrow and deep with three strong, central carinae. Scutellum roundly triangular in dorsal outline, with moderate to large irregular punctures and moderate to strong rugae forming longitudinal carinae dorsally, coarsely rugoso-punctate and concave laterally. Propodeum flat posteriorly, with a moderately strong transverse carina; in profile with a narrow dorsal area, the posterior surface abruptly dropping to point of abdominal articulation; central dorsal carina strongly developed, joining the transverse carina, which proceeds down both sides in an arc past the point of abdominal articulation, nearly to the coxal cavity; dorsal surface with strong rugae delimiting large, irregular depressions; lateral areas rounded in cross-section and irregularly, very strongly rugoso-punctate; propodeal spiracles small, circular, raised slightly above top of rugae. Mesopleura smooth centrally; upper margin coarsely rugoso-punctate with a longitudinal carina; lower central area with a few punctures in the mesopleural groove; anterior margin with a low, rounded, narrow ridge bordered by
small punctures; posterior margin with a row of large punctures divided by short carinae and with a bordering rounded ridge; mesosternum concave and very finely rugose, with a finely punctate median line. Lateral regions of pronotum moderately punctate; the posterior corner rugose; behind a carina. Tegula broadly pear-shaped. Wings hyaline; the stigma long and broad, submedian cell longer than median basally.

**Abdomen:** Carapace elongate oval; the general surface longitudinally rugoso-punctate tending to form carinae dorsoanteriorly; apex of carapace rounded, grooved centrally, without a pair of tubercles.

Parameres of external genitalia long and narrow, dark brown.

**FEMALE.**--Unknown.

**Holotype.**--♂ Maracas Valley, Trinidad, in BM(NH).

**Distribution.**--Known only from type locality.

**Host.**--Unknown.

**Specimens Examined.**--TRINIDAD -- 1♂, Maracas Valley, 4 Aug. 1937, Coll. Richards & Smart, B.M. 1937-776.

**REMARKS**

This is the only species known from Trinidad. It is easily separated from the South American species by its black coloration and absence of carapace tubercles. The ocellar area is quite similar to that of *rubiorpus* and *sanguineus*. 
**UROSIGALPHUS (UROSIGALPHUS) VENEZUELAENSIS N. SP.**

Fig. 18

*Size and Color.*—Length 3.45 mm. Head dark maroon; thorax dark red; carapace red; abdomen brown; clypeus brown apically; labrum brown; mandible orange with red base and apex; palpi yellow; antennal scape and pedicel medium brown, rest of antenna darker brown; fore and midlegs medium yellow, hind coxa and femur yellow, hind tibia and tarsi brown. Tegula yellow. Wings tinted brown, with brown hairs, the costa dark brown, stigma dark brown, the remaining veins dark brown.

**MALE.**—*Head:* Quadrate with high, narrow ocellar pyramid. Vertex coarsely rugoso-punctate with large punctures; temples transitional to genal regions sparsely, finely punctured. Face densely punctured, fronto-clypeal groove well impressed, with a shallow, round, anterior tentorial pit. Clypeus with dense punctures; the lower part reflexed; central margin nearly straight in outline. Labrum evenly, shallowly punctured. Antennal scapes well separated, interantennal area irregularly depressed, rugoso-punctate, divided into three parts by two vertical carinae; a short, nearly impunctate shallow antennal sulcus. Ocelli large and nearly circular. Antennal scape shorter than first flagellar segment, the inner margin arcuate; pedicel short, oblong; first and second flagellar segments subequal. Antennal fossae carinate laterally. Occipital carina complete.
Thorax: Slightly shorter than carapace, and irregularly punctate. Mesonotum with notaulices narrow, with a row of moderate punctures, area of convergence with two large medial punctures; median lobe irregularly flattened, finely punctate anteriorly, with a small transverse carina forming a cross with the central carina anteriorly, the point of intersection forming a tubercle nearly as high as the ocellar pyramid; lateral lobes flattish, shallowly, finely punctured, bordered with a row of large punctures and a well formed lateral carina; posterolateral carina fairly well developed and thinly flangelike. Scutellar groove broad and very deep with one strong central and two weak lateral dissecting carina. Scutellum triangular in dorsal outline, covered with large irregular carinate punctures. Propodeum flat posteriorly, with a strong transverse carina; with a narrow dorsal area, central dorsal carina moderately developed, joining the strong transverse carina which proceeds down both sides in an arc to the point of abdominal articulation; dorsal surface with large irregularly carinate depressions; lateral areas irregularly, strongly rugoso-punctate; propodeal spiracles small, circular, raised even with the general surface. Mesopleura smooth centrally, upper margin with three deep carinate depressions and a longitudinal carina; lower central area slightly depressed with moderate, round to elongate depressions in the mesopleural groove; anterior margin carinate; posterior margin with large depressions and rugae bordering a rounded ridge. Lateral regions of pronotum posteriorly impunctate, anteriorly irregularly punctured with moderate deep punctures; the posterior corner with a large carina, area behind finely punctate; dorsal region irregularly rugoso-punctate. Tegula broadly pear-shaped, impunctate. Wings with the stigma long and broad, lanceolate; submedian cell longer than the median basally.
Abdomen: Carapace elongate oval in dorsal and lateral views; the general surface longitudinally rugoso-punctate dorsoanteriorly; apex of carapace acuminate with a pair of well developed, blunt spines, spaced closer together than length of spines. Parameres of external genitalia long and narrow, medium brown.

FEMALE.—Unknown.

Holotype.—♂ San Esteban, Venezuela, in BM(NH).

Distribution.—Known only from type.

Host.—Unknown.

Specimens Examined.—1♂ San Esteban, Venez., Nov. 1939, Pablo Anduze.

REMARKS

Type antennae broken (left off at pedicel, right has 11 segments remaining). This species closely resembles some species from North and Central America but does not resemble any other known South American species.
Fig. 15. *U. (U.)* rubicorpus n. sp., type 70371. X 12.

Fig. 16. *U. (U.)* sanguineus n. sp., type in BM(NH). X 12.

Fig. 17. *U. (U.)* trinidadensis n. sp., type in BM(NH). X 12.

Fig. 18. *U. (U.)* venezuelaensis n. sp., type in BM(NH). X 25.
SUBGENUS *NEOUROSIGALPHUS* GIBSON

Type-Species.—*Urosigalphus robustus* Ashmead.

Distribution.—Known from Brazil, Peru, Paraguay, and Bolivia.

Host.—Little known. One species reared from *Eulechriops gossypii* Barber. Specimens collected in March, April, August, September, October, and November.

REMARKS

This subgenus is recognizable by the complete radial sector, the ocellar area is not subpyramidal as in the subgenus *Urosigalphus*, the scutellum is not triangularly produced as in the subgenus *Bruchi-Urosigalphus*.  

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KEY TO SPECIES OF THE SUBGENUS *NEUROSIGALPHUS*

1  Carapace with apical tubercles, antenna 14-segmented ........... .2
1'  Carapace without apical tubercles, antennae 14 to
    17-segmented ................................................................. .9

2(1) Carapace with apical tubercles very small to nearly obsolete . .3
2'  Carapace with apical tubercles well developed............... .4

3(2) Hind leg dark red-brown; body length over 4.5 mm *pullatus* n. sp.
3'  Hind leg orange; body length less than 4.0 mm. *obsoletus* n. sp.

4(2') Carapace tubercles long ............................................. .5
4'  Carapace tubercles short ............................................. .8

5(4) Carapace tubercles sharp-tipped................................. .6
5'  Carapace tubercles blunt-tipped.................................... .7

6(5) Ovipositor 1/3 as long as carapace; carapace with 1 pair
    apical tubercles ...................................................... .acutus* n. sp.
6'  Ovipositor at least 1/2 as long as carapace; carapace with
    2 pair apical tubercles............................................. *tuberculatus* n. sp.

7(5') Carapace uniformly colored, dark red-brown to brownish
    black.......................... *eulechriopis* Cushman
7'  Carapace red anteriorly, black posteriorly .... *bicolor* n. sp.

