

Review of Mexican species of the genus *Polycyrtus* Spinola, 1840 (Hymenoptera: Ichneumonidae: Cryptini), with key to the species of North America

Обзор мексиканских видов рода *Polycyrtus* Spinola, 1840 (Hymenoptera: Ichneumonidae: Cryptini), и таблица для определения видов Северной Америки

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КЛЮЧЕВЫЕ СЛОВА: Ichneumonidae, *Polycyrtus*, новые виды, определитель, Северная Америка, Мексика.

ABSTRACT. Key to 42 North American species of the neotropical genus *Polycyrtus* is given. Seven new species from Mexico are described: *P. burgosi* sp.n., *P. clavator* sp.n., *P. comma* sp.n., *P. crespoi* sp.n., *P. curtispina* sp.n., *P. soniae* sp.n., *P. yucatan* sp.n. 23 species are recorded for Mexico; new data on their distribution are given. New synonymies are established: *Polycyrtus major* (Cresson, 1873) = *Polycyrtus championi* Cameron, 1885, = *Polycyrtus fulvofemoratus* Cameron, 1885, *Polycyrtus montezuma* Cameron, 1885, = *Polycyrtus canaliculatus* Cameron, 1885, = *Polycyrtus blanditus* Cameron, 1885, syn.n.

РЕЗЮМЕ. Дана определительная таблица 42 видов неотропического рода *Polycyrtus* для Северной Америки. Описываются 7 новых видов, все из Мексики: *P. burgosi* sp.n., *P. clavator* sp.n., *P. comma* sp.n., *P. crespoi* sp.n., *P. curtispina* sp.n., *P. soniae* sp.n., *P. yucatan* sp.n. Всего для Мексики указывается 23 вида; приведены новые данные по их распространению. Установлена новая синонимия: *Polycyrtus major* (Cresson, 1873) = *Polycyrtus championi* Cameron, 1885, = *Polycyrtus fulvofemoratus* Cameron, 1885, *Polycyrtus montezuma* Cameron, 1885, = *Polycyrtus canaliculatus* Cameron, 1885, = *Polycyrtus blanditus* Cameron, 1885, syn.n.

Introduction

Polycyrtus, Spinola, 1840 is the largest genus of Cryptinae in the Neotropical Region. About 160 *Polycyrtus* species are known, and only one of them, *P. neglectus* is known North of Mexico (from the eastern part of the U.S.A.); thus, the genus is almost entirely neotropical. In Mexico, genus *Polycyrtus* includes 23 species (about 15% species described in this genus). The main aim of this paper is to give a review of Mexican species of *Polycyr-*

tus. The most part of Mexican species were described by Cresson [1873], Central and South American ones — mainly by Cameron [1886] and Cushman [1931], but also Brullé [1846], Szépligeti [1916] and others. This study is based on the collection of Ichneumonidae of the University of Tamaulipas (UAT), and collections of American Entomological Institute, Museums of Philadelphia, Washington and London containing types of most *Polycyrtus* species and other materials on mexican ichneumonids including *Polycyrtus*. To addition to Mexican species we have included in the key all recorded Central American species of *Polycyrtus* since their considerable part can be found in poorly studied tropical parts of Mexico. Thus, the key contains all 42 known North American species (from Panamá to USA), but only species recorded from Mexico are numbered in the key. The types of all species included in the key have been studied, except for *P. melanoleucus* Brullé (Paris) and *P. xanthocarpus* Szépl. (Budapest) (although the type of *P. inornatus* Cush., an junior synonym of *P. xanthocarpus*, has been examined).

The types of new species and all materials (with especially noted exceptions) are deposited in the Insect Museum, UAT, Cd. Victoria, Tamaulipas, Mexico.

Following abbreviations have been used for the collections containing types of Mexican and Neotropical species. AEI — American Entomological Institute, Gainesville, Florida, U.S.A. Mus. London — British Museum (Natural History), London, U.K. Mus. Philadelphia — Philadelphia Academy of Natural Sciences, Philadelphia, U.S.A. Mus. Washington — U.S. National Museum of Natural History, Washington D.C., U.S.A. Other abbreviations: SMSC — «selva mediana subcaducifolia», SMSP — «selva mediana subperennifolia»; also used: «bibl.» for «bibliography», «catal.» for «catalogue», «des.» for «description». We cited Spanish words in the Material section as well as in the labels.

Terminology. «Rufous» is used here as a synonym for «rusty» («рыжий» in Russian) — predominantly yellowish colour with reddish or light brownish tinge.

Genus *Polycyrtus* Spinola, 1840

Fig. 14.

Cresson, 1873: 141 [*Mesostenus* (*Polycyrtus*)]. Cameron, 1885: 229 (*Polycyrtus*). Cushman, 1931: 1–62 (key, review of world species). Townes, Townes, 1962: 459 (des.); 1966: 109–121 (bibl. and catal. of 105 Neotropical species). Townes, 1970: 218, 232 (key to genera, des., Fig.). Yu, Horstmann, 1997: 281 (world catal.).

TYPE: *Polycyrtus histrio* Spinola. Designated by Viereck, 1914.

Polycyrtus (subtribe Mesostenina) is the largest genus among neotropical cryptine. It may easily be distinguished from other Mexican Cryptini (except for *Bicristella*, *Polycyrtidea* and *Listrognathus*) by presence of a conical median horn on frons (Fig. 14b); propodeum polished, usually impunctate, with distinct apophyses and usually without apical transverse carina. In addition to subtribal diagnostic characters (see Townes, 1970), it differs from *Polycyrtidea* (subtribe Lymeonina) and *Listrognathus* (subtribe Goryphina) in having postnervulus in front wing intercepted about the middle (in *Polycyrtidea* postnervulus is almost not intercepted and parallel vein arises from same point as discomedian one), and in having rather slender first metasomal segment without longitudinal carinae (in *Listrognathus* first tergite is rather stout and ventrolateral longitudinal carinae are distinct). Among Mesostenina *Polycyrtus* is closely related to *Bicristella*; differences between these genera were discussed before (Kasparyan & Ruiz, 2003); in the same paper 5 North American species (*acerbus* Cresson, *paululus* Cresson, *bulbosa* Cushman, *carinispinis* Cushman, *infracta* Cushman) were transferred from *Polycyrtus* to *Bicristella*. Some differences between these genera are given here in the key (see couplet 5).

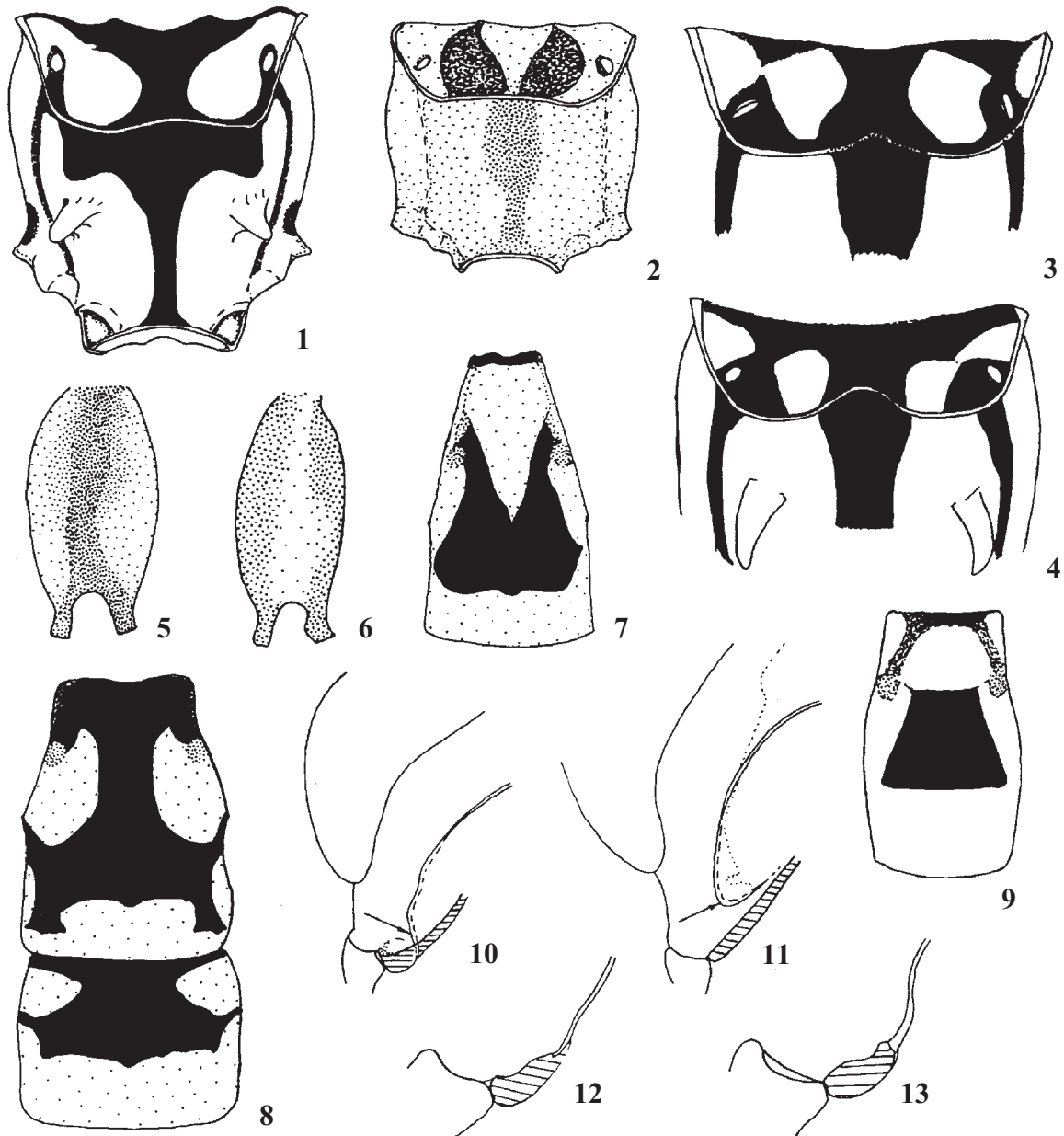
Most of Mexican species (about 80%) are predominantly black and white (or light yellow), at least dorsally. This type of coloration is also common in Central American species, but forms with entirely red thorax and/or abdomen predominate in South America (about 70%). We would like to stress that *Polycyrtus* species complexes of North and South Americas are almost entirely separated; up to now only two or three species of the inhabit both continents.

