

PSYCHE

Vol. 72

December, 1965

No. 4

FURTHER STUDIES ON NEOTROPICAL EPYRINI (HYMENOPTERA, BETHYLIDAE)¹

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This paper is a supplement to two recent papers published in the Bulletin of the Museum of Comparative Zoology.² Although these papers were several years in the making, as so often happens they had scarcely appeared when a considerable amount of new material came into my hands. The present paper is concerned with range extensions, notes on variation, and new species in the genera *Rhabdepyris*, *Bakeriella*, *Calyozina*, and *Epyris*. The abbreviations employed are the same as those used in my two previous papers, but for the sake of ready reference the abbreviations are listed again at the conclusion of this paper.

Rhabdepyris (Rhabdepyris) muesebecki Evans, 1965

This species was recorded from the United States only from two specimens intercepted at quarantine in Texas. However, it is apparently established in Texas, as I took a male while sweeping herbaceous vegetation at the north edge of the city of Brownsville on June 29, 1965. I also have a female before me from Mera, Ecuador, collected January 26, 1923, by F. X. Williams [coll. Bishop Mus., Honolulu]. This is within the known geographic range of this species, but the specimen is of interest because of its large size (LFW 2.1 mm). It keys out well in my revision if one makes allowance for greater variation in size than previously indicated.

¹Research and publication supported by a grant from the National Science Foundation, No. GB-1544. *Manuscript received by the editor December 7, 1965.*

²1964. A synopsis of the American Bethylidae (Hymenoptera, Aculeata). Bull. Mus. Comp. Zool., 132: 1-222.

1965. A revision of the genus *Rhabdepyris* in the Americas (Hymenoptera, Bethylidae). Bull. Mus. Comp. Zool., 133:67-151.

Rhabdepyris (Rhabdepyris) nigriscapus Evans, 1965

This species was described from a single female from the province of Jujuy, Argentina, unfortunately indicated as a "♂" in the original description, although stated to be a female two lines later. Mr. Fritz Plaumann has recently sent me a second female, this one from Nova Teutonia, Santa Catarina, Brazil, collected in March, 1965. This specimen agrees closely with the type in color and most structural characters, but it is considerably larger (LFW 2.1 mm) and the front femora measure only $2.65 \times$ as long as their maximum width. The head is also slightly wider (WH $1.02 \times$ LH) and the front narrower (WF $1.02 \times$ HE); the ocellar triangle is broad, OOL only $.77 \times$ WOT. Thus this specimen bridges some of the gaps supposed to separate *nigriscapus* and *minutulus*. The latter species may still be separable on the basis of its extremely small size, more compact antennae, pale scape, and somewhat more robust front femora; but only the accumulation of much more material of this complex will permit final clarification of specific characters.

***Rhabdepyris (Rhabdepyris) multilineatus* n. sp.**

This species is of unusual interest because the pronotum lacks a foveolate groove paralleling its posterior margin; actually such a groove is partially developed in one of the two available males, but absent in the other male and in all six females. I used the presence of such a groove as a subgeneric character in my 1965 revision, but evidently it will not hold. Otherwise *multilineatus* is a reasonably typical member of this subgenus, being related to those species in which the front angle of the ocellar triangle of the female is less than a right angle. In the male the ocellar triangle is somewhat broader, so that the males will run to *gracilis* in my key (as they also will with respect to head shape). Actually the males are readily separable from those of both *gracilis* and *muesebecki* on the basis of the pale and much more compact antennae.

This species is also of special interest since the type series has associated with it the first host data for any member of this genus. Pinned with the type series is an adult and a larva of the dermestid *Cryptorhopalum septemsignatum* Sharp [det. J. M. Kingsolver]; the word "notes" is written on the label in the handwriting of the collector, F. X. Williams. Dr. Williams writes that he can no longer find these notes, but he remembers collecting some empty cocoons under loose bark along the edge of a forest; he believes that the *Rhabdepyris* adults were reared from larvae which were feeding on

dermestid larvae breeding in the refuse in the cocoons. Perhaps this should be considered a doubtful host record, since the notes are not extant. However, it seems a very logical association, since dermestids are the hosts of several species of *Laelius*. As I pointed out in 1965, the morphological gap between *Laelius* and *Rhabdepyris sensu stricto* is a very small one.