8(4') Legs yellow-tan; ovipositor 0.5 mm, less than 1/2 as
    long as carapace ..................................................... *spinatus* n. sp.
8'  Legs red-orange; ovipositor 1.2 mm, as long as
    carapace .............................................................. *bidentatus* n. sp.
9(1') Antennae 14-segmented; carapace ventral flange with
  apical projections .................................. *paraguayensis* n. sp.
9' Antennae 16 or 17-segmented; carapace ventral flange
  without apical projections .......................... 10
10(9') Antennae 17-segmented; interantennal area with a large
  central carina; body length over 5.0 mm. *pseudochelemonus* n. sp.
10' Antennae 16-segmented; interantennal area without a
  large central carina, body length less than 5.0 mm .......................... 11
11(10') Apex of carapace punctate...................................................... 12
11' Apex of carapace impunctate and smooth ................................. 14
12(11) Length > 4 mm. ...................................................... *brazilienensis* n. sp.
12' Length < 4 mm. ...................................................... 13
13(12') Hind coxa orange; body length 3.0-3.6 mm; ovipositor 1/2
  as long as carapace ................................................. *ornatus* n. sp.
13' Hind coxa dark red-brown; body length 2.7-3.0 mm;
  ovipositor 3/4 as long as carapace ............................ *obscurus* n. sp.
14(11') Front and mid coxa tan; front and mid legs yellow
  tan; carapace anteriorly, longitudinally, finely
  carinate dorsally .............................................. *safflavius* n. sp.
14' Front and mid coxa and legs red and yellow; carapace
  anterior longitudinally rugoso-punctate .................. *cautus* n. sp.
UROSIGALPHUS (NEOUROSIGALPHUS) ACUTUS N. SP.

Fig. 19

Size and Color.—Length 2.8 to 3.2 mm. Head and thorax black; carapace dark blackish-brown; abdomen dark brown; clypeus dark red-brown apically; labrum red-brown; mandible medium brown, with dark base and apex; palpi light brown; antennae medium brown with scape and pedicel dark red-brown; front legs yellow-tan or brown, midlegs yellow-tan to medium brown, the hind legs dark to blackish-brown, all coxae usually darker. Tegula dark red-brown. Wings clear, hyaline, with pale brown hairs; the costa medium red-brown; stigma medium to dark brown, the remaining veins medium brown distally but becoming pale tan towards the base of the wing.

FEMALE.—Head: General anterior outline, ovately quadrate. Vertex, temples, and genal regions shallowly, finely punctured. Lower face rounded more evenly, finely punctate; fronto-clypeal groove with a moderate-sized, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; lower central margin nearly straight. Mandible teeth short and narrow; outer surface rather smooth. Antennal scapes very well separated, with the area between the antennal fossae with a central groove bordered by small carinae and finely punctate extending dorsally to median ocellus, and a shallow, short, nitidous, irregularly punctate antennal sulcus. Ocelli semicircular, interocellar triangle punctate, slightly raised, dorsolateral ocelli with small centro-anterior carinae.
Antenna 14-segmented; scape short and relatively swollen, the inner margin arcuate; pedicel almost half as long as scape. Occipital carina complete, well developed laterally but faintly in the dorsal region.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices with moderate-sized punctures, area of convergence broad, rather quadrate, and depressed with moderate to large-sized punctures; median lobe coarsely irregularly rugoso-punctate, with a central anterior carina; lateral lobes gently, shallowly concave and densely, finely punctured, with a very small lateral carina, posterolateral carina flangelike. Scutellar groove deep, dissected by three strong carinae, with or without two smaller carinae. Scutellum roundly trigonal in dorsal profile, with irregular moderate to large punctures dorsally, laterally, and posteriorly. Propodeum flat posteriorly, with a strong transverse carina; central dorsal carina very strongly developed, joining the transverse carina which proceeds down both sides to the point of abdominal articulation; dorsal surface rugoso-punctate; posterior surface roughly and densely rugoso-punctate; lateral areas irregularly rugoso-punctate. Mesopleura punctate; middle central area shallowly, irregularly sparsely punctate, bordered irregularly with fairly deep punctures; mesosternum also irregularly punctate with fine and large punctures. Lateral regions of pronotum densely and irregularly punctured with fairly deep, moderate-sized punctures; upper posterior corner with a slight carinate bend, the triangular area behind it rather smooth. Wings hyaline; submedian cell as long as the median basally.

**Abdomen:** Carapace elongate oval in dorsal view, gradually rounded dorsally in lateral view; apex of carapace with long, sharp apical spines.
Ovipositor 0.5 mm long, 1/3 as long as the carapace; ovipositor sheath red-brown.

**MALE.**—Unknown.

**Holotype.**—♀ Avispas, Peru, in RDSC.

**Distribution.**—Avispas, Peru.

**Host.**—Unknown.

**Specimens Examined.**—3♀ as follows: PERU -- 2♀ Avispas, Sept. 1962. 1♀ Quincemil, Sept. 1962 (RDSC).

**REMARKS**

This species along with *bicolor* n. sp., *bidentatus* n. sp., and *spinatus* n. sp., forms a group having similar size, shape, and carapace with well-developed apical tubercles. It is closest to *spinatus* but can be separated by its darker leg coloration and its carapace tubercles which are long, sharp, and closely spaced.
**UROSIGALPHUS (NEOUROSIGALPHUS) BICOLOR N. SP.**

**Fig. 20**

*Size and Color.*—Length 2.7 mm. Head and thorax black; carapace red anteriorly and black posteriorly; abdomen similarly colored; clypeus dark brown apically, labrum dark red; mandible tan, with dark brown base and apex; palpi pale tan; antennae medium brown; front and midlegs yellow-tan; the hind coxa and femur orange, the hind tibia brown distally and tarsi dark brown. Tegula light brown. Wings clear, hyaline, with pale brownish hairs, the costa medium brown basally and dark brown apically; stigma dark brown, the remaining veins medium brown distally but becoming paler basally.

**FEMALE.—Head:** General anterior outline ovoid. Vertex coarsely rugoso-punctate; temples and genal regions more finely rugoso-punctate. Lower face rounded, rugoso-punctate; fronto-clypeal groove with a moderately-sized, deep, oval anterior tentorial pit near each end. Clypeus rather semicircular; lower central margin gently concave. Mandible teeth short and narrow, outer surface finely rugose. Antennal scapes well separated, with the area between fossae bicarinate and centrally concave and rugoso-punctate, the concavity extending dorsally to median ocellus, the carinae extending to lateral ocelli, a rugoso-punctate antennal sulcus extending to lateral ocelli. Ocelli circular, interocellar area round, centrally grooved, rugose laterally with carinae along inner
margin of lateral ocelli. Antenna 14-segmented; scape similar in length to first flagellar segment, the inner margin distinctly bowed; pedicel less than half as long as scape. Occipital carina complete, well developed throughout.

Thorax: Unevenly punctate. Mesonotum coarsely rugoso-punctate, notaulices deep, with moderately large punctures, area of convergence undifferentiated from median lobe in sculpture; median lobe densely rugoso-punctate, with a small, short central carina anteriorly; lateral lobes flattish, finely punctured, with a small lateral carina; posteralateral carina flangelike. Scutellar groove deep with three dissecting carinae. Scutellum rounded trigonal in dorsal profile, coarsely rugoso-punctate; posterior surface gently rounded. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina short and spinate. The transverse carina proceeds down both sides in an arc to near the point of abdominal articulation; dorsal surface very narrow; posterior surface bicarinate and densely rugoso-punctate; lateral areas coarsely rugoso-punctate. Mesopleura punctate; middle central area sparsely punctate, nearly impunctate; lower anterior area with a few large punctures in a mesopleural groove; mesosternum rugose with a line of moderate-sized punctures along the center line. Lateral regions of pronotum punctate; upper posterior corner with a slight bend, the area below it more finely punctate, the triangular area behind it concave. Wings hyaline; submedian cell as long as the median.

Abdomen: Carapace elongate oval in dorsal view and in lateral view; general surface longitudinally rugoso-punctate anteriorly, and rugoso-punctate posteriorly; apex of carapace with a pair of well developed,
closely spaced, apical spines. Ovipositor 0.8 mm long, 2/3 as long as carapace, ovipositor sheath dark red-brown.

**MALE.**—Unknown.

*Holotype.*—♀ Nova Teutonia, Brazil, in BM(NH).

*Distribution.*—Known only from type locality.

*Host.*—Unknown.

*Specimens Examined.*—BRAZIL — 1♀ Nova Teutonia, 27° 11'B(S), 52° 23'L(W), November 1935, Fritz Plaumann, B. M. 1937-47.

**REMARKS**

A very colorful species with orange legs, black head and thorax, and a basally red and apically black carapace. The carapace spines are closely spaced like *acutus* but are similar in diameter from base to tip when viewed from the dorsal aspect whereas on *acutus* the spines are much thickened basally.
UROSIGALPHUS (NEOUROSIGALPHUS) BIDENTATUS N. SP.