The species of *Polycyrtus* «occur in bush vegetation in the shade, usually within a half meter of the ground level» [Townes, 1970: 232]. Hosts are unknown.

KEY TO NORTH AMERICAN SPECIES OF *POLYCYRTUS*

1. Propodeum with black median longitudinal line (Figs 16–19). Abdomen black with white bands 2
— Propodeum without black median line (Figs 30, 50). Abdomen black with white bands or predominantly reddish 22
2. Mesoscutum entirely black, without two median yellow stripes. Hind coxa pale reddish with a paler dorsomedian mark (Fig. 6). [If mesoscutum black centrally, but with a lateral white spot close to tegula — see *Bicristella texana* Porter] 3
— Mesoscutum black with two median yellow (or whitish) stripes 4
3. Second tergite with elongate median whitish spot at its basal half (Fig. 7). Posterior orbits entirely white. Propodeum whitish with a wide black median longitudinal band. Petiole of first segment entirely pale. Hind coxa pale rufous usually with weak dorsal and ventral whitish marks. Mandible

- whitish. Occipital carina joining hypostomal carina. Mesopleurum yellow with black front margin, prepectus, narrow band under subtegular ridge and on mesopleural suture. Propodeal tubercle rather short, sometimes almost absent in male. Ovipositor sheath about 1.5 as long as hind tibia. — Mexico, ?Venezuela 15. *P. macer* Cresson
- Second tergite black at basal 0.7, except laterally. Posterior orbits interrupted above with black. Propodeum rufous with median longitudinal brown band beyond basal transverse carinae and with two brown spots laterad of basal area (Fig. 2). Petiole white, black dorsally. Hind coxa dorsally light brown with longitudinal yellow band (Fig. 6). — Mexico 14. *P. junceus* Cresson
4. Second tergite without median white spot before its base (Fig. 8) 5
— Second tergite with median white spot before base (Figs 7, 9, 16–19) 9
 5. Median longitudinal black band on propodeum entirely polished and not bordered laterally by carinae; apical transverse carinae between apophyses absent. Mesoscutum without white callosity on the lateral suture close to tegulae, and tergites with white apical margin 6
— Median black band of propodeum beyond basal transverse carina partly or entirely bordered laterally by carinae and usually with coarse sculpture, or apical transverse carina distinct between apophyses. Mesoscutum often with a callosity on the lateral suture close to tegula and/or hind margin of tergite 2 and 3 black *Bicristella* (part)
 6. Epomia entirely absent. Front margin of mesopleurum, space around subtegular ridge, mesopleural suture (partly), prepectus and sternaulus black. Second tergite without lateral sublunate white excision, although with narrow lateral whitish margins that sometimes expand on gastrocoeli. Posterior orbits widely interrupted (upper 0.25 of temple black). Hypostomal carina not high, occipital carina strongly curved to hypostomal one and meeting it at obtuse angle. Propodeum yellow, its median black band strongly widened before apophyses (Fig. 1). Apophyses acute. Hind and mid coxae pale, brown dorsally (Fig. 5). Hind femur black dorso-posteriorly. Subapical segments of male flagellum widened (Fig. 46). — Mexico 11. *P. ferox* Cresson
 - Epomia present. Front margin of mesopleurum and space before subtegular ridge pale. Second tergite at its basal half with a large sublunate white spot on each side (Fig. 8, 15). Other characters not entirely as above 7
 7. Hind coxa usually entirely red, or sometimes (as in the type) with very weak and narrow pale dorso-median brownish stripe. Metapeurum entirely pale rufous, coarsely punctate at its front half and striate posteriorly. Median black mark of propodeum narrow before basal transverse carina (Fig. 15b). Hind femur red dorsally. — Fig. 15. — USA *P. neglectus* Cushman
 - Hind coxa with a distinct dorsal black stripe (Fig. 24). Metapeurum yellow, front suture and space before base of hind coxa black; anterior part of metapeurum polished with sparse punctures. Propodeal cruciform mark strongly widened to the base of propodeum before the basal transverse carina (as in *P. ferox* — Fig. 1). First segment black, whitish laterally and apically. Occipital carina distinctly joining hypostomal carina 8
 8. Posterior white mark on orbits interrupted above by a black spot. Scape black. Collar predominantly yellow anteriorly. Hind femur red with brown dorsal line. Upper valve of ovipositor beyond the nodus about 1.3 as long as 2nd segment of hind tarsus (Fig. 40). Occipital carina almost straight at lower part of the temple (Fig. 12). Mesopleurum



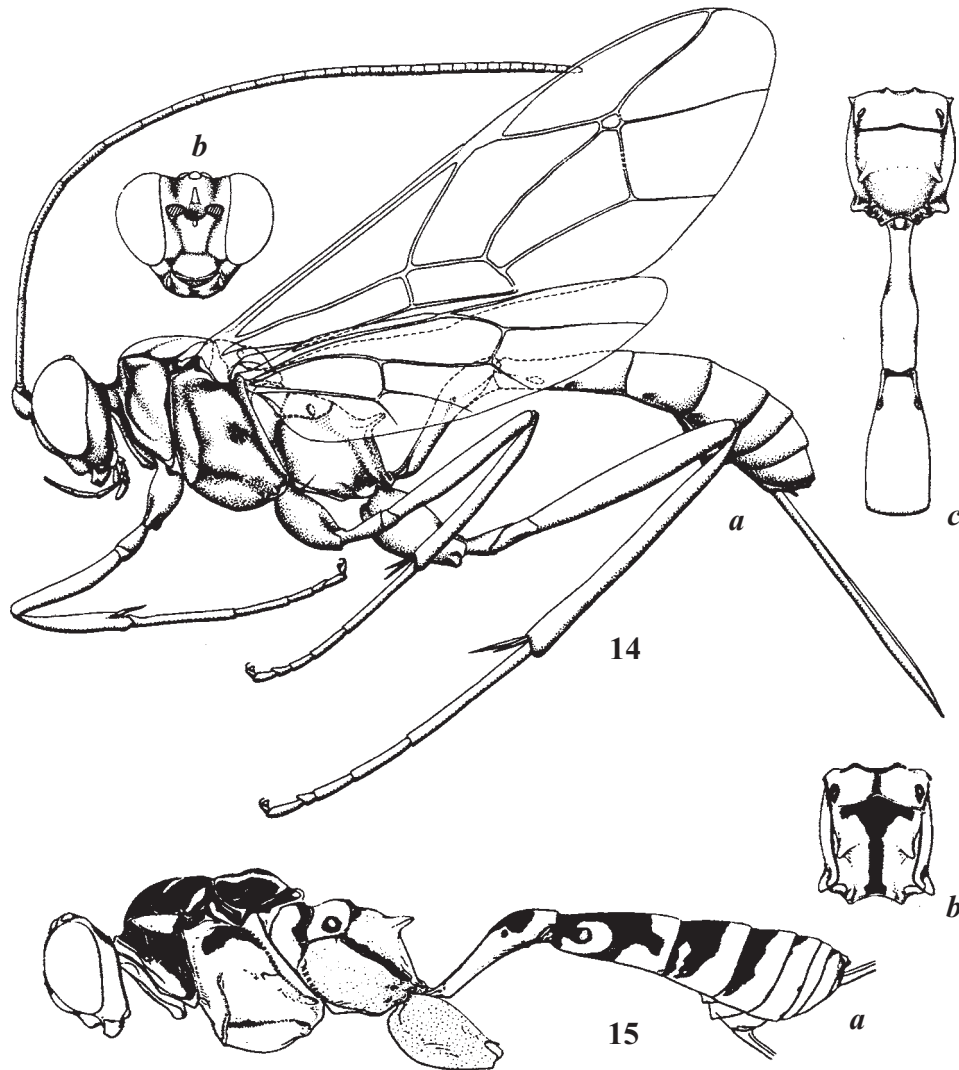
Figs 1-13. *Polycyrtus* spp., ♀ (except for figs 2, 6, 9): 1-4 — propodeum, *P. ferox* (1), *P. junceus*, ♂ (2), *P. major* (type of *P. championi* and *P. fulvofemoratus*) (3), *P. major*, ♂ (type of *P. blanditus*) (4); 5-6 — hind coxa, dorsal view, *P. ferox* (5), *P. junceus*, ♂ (6); 7 — *P. macer*, tergite 2; 8 — *P. melanoleucus*, tergites 2 and 3; 9 — *P. major* (♂) (type of *P. blanditus*), tergite 2; 10-13 — connection of occipital carina (shown by arrow) and hypostomal carina (lined area), *P. soniae* (10), *P. burgosi* (11), *P. melanoleucus* (12), *P. collinus* («Mex», Mus. Philadelphia) (13).