Holotype. — ♀, ECUADOR: Milagro, December 1922 (F. X. Williams) [Bishop Mus., Honolulu].

Description of female type. — Length 3.1 mm; LFW 2.4 mm. Black; mandibles and antennae rufo-testaceous except flagellum weakly infuscated on upper surface; coxae and femora dark brown, legs otherwise bright rufo-testaceous; wings hyaline, veins and stigma amber. Clypeus sharply, obtusely angulate; third antennal segment about as long as thick. Head slightly higher than wide, $WH .97 \times LH$; vertex produced above eye tops by a distance equal to about half the eye height; front of moderate breadth, $WF .59 \times WH$, $1.17 \times HE$; front angle of ocellar triangle very slightly less than a right angle, $OOL 1.25 \times WOT$. Front wholly alutaceous, with shallow, widely spaced punctures. Pronotum alutaceous but somewhat shining, strongly punctate, its posterior margin depressed but not paralleled by a groove. Scutellar groove a slightly arcuate band of nearly equal width throughout. Propodeal disc $1.2 \times$ as wide as long, with five strong discal carinae plus strong lateral and sublateral carinae, all nine carinae reaching the posterior margin or nearly so. Front femora $2.5 \times$ as long as their maximum width.

Allotype. — ♂, ECUADOR: same data as type [Bishop Mus., Honolulu].

Description of male allotype. — Length 2.8 mm; LFW 1.9 mm. Coloration as described for female. First four antennal segments in a ratio of about 17:7:7:8, segments three and eleven each about $1.2 \times$ as long as thick. $WH/LH = 1.0$; $WF .63 \times WH$, $1.36 \times HE$; ocellar triangle rather broad, front angle about a right angle; $OOL 1.16 \times WOT$. Front alutaceous, somewhat shining, punctures inconspicuous. Pronotum and scutellar groove as described for female; propodeal disc $1.2 \times$ as wide as long, carinate much as in the female; side-pieces of propodeum strongly beaded.

Paratypes. — 5 ♀♀, 1 ♂, ECUADOR: same data as type except 4 ♀♀ dated December 4, 1922 [Bishop Mus., Honolulu; MCZ].

Variation. — The females show only slight variation in size (LFW 2.2-2.4 mm) and only minor variation in color and sculpture; WH varies from .96 to $1.0 \times LH$, WF from 1.15 to $1.20 \times HE$,

OOL from 1.2 to 1.3 \times WOT. The male paratype is slightly smaller than the allotype (LFW 1.8 mm) and is very similar except that the posterior margin of the pronotum is preceded by a row of shallow foveae.

Rhabdepyris (Rhabdepyris) gracilis Evans, 1965

I described this species from a female from Sacramento, California, and a male from near Durango, Mexico, remarking that the association seemed probable in spite of the distance between these two localities. I have since seen a male from Danville, Contra Costa Co., California (F. X. Williams, Aug. 8, 1948) [CAS] agreeing so closely with the allotype from Durango that I feel confident that my association of the sexes was correct. This specimen is identical to the allotype in size, color, and most standard measurements, but OOL is only 1.15 \times WOT. A female collected by F. X. Williams at Danville on May 29, 1952 [CAS] probably also belongs here, but the groove paralleling the posterior margin of the pronotum is virtually absent and OOL is only 1.10 \times WOT; in size, color, and other standard measurements it is similar to the Sacramento type.

Rhabdepyris (Rhabdepyris) nigripilosus (Ashmead),
new combination

Mesitius nigripilosus Ashmead, 1895, Proc. Calif. Acad. Sci., (2) 5: 539.

[Type: ♀, MEXICO: NAYARIT: Tepic (CAS)].

Epyris nigripilosus Kieffer, 1914, Das Tierreich, 41: 345.—Evans, 1964, Bull. Mus. Comp. Zool. Harvard, 132: 108.