Fig. 21

Size and Color.—Length 2.7 mm. Head and thorax black; carapace black; abdomen dark brown; clypeus dark brown, nearly black apically, labrum dark red; mandible red, with darker apex; palpi light brown; antennae dark brown with lighter pedicel; front and midlegs orange; the hind coxa dark red and femur orange, the hind tibia dorsally and tarsi dark brown. Tegula medium brown. Wings clear, hyaline, with light brownish hairs, the costa medium brown; stigma dark brown, the remaining veins medium brown distally but becoming paler basally.

FEMALE.—Head: General anterior outline ovately quadrate. Vertex rugoso-punctate, temples and genal regions sparsely, finely punctured. Lower face rounded, evenly finely punctate; fronto-clypeal groove with a moderate, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; lower central margin straight. Mandible teeth short, outer surface rugose. Antennal scapes well separated; with the area between fossae centrally concave and finely punctate, bordered by small central carinae which extend dorsally to near lateral ocelli; with a shallow, short, nitidous, smooth antennal sulcus extending to the median ocellus. Ocelli nearly circular, interocellar area nearly round, slightly raised, coarsely rugoso-punctate with a small carina along anterior edge of lateral ocelli. Antenna 14-segmented; scape similar in length to
first flagellar segment, the inner margin distinctly curved; pedicel less than half as long as scape. Occipital carina complete, well developed.

Thorax: Unevenly punctate. Mesonotum fairly regularly punctate, the general surface uneven; notaulices narrow, deep, with moderate-sized punctures, area of convergence broad, quadrate, slightly depressed, with moderate-sized punctures; median lobe irregularly, shallowly, finely punctate, with a very small, short central carina anteriorly; lateral lobes gently rounded, sparsely, finely punctured, with a line of moderate punctures along lateral line; posterolateral carina flangelike. Scutellar groove rather deep and broad with three dissecting carinae. Scutellum roundly trigonal in dorsal profile, irregularly coarsely rugose with large punctures; posterior surface gently rounded. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina short and strong, the transverse carina proceeds down both sides becoming lost in the lateral rugae; dorsal surface narrow, rugoso-punctate; posterior surface roughly and densely rugoso-punctate; lateral areas rather irregularly rugoso-punctate. Mesopleura punctate; middle central area impunctate, lower anterior area with moderate punctures in ventral portion of mesopleural groove; mesosternum uniformly rugoso-punctate. Lateral regions of pronotum uniformly punctate throughout, upper posterior corner with a slight bend. Wings hyaline; submedian cell longer than the median basally.

Abdomen: Carapace oval in dorsal view and irregularly rounded dorsally in lateral view; general surface longitudinally finely rugoso-punctate; apex of carapace with small, close-set apical spines. Ovipositor 1.2 mm long, as long as carapace.
MALE.--Unknown.

Holotype.--♀ Santa Catarina, Brazil, in BM(NH).

Distribution.--Known only from type locality.

Host.--Unknown.

Specimens Examined.-- BRAZIL -- 1♀ Nova Teutonia, 27°11'B(S), 52°23'L(W), 24 Nov. 1935, Fritz Plaumann; B.M. 1937-47.

REMARKS

This all black-bodied species with red-orange legs is most similar to acutus and spinatus. Easily separated from the former by its shorter carapace spines and from the latter by its close-set carapace spines. Also the ovipositor is as long as the carapace whereas in all other species with carapace spines the ovipositor is never more than 2/3 as long as the carapace.
**UROSIGALPHUS (NEOUROSIGALPHUS) BRAZILIENSIS N. SP.**

**Fig. 22**

*Size and Color.*—Length 4.2 to 4.75 mm. Head and thorax black; carapace black; abdomen dark brown; clypeus black apically; labrum medium red-brown; mandible dark red-brown, with blackish apex; palpi dark red-brown; antennae dark red-brown; front legs medium brown, midlegs medium red-brown, the hind leg red-black, all coxae usually darker. Tegula dark red-black. Wings clear, hyaline, with brown hairs, the costa tan basally, rest medium brown; stigma dark red-brown, the remaining veins dark brown distally but becoming nearly colorless toward the base of the wing.

**FEMALE.**—*Head:* General anterior outline roundly quadrate. Vertex, temples, and genal regions densely, finely punctured. Lower face rounded, finely punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; central margin gently curved in outline. Mandible unevenly bidentate, the upper tooth long and narrow, the lower tooth short and narrow, outer surface rather rugose. Antennal scapes well separated; with the area between the antennal fossae gently rounded and densely, finely punctate and irregularly, finely carinate, extending dorsally to median ocellus; and a fairly deep, broad, sparsely punctate antennal sulcus extending past the rear ocelli. Ocelli nearly circular, interocellar area finely rugoso-punctate, slightly
raised. Antenna 16-segmented; scape long and relatively slender, the inner margin slightly rounded; pedicel half as long as scape. Occipital carina complete, well developed.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices narrow, shallow, with moderate-sized punctures, area of convergence broad, rather quadrate depressed with large-sized punctures; median lobe shallowly, finely punctate, with a small central carina; lateral lobes flattish, shallowly, finely punctured, with a small lateral carina, posterolateral carina weakly flangelike. Scutellar groove rather deep, dissected by 5 carinae. Scutellum trigonal in dorsal profile, smooth and nearly impunctate centrally in dorsal area, with small to moderate punctures laterally and posteriorly. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina irregularly and/or weakly developed, the transverse carina proceeds down both sides in a jagged or irregular arc to the point of abdominal articulation; dorsal surface rugoso-punctate; posterior surface roughly and densely rugoso-punctate; lateral areas irregularly rugoso-punctate. Mesopleura punctate; middle central area shallowly, sparsely punctate, rest with fairly deep punctures; mesosternum irregularly punctate with fairly deep punctures centrally, laterally, and distally but with fine shallow punctures over most of area. Lateral regions of pronotum densely and irregularly punctured with fairly deep punctures; upper posterior corner with a slight bend, the triangular area behind it rather coarsely rugoso-punctate. Wings hyaline; submedian cell slightly longer than the median basally.
Abdomen: Carapace oval in dorsal view, gradually rounded dorsally and teardrop-shaped in lateral view; apex of carapace with a punctate ventral groove, without apical spines. Ovipositor 1.4 mm long, 2/3 as long as the carapace; ovipositor sheath reddish-brown.

MALE: Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia short. Apex of carapace without ventral groove. Carapace more concave ventrally in lateral aspect than female. The legs tend to be somewhat darker than the female legs.

Holotype.—♀ Nova Teutonia, Brazil, in RDSC.

Distribution.—Nova Teutonia, Brazil.

Host.—Unknown.

Specimens Examined.—3♀, 4♂ as follows: BRAZIL — 1♀, 1♂ Nova Teutonia, 17 Aug. 1941, F. Plaumann; 1♂ Nova Teutonia, 1 Aug. 1941, F. Plaumann; 1♀, 1♂ Santa Catarina, Nova Teutonia, 8 Oct. 1941, F. Plaumann; 1♂ Santa Catarina, Nova Teutonia, 10 Oct. 1941, F. Plaumann; 1♀ Nova Teutonia, 1 Nov. 1941, F. Plaumann. (RDSC).

REMARKS

A robust species most closely allied with pullatus n. sp., from Peru. Easily separated by the lack of apical carapace tubercles, darker leg color, and dark red-brown palpi.
**UROSIGALPHUS (NEOUROSIGALPHUS) CAUTUS N. SP.**

**Fig. 23**

*Size and Color.*—Length 3.2 mm. Head black; thorax deep reddish-black; carapace dark red-brown; abdomen tan; clypeus dark brown apically, labrum red; mandible orange, with red apex; palpi tan; antennae dark brown with deep red scape and pedicel; front and midlegs red and yellow; front and mid coxa red; the hind coxa and femur dark red, the hind tibia yellow basally, dark red apically; tarsi dark brown. Tegula dark brown. Wings clear, hyaline, with nearly colorless hairs, the costa light brown; stigma dark brown with pale basal spot; the remaining veins light brown.