Рис. 1-13, *Polycyrtus* spp., ♀ (кроме рис. 2, 6, 9): 1-4 — проподоум, *P. ferox* (1), *P. junceus*, ♂ (2), *P. major* (тип *P. championi* и *P. fulvofemoratus*) (3), *P. major*, ♂ (тип *P. blanditus*) (4); 5-6 — задний тазик, сверху, *P. ferox* (5), *P. junceus*, ♂ (6); 7 — *P. macer*, тергит 2; 8 — *P. melanoleucus*, тергиты 2 и 3; 9 — *P. major*, ♂ (тип *P. blanditus*), тергит 2; 10-13 — соединение затылочного валика (указан стрелкой) и гипостомального валика (заштрихован), *P. soniae* (10), *P. burgosi* (11), *P. melanoleucus* (12), *P. collinus* («Mex», Mus. Philadelphia) (13).

with black spot under subtegular ridge (as in *P. neglectus* and *P. guatemalensis* — Fig. 37). — Mexico, Guatemala, Colombia 18. *P. melanoleucus* Brullé — Posterior orbits white, not interrupted. Scape with a ventral whitish spot. Collar widely black. Hind femur yellow at its lower half, brown at upper 0.5 but yellowish dorsally. Tip of upper valve 1.08 (in type) — 1.15 as long as 2nd segment

of hind tarsus (Fig. 41). Occipital carina sinuate at lower part of the temple and somewhat higher at point of connection with hypostomal carina (Fig. 13). — Guatemala, Mexico 5. *P. collinus* Cameron 9 (4). Occipital carina distinctly joining hypostomal carina (usually approaching hypostomal carina at an acute angle — Fig. 10) 10

- Occipital carina not joining hypostomal carina, usually sharply bent to hypostomal carina at angle usually more than 90°; occipital carina often forms a tooth at a point of curvature approximately at the level of the lower margin of eye (Fig. 11) 14
10. Mesopleurum entirely pale rufous or yellow, only subalar prominence and small spot just behind subtegrular ridge black (as in *P. burgosi* — Fig. 27); mesopleural suture and speculum without black marks. Hind coxa entirely pale rufous (Fig. 20) or with light brown narrow dorsal mark which does not extend to base of coxa. Mandible white in basal 0.3–0.5. Metapleurum punctate-rugose. White basal spot of 2nd tergite projecting posteriorly and surrounded by black one (Figs 16, 52). Ovipositor sheath about 1.2 as long as hind tibia 11
- Mesopleurum predominantly pale rufous but partly black at least on mesopleural suture and speculum (Figs 25, 26, 38). Hind coxa with a distinct black dorsomedian band (Fig. 24) 12
11. Hind coxa rufous, without a dorsal brownish band, sometimes paler above (Fig. 20). Propodeum with a very narrow median black line, lateral longitudinal black lines very narrow or sometimes absent (Fig. 16) [These characters of *P. soniae* are also characteristic of *P. areolaris*, and *P. duplicatus* from Panamá, but in both these species occipital carina not joining hypostomal carina]. Metapleurum without any black spots. Apophyses of propodeum rather short (0.6–1.0 as long as basal width), slightly depressed apically. Malar space black with small white dot just under the eye — Mexico 22. *P. soniae* sp.n.
- Hind coxa pale rufous with light brown dorsal stripe (as in *P. burgosi* — Fig. 23). Propodeal black bands wider (Fig. 49). Metapleurum with small black spot on a pit before hind coxa. Propodeal apophyses very short, not depressed, obtuse rounded apically (Fig. 49). — Mexico 10. *P. curtispina* sp.n.
12. Space below the subtegrular ridge black; upper 0.6 of mesopleural suture with broad black band (Fig. 25). Ovipositor sheath 1.05 as long as hind tibia. Mandibles white. Black median band of propodeum between basal transverse carina and apophyses with sparse and coarse punctures (especially in female). — Mexico, Cuba 21. *P. semialbus* Cresson
- Subtegrular ridge entirely whitish-yellow, without any black marks under the ridge. Mesopleural suture black entirely or only in its lower half (Figs 26, 38). Ovipositor sheath longer 13
13. Mandibles black (sometimes with a small white spot at basal 0.2). Mesopleurum before mesepimeron with broad black band (Fig. 26) or sometimes this band weakly interrupted medially. Speculum black at least posteriorly. Ovipositor sheath about 1.5 as long as hind tibia. Body length 12–15 mm 16. *P. major* Cresson
- Mandibles white at basal 0.4 or more (Fig. 60). Mesopleurum with a black line at the lower half of mesopleural suture. Speculum darkened only anteriorly, pale posteriorly (Fig. 38). Ovipositor sheath about 1.3 as long as hind tibia. Smaller 23. *P. yucatan* sp.n.
- 14(9). Mesopleurum black at its upper half (except for subtegrular ridge and speculum), with black sternaulus, and on lower half of mesopleural suture (Fig. 39). Median longitudinal black band of propodeum strongly reduced just behind basal transverse carina of propodeum; apophyses moderately short and obtuse (Fig. 56). First metasomal segment yellow with black ventro-lateral margins and black dorsal spot on postpetiole. [Type: front wing 13.2 mm, body length 18 mm; flagellum with 28 segments, flagellomeres 7–11 white. Mandible (except for teeth) yellow; scape with ventral yellow spot. Scutellum black with apex and prescutellar lateral carinae white. Metapleurum polished, yellow, blackish on front suture and with a black posterior spot on pleural suture. All coxae with dorsomedian black band, all trochanters blackish dorsally. Hind femur black at dorsal 0.35. Hind tibia yellow, black at basal 0.18 and fuscous (except dorsally) at subapical 0.15–0.2. Ovipositor sheath about 1.25 as long as hind tibia. Ovipositor without distinct nodus (similarly to *P. chiriquensis* — Fig. 62); upper valve distad of nodus 0.97 as long as 2nd segment of hind tarsus]. — Guatemala *P. obtusispina* Cameron
- Mesopleurum predominantly pale, not as above. Median longitudinal black band distinct behind basal transverse carina. Other characters not as above 15
15. Hind coxa entirely reddish or pale rufous, without fuscous dorsal mark. Mesopleurum reddish (in *P. areolaris*) to yellowish (in *P. duplicatus*) (except for small black spot on a pit beyond yellow subtegrular ridge) 16
- Hind coxa rufous or whitish yellow, always with black or brownish dorsal band (Figs 21–23) 17
16. Propodeum without lateral blackish longitudinal stripes; median longitudinal band rather weak, brownish, its margins not sharp. Flattened flagellar segments about 1.0 as long as wide. Metapleurum polished (weakly rugose at posterior 0.2). Basal triangular white spot not confluent to lateral white coloration (Fig. 61). Mesopleurum (except for small black spot on pit beyond subtegrular ridge), hind trochanters and femur entirely reddish. Tip of upper valve of ovipositor 1.0 as long as 2nd segment of hind tarsus. — Panamá *P. areolaris* Cushman
- Propodeum with lateral longitudinal black lines and with distinct black median band. Transverse black band on basal transverse carina very short (as in *P. soniae* — Fig. 16). Mandible blackish-brown with narrow yellow basal spot. Hind femur ferruginous with a dorsomedian yellow line. — Panamá *P. duplicatus* Cushman
17. Mandibles black (Fig. 57) 18
- Mandibles white at least in their basal third (Figs 58, 59) 20
18. First tergite with dorsal white line on petiole (Fig. 17). Speculum with comma-like black spot anteriorly (Fig. 29); wide black line under subtegrular ridge absent; front margin of mesopleurum almost entirely black. Hind coxa ivory with dorsal black stripe (Fig. 21). — Mexico 6. *P. comma* sp.n.
- First tergite with petiole black dorsally (as on Fig. 18). Speculum anteriorly without black spot. Hind coxa red with dorsal pale brown stripe 19
19. Black spot under the subtegrular ridge absent. Type (female): front wing 7 mm, flagellum with 26 segments. Dark spot on dorsal pit of mesopleurum beyond subtegrular ridge smaller than in *P. burgosi* (Fig. 27). Hind femur about 6.5 as long as high. Ovipositor sheath about 1.1 as long as hind tibia. — Mexico 17. *P. mancus* Cresson
- Black line under subtegrular ridge very wide. — Panamá *P. triangularis* Cushman
20. Black spot under subtegrular ridge at its posterior 0.7 (Fig. 37). Clypeus gradually convex to the level of its apical edge then sharply turned to apical edge. Front margin of pronotum with distinct tooth approximately at lower 0.4 (Fig. 36). Femora brown dorsally. Mid tibia sometimes entirely darkened dorsally. Black coloration sometimes expands from mesopleural dorsal pit on posterior part of speculum.