Rhabdepyris (Rhabdepyris) huachucae Evans, 1965, Bull. Mus. Comp. Zool. Harvard, 133: 73. [Type: ♀, ARIZONA: Ramsey Canyon, Huachuca Mts., March 22, 1956 (Werner & Butler) (MCZ)]. New synonymy

Through the courtesy of Mr. Hugh B. Leech, I have recently had an opportunity to study the type of Ashmead's *nigripilosus*, and I find that Kieffer and I were incorrect in assuming it to be an *Epyris*. Beyond much question it is a second specimen of the species I described from southeastern Arizona as *huachucae*. The type of *nigripilosus* differs from that of *huachucae* in the following particulars: slightly larger (LFW 2.6 mm); front femora with only a small brownish blotch toward base, otherwise testaceous, middle femora wholly testaceous; head more nearly circular, WH .98 \times LH; front very narrow, WF and HE subequal, the punctures very slightly stronger and more closely spaced; OOL 1.35 \times WOT; propodeal disc somewhat broader, measuring 1.35 \times as wide as its median length. This is a relatively large and distinctive species of the subgenus.

Rhabdepyris (Trichotepyris) hirticulus new name

Rhabdepyris (Trichotepyris) nigropilosus Evans, 1965, Bull. Mus. Comp. Zool. Harvard, 133: 84. Preoccupied by Ashmead, 1895.

Although Ashmead called his species *nigripilosus* (see preceding species), according to the International Code of Zoological Nomenclature, article 58, compound words differing by only a connecting vowel are to be considered homonyms. A new name is therefore proposed for this species, which is known from several females from Panama and Brazil.

Rhabdepyris (Trichotepyris) apache Evans, 1965

I described this large and striking species from three females from Arizona and a male from Sonora, Mexico. It now appears that it is widely distributed and locally not uncommon in western Mexico. I collected 11 ♀♀ and 1 ♂ from the tops of young *Ambrosia* plants, apparently containing honeydew, on the outskirts of Guadalajara, Jalisco, Mexico, July 17-28, 1965. I have also seen 1 ♂ from 8 miles SE of Elota, Sinaloa, Mexico, collected May 19, 1962, by L. A. Stange [UCD] and 1 ♂ from Maria Madre Isl., Tres Marias, Nayarit, Mexico, collected May 22, 1925 (H. H. Keifer) [CAS]. In the original description I noted that the pronotal disc of the male is sharply declivous anteriorly and laterally. In all three of the males listed above, the disc is actually subcarinate anteriorly and along the anterior half of the lateral margins. Also, in some of the females from Guadalajara, one can detect a faint, irregular carina along the anterior margin of the pronotal disc. I have already suggested that *Anisepyris* and *Trichotepyris* are closely related by way of the *mega-cephalus* species group of the latter subgenus. It would appear that *apache* provides an almost perfect intermediate between these two taxa. For the present I shall, however, leave it in *Rhabdepyris (Trichotepyris)*, since on the whole it seems to fit best in the *mega-cephalus* group of that subgenus.

Rhabdepyris (Trichotepyris) fortunatus Evans, 1965

This species was based on a single female from Costa Rica. I have before me two females which resemble the type very closely, one from Bucay, Ecuador, Oct. 4, 1922, and one from Blairmont, British Guiana, Oct. 1923 (both collected by F. X. Williams) [Bishop Mus., Honolulu]. Both are slightly larger than the type (LFW 2.6-2.9 mm) and have the ocellar triangle slightly more re-

mote from the eye margins (OOL 1.3-1.4 \times WOT). The very short third antennal segment is characteristic of this species.

Rhabdepyris (Chlorepyris) virescens Evans, 1965

This large, well characterized species was known to range throughout tropical South America and into Panama. Apparently it also ranges throughout the remainder of tropical Central America and Mexico, for I took a very typical female of this species while sweeping vegetation just behind the beach at Playa Matanchen, near San Blas, Nayarit, Mexico, on August 7, 1965. As might be expected, this specimen is more similar to material from Panama than to the type (from southern Brazil); the apical third of the abdomen is rufous, the femora are wholly rufous, and the front is relatively narrow (WF 1.10 \times HE). LFW measures 4.0 mm; WH/LH = 1.05; the front femora measure 2.05 \times as long as wide.