**FEMALE.—Head:** General anterior outline roundly quadrate. Vertex, temples, and genal regions finely punctured. Lower face rounded, evenly finely punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; lower central margin gently concave. Mandible teeth short and narrow, outer surface rugose. Antennal scapes well separated; with the area between fossae rounded and finely punctate with a small central carina, extending dorsally to near median ocellus; and a shallow, broad, nitidous, sparsely, nearly impunctate antennal sulcus extending past rear ocelli. Ocelli ovoid, interocellar area nearly flat, slightly raised with sparse fine punctures. Antenna 16-segmented; scape long and relatively slender, the inner margin slightly rounded; pedicel almost half as long as scape. Occipital carina well developed laterally but absent medially.
**Thorax:** Unevenly punctate. Mesonotum fairly regularly punctate, the general surface uneven; notaulices broad, deep, with large punctures, area of convergence broad, rather quadrate, depressed, with large punctures; median lobe densely, finely punctate, with a small, central carina anteriorly; lateral lobes gently rounded, densely, finely punctured, with a small lateral carina; posterolateral carina weakly flangelike. Scutellar groove deep, dissected by three strong carinae. Scutellum roundly trigonal in dorsal profile, nearly smooth centrally, with irregular moderate to large punctures laterally and posteriorly, posterior surface gently rounded. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina absent, the transverse carina proceeds down both sides becoming split and confused laterally; dorsal surface with irregular rugae delimiting irregular depressions; posterior surface densely rugoso-punctate with two centro-lateral carinae; lateral areas rather irregularly rugoso-punctate. Mesopleura punctate; middle central area finely, shallowly, regularly punctate, lower anterior area with large punctures in a mesopleural groove; mesosternum smooth laterally with a line of large-sized punctures along the anterior and posterior edges. Lateral regions of pronotum centrally finely punctate, anteriorly punctured with moderate punctures; upper posterior corner with a slight bend, the area below it finely carinate, the triangular area behind it sparsely rugoso-punctate. Wings hyaline; submedian cell longer than the median basally.

**Abdomen:** Carapace elongate oval in dorsal view and teardrop-shaped in lateral view; general surface longitudinally rugoso-punctate anteriorly, smooth, impunctate, and shiny posteriorly; apex of carapace
without apical spines. Ovipositor 1.0 mm long, 2/3 as long as the carapace; ovipositor sheath dark brown.

**MALE.**--Unknown.

**Holotype.**-- Tumupasa, Bolivia; USNM, No. 70372.

**Distribution.**--Known only from type.

**Host.**--Unknown.

**Specimens Examined.**--BOLIVIA -- 1♀ Tumupasa, W. M. Mann, Mulford Bio. Exp. 1921-22.

**REMARKS**

Closely related to *obscurus* n. sp., *ornatus* n. sp., and *safflavus* n. sp. Easily separated from *obscurus* and *ornatus* by its smooth, shiny carapace apex. Separated from *safflavus* by its red and yellow front and mid legs and red coxa.
Fig. 19. *U. (N.)* acutus n. sp. X 18.

Fig. 20. *U. (N.)* bicolor n. sp., type in BM(NH). X 25.

Fig. 21. *U. (N.)* bidentatus n. sp., type in BM(NH). X 25.

Fig. 22. *U. (N.)* brasiliensis n. sp. X 12.

Fig. 23. *U. (N.)* cautus n. sp., type 70372. X 25.
UROSIGALPHUS (NEUROSIGALPHUS) EULECHRIOPIS CUSHMAN

Fig. 24 & 25


Size and Color.—Length 2.6 to 3.2 mm. Head and thorax dark red-brown to black; carapace dark red-brown to brownish-black; abdomen light to medium brown; clypeus dark red-brown apically; labrum red-brown; mandible reddish-tan with red base and apex; palpi light brown basally and tan distally; antennae medium to dark brown with scape dark red-brown; front legs yellow to tan, midlegs yellow-tan to tan, the hind legs medium brown. Tegula medium brown apically, dark brown basally. Wings clear, hyaline, with red-brown hairs, the costa dark red-brown; stigma dark red-brown, the remaining veins dark red-brown distally but becoming medium red-brown toward the base of the wing.

FEMALE.—Head: General anterior outline, roundly quadrate. Vertex shallowly rugoso-punctate; temples and genal regions shallowly, finely punctured. Lower face rounded, finely punctate; fronto-clypeal groove well impressed, except for center line. Clypeus rather quadrate; central margin gently curved in outline. Mandible teeth long and narrow, outer surface finely, irregularly carinate. Antennal scapes very well separated, with the area between the antennal fossae rugoso-punctate with carinae laterally extending dorsally to median ocellus, and a shallow,
broad, nitidous, impunctate antennal sulcus extending to front edge of rear ocelli. Ocelli ovoid, interocellar area irregularly rugoso-punctate, slightly raised with large centro-anterior carinae in front of dorso-lateral ocelli. Antenna 14-segmented; scape short and similar in diameter to rest of antenna, the inner margin slightly curved; pedicel almost half as long as scape. Occipital carina complete, fairly well developed laterally but poorly developed in the dorsal region.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices not easily distinguishable depressions, with moderately large-sized punctures, area of convergence broad, rather depressed with moderately large-sized punctures; median lobe irregularly rugoso-punctate with moderately large punctures and a small anterior central carina; lateral lobes roughly flat, irregularly, finely punctured, with a very small lateral carina, posterolateral carina flangelike. Scutellar groove deep, and only present centrally. Scutellum convexly trigonal in dorsal profile, irregularly coarsely rugoso-punctate dorsally, laterally, and posteriorly. Metanotum rather narrow and carinate centrally, with strong, transverse rugae laterally. Propodeum flat posteriorly, with a strong transverse carina; central dorsal carina strongly developed, joining the transverse carina which proceeds down both sides to the point of abdominal articulation; dorsal surface carinately rugoso-punctate; posterior surface roughly and densely rugoso-punctate; lateral areas irregularly rugoso-punctate. Mesopleura punctate, middle central area smooth and impunctate, rest with fairly deep punctures; mesosternum irregularly rugoso-punctate with fairly large punctures. Lateral regions of pronotum densely and irregularly punctured
with fairly deep punctures; upper posterior corner with a slight carinate bend, the triangular area behind it rather finely punctate. Tegula broadly pear-shaped. Wings hyaline; submedian cell longer than the median basally.

Abdomen: Carapace oval in dorsal view and acuminate in lateral view; apex of carapace with long blunt apical spines. Ovipositor 1.3 mm long, 2/3 as long as the carapace; ovipositor sheath reddish-black.

MALE.--Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia modified and short. Carapace smaller than that of female in width and concave ventrally in lateral aspect.

Holotype.--♀ Julao near Lamas, Peru, USNM No. 28865.

Distribution.--Julao and Quincemil, Peru, and Nova Teutonia, Brazil.

Host.--Breeds in Eulechriops gossypii Barber.

Specimens Examined.--3♀, 4♂ as follows: PERU -- 1♀, 3♂ Quincemil, Sept. 1962, (RDSC); 1♀ Holotype, 1♂ (marked Allotype No. 28865), Julao near Lamas, 2300' Alt., 4 Aug. 1925, C. H. T. Townsend, parasite of E. gossypii Barber (USNM). BRAZIL -- 1♀ Nova Teutonia 27° 11'B(S), 52° 23'L(W), 4 Apr. 1938, F. Plaumann, B. M. (NH) 1938-682.

REMARKS

A quite unique species. Similar to tuberculatus n. sp. in body shape. Distinctly different in coarser body sculpture, general robustness, darker body color, brown legs, and lighter colored compound eyes.
UROSIGALPHUS (NEOUROSIGALPHUS) OBSCURUS N. SP.

Fig. 26

Size and Color.—Length 2.7 to 3.0 mm. Head black; thorax red-black; carapace dark reddish-brown; abdomen maroon; clypeus dark red-brown; labrum red-brown; mandible medium red-brown, with red base and dark red-brown apex; palpi tan; antennae medium brown; front legs yellow-tan, midlegs medium red-brown, the hind leg dark red-brown, all coxae red-brown, hind coxa darker. Tegula medium brown. Wings clear, hyaline, with pale brown hairs, the costa light basally, medium brown distally; but becoming colorless toward the base of the wing.