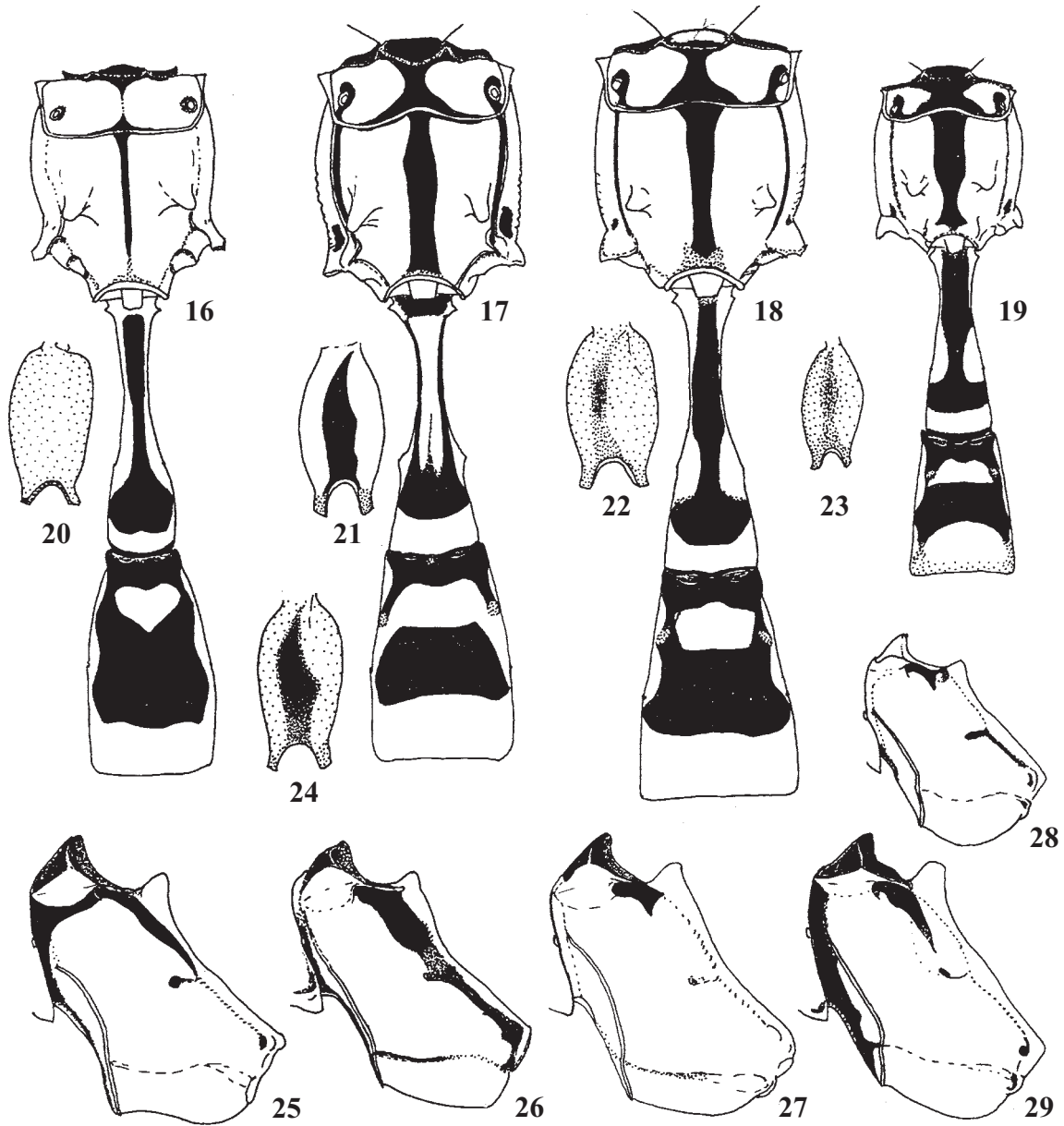
Figs 14–15. *Polycyrtus* spp., ♀ (from Townes, Townes, 1962; Townes, 1970): 14 — *P. bistrio* Spinola (type species, South America), habitus (a), head, anterior view (b), propodeum and first metasomal tergite, dorsal view (c); 15 — *P. neglectus* Cushman (USA), coloration of body, lateral view (a) and propodeum, dorsal view (b).

Рис. 14–15. *Polycyrtus* spp., ♀ (по Townes, Townes, 1962; Townes, 1970): 14 — *P. bistrio* Spinola (типовой вид, Южная Америка), общий вид (а), голова спереди (b), проподеум и первый тергит брюшка сбоку (c); 15 — *P. neglectus* Cushman (США), окраска тела, вид сбоку (а) и проподеума, вид сверху (b).

In type (male) white spot at base of 2nd tergite very narrow and confluent laterally with white lateral margins. Metapleurum rugose on posterior 0.6. — Mexico, Guatemala 13. *P. guatemalensis* Cameron
—Black spot under subtegular ridge absent. Clypeus maximally convex at lower 0.3. Front margin of pronotum with weak angulation at lower 0.4 21
21. Mandibles white (except for teeth) (Fig. 59). Apophyses obtuse and short (Figs 18, 19), about 0.5 as long as their basal width. Holotype (female): mesopleural suture with distinct black line at lower half (in paratype absent); black coloration slightly expands from dorsal mesopleural pit on anterior part of speculum (Figs 27, 28); flagellum with 28 segments (paratypes: female with 31 segments, male with 33 segments). Propodeum just before basal transverse carina with

black line which extends to spiracles. Hind femur 5 times as long as high. Ovipositor sheath about 1.3 as long as hind tibia. — Mexico 3. *P. burgosi* sp.n.
—Mandibles blackish at least in apical 0.6 (Fig. 58). Apophyses longer their basal width. — Dark spot on dorsal pit of mesopleurum beyond subtegular ridge smaller than in *P. burgosi*. Hind femur about 6.5 as long as high. Ovipositor sheath about 1.1 as long as hind tibia
..... 17. ?*P. mancus* Cresson, var.
22(1). Metasomal tergites black or dark brown with contrasting white (or light yellow) apical band, often white laterally; petiolus sometimes rufous 23
—Metasoma yellowish rufous to reddish or fulvous, sometimes tergites 2–4 light brownish basally, or tergites 5–8 fuscous dorsally 31

23. Mesosoma at least with black mesoscutum 24
 — Mesosoma entirely red. Hind femur black. Hind coxa and petiole rufous 28
24. Hind femur reddish. Propodeum entirely rufous or sometimes brown between spiracles. Face white (if black — see *erythrosternum*, couplet 36) 25
 — Hind femur entirely or dorsally black. Basal part of propodeum before basal transverse carina entirely brown between spiracles. Face, clypeus, and frontal orbits white 27
25. Mesoscutum entirely black except for yellow lateral prescutellar carinae. Cheeks in male and female, and malar space black; temple black at lower 0.8 with a large yellow median spot just beyond the eye (Fig. 33). Apophyses very long in female and male, about 2 times as long as their basal width. Occipital carina not joining hypostomal carina, abruptly interrupted at the level of lower eye margin; hypostomal carina not high. Face in female with black oblique spot on clypeal fovea. Malar space 1.0 as long as basal width of mandible. Ovipositor sheath 1.0 as long as hind tibia. — Mexico 8. *P. copiosus* Cresson
 — Mesoscutum with two median yellow stripes. Cheeks, malar space, and temples at lower 0.8, white. Clypeus and mandibles (except for teeth) entirely white; orbits white, at upper 0.2 of temple usually shortly interrupted with black (orbital bands in *P. pallidibalteatus* sometimes not interrupted but with constriction). Pronotum black with front and dorso-lateral margins yellow. Legs pale rufous, sometimes dorsal or posterior part of hind femur brownish. First tergite light brownish or brownish-black dorsally (except for apex) 26
26. Propodeum with a pair of basal submedian fuscous spots (Fig. 30); propodeal apophyses long. Occipital carina distinctly joining hypostomal carina. Epomia present. Mesopleurum entirely pale rufous, finely striate and punctate under subtegular ridge. Scutellum without subapical transverse black band. Tergites brown (black in male) with pale rufous to light yellow apical band (Fig. 30, 31). Tip of upper valve beyond the nodus somewhat longer than 2nd segment of hind tarsus (Fig. 44). — Mexico ..
 9. *P. crespoidi* sp.n.
 — Propodeum entirely black or dark brown before basal transverse carina between spiracles (Fig. 50); propodeal apophyses obtuse, short, about 0.7 as long as basal width, and connected by superficial yellow carina slightly convex anteriorly. Occipital carina strongly bent to hypostomal carina but not reaching it. Epomia absent. Mesopleurum ivory, with a fuscous spot and polished under subtegular carina. Scutellum subapically with transverse black band. Tergites of female dark-brown to blackish, with yellow apical band (Fig. 50). — Mexico
 19. *P. pallidibalteatus* Cameron
- 27(24). Mesoscutum entirely black. Cheeks and temples black; mandible white. Collar white. Hind femur black dorsally, yellowish ventrally. Occipital carina not joining hypostomal carina. Epomia forms lobe at upper end. — Guatemala *P. cockerellae* Viereck
 — Mesoscutum with two median and two lateral yellow stripes. Cheeks and temporal orbits white (orbits widely interrupted above). Collar black. Hind femur entirely black. Occipital carina joining hypostomal carina. — Honduras *P. mediotinctus* Cushman
- 28(23). Face white (with median black spot), frontal orbits white; posterior orbits black, cheeks with narrow white band beyond base of mandible. Ovipositor sheath about 0.7 as long as hind tibia. — Panamá *P. isthmus* Cushman
 — Head entirely black; mandibles and sometimes clypeus white 29
29. Clypeus black. Malar space about 1.0 as long as basal width of mandible. Ovipositor sheath 1.0 as long as hind tibia. — Panamá *P. nigriclypeatus* Cushman
 — Clypeus white. Malar space about 0.5–0.6 as long as basal width of mandible. Nervulus interstitial. Ovipositor sheath 0.7–0.8 as long as hind tibia. Second trochanter of hind leg rather long 30
30. Epomia distinct. Horn «long, rather slender, obtuse at apex». — Panamá *P. brevigengalis* Cushman
 — Epomia absent. Horn with dorsoapical bulb (Figs 34, 35). — Mexico 4. *P. clavator* sp.n.
- 31(22). Thorax at least with mesoscutum black 32
 — Thorax entirely red 37
32. Mesoscutum with two yellow median stripes (if with a central white spot — see *Bicristella bulbosa* and *B. infracta*) 33
 — Mesoscutum entirely black. 34
33. Mesoscutum with two lateral stripes (Fig. 47). Hypostomal carinae very high, joining each other and covering base of labio-maxillar complex (see also couplets 37–38). Head white with frons and vertex (except for orbits), and upper 0.5 of occiput black. Propodeum basally with two submedian pale brown spots (type); apophyses moderately long. Metasoma pale rufous, segment 1 reddish, tergites 2 and 3 fuscous at base. Ovipositor sheath about 0.75 as long as hind tibia. Nervulus interstitial. — Mexico 1. *P. accuratus* Cresson
 — Mesoscutum without lateral yellow stripes. Hypostomal carina not as above, black. Head with face, clypeus, mandibles and front orbits yellow; temples mainly black (except for very narrow and short yellow orbital stripe). Type: front wing 12.5 mm. Body polished, lower half of mesopleurum with coarse punctures. Pronotum black in upper 0.6 with dorso-lateral yellow mark; lower 0.4 of pronotum fulvous. Scutellum entirely fulvous. Apophyses rather obtuse at apex and connected by apical transverse carina. Ovipositor sheath about 0.85 as long as hind tibia; upper valve with very indistinct nodus (Fig. 62). — Panamá *P. chiriquensis* Cameron
34. Face and orbits white (sometimes except cheeks and malar space). Scutellum dorsally whitish-yellow. Apophyses of propodeum about 0.6 (male) — 1.1 as long as their basal width. Horn usually white. Metanotum and propodeum entirely rufous, only postscutellum and apophyses white 35
 — Face black, orbits black or partly white. Scutellum fuscous dorsally. Apophyses long and curved (about as in *P. curvispina* — Fig. 54), 1.5–2.2 as long as their basal width 36
35. Epomia absent. Orbits entirely white. Hind corners of pronotum yellow. (Male). — Mexico
 20. *P. pallidus* Cresson
 — Epomia short but distinct. Orbits white, interrupted with black on cheeks and malar space. Hind corners of pronotum black. (Female). — Mexico 7. *P. confusus* Cushman
36. Head black except for white clypeus and mandibles. Pronotum black, only on lower corners rufous. Hind femur black. Epomia absent. Tegulae brown. Ovipositor sheath about as long as hind tibia. — Mexico 12. *P. furvus* Cresson
 — Head black with orbits from upper 0.5 of face to upper 0.3 of temple yellowish. Pronotum black with its lower 0.3 fulvous and dorsolateral margin yellow (hind corners black). Hind femur fulvous. Epomia present. Tegulae yellow. Upper valve of ovipositor beyond the nodus rather sharply