Bakeriella inconspicua Evans, 1964

On July 6, 1965, I collected two males of this species on banana leaves at Tamazunchale, San Luis Potosi, Mexico, thus extending the known range of the species several hundred miles northwestward. These males are small (LFW 2.1-2.3 mm) and agree with males from Tabasco in having the scape slightly infuscated and the front and thoracic dorsum rather strongly shining. The female of this species is still unknown.

Bakeriella brasiliiana Evans, 1964

This species was described from a single female from Minas Gerais, Brazil. I have seen one additional female from a place far distant from the type locality but so similar to the type that its conspecificity can scarcely be questioned. This specimen was taken on July 14, 1918, at the Limon Plantation, Chagres R., Panama (sweeping around cornfield, H. Dietz & J. Zetck) [USNM]. This specimen is of the same size as the type and of similar coloration except that the apex of the abdomen is dark brown rather than ferruginous; standard measurements are very much like those of the type except that OOL is 1.7 \times WOT, the propodeal disc 1.1 \times as wide as long. It is conceivable that *brasiliiana* represents the otherwise unknown female sex of *depressa* Kieffer or *flavicornis* Kieffer, though by analogy with *olmecca* Evans and with *subcarinata* n. sp. I would expect the females of *depressa* and *flavicornis* to have five-toothed

mandibles and at least some evidence of a median carina on the pronotum.

***Bakeriella subcarinata* n. sp.**

This is the fourth known species in which the male possesses a vertical carina on the temples and a median carina on the pronotum; it is the second of these four species in which the female is known (or at least tentatively associated with the male). In this case the female lacks a carina on the temples (as in *olmeca* Evans) but possesses a weak median carina on the pronotum (in contrast to *olmeca*). The female will run to *inca* Evans in my 1964 key, but it differs in several respects, most conspicuously in having 5-toothed mandibles and in having the median pronotal carina very weak and not set in a depression. The male runs to *olmeca* in my key, but differs in having well formed lateral ridges on the pronotum and in having the third antennal segment only $1.3 \times$ as long as thick.

Allotype. — ♀, PERU: Quincemil, Dept. Cuzco, 750 meters, Nov. 5-16, 1962 (L. Peña) [MCZ].

Description of female allotype. — Length 5.0 mm; LFW 4.3 mm. Black; mandibles testaceous except black at base, the teeth rufous; antenna pale ferruginous, scape and outer flagellar segments strongly infuscated on upper surface; legs black except tibiae and tarsi dull ferruginous; wings lightly tinged with yellowish brown. Mandibles with a broad, oblique apical margin which bears five teeth, the basal three teeth very much smaller than the two large apical teeth. Clypeus very short, broadly subangulate. Eyes weakly hairy; antennal scrobes not margined; third antennal segment about $1.5 \times$ as long as thick. WH $.95 \times$ LH; eyes converging below, WF $1.20 \times$ HE; OOL $1.5 \times$ WOT. Vertex broadly rounded off a considerable distance above eye tops; temples fairly broad but ecarinate. Front shining, weakly alutaceous, with strong punctures which are separated by $1-3 \times$ their own diameters. Pronotal disc somewhat more strongly alutaceous, also with strong punctures; anterior, transverse carina straight; median carina weak, alutaceous, not set in a depression; posterior margin with a polished ridge; sides of disc subcarinate in front; side-pieces rugose, especially below. Mesoscutum polished anteriorly, posterior half alutaceous, punctate, slightly depressed; scutellar pits large, transverse, separated by a thin septum. Propodeal disc $1.15 \times$ as wide as long, transversely striate between the three discal carinae, otherwise with only weak sculpturing. Front femora measuring $2.4 \times$ as long as wide.

Holotype. — ♂, PERU: Tingo Maria, Dept. Huanuco, 620 meters, Oct. 5-12, 1964 (C. C. Porter) [MCZ].