FEMALE.—Head: General anterior outline, roundly quadrate. Vertex, temples, and genal regions shallowly, finely punctured. Lower face rounded evenly, finely punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; central margin gently curved in outline. Mandible unevenly bidentate, the upper tooth long and narrow, the lower tooth short and narrow, outer surface rather rugose. Antennal scapes well separated, with the area between the antennal fossae carinate centrally, densely finely punctate anteriorly, irregularly punctate to median ocellus, and a shallow, broad, impunctate antennal sulcus extending to rear ocelli. Ocelli nearly circular, interocellar area sparsely, finely punctate, slightly raised. Antenna 16-segmented; scape long and relatively slender, the inner margin
arcuate; pedicel almost half as long as scape. Occipital carina complete, well developed laterally but not as well in the dorsal region.

Thorax: Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices narrow, shallow, short depressions, with moderate-sized punctures, area of convergence broad, rather quadrate, depressed, with moderate-sized punctures; median lobe shallowly, finely punctate, with a small central and two lateral carinae; lateral lobes flattish, sparsely, finely punctured, with a very small lateral carina, posterolateral carina weakly flangelike. Scutellar groove rather deep, with three dissecting carinae. Scutellum trigonal in dorsal profile, irregularly rugoso-punctate dorsally, irregularly rugoso-punctate laterally and posteriorly. Propodeum gently rounded posteriorly, with a strong transverse carina; posterior surface bicarinate; central dorsal area bicarinate, joining the transverse carina which proceeds down both sides in a jagged arc to the point of abdominal articulation; dorsal surface rugoso-punctate; posterior surface roughly rugoso-punctate; lateral areas irregularly rugoso-punctate. Mesopleura mainly impunctate; middle central area impunctate, bordered with moderate-sized fairly deep punctures; mesosternum mostly impunctate with a central line of fairly deep punctures. Lateral regions of pronotum centrally impunctate, rest irregularly punctured with fairly deep punctures; upper posterior corner with a slight carinate bend, the triangular area behind it rather finely punctate and rugose. Wings hyaline; submedian cell longer than the median basally.
Abdomen: Carapace oval in dorsal view, teardrop-shaped in lateral view; apex of carapace punctate without apical spines. Ovipositor 1.0 mm long, 3/4 as long as the carapace; ovipositor sheath reddish-brown.

MALE.—Parameres of external genitalia very short.

Holotype.—♀ Nova Teutonia, Brazil, in BM(NH).

Distribution.—Known only from Nova Teutonia, Brazil.

Host.—Unknown.


REMARKS

Closely related to cautus, ornatus, and safflavus. Differentiated from cautus and safflavus by a punctate carapace apex. Separated from ornatus by darker legs, much darker coxa, and darker tegula.
UROSIGALPHUS (NEOUROSIGALPHUS) OBSELETUS N. SP.

Fig. 27

Size and Color.—Length 3.7 - 3.9 mm. Head black; thorax dark red-brown; carapace dark red-brown; abdomen dark brown; clypeus dark brown apically, labrum rufo-testaceous; mandible rufo-testaceous, with red apex; palpi tan; antennae dark brown with lighter scape and pedicel; front and midlegs yellow-tan; the hind legs yellow-tan with the hind tibia brown and tarsi dark brown. Tegula tan. Wings clear, hyaline, with nearly colorless hairs, the costa light brown basally and medium brown apically; stigma dark brown, the remaining veins medium brown distally but becoming pale tan basally.

FEMALE.—Head: General anterior outline ovately quadrate. Vertex rugoso-punctate, temples and genal regions densely punctured. Lower face slightly rounded, evenly finely rugoso-punctate; fronto-clypeal groove with a small, deep, oval anterior tentorial pit near each end. Clypeus rather quadrate; lower central margin gently concave. Mandible teeth short, outer surface nearly smooth. Antennal scapes well separated, with the area between fossae smooth rounded and finely rugoso-punctate without carinae, and with a shallow, narrow, densely, finely rugoso-punctate antennal sulcus not extending as far as median ocellus. Ocelli ovoid; interocellar area round, slightly raised, depressed medially with a small carina along anterior edge of lateral ocelli. Antenna 14-segmented;
scape shorter than first flagellar segment, the inner margin slightly rounded; pedicel less than half as long as scape. Occipital carina complete, well developed throughout.

Thorax: Unevenly punctate. Mesonotum fairly regularly punctate, the general surface smoothly lobed; notaulices narrow, shallow, with a few moderate-sized punctures, area of convergence broad, rather quadrate, depressed, with moderate-size punctures; median lobe densely, finely punctate, with a very small, short central carina anteriorly; lateral lobes gently rounded, sparsely, finely punctured, with a small lateral carina; posterolateral carina weakly flangelike. Scutellar groove rather narrow centrally. Scutellum rounded trigonal in dorsal profile, rugosopunctate with irregular moderate-size punctures; posterior surface gently rounded. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina well developed, the transverse carina proceeds down both sides to the point anterior to the abdominal articulation; dorsal surface with irregular rugae and finely punctate; posterior surface rather smoothly punctate; lateral areas rather irregularly rugoso-punctate. Mesopleura punctate; middle central area impunctate, lower anterior area with moderate punctures and carinae in a mesopleural groove; mesosternum rather evenly rugoso-punctate. Lateral regions of pronotum evenly finely parallelly punctate. Wings hyaline; submedian cell longer than the median basally.

Abdomen: Carapace oval in dorsal view and fairly abruptly truncate in lateral view; general surface longitudinally rugoso-punctate anteriorly, becoming coarsely rugoso-punctate posteriorly; apex of carapace grooved,
bordered with two apical spines. Ovipositor 1.0 mm long, nearly 2/3 as long as carapace. Ovipositor sheath dark brown.

**MALE.**--Unknown.

**Holotype.**--♀ Brazil, in BM(NH).

**Distribution.**--Known only from type locality.

**Host.**--Unknown.

**Specimens Examined.**--BRAZIL -- 2♀ Theresopolis, Rio de Janeiro, 9 Sept, 1923; G. L. R. Hancock.

**REMARKS**

Similar to *pullatus* n. sp. in carapace spine development but quite different otherwise. Easily separated by key.
UROSIGALPHUS (NEUROSIGALPHUS) ORNATUS N. SP.

Fig. 28

Size and Color.—Length 3.0 to 3.6 mm. Head and thorax all red or all black; carapace dark red-brown; abdomen medium brown; clypeus dark red-brown apically; labrum light red-brown; mandible medium brown with dark base and apex; palpi tan; antennae medium to dark brown; front legs yellow-tan (yellow on red specimens), midlegs medium brown but lighter distally (yellow on red specimens), the hind leg dark red-brown (yellow-brown on red specimens); trochanters, knee and upper tibia of hind leg yellowish. Tegula brown. Wings clear, hyaline, with brown hairs, the costa basally light tan, distally medium brown; stigma dark red-brown, the remaining veins medium brown distally but becoming pale tan toward the base of the wing.

FEMALE.—Head: General anterior outline, roundly quadrate. Vertex, temples, and genal regions shallowly, finely punctured. Lower face rounded more evenly, finely punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; central margin nearly straight in outline. Mandible teeth long and narrow, outer surface rather finely carinate. Antennal scapes well separated, with the area between the antennal fossae slightly raised, densely, finely punctate, and irregularly, finely carinate, extending dorsally to median ocellus, and a deep, fairly broad, nitidous, sparsely

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punctate antennal sulcus extending to rear ocelli. Ocelli nearly circu-
lar; interocellar area finely punctate, slightly raised. Antenna
16-segmented; scape moderately long and relatively slender, the inner
margin arcuate; pedicel almost half as long as scape; flagellar segments
beadlike distally, but apical segment longer than the penultimate seg-
ment. Occipital carina complete, well developed laterally but poorly
developed in the dorsal region.

Thorax: Unevenly punctate. Mesonotum irregularly punctate, the
general surface uneven; notaulices narrow, shallow, with small to moderate-
sized punctures, area of convergence broad, rather quadrate, depressed,
with large irregular punctures; median lobe finely punctate, with a cen-
tral and two lateral carinae; lateral lobes flattish, densely, finely
punctured, with a very small lateral carina bordered with moderate-sized
punctures; posterolateral carina weakly flangelike. Scutellar groove
rather deep, dissected by five carinae. Scutellum roundly trigonal in
dorsal profile, irregularly rugoso-punctate dorsally, laterally, and
posteriorly. Propodeum rounded posteriorly, with a moderate transverse
carina; central dorsal area bicarinate, the transverse carina proceeds
down both sides in an irregular arc to the point of abdominal articula-
tion; dorsal surface rugoso-punctate; posterior surface roughly and
densely rugoso-punctate, lateral areas irregularly rugoso-punctate.
Mesopleura impunctate; middle central area smooth and impunctate, bor-
dered by fairly deep punctures except anteriorly; mesosternum irregularly
punctate centrally and posteriorly but smooth and impunctate laterally.
Lateral regions of pronotum irregularly punctured with fairly deep punc-
tures; upper posterior corner with a slight bend, the triangular area
behind it rather finely rugose. Tegula broadly pear-shaped. Wings hyaline; submedian cell as long as the median basally.