Figs 16–29. *Polycyrtus* spp., ♀: 16–19 — propodeum and basal metasomal segments, dorsal view, *P. soniae* (16), *P. comma* (17), *P. burgosi*, paratype (18), *P. burgosi*, holotype (19); 20–24 — hind coxa, dorsal view, *P. soniae* (20), *P. comma* (21), *P. burgosi*, paratype (22), *P. burgosi*, holotype (23), 24 — *P. semialbus*; 25–29 — mesopleurum, *P. semialbus* (25), *P. major* (26), *P. burgosi*, paratype (27), *P. burgosi*, holotype (28), *P. comma* (29).

Рис. 16–29. *Polycyrtus* spp., ♀: 16–19 — проподоум и базальные сегменты метасомы, сверху, *P. soniae* (16), *P. comma* (17), *P. burgosi*, паратип (18), *P. burgosi*, голотип (19); 20–24 — задний тазик, сверху, *P. soniae* (20), *P. comma* (21), *P. burgosi*, паратип (22), *P. burgosi*, голотип (23), *P. semialbus* (24); 25–29 — мезоплеуры, *P. semialbus* (25), *P. major* (26), *P. burgosi*, паратип (27), *P. burgosi*, голотип (28), *P. comma* (29).

truncate to apex (approximately as in *P. melanoleucus* — Fig. 40). — Panamá *P. erythrosternum* Cameron 37 (31). Hypostomal carinae very high, both carinae joining proximally and cover labio-maxillar complex. — Head predominantly black at least at vertex and temple 38 — Hypostomal carina moderately high, not arching above labio-maxillar complex 39 38. Face, clypeus, malar space, mandibles, frontal orbits to top

of eye, frontal horn and small spot on posterior orbits white. Legs rufous. Ovipositor sheath 0.75 as long as hind tibia. — Panamá *P. buscki* Cushman — Face and frons entirely black, clypeus and mandibles reddish. Legs fulvous, mid tarsi brownish, hind tarsi yellow. Ovipositor sheath 0.6 as long as hind tibia; ovipositor thin (Fig. 64), upper valve beyond the nodus 1.0 as long as hind tarsal segment 2. — Panamá *P. tinctipennis* Cameron

39. Head black with face (except medially), clypeus, mandibles and frontal orbits white. Legs fulvous, hind femur dorso-laterally brown at apical 0.6. [Similar in coloration *P. buscki*, but hind femur dark and temple entirely black]. — Panamá *P. ornatifrons* Cushman
— Head entirely black, except sometimes for clypeus, mandibles, and in *P. curviventris* — also malar space 40
40. Head entirely black, including mandibles. Epomia short but distinct. Hind femur ferruginous. — Panamá
P. xanthocarpus Szépl. (= *inornatus* Cushman) [Type of *P. inornatus* similar to *Bicristella bicarinata* in coloration and in having a genal concavity before mandible; it differs from *B. bicarinata* by having strong apophyses and lacking apical transverse carinae of propodeum]
— Head black with clypeus and mandibles white (if these reddish — see *P. tinctipennis*) 41
41. Hind femur black. Tergites 2–4 black in basal half, reddish apically; tergites 5–8 black dorsally. Front wing about 15 mm long. Apophyses of medium size, flattened and rounded apically (Fig. 55). Ovipositor sheath about 1.5 as long as hind tibia. Ovipositor quite unusual: strong, without distinct nodus and with numerous oblique teeth (Fig. 63). Epomia absent. — Panamá *P. curviventris* Cameron
— Hind femur reddish. Tergites fulvous, tergites 5–8 not black dorsally. Front wing shorter. Apophyses not as above. Ovipositor sheath shorter (unknown for *P. curvispina*). Ovipositor not as above 42
42. Apophyses rather short, about 0.8 as long as basal width. Occipital carina unusual: laminated on lower end and joining hypostomal carina almost at base of mandible. Epomia absent. Type: body length about 8.8 mm, front wing 6.4 mm; flagellum with 26 segments; ovipositor sheath about 0.9 as long as hind tibia; upper valve beyond the nodus as long as 2nd segment of hind tarsus; metasomal tergites weakly brownish at base. — Mexico
..... 2. *P. atriceps* Cresson
— Apophyses long, 1.3 and more (Fig. 54) as long as basal width. Occipital carina not joining hypostomal carina. Epomia short but distinct. Front wing about 9–10 mm. Malar space about as long as basal width of mandible 43
43. Areolet unusually large. Apophyses very long (Fig. 54). Occipital carina sharply interrupted (?or sharply bent) on the level of lower 0.1 of eye. Flagellum with 32-segments. Male. — Costa Rica *P. curvispina* Cameron
— Areolet «very small». Apophyses shorter, about 1.3 as long as its basal width. Occipital carina not joining hypostomal carina, its lower end not prominent, disappearing far from base of mandible. Ovipositor sheath about 0.6 as long as hind tibia. Type: body length 12 mm, front wing 9.5 mm; malar space 1.1 as long as basal width of mandible. — Panamá *P. areolatus* Cushman

1. *Polycyrtus accuratus* (Cresson, 1873)

Fig. 47.

Cresson, 1873: 147, ♀ [*Mesostenus* (*Polycyrtus*); type: ♀, Mexico: Mirador]. Cushman, 1931: 57 (key, *Polycyrtus*). Townes, Townes, 1966: 108 (bibl.).

MATERIAL. Mexico. Veracruz: holotype and 2 ♂♂ (among paratypes of *P. copiosus* Cress.) (Mus. Philadelphia). Yucatan, Corral (SMSC), Febrero 1999 (Hugo Delfin), ♂.

DESCRIPTION. Male (nov.). Front wing 8.5 mm long; antenna with 30 flagellar segments; flagellomeres 15–20 with a tyloid. Malar space about as long as basal width of mandible.

Hypostomal carinae look like high lobes arching above labio-maxillar complex and meeting on median line below occipital foramen. Occipital carina sharply bent to hypostomal carina but separated from it by a deep depression. Epomia short and weak. Subtegular ridge rather flat with sharp upper margin. Mesopleurum polished, with scarce fine punctures; metapleurum with more distinct and moderately sparse punctures. Propodeal apophyses obtuse, slightly flattened, moderately short, about 0.7 as long as their basal width; apophyses closer to apex of propodeum than to basal transverse carina, they are connected by a weak carina which is bent anteriorly and interrupted medially. Nervulus interstitial.