Description of male type. — Length 4.0 mm; LFW 2.6 mm. Black; mandibles testaceous, except basal third black, teeth rufous; scape black except apical fourth, as well as all of following three segments, testaceous, remainder of antennae mostly fuscous; legs black except tarsi straw-colored, tibiae only partially infuscated; wings lightly tinged with yellowish brown. Mandibles with five sharp teeth; clypeus obtusely angulate; scrobes carinate; eyes weakly hairy. First four antennal segments in a ratio of about 20:8:9:10, segment three about $1.3 \times$ as long as thick, segment eleven $1.6 \times$ as long as thick. WH $1.08 \times$ LH; eyes converging strongly below, WF $1.15 \times$ HE; OOL $1.4 \times$ WOT. Temples with a carina which starts at the vertex but extends only to about the middle of the eyes. Front alutaceous, moderately shining, obscurely punctate. Pronotal disc alutaceous, even over the crest of the median carina, which is stronger than in the female; anterior, transverse carina angled backward only very weakly at the midline; sides of disc subcarinate anteriorly, posterior margin with a polished elevation preceded by a row of small foveae. Mesoscutum strongly alutaceous and slightly depressed on the posterior half; scutellar pits large, separated by a thin septum medially. Propodeal disc $1.1 \times$ as wide as long, disc transversely striate between the three discal carinae; posterior angles dentate in front of the strongly developed foveae.

Paratypes. — 3 ♂♂, PERU: Monson Valley, Tingo Maria, Oct. 10, Nov. 29, 1954 (E. I. Schlinger and E. S. Ross) [CAS].

Variation. — The three male paratypes vary slightly in size (LFW 2.4-2.8 mm) but resemble the type very closely in color and standard measurements. In all three specimens the carina on the temples terminates near the middle of the eyes; in all three the median carina of the pronotum is slightly weaker than in the type, although more distinct than in the female allotype.

Bakeriella inca Evans, 1964

This species was described from a single female from Puerto Bermudez, Rio Pichis, Peru. I have recently studied 1 ♀ and 2 ♂♂ of this species collected by E. I. Schlinger and E. S. Ross in the Monson Valley, Tingo Maria, Peru, Sept.-Dec. 1954 [CAS]. The female is slightly larger than the type (LFW 3.3 mm) and the head is as wide as high, but there are no other differences worthy of note. The males lack a carina on the temples, have a strong median carina on

the pronotum which is set in a depression, and have hairy eyes; thus they key out readily in my key. In these males LFW is 2.1-2.6 mm; WH is $1.02-1.05 \times$ LH, $1.25-1.30 \times$ HE, OOL about $1.5 \times$ WOT. There are no important differences in color or sculpturing as compared to the female except that the front is only obscurely punctate and the antennal scrobes are carinate (as is usual in males of this genus).

Bakeriella rossi Evans, 1964

The collecting of Schlinger and Ross in the Monson Valley, Tingo Maria, Peru, in September and October 1954 also turned up 1 ♀ and 3 ♂♂ of this species, previously known from 3 ♂♂ from Colombia. The female will run to couplet 8 of my key; the 5-toothed mandibles at once separate it from *brasiliana*, the very weakly arched, non-angulate transverse pronotal carina from *olmecca*, the fuscous coxae and femora and much larger size from *floridana*. The female is 5.5 mm long, LFW 3.9 mm; the body is black except that the apical fourth of the abdomen is suffused with dull ferruginous. The clypeus is sharply, obtusely angular; the eyes are hairy; the vertex is broadly rounded off far above the eye tops, WH being only $.9 \times$ LH; WF is $1.22 \times$ HE, OOL $1.8 \times$ WOT, the propodeal disc $1.2 \times$ as wide as long and bearing the usual three carinae.

Bakeriella depressa Kieffer

Since treating this species in 1964, I have seen one additional male, from Tena, Ecuador, collected February 28, 1923, by F. X. Williams [Bishop Mus., Honolulu]. It is the largest specimen I have seen (LFW 3.0 mm) but presents no unusual structural features. The antennae of this species are consistently more elongate than in *flavicornis* Kieffer, segments three and eleven being $1.35-1.5 \times$ as long as thick as compared to $1.1-1.3 \times$ as long as thick in *flavicornis*. Also, the antennae of most specimens are decidedly dusky apically, while in *flavicornis* they are wholly light yellowish brown. In addition to the type of the latter species I have seen four topotypic paratypes in the collection of Cornell University.