**Abdomen:** Carapace ovate in dorsal view, teardrop shape in lateral view; apex of carapace punctate with an impunctate ventral groove, without apical spines. Ovipositor 0.8 mm long, 1/2 as long as the carapace; ovipositor sheath dark brown.

**MALE.--**Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia very short. Carapace without ventral groove at apex, more concave ventrally in lateral view than female.

**Holotype.--**♀ Nova Teutonia, Brazil in BM(NH).

**Distribution.--**Nova Teutonia, Brazil.

**Host.--**Unknown.

**Specimens Examined.--**17♀, 5♂ as follows: BRAZIL -- 7♀, 1♂ Nova Teutonia, (1) 29 Mar. 1941, (5) 3 Apr. 1941, (1♂) 8 Apr. 1941, (1) 22 Nov. 1941, F. Plaumann; 5♀, 1♂ Santa Catarina, Nova Teutonia; (5) 18 Apr. 1941, (1♂) 5 Nov. 1941, F. Plaumann; (RDSC). 5♀, 3♂ Nova Teutonia, 12 Apr. 1941, F. Plaumann, B. M. (NH) 1957-341.

**REMARKS**

This species resembles *cautus*, *obscurus*, and *safflavus*. Similar to *cautus* and *safflavus* in coloration of upper 1/2 of tibia. Separated from them by its punctate carapace apex. Differs from *obscurus* in the orange hind coxa and tan trochanters.
Fig. 24. *U. (N.) eulechriopis* Cushman ♀. X 25.

Fig. 25. *U. (N.) eulechriopis* Cushman ♂. X 25.

Fig. 26. *U. (N.) obscurus* n. sp., type in BM(NH). X 25.

Fig. 27. *U. (N.) obsoletus* n. sp., type in BM(NH). X 25.

Fig. 28. *U. (N.) ornatus* n. sp., type in BM(NH). X 25.
UROSIGALPHUS (NEOUROSIGALPHUS) PARAGUAYENSIS N. SP.

Fig. 29

Size and Color.—Length 3.2 mm. Head brownish black; thorax and carapace blackish red; carapace darker dorsally and at apex; abdomen brown; clypeus dark red-brown apically; labrum brown; mandible red with dark red apex; palpi light red; antennae dark blackish-brown; legs yellow-tan except the hind coxa light red-brown basally; tibia and tarsi medium brown. Tegula red-brown. Wings clear, hyaline, with pale brownish hairs, the costa light brown; stigma brown, the remaining veins brown distally but becoming paler to almost colorless toward the base of the wings.

MALE.—Head: General anterior outline, roundly oval. Vertex, temples, and genal regions densely punctured. Lower face rounded, more evenly, finely rugoso-punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; central margin concave in outline. Mandible teeth short and broad, outer surface nearly smooth. Antennal scapes very well separated, with the area between rounded but rugoso-punctate with well formed marginal carinae, extending dorsally to form a carina in front of dorsal ocelli, and without antennal sulci. Ocelli somewhat oval, interocellar triangle with a short bisecting carina. Antenna 14-segmented; scape long and relatively slender, the inner margin slightly rounded; short and nearly round; first six flagellar segments subequal, the remaining segments
being progressively shorter, but apical segment longer than the penultimate segment. Occipital carina complete, well developed, even in the dorsal region.

**Thorax**: Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices broad, shallow, with moderately large-punctures, area of convergence broad, rather quadrate, depressed with moderately large punctures; median lobe irregularly punctate, and without a suggestion of a central ridge; lateral lobes flattish, sparsely, finely, shallowly punctured, with a very small lateral carina, posterolateral carina very weakly flangelike. Scutellar groove rather shallow, and narrow centrally. Scutellum trigonal in dorsal profile, rounded in lateral profile, coarsely rugoso-punctate with large punctures and bordering carinae. Propodeum slightly rounded posteriorly, with a fairly strong transverse carina; central dorsal carina strongly developed, joining the transverse carina which proceeds down both sides in a nearly circular arc to the point of abdominal articulation; posterior surface roughly rugoso-punctate. Mesopleura smooth and impunctate; middle central area impunctate, upper area rugose with large punctures and carinae. Lateral regions of pronotum sparsely and irregularly punctured with small, moderately deep punctures; upper posterior corner with a slight bend, the triangular area behind it with moderate punctures and rugoso-punctate. Wings hyaline; submedian cell similar in length to the median.

**Abdomen**: Carapace rather elongate, teardrop-shaped in dorsal view; slightly truncate apically in lateral view; apex of carapace without apical spines. Parameres of external genitalia short but produced apically into a triangular point.
FEMALE.—Unknown.

Holotype.—♂ S. Bernardino, Paraguay; K. F. Fiebrig, USNM No. 70375.

Distribution.—S. Bernardino, Paraguay.

Host.—Unknown.

Specimens Examined.—Known only from holotype.

REMARKS

Compound eyes large, produced laterally beyond genal region. This species differs from the other species in that it lacks carapace tubercles and has only 14 antennal segments.
UROSIGALPHUS (NEOUROSIGALPHUS) PSEUDOCHElONUS N. SP.

Fig. 30

Size and Color.—Length 5.4 mm. Head and thorax black; carapace black; abdomen red-black; clypeus dark brown apically; labrum dark brown; mandible dark red-brown, with dark apex; palpi medium brown; antennae dark brown becoming black apically; front legs red-brown with tibia and tarsi medium brown, midlegs dark red-brown, the hind leg red-black, all coxae usually darker. Tegula red-black. Wings clear, hyaline, with brown hairs, the costa dark red-brown; stigma dark red-brown, the remaining veins light and medium brown.

FEMALE.—Head: General anterior outline, roundly quadrate. Vertex, temples, and genal regions shallowly, finely punctured. Lower face rounded more evenly, finely punctate; fronto-clypeal groove with a small, deep, round, anterior tentorial pit near each end. Clypeus rather quadrate; central margin nearly straight in outline; with a horizontal carina running from mandibular base across central part of clypeus. Mandible teeth short and narrow, outer surface rather finely carinate. Antennal scapes well separated, with a well developed, short central carina between the antennal fossae, and a deep, broad, nitidous, impunctate antennal sulcus extending to rear of vertex. Ocelli somewhat circular, interocellar area irregularly, finely punctate, slightly raised between ocelli. Antenna 17-segmented; scape short and relatively swollen, the
inner margin arcuate; pedicel almost half as long as scape. Occipital carina complete, well developed throughout.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices narrow, shallow, with moderate-sized punctures, area of convergence broad, rather quadrate, depressed with moderate-sized punctures; median lobe finely, shallowly punctate, with a suggestion of a central ridge; lateral lobes flat, nearly impunctate, with a very small lateral carina, bordered with shallow, moderate depressions, posterolateral carina flangelike. Scutellar groove deep, dissected by small carinae. Scutellum roundly trigonal in dorsal profile, coarsely rugoso-punctate dorsally, with dorso-lateral carinae, small to moderate punctures laterally and posteriorly. Propodeum nearly flat posteriorly, with a moderately strong transverse carina; central dorsal carina absent or very weakly developed, the transverse carina proceeds down both sides in a jagged arc to the point of abdominal articulation; dorsal surface rugoso-punctate; posterior surface punctate; lateral areas irregularly rugoso-punctate. Mesopleura mostly impunctate; middle central area smooth and impunctate, bordered by a line of fairly deep punctures, with several large punctures dorsad near wing base; mesosternum smooth and shiny bordered by a small carina, the central line with fairly deep punctures. Lateral regions of pronotum centrally impunctate, the margins punctured with small, fairly deep punctures; upper posterior corner with a sharp, carinate bend, the triangular area behind it rather concave and pilose. Wings hyaline; submedian cell as long as the median basally.

**Abdomen:** Carapace elongate oval in dorsal view, teardrop-shaped in lateral view; apex of carapace without apical spines, with a broad ventral
groove. Ovipositor 2.0 mm long, as long as the carapace; ovipositor sheath reddish-brown.