Antenna black; scape with yellow ventral stripe; flagellomeres 8–15 white. Head white (lower margin of clypeus without black line); frons and vertex (except for orbits), upper 0.4 of hind margin of the temple, and upper 0.6 of occiput black. Propleurum whitish; pronotum pale rufous with large black dorsal spot on posterior half of collar. Mesoscutum black with four yellow longitudinal lines (Fig. 47), lateral prescutellar whitish carinae and small yellowish spot on lateral carina just behind the tegula. Scutellum whitish laterally and apically, black basally and brownish dorsally to the apex. Mesosternum whitish; mesopleurum, metapleurum and propodeum pale rufous; propodeum with two pairs of large submedian brownish spots just before and beyond the basal transverse carina. Legs pale rufous; front and mid coxae whitish anteriorly; front and mid tarsi predominantly brownish; hind tibia yellowish, slightly brownish at base; hind tarsus white, its segment 5 fuscous at apical 0.5. Metasoma pale rufous, tergite 1 (except for apical band) pale brownish; tergite 2 at basal 0.4 and segment 3 at basal 0.25 dark brown. Metasoma covered with moderately long and dense blackish hairs.

DISTRIBUTION. Mexico: Veracruz, Yucatan.

REMARKS. *P. accuratus* resembles the species group that was considered before as subgenus *Cryptanuridimorpha* Viereck [Cushman, 1931: 7]. An autapomorphy of this group is special modification of hypostomal carina (see above, *italics*, in description of male); *P. buscki* and *P. tinctipennis* also belong to this group among North American species.

2. *Polycyrtus atriceps* (Cresson, 1873)

Cresson, 1873: 148, ♀ [*Mesostenus* (*Polycyrtus*); type: ♀, Mexico: Mirador]. Cushman, 1931: 56 (key, *Polycyrtus*). Townes, Townes, 1966: 110 (bibl.).

MATERIAL. Mexico, Veracruz: type (Mus. Philadelphia). DISTRIBUTION. Mexico: Veracruz.

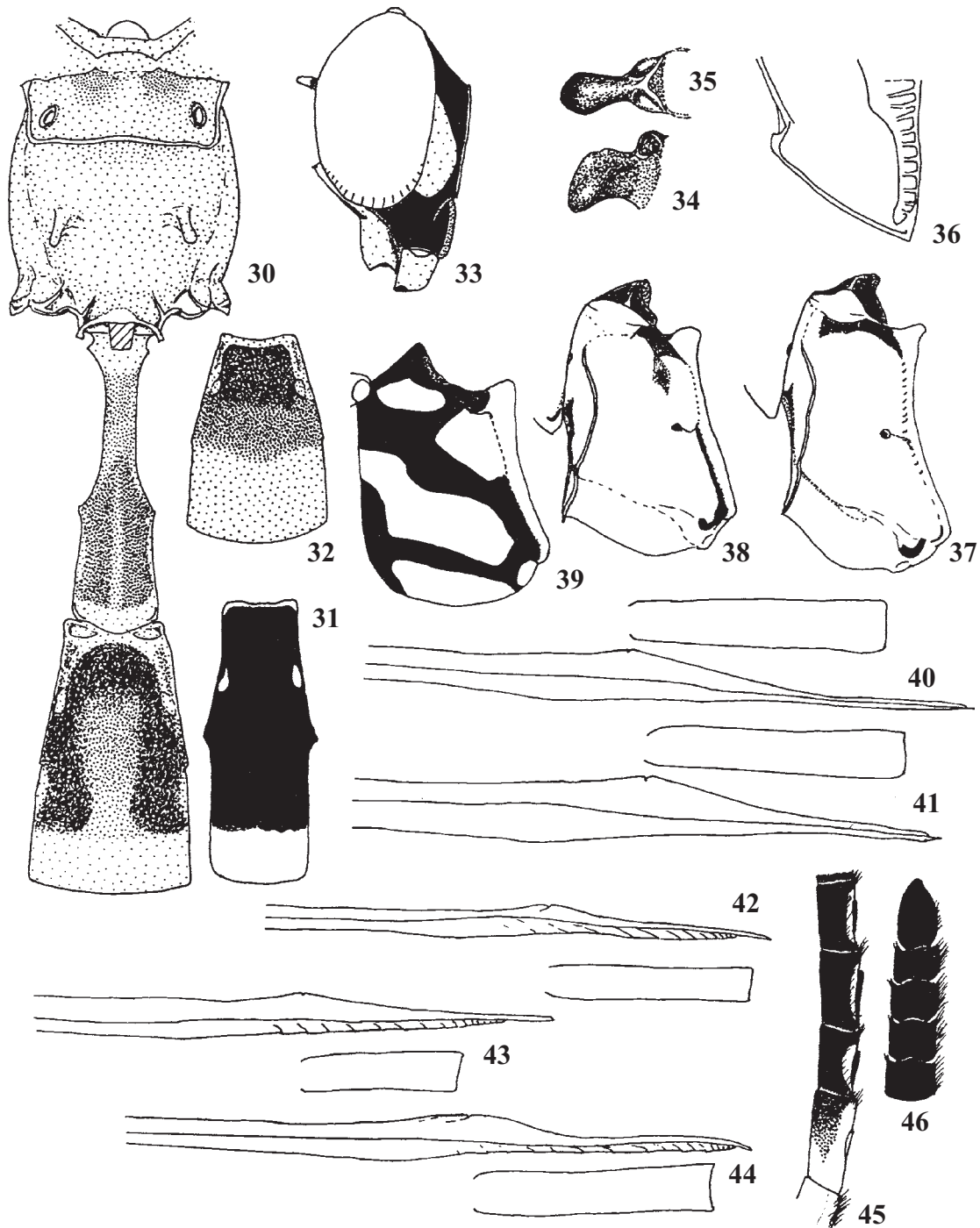
3. *Polycyrtus burgosi* sp.n.

Figs 11, 18, 19, 22, 23, 27, 28, 43, 59.

MATERIAL. Holotype: ♀, Mexico, Yucatan, 9 km Teya Pueblo, Selva baja caducifolia, 14.X.1999 (D. Burgos). Paratype: ♀, Mexico, Tamaulipas, Llera, Ej. La Libertad, 24.III.1990 (M. Aquino).

DESCRIPTION. *P. burgosi* closely resembles *P. mancus* in having occipital carina incomplete at lower ends, and rather similar coloration of mesopleurum and hind coxa. It differs from *P. mancus* in having white mandibles (Fig. 59) and very short and obtuse apophyses (Figs 18, 19).

Female (holotype). Front wing 7 mm long. Antenna with 28 flagellar segments. Malar space about 0.7 as long as basal width of mandible. Hypostomal carina moderately high, gradually tapered to occipital foramen. Occipital carina on level of lower margin of eye sharply bent to hypostomal carina but does not reach it (Fig. 11). Epomia strong. Mesopleurum at lower half



Figs 30-46. *Polycyrtus* spp., ♀ (except for figs 31, 45, 46): 30 — *P. crespoi*, propodeum and basal metasomal segments, dorsal view; 31 — *P. crespoi*, ♂, tergite 2; 32 — *P. furvus*, tergite 2; 33 — *P. copiosus*, type, head, lateral view; 34-35 — *P. clavator*, holotype, frontal horn, lateral view (34), dorsal view (35); 36 — *P. guatemalensis*, type, lateral lobe of pronotum; 37-39 — mesopleurum, *P. guatemalensis* (37), *P. yucatan*, holotype (38), *P. obtusispina*, holotype (39); 40-44 — apex of ovipositor and second segment of hind tarsus, *P. melanoleucus* (40), *P. collinus*, type (41), *P. yucatan*, holotype (42), *P. burgosi*, paratype (43), *P. crespoi*, holotype (44); 45-46 — *P. ferox*, ♂, flagellum, segments 15-18 (45), apical segments (46).

Рис. 30-46. *Polycyrtus*, ♀ (кроме рис. 31, 43, 44): 30 — *P. crespoi*, проподоум и базальные сегменты метасомы, сверху; 31 — *P. crespoi*, ♂, тергит 2; 32 — *P. furvus*, тергит 2; 33 — *P. copiosus*, тип, голова, сбоку; 34-35 — *P. clavator*, голотип, рог, сбоку (34), сверху (35); 36 — *P. guatemalensis*, тип, боковая лопасть пронотума; 37-39 — мезоплевры, *P. guatemalensis* (37), *P. yucatan*, голотип (38), *P. obtusispina*, тип (39); 40-44 — вершина яйцеклада и 2-й членик задней лапки, *P. melanoleucus* (40), *P. collinus*, тип (41), *P. yucatan*, голотип (42), *P. burgosi*, паратип (43), *P. crespoi*, голотип (44); 45-46 — *P. ferox*, ♂, жгутик усика, членики 15-18 (45), вершина жгутика (46).

with sparse fine punctures. Metapleurum smooth with rather sparse but distinct punctures at posterior 0.7. Propodeum polished; apophyses short and obtuse (Fig. 19), about 0.45 as long as their basal width. Areolet about 0.5 as long as abscissa of 2nd recurrent vein above the bulla; nervulus moderately antefurcal; nervellus intercepted at about lower 0.35. Hind femur 5.0 as long as high. Ovipositor sheath 1.35 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.6 as long as 2nd segment of hind tarsus.