Calyozina mexicana n. sp.

This remarkable species seems to be closer to the type species, *ramicornis* Enderlein, from Formosa, than to the two neotropical species I assigned here in 1964. In particular, there are ten long branches on the antennae as opposed to only seven or eight short

branches in *neotropica* and *amazonica*. This species also differs from the latter two species in having 5-toothed mandibles, dentate claws, a groove connecting the two scutellar pits, and some unusual sculpturing on the sides of the thorax and propodeum. It is possible that *mexicana* should not be regarded as congeneric with *neotropica* and *amazonica*, but considering the fact that all three species are known from only one specimen (in each case a male), as well as the many problems of generic classification in this section of the Epyrini, it seems best to be conservative.

Holotype. — ♂, MEXICO: 23 mi. S Matias Romero, Oaxaca, Aug. 14, 1963 (F. D. Parker & L. A. Stange) [MCZ].

Description of male type. — Length 6.2 mm; LFW 3.8 mm. Black, head and thoracic dorsum with a faint bluish cast, last two abdominal segments rufous; mandibles rufo-testaceous; scape black, flagellum dull ferruginous, the branches dusky; coxae black, legs otherwise wholly bright rufo-testaceous; wings lightly tinged with brown. Mandibles with a large apical tooth and four small teeth in a slightly oblique series; clypeus broadly angulate, its median carina nearly straight in profile. Antennae strongly pectinate; segment three considerably shorter than two, much wider than long, bearing a rather short process; segments 4-12 each bearing a slender process slightly longer than the segment proper (segments 4 and 12) up to about $3 \times$ as long as the segment proper (segments 7-10); segment 13 elongate, clavate; segments 2-5 each bearing long, erect setae, following segments with shorter setae but with long setae on the processes, these setae much longer than the width of the processes. Head unusually broad, $WH \ 1.25 \times LH$; front broad, $WF \ .70 \times WH$, $1.50 \times HE$; vertex broadly rounded off a short distance above eye tops; ocelli in a broad triangle, WOT slightly exceeding OOL. Front polished, non-alutaceous, with small, widely spaced punctures. Thoracic dorsum slightly alutaceous, duller than front; pronotal disc sloping gradually toward the front and its sides approaching to a rounded anterior margin, the disc not at all prominent antero-laterally; scutellar pits large, subcircular, separated by slightly less than their own diameters, connected by a very slender but fairly deep groove. Propodeal disc $1.15 \times$ as wide as its median length, with three strong discal carinae between which it is transversely ridged; laterad of the discal carinae the surface is smoother, but there is a low longitudinal ridge between the lateral discal and strong sublateral carinae; propodeal side-pieces polished, with several prominent longitudinal ridges which are continuous with similar ridges on the

mesopleura and which form (more especially on the mesopleura) two concentric ellipses. Middle and hind tibiae somewhat spinose; claws with a short, erect tooth. Thoracic venter rather flat, the middle and hind coxae rather widely separated on the venter.

***Epyris cubanus* n. sp.**

This is the first *Epyris* known from Cuba, and only the third species reported from the West Indies. It is one of few species of *Epyris* of metallic coloration.

Holotype. — ♀, CUBA: Rio Cauto, Oriente Prov., April 1928 (C. F. Stahl) [USNM].