MALE.—Similar to the female in general structure and color except for the customary sexual differences. Parameres of external genitalia very short. Apex of carapace without ventral groove.

Holotype.—♀ Nova Teutonia, Brazil, in RDSC.

Distribution.—Known only from Nova Teutonia, Brazil.

Host.—Unknown.

Specimens Examined.—2♀, 1♂ as follows: BRAZIL --1♀ Nova Teutonia, 20° 11' (S), 52° 23' (W), 300-500m, 29 Nov. 1941, Fritz Plaumann; 1♂ Nova Teutonia, 15 Nov. 1941, F. Plaumann, (RDSC). 1♀ Nova Teutonia, 11 Nov. 1944, F. Plaumann, B. M. (NH) 1957-341.

REMARKS

This species definitely belongs in this genus but resembles the genus Chelonus in the shape of its carapace, the positioning of antennae, and the structure of the area between the antennal fossae.
**UROSIGALPHUS (NEOUROSIGALPHUS) PULLATUS N. SP.**

**Fig. 31**

*Size and Color.*—Length 4.6 mm. Head and thorax black; carapace black; abdomen dark brown; clypeus dark red-brown apically; labrum red-brown; mandible dark red-brown throughout; palpi light brown; antennae dark brown with red-black scape; front legs light brown, midlegs light to medium brown, the hind legs red-black; fore and mid coxae slightly darker than rest of legs. Tegula medium brown. Wings clear, hyaline, with brown hairs, the costa dark brown; stigma dark brown, the remaining veins medium brown distally, dark brown near central part of wing, but becoming lighter toward the base of the wing.

**FEMALE.**—*Head:* General anterior outline, ovately quadrate. Vertex irregularly coarsely rugoso-punctate anteriorly, but smooth posteriorly; temples and genal regions shallowly, irregularly punctured. Lower face uneven; more evenly finely punctate; fronto-clypeal groove with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; central margin gently curved in outline, with a carina from lateral center to and around mandible bases. Mandible teeth long and narrow, outer surface carinate. Antennal scapes very well separated, with the area between the antennal fossae depressed centrally and rugoso-punctate, extending dorsally to median ocellus, and a shallow, narrow, nitidous, irregularly punctate groove behind each scape extending past rear ocelli.
Ocelli ovoid, interocellar area round, with a V-shaped, punctate carina in front of rear ocelli. Antenna 14-segmented; scape short and relatively swollen, the inner margin arcuate; pedicel less than half as long as scape. Occipital carina complete, well developed throughout.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices broad, shallow, with large-sized punctures, area of convergence a broad, rather quadrate, with large and very large punctures; median lobe irregularly punctate, most punctuation very shallow and moderate to large, with a small central carina, anteriorly reticulate; lateral lobes with broad central groove that is sparsely, shallowly, finely punctured, bordered with large carinate punctures laterally, posterolateral carina well developed, and strongly flangeline. Scutellar groove deep, segmented by five strong carinae. Scutellum roundly trigonal in dorsal profile, with irregular large carinate punctures dorsally and posteriorly, laterally with a single large depression. Propodeum flat posteriorly, with a strong transverse carina that forms a flange near the abdominal articulation; central dorsal carina strongly developed, joining the transverse carina which proceeds strongly down both sides to the point of abdominal articulation; dorsal surface carinate and deeply punctate; posterior surface irregularly densely punctate, lateral areas regularly rugoso-punctate. Mesopleura mostly impunctate; middle central area smooth, impunctate, bordered with large deep punctures; mesosternum irregularly punctate with fairly deep punctures centrally and posteriorly. Lateral regions of pronotum sparsely and irregularly punctured with fairly deep punctures; upper posterior corner with a slight bend, the triangular area behind it rather finely
punctate and densely pilose. Tegula broadly pear-shaped. Wings hyaline; stigma broadly ovate-acuminate; submedian cell as long as the median basally.

*Abdomen:* Carapace elongate oval in dorsal view, distally gradually pointed in lateral view; apex of carapace with a median longitudinal groove, with tiny obsolete apical spines. Ovipositor 1.4 mm long, 2/3 as long as the carapace; ovipositor sheath reddish-black.

**MALE.—**Unknown.

**Holotype.—**♀ Avispas, Peru in RDSC.

**Distribution.—**Avispas and Quincemil, Peru.

**Host.—**Unknown.

**Specimens Examined.—**2♀ as follows: PERU — 1♀ Avispas, Sept. 1962; 1♀ Quincemil, Sept. 1962 (RDSC).

**REMARKS**

The ocellar area closely approaches that of the species of the subgenus *Urosigalphus* that have the pyramid poorly developed. The specimen from Quincemil has a larger tubercle on one side. A robust species quite similar to *brasilienensis* from which it is separated by the presence of short to obsolete carapace tubercles, lighter leg color, and light brown palpi.
UROSIGALPHUS (NEOUROSIGALPHUS) SAFFLAVUS N. SP.

Fig. 32

Size and Color.—Length 3.0 mm. Head and thorax black; carapace black; abdomen dark brown; clypeus dark red-brown apically; labrum red-brown; mandible red-brown, with dark apex; palpi light tan; antennae with dark brown scape and medium brown pedicel; front legs yellow-tan, midlegs yellow-tan; front and mid coxa tan; the hind legs dark brown with yellow-tan trochanters. Tegula dark red-brown. Wings clear, hyaline, with sparse brown hairs, the costa brown; stigma brownish black, the remaining veins medium brown distally but becoming very pale toward the base of the wing.

FEMALE.—Head: General anterior outline, roundly quadrate. Vertex nearly impunctate; temples and genal regions finely punctured. Lower face rounded more evenly, finely punctate; fronto-clypeal groove poorly impressed with a small, deep, round anterior tentorial pit near each end. Clypeus rather quadrate; lower central margin gently curved. Mandible teeth long and narrow, outer surface fairly smooth. Antennal scapes very well separated, with the area between the antennal fossae gently rounded and densely finely rugoso-punctate with two large carinate punctures just anterior to the median ocellus, and a deep, narrow, nitidous, impunctate antennal sulcus extending past the rear ocelli. Ocelli oval, interocellar area shallowly finely punctate, slightly raised. Antenna 16-segmented; scape short and relatively slender, the inner margin slightly rounded;
pedicel almost half as long as scape; apical segment of flagellum twice as long as the penultimate segment. Occipital carina incomplete, well developed laterally but absent in the dorsal region.

**Thorax:** Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaulices narrow, shallow, with moderate-sized punctures, area of convergence broad, rather diamond-shaped with large-sized punctures; median lobe finely punctate, with a small central carina; lateral lobes flattish, densely, finely punctured, with a very small lateral carina; the posterolateral carina flangeliike. Scutellar groove deep, segmented by five carinae. Scutellum roundly trigonal in dorsal profile, smooth and impunctate in center dorsally, with irregular large carinate punctures laterally and posteriorly. Propodeum nearly flat posteriorly, with a strong transverse carina; with two central dorsal carinae moderately developed, the transverse carina proceeds down both sides to the point of abdominal articulation; dorsal surface rugoso-punctate; posterior surface roughly and densely rugoso-punctate and bicularinate; lateral areas irregularly rugoso-punctate. Mesopleura punctate; middle central area shallowly, sparsely, finely punctate, surrounded by large, fairly deep punctures; mesosternum irregularly punctate with fairly deep punctures. Lateral regions of pronotum irregularly punctured with moderate fairly deep punctures in lower part, top half sparsely, shallowly punctate; upper posterior corner with a carinate bend, the triangular area behind it concave and finely carinate. Wings hyaline; submedian cell as long as the median basally.

**Abdomen:** Carapace smooth oval in dorsal view and teardrop-shaped in lateral view; the general surface longitudinally finely carinate dorsally,
but smooth and impunctate on apex; apex of carapace without apical spines. Ovipositor 1.0 mm long, 2/3 as long as the carapace; ovipositor sheath reddish-black.

MALE.--Unknown.

Holotype.--♀ Avispas, Peru in RDSC.

Distribution.--Avispas, Peru.

Host.--Unknown.

Specimens Examined.--1 ♀ Avispas, Peru, Sept. 1962.

REMARKS

Similar to cautus, obscurus, and ornatus. Similar to cautus in having the carapace apex smooth and shiny. Separated from cautus by the tan fore and mid coxae, yellow-tan fore and midlegs, and the more oval carapace shape.
UROSIGALPHUS (NEOUROSIGALPHUS) SPINATUS N. SP.