A predominantly black and white species. Antenna black, flagellar segment 4 on ventral side, 5–11 entirely, and segments 12–13 dorsally white. Head predominantly white; mandibles white with teeth dark reddish; malar space at lower 0.6, spot on cheek just beyond the base of mandible, lower margin of clypeus, frons and vertex (except orbits), hind margin of temple at upper 0.4, and occiput (except postgenae) black. Horn black. Palpi white; segments 3 and 4 of labial palpus blackish. Propleurum white. Pronotum black; its antero-lateral and dorso-lateral margins broadly white (except hind corners); collar with a white anterior mark shortly interrupted at the middle. Mesoscutum black, two median stripes and prescutellar lateral carinae whitish-yellow. Hind and dorso-lateral margins as well as apex of scutellum white; its dorso-basal black spot sometimes expands at apical part to lateral black surface. Mesopleurum ivory; tegulae, subtegular ridge, mesosternum, and apex of mesepimeron whitish; black pattern as on Fig. 26. Metanotum black with its hind margin and postscutellum white. Metapleurum pale rufous with a brown line on anterior metapleural suture below pleural carina and with a small black spot on posterior pit before the base of hind coxa. Propodeum pale rufous, black before basal transverse carina with two submedian and two lateral yellowish spots, submedian spots almost entirely surrounded with black (Fig. 19). Front and mid legs pale rufous; coxae whitish with a small brownish dorso-apical spot; tarsal segments 3–5 brown. Hind legs light reddish-rufous; hind coxa with light brownish dorsal stripe (Fig. 23); hind tibia and basal 0.6 of first tarsal segment yellowish; apical part of first segment and tarsal segments 2–4 white, segment 5 brown. Metasomal tergites black, white apically and laterally; all sternites white. 1st and 2nd tergites as on Fig. 19; white subbasal spot on tergite 2 entirely isolated with black from white lateral margins. Pterostigma pale brown.

VARIABILITY. Paratype (female). This specimen is considerably larger (Fig. 18), front wing 8.7 mm long. Antenna with 31 flagellar segments. Malar space 0.9 as long as basal width of mandible. Metapleurum coarsely rugose-punctate (except for anterior 0.33). Apophyses rather short and obtuse, about 0.5 as long as their basal width. Areolet about 0.65 as long as abscissa of 2nd recurrent vein above the bulla; nervulus rather weakly antefurcal; nervellus intercepted approximately at lower 0.38. Hind femur 4.8 as long as high. Ovipositor sheath 1.25 as long as hind tibia; upper valve beyond the nodus about 1.5 as long as 2nd segment of hind tarsus. Mesopleurum and metapleurum rufous, brighter than in holotype; mesepimeron without any black marks (Fig. 27). Antenna black, only flagellar segments (5)6–10(11) white. Palpi white with segment 4 of labial palpus blackish. Collar entirely white dorsally. Propodeum pale rufous to yellow; its black pattern as on figure 18. Front and mid legs pale rufous, mid coxa with small dorsoapical brownish spot; tarsal segments 2–5 brown. Hind legs light reddish-rufous; hind coxa with dorsal light brownish stripe (Fig. 22); hind tibia and basal 0.6 of first tarsal segment yellowish; apical part of first tarsal segment and segments 2–4 white, segment 5 brown. Metasomal tergites black, white

apically and laterally; all sternites white. Tergites 1 and 2 as on figure 18.

DISTRIBUTION. Mexico: Tamaulipas, Yucatan.

REMARKS. The species is named in honour of David Burgos, entomologist, who has collected holotype of this species, and many other interesting ichneumonids from Yucatan.

4. *Polycyrtus clavator* sp.n.

Figs 34, 35, 51.

MATERIAL. Holotype: ♀, Mexico, Yucatan, Sudzal Chico (SMSP), Febrero 1999 (Hugo Delfin).

DESCRIPTION. *P. clavator* closely resembles *P. brevisgenalis* Cushman from Panamá; these species are similar in coloration but *P. clavator* differs structurally in having bulbous horn (Figs 34, 35) and epomia entirely absent. Both species differs from other Mexican ones by having black head, abdomen, and entirely red thorax; hind femur black.

Female (holotype). Front wing 7.5 mm long. Antenna with 30 flagellar segments. Malar space about 0.6 as long as basal width of mandible. Hypostomal carina forms a high lobe beyond mandible. Occipital carina abruptly bent to hypostomal carina but does not reach it. *Horn large, bulbous* (Figs 34, 35). *Epomia absent.* Mesopleurum with scarce fine punctures at lower half. Metapleurum coarsely rugose-punctate, polished at front lower corner and along pleural carina. Propodeum polished; its basal part with rather deep longitudinal median impression and with two strong convexities between this impression and spiracles. Apophyses moderately long, about 1.2 as long as basal width. Areolet about 0.5 as long as abscissa of 2nd recurrent vein above the bulla; *nervulus interstitial*; nervellus intercepted at about lower 0.4. Hind femur 6.1 as long as high. Ovipositor sheath about 0.8 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.1 as long as 2nd segment of hind tarsus.

A predominantly black species with entirely red thorax. Antenna black, upper half of flagellar segment 4 and segments 5–10 entirely whitish. Head black; clypeus, mandibles (except teeth), and maxillar palpi white; labial palpi brownish. Thorax entirely reddish (darker dorsally and slightly paler ventrally). Front and mid legs rufous; tarsal segments 2–5 brownish. Hind coxae and hind trochanters reddish, trochanters II brown at their middle third; hind femur black, reddish at extreme base; hind tibia yellowish, laterally slightly darkened at extreme base; hind tarsus white, segment 1 yellowish at basal 0.3, segment 5 fuscous apically. First abdominal segment reddish, postpetiole at hind 0.6 black with small white spot on hind margin. Tergites 2–8 black with moderately narrow white apical band (Fig. 51) and white laterally. Sternites white. Pterostigma blackish, medially brownish.

DISTRIBUTION. Mexico: Yucatan

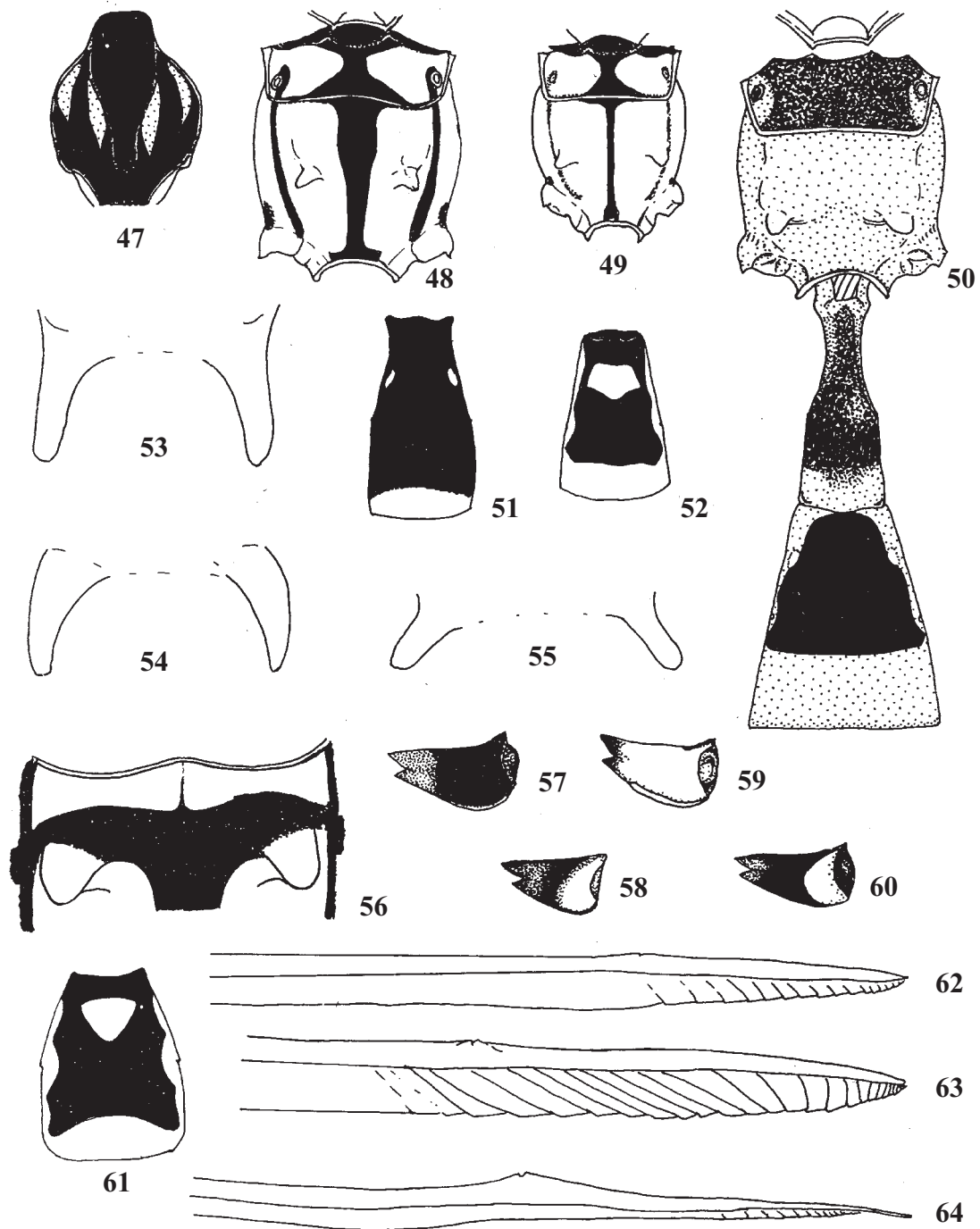
5. *Polycyrtus collinus* Cameron, 1885

Figs 13, 41.