Description of female type. — Length 3.0 mm; LFW 2.0 mm. Head and thorax dark olive-green, shining; pronotal collar ferruginous; propodeum black; abdomen dark reddish brown, fading to light brown laterally and apically; mandibles testaceous, black at extreme base; antennae testaceous except most of scape and upper side of flagellum dark brown; coxae fuscous, front and hind femora dark brown, legs otherwise testaceous; wings hyaline. Mandibles bidentate; clypeus obtusely angulate, rounded at the midline, elevated medially but without a distinct carina. Antennal segment three wider than long, segment eleven $1.4 \times$ as long as wide. Head elongate, WH $.89 \times$ LH; WF $.62 \times$ WH, $1.20 \times$ HE; vertex passing straight across a considerable distance above eye tops, the ocelli in a broad triangle far above eye tops; OOL $1.33 \times$ WOT. Front polished, very weakly alutaceous, with small, widely spaced punctures. Thoracic dorsum also weakly alutaceous, obscurely punctate; pronotal disc nearly twice as long as mesoscutum, with smooth contours; notauli linear, except very slightly widened near the posterior margin; scutellar pits small, oblique, longer than wide, the two pits separated by about $3 \times$ their own greatest diameter. Propodeal disc $1.2 \times$ as wide as its median length, with a complete median carina plus several short carinae in the basal triangle, but otherwise with only weak surface sculpturing; posterior angles subfoveolate; side-pieces shining, somewhat alutaceous. Mesopleura weakly alutaceous. Mesopleura weakly alutaceous, with a small, deep pit above and a longitudinal ridge below. Front femora strongly incrassate, measuring only $1.8 \times$ as long as wide; middle tibiae very weakly spinose; claws dentate. Abdomen robust, subfusiform, not at all depressed apically.

***Epyris depressigaster* n. sp.**

This species is of interest not only because of its brilliant color-

tion, but also because the apical portion of the abdomen is strongly depressed, suggesting some of the apterous *Pristocerini*. The head is less elongate and flattened than is usual in this genus.

Holotype. — ♀, BRAZIL: Nova Teutonia, Santa Catarina, July 17, 1937 (F. Plaumann) [BMNH].

Description of female type. — Length 6.0 mm; LFW 3.5 mm. Head and thorax dark blue-green; propodeum black; abdomen shining black except apical third bright ferruginous; mandibles and antennae wholly rufo-testaceous; legs testaceous except all coxae fuscous, hind femora medium brown; wings subhyaline. Mandibles bidentate, the outer tooth sharp, the inner tooth broad and blunt. Clypeus broadly angulate, the median carina nearly straight in profile. Antennae compact, segments three and eleven each slightly longer than wide. Head only slightly higher than wide, $WH .97 \times LH$; eyes large, prominent, protruding; front convex, with a linear impression on the lower fourth. WF subequal to HE ; ocelli in about a right triangle, $OOL 1.1 \times WOT$; bottom of anterior ocelli on a line with the eye tops, the vertex broadly rounded off a distance above the eye tops equal to only about one third $\times HE$. Front strongly alutaceous below, the punctures separated by little more than their own diameters; at the level of the ocelli the front is less strongly alutaceous and the punctures more widely spaced. Thoracic dorsum weakly alutaceous, wholly covered with small punctures except the scutellar disc impunctate; pronotal disc about $1.6 \times$ as long as mesoscutum; scutellar pits oblique, elongate, separated by $1.3 \times$ their own length. Propodeal disc about as long as wide, with three strong, complete discal carinae plus lateral carinae, between these five carinae with weak, irregular transverse striae; posterior angles weakly foveolate. Mesopleura shining, with small punctures; upper fovea small but well defined, lower fovea large, broadly open above. Front femora slender, $2.3 \times$ as long as wide; middle tibiae with dense, short spines above; claws with a strong, erect tooth, the outer ray curved so as to be nearly parallel to the tooth. Abdomen depressed throughout, but more especially so on the apical half, the last segment very thin in lateral view.

Epyris crassipes n. sp.

This distinctive species appears to be one of the commoner elements in the *Epyris* fauna of southeastern Brazil. It is a glossy, black species having unusually robust femora in both sexes and having the propodeal sculpturing largely restricted to a basal triangle.

Allotype. — ♀, BRAZIL: Nova Teutonia, Santa Catarina, Feb. 1, 1963 (F. Plaumann) [MCZ].