Fig. 33

Size and Color.—Length 2.8 mm. Head black; thorax deep reddish-black; carapace dark maroon, nearly black; abdomen brown; clypeus medium brown apically, labrum tan; mandible tan, with dark brown teeth; palpi pale tan; antennae medium brown throughout; front and midlegs yellow-tan, coxae slightly darker than femora; the hind coxa red, femur light brown, the hind tibia and tarsi dark brown. Tegula medium brown. Wings clear, hyaline, with pale tan hairs, the costa dark brown basally and dark brown apically; stigma dark brown, the remaining veins medium brown distally but becoming pale tan basally.

FEMALE.—Head: General anterior outline ovately quadrate. Vertex finely rugoso-punctate, temples and genal regions densely finely punctate. Lower face rounded, evenly finely punctate; fronto-clypeal groove with a moderate-sized, deep, round anterior tentorial pit near each end. Clypeus semicircular; lower central margin straight. Mandible teeth short and narrow, outer surface rugose. Antennal scapes well separated, with the area between fossae nearly flat and finely rugoso-punctate with a small central groove and no carinae and without a groove behind each scape. Ocelli ovoid but nearly semicircular, interocellar area slightly raised with the median area depressed, median ocelli with a small bordering carina along rear edge, lateral ocelli with a fairly high bordering carina.
on dorsal edge. Antenna 14-segmented; scape similar in size and length to first flagellar segment, inner margin distinctly rounded; pedicel almost half as long as scape. Occipital carina complete, well developed laterally but weakly developed centrally.

*Thorax:* Unevenly punctate. Mesonotum irregularly punctate, the general surface uneven; notaules broad, deep, with moderately large punctures, area of convergence broad, rather quadrate, depressed, with moderately large punctures; median lobe irregularly rugoso-punctate, with a central carinae anteriorly; lateral lobes flattened, sparsely punctured, with a line of large carinate punctures along lateral margin; postero-lateral carina strongly flangelike. Scutellar groove rather deep and broad with three dissecting carinae. Scutellum trigonal in dorsal profile, coarsely rugoso-punctate; posterior and lateral surfaces vertically carinate. Propodeum gently rounded posteriorly, with a moderately strong transverse carina; central dorsal carina short, joining the transverse carina which proceeds down both sides in a jagged arc to near the point of abdominal articulation; dorsal surface with irregular rugae delimiting depressions; posterior surface roughly and densely rugoso-punctate; lateral areas rather irregularly rugoso-punctate. Mesopleura punctate; middle central area with a small, nearly impunctate spot, lower anterior area rugoso-punctate, upper anterior area with large carinate punctures; mesosternum with large carinate punctures. Lateral regions of pronotum rugoso-punctate. Wings hyaline; submedian cell as long as the median basally.

*Abdomen:* Carapace elongate oval in dorsal view and smoothly rounded dorsally in lateral view; general surface longitudinally rugoso-punctate
anteriorly, finely rugoso-punctate posteriorly; apex of carapace with a pair of well developed apical spines. Ovipositor 0.5 mm long, less than 1/2 as long as carapace.

MALE.--Unknown.

Holotype.--♀ Brazil, in BM(NH).

Distribution.--Known only from type locality.

Host.--Unknown.

Specimens Examined.--BRAZIL -- 1♀ Nova Teutonia, 27° 11'B(S), 52° 23'L(W), 19 Nov. 1937, Fritz Plaumann, B.M. 1937-748.

REMARKS

Closely related to acutus but easily separated by the key characters as well as its lighter leg coloration and shorter, wider spaced carapace spines.
UROSIGALPHUS (NEOUROSIGALPHUS) TUBERCULATUS N. SP.

Fig. 34

Size and Color.—Length 2.7 mm. Head and thorax deep maroon; carapace dark maroon; abdomen dark brown; clypeus uniformly maroon, labrum red; mandible yellow-tan, with darker teeth; palpi yellow; antennae dark brown; front and midlegs yellow-tan; the hind coxa and femur orange tan, the hind tibia dorsally and tarsi dark brown. Tegula dark brown. Wings clear, hyaline, with brown hairs, the costa medium brown; stigma dark brown, the remaining veins medium to light brown distally but becoming almost clear basally.

FEMALE.—Head: General anterior outline ovately quadrate. Vertex rugoso-punctate, temples and genal regions finely punctate; fronto-clypeal groove with a large, deep, oval anterior tentorial pit near each end. Clypeus rather semicircular; lower central margin gently concave. Mandible teeth short and narrow, outer surface rugose. Antennal scapes well separated, with the area between fossae smoothly rounded and finely punctate with a small central groove, extending dorsally to median ocellus, and a shallow, sparsely, finely punctate antennal sulcus extending to rear ocelli. Ocelli nearly circular, interocellar area round, slightly raised with a median groove, lateral ocelli with bordering dorso-central carinae. Antenna 14-segmented; scape similar in length to first flagellar segment, the inner margin distinctly curved; pedicel less than
half as long as scape. Occipital carina complete, well developed laterally but very faint dorsally.

**Thorax:** Unevenly punctate. Mesonotum irregularly rugoso-punctate, the general surface uneven; notaulices broad, with moderately large punctures, area of convergence broad, rather quadrate, with moderately large punctures; median lobe rugoso-punctate, with a moderate-sized, short central carina anteriorly; lateral lobes gently rounded, sparsely, finely punctured, with a small lateral carina; posterolateral carina weakly flangelike. Scutellar groove rather deep and broad with three dissecting carinae. Scutellum roundly trigonal in dorsal profile, coarsely rugoso-punctate; posterior surface gently rounded. Propodeum gently rounded posteriorly, with a strong transverse carina; central dorsal carina strong, meeting the transverse carina which proceeds down both sides in an arc past the point of abdominal articulation to the coxal cavity; dorsal surface with regular carinae longitudinally; posterior surface finely and densely rugoso-punctate; lateral areas rather irregularly rugoso-punctate. Mesopleura punctate; middle central area impunctate, lower anterior area impunctate, lower center with carinae in a mesopleural groove; mesosternum finely punctate and irregularly carinate and rugose. Lateral regions of pronotum rugoso-punctate, upper posterior corner with a slight bend, the triangular area behind it sparsely rugoso-punctate. Wings hyaline; submedian cell longer than the median basally.

**Abdomen:** Carapace elongate oval in dorsal view and irregularly elongate oval in lateral view; general surface longitudinally rugoso-punctate anteriorly, becoming rugoso-punctate posteriorly; apex of carapace with a pair of long, pointed apical spines above which are a pair
of centrally located obsolete spines or tubercles. Ovipositor 0.8 mm long, over 1/2 as long as carapace.

**MALE.**--Unknown.

**Holotype.**--♀ Brazil in BM(NH).

**Distribution.**--Known only from type locality.

**Host.**--Unknown.

**Specimens Examined.**--BRAZIL -- 1♀ Nova Teutonia, 27° 11'B(S), 52° 23'L(W), 27 Apr. 1938, Fritz Plaumann, B. M. 1938-682.

**REMARKS**

Similar to *eulechriopis*. Separated by being generally lighter colored and less robust, with darker compound eyes and yellow fore and midlegs.
Fig. 29.  *U. (N.) paraguayensis* n. sp., type 70375.  X 25.

Fig. 30.  *U. (N.) pseudochelonus* n. sp., type in RDSC.  X 12.

Fig. 31.  *U. (N.) pullatus* n. sp., type in RDSC.  X 12.

Fig. 32.  *U. (N.) safflavus* n. sp., type in RDSC.  X 25.

Fig. 33.  *U. (N.) spinatus* n. sp., type in BM(NH).  X 25.

Fig. 34.  *U. (N.) tuberculatus* n. sp., type in BM(NH).  X 25.
Status Undetermined: *U. boaqui* Blanchard. Neither a description nor a type specimen have been located for this species. This species is listed as *Urostigalpus boaqui* Blanchard MS Argentine, and a parasite of the bruchids *Acanthoscelides vaguenotatus* Pic and *Rhippobruchus pictoratus* (Fahr.) in, "Catalogue des Metazoaires Parasites et Predateurs de Bruchides," by Y. deLuca. This paper appeared in the Annales de la Societe d'Horticulture et d'Histoire Naturelle de L'Hерault, Vol. 110, 1970.

The above host data would place this species in the subgenus *Bruchius* *urostigalpus* if a type specimen and type description are found.
BIBLIOGRAPHY