Description of female allotype. — Length 4.2 mm; LFW 3.0 mm. Black, shining, the extreme tip of the abdomen suffused with brown; mandibles ferruginous, black at extreme base; scape dark brown above, paler beneath, flagellum testaceous, weakly suffused with brown on upper surface; legs fuscous except front and middle tibiae and all tarsi testaceous; wings subhyaline. Mandibles slender, with a strong apical tooth, basad of this with a truncate cutting edge. Clypeus with a protuberant, narrowly rounded median lobe. Third antennal segment about as long as wide, segment eleven $1.5 \times$ as long as wide. WH $.90 \times$ LH; eyes convergent below, WF $1.08 \times$ HE; vertex passing straight across far above eye tops (except slightly gibbous just behind the ocellar triangle); ocelli in a broad triangle, OOL $1.4 \times$ WOT; anterior ocellus far above eye tops. Front strongly shining, obscurely alutaceous, with small, widely spaced punctures. Thoracic dorsum more evidently alutaceous than head; pronotal disc $1.7 \times$ as long as mesoscutum, with distinct, somewhat irregularly spaced punctures; mesoscutum with a few weak punctures; scutellar pits oblique, about twice as long as wide, separated by twice their own length. Propodeal disc $1.3 \times$ as wide as long, with complete median and lateral carinae, otherwise shining and with weak sculpturing except in a large, median, basal triangle, where there are several irregular longitudinal carinae and transverse ridges. Mesopleura shining, foveae not defined, but with a ridge which passes above the pit and then arches downward to form what would usually be the lower margin of the lower fovea. Front femora very broad, measuring twice as long as their greatest width, the middle femora even more robust, $1.7 \times$ as long as wide; middle tibiae with long spines above and below; claws weakly dentate. Abdomen robust, not depressed.

Holotype. — ♂, BRAZIL: same data as allotype except collected in June, 1952 [MCZ].

Description of male type. — Length 4.0 mm; LFW 3.1 mm. Black, shining; mandibles testaceous except black at base, rufous at apex; antennae wholly rufo-testaceous, the flagellum a bit dusky, especially apically; coxae and femora dark brown, legs otherwise light brown; wings subhyaline. Mandibles very slender, the apex acute, simple. Clypeus with a protuberant, subangulate median lobe. First four antennal segments in a ratio of about 22:10:11:16, segment three $1.3 \times$ as long as thick, segment eleven $2.1 \times$ as long

as thick. $WH .98 \times LH$; eyes convergent below, $WF 1.1 \times HE$; ocelli in a compact triangle well above eye tops, $OOL 1.4 \times WOT$. Vertex passing straight across a distance above eye tops equal to about $.6 \times HE$. Front strongly polished, with small punctures which are separated by several times their own diameters at the level of the ocelli, but much more closely spaced below. Thoracic dorsum also strongly polished, the mesoscutum, however, weakly alutaceous; pronotal disc more than twice as long as mesoscutum. Scutellar pits and features of propodeum and mesopleura as described for female; propodeal disc measuring $1.4 \times$ as wide as long, its posterior angles foveolate. Legs robust, front femora measuring only $2.2 \times$ as long as their greatest width; claws weakly dentate.

Paratypes. — 1 ♀, 4 ♂♂, BRAZIL: same data as type and allotype except various dates (July 1937, May 1938, June 1962, Nov. 1963) [MCZ, BMNH].

Variation. — The female paratype is of the same size as the allotype and shows no important differences in color, sculpture, or standard measurements. The four male paratypes vary in length from 3.2 to 4.5 mm, LFW 2.7-3.1 mm; WF varies from 1.00-1.15 $\times HE$. One of these specimens has an unusually broad ocellar triangle, and in this specimen OOL is only $1.22 \times WOT$; in this specimen the propodeal disc is also shorter than usual, measuring $1.6 \times$ as wide as its median length.

ALPHABETICAL LIST OF ABBREVIATIONS USED IN TEXT

Structures

HE: height of eye (maximum, lateral view)

LFW: length of fore wing

LH: length of head (apical margin of clypeus to median vertex crest)

OOL: ocello-ocular line (minimum distance from eye to lateral ocellus)

WF: width of front (measured at its minimum point)

WH: width of head (maximum, including eyes)

WOT: width of ocellar triangle (including lateral ocelli)

Institutions

BMNH: British Museum (Natural History), London

CAS: California Academy of Sciences, San Francisco

CU: Cornell University, Ithaca, N.Y.

MCZ: Museum of Comparative Zoology, Cambridge, Mass.

UCD: University of California, Davis

USNM: United States National Museum, Washington



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