Cameron, 1885: 231, ♀ (type: ♀, Guatemala: El Reposo, at 800 ft). Cresson, 1873: 142 [*Mesostenus (Polycyrtus) melano-leucus*, part; Mexico: Veracruz]. Cushman, 1931: 43, 59 (des., key). Townes, Townes, 1966: 112 (bibl.).

MATERIAL. Guatemala: type (Mus. London). Mexico, Veracruz: 1 ♀, «Mex» (among *P. melano-leucus* in coll. Cresson, Mus. Philadelphia).

DISTRIBUTION. Guatemala, Mexico. The species is recorded for Mexico for the first time.



Figs 47-64. *Polycyrtus* spp: 47 — *P. accuratus*, mesoscutum; 48-49 — propodeum, *P. yucatan* (48), *P. curtispina* (49); 50 — *P. pallidibalteatus*, propodeum and basal metasomal segments, dorsal view; 51-52 — second tergite, *P. clavator* (51), *P. curtispina* (52); 53-56 — apophyses of propodeum, *P. guatemalensis* (53), *P. curvispina* (54), *P. curviventris* (55), *P. obtusispina* (56); 57-60 — mandible, *P. comma* (57), *P. mancus*, var. (58), *P. burgosi*, paratype (59), *P. yucatan* (60); 61 — *P. areolaris*, type, tergite 2; 62-64 — apex of ovipositor, types, *P. chiriquirensis* (62), *P. curviventris* (63), *P. tinctipennis* (64).

Рис. 47-64. *Polycyrtus* spp. 47 — *P. accuratus*, среднеспинка; 48-49 — пропodeум, *P. yucatan* (48), *P. curtispina* (49); 50 — *P. pallidibalteatus*, пропodeум и базальные сегменты метасомы, сверху; 51-52 — тергит 2, *P. clavator* (51), *P. curtispina* (52); 53-56 — апофизы пропodeума, *P. guatemalensis* (53), *P. curvispina* (54), *P. curviventris* (55), *P. obtusispina* (56); 57-60 — мандибула, *P. comma* (57), *P. mancus*, var. (58), *P. burgosi*, паратип (59), *P. yucatan* (60); 61 — *P. areolaris*, тип, тергит 2; 62-64 — вершина яйцеклада, типы, *P. chiriquirensis* (62), *P. curviventris* (63), *P. tinctipennis* (64).

6. *Polycyrtus comma* sp.n.

Figs 17, 21, 29, 57.

MATERIAL. Holotype: ♀, **Mexico, Yucatan**, Sudzal Chico (SMSP), Febrero 1999 (Hugo Delfin). Paratypes. **Mexico, Tamaulipas**, Gomez Farias: Los Cedros, 300 m, tr. amarillas, 26.II.1995 (S. Niño, et al.), ♀; same place, tr. Malaise, 15–22.V.1999 (S. Hernández A.), ♂; Alta Cima, 940 m, tr. Malaise, 15 V–10.VII.1999 (S. Hernández A.), 4 ♀♀. **Yucatan**: same data as holotype, Diciembre 1998–Julio 1999 (Hugo Delfin), 14 ♀♀ 7 ♂♂; Xcobacal (SMSC), Diciembre 1998 (Hugo Delfin), ♂; Corral (SMSC), Diciembre 1998 and Febrero 1999 (Hugo Delfin), 1 ♀ 7 ♂♂.

DESCRIPTION. *P. comma* most obviously differs from other species (with body black and white) in coloration: mandibles black (Fig. 57), mesopleurum with black front margin and comma-like black spot on front part of speculum (Fig. 29), and petiole of first metasomal segment with dorsal white line (Fig. 17); occipital carina not joining hypostomal carina.

Female. Front wing about 6–9 mm long. Antenna with 29–31 flagellar segments. Malar space 0.66 as long as basal width of mandible. Hypostomal carina rather high beyond mandible. Occipital carina obsolete before hypostomal carina. Epomia strong. Mesopleurum at lower half with separate punctures. Metapleurum coarsely rugose-punctate, sometimes smooth at anterior 0.2–0.3; coarse sculpture sometimes expands on lateral part of propodeum beyond basal transverse carina. Propodeum polished; apophyses moderately long, usually about 1.0 (0.8–1.4) as long as basal width, distinctly depressed. Areolet about 0.66 as long as abscissa of 2nd recurrent vein above the bulla; nervulus strongly antefurcal; nervellus intercepted about at lower 0.37. Hind femur 5.5 as long as high (in holotype). Ovipositor sheath about 1.1 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.25–1.42 as long as 2nd segment of hind tarsus.

A predominantly black and white species. Antenna black, flagellar segments 6–10 white (apex of segment 5 and base of segment 11 often also white). Head predominantly white; spot on malar space (very narrow close to eye), lower margin of clypeus, mandible entirely, spot just beyond the base of mandible, hypostomal carina and impression along the genal carina, frons and vertex (except orbits), horn, hind margin of temple at upper 0.4, and occiput black (except space along occipital carina at lower half of occiput). Palpi white, segments 3–4 of labial palpus blackish, one or two apical segments of maxillar palpus rufous. Propleurum white. Pronotum mainly black (including the whole collar between epomiae); its front margin laterally and dorso-lateral margins (except hind corners) broadly white. Mesoscutum black with two median stripes and prescutellar lateral carinae whitish. Scutellum white dorsally (except basal black groove and basal spot), apically, and on its hind margin. Mesopleurum pale-rufous to whitish; tegulae, subtegular ridge and upper 0.3 of mesepimeron white; its front margin, subalar prominence and comma-like spot extending from pit beyond the subtegular ridge to anterior part of speculum black (Fig. 29); prepectus sometimes almost entirely black (except for narrow hind margin along prepectal carina). Metanotum black with hind margin and postsutellum white. Metapleurum pale rufous; its front suture and posterior pit before hind coxa black. Propodeum pale rufous; its basal groove entirely black, other black patterns as on figure 17. All coxae pale rufous to whitish with dorsal black band (Fig. 21); trochanters pale rufous with dorsolateral brownish spots. Front and mid femora pale rufous, usually brownish dorso-posteriorly and sometimes with dorsal yellow line; front and mid tibia rufous, mid tibia often entirely or partly brownish

posteriorly; front and mid tarsi brown. Hind femur usually whitish-yellow at lower 0.6, at dorsal 0.4 brown to reddish with yellow longitudinal line on dorsum; hind tibia yellowish, laterally brownish at basal 0.1; hind tarsus white with base of segment 1 rufous, and segment 5 brownish. Metasomal tergites black, white apically and laterally; tergites 1 and 2 as on figure 17; subbasal white spot of tergite 2 beyond thyridia sometimes separated with black from lateral white margins. All sternites white. Pterostigma yellowish.

Male. Similar in structure and coloration to female; differs in having antenna with 30–34 flagellar segments; flagellomeres (8)9–16 (17) white, approximately segments (15–16)17–21(22) with a tyloid; light coloration of thorax and coxae almost whitish; hind tarsus almost completely white.

DISTRIBUTION. Mexico: Tamaulipas (Gomez Farias), Yucatan.

7. *Polycyrtus confusus* Cushman, 1931

Cushman, 1931: 6, 33, 57, ♀ (key, des.; type: ♀, Mexico, Orizaba). Townes, Townes, 1966: 112 (bibl.).

MATERIAL. **Mexico, Veracruz**: 1 ♀, type of *P. confusus* (without antennae and tergites 4–8) (Mus. Washington); 1 ♀ (paratype of *P. confusus* = paratype of *P. copiosus*, «771.8» (Mus. Philadelphia).

P. confusus closely resembles *P. pallidus* and both species are probably conspecific. The type of *P. confusus* (female) differs from type of *P. pallidus* (male) in having short epomia, entirely black cheeks (lower part of temple), black hind corners of pronotum, rather long and apically flattened apophyses (1.1 as long as their basal width).

DISTRIBUTION. Mexico: Veracruz.

8. *Polycyrtus copiosus* (Cresson, 1873)

Fig. 33.

Cresson, 1873: 146, ♀, ♂ [*Mesostenus (Polycyrtus)*]; lecto-type: ♀, Mexico: Orizaba]. Cushman, 1931: 34, 57 (*Polycyrtus*, des., key). Townes, Townes, 1966: 112 (bibl.).

MATERIAL. **Mexico, Veracruz**: lectotype – ♀, and paralectotypes – 7 ♂♂ (Mus. Philadelphia); **Chiapas**, Tapachula (Crawford), ♂ (Mus. Washington).

DISTRIBUTION. Mexico: Veracruz (Orizaba, Córdoba), Chiapas.

9. *Polycyrtus crespoi* sp.n.

Fig. 30, 31, 44.

MATERIAL. Holotype: ♀, **Mexico, Veracruz**, Tuxpan, Tihuatlan, citricos, 18.IX.1995 (R.C. Azuara). Paratypes: 2 ♂♂, same data as holotype.

DESCRIPTION. *P. crespoi* resembles *P. pallidibalteatus* in coloration, but differs in having fuscous spot under subtegular ridge, developed epomia, and occipital carina distinctly joining hypostomal carina.

Female (holotype). Front wing 9.3 mm long. Antenna long, at least 1.3 as long as front wing (tips of antennae broken). Malar space about 0.75 as long as basal width of mandible. Hypostomal carina beyond mandible forms a high lobe being substantially lower behind occipital carina. Occipital carina distinctly joining hypostomal carina. Horn conical, rounded apically. Epomia strong but its upper end weakly curved mesad. Mesopleurum and metapleurum polished with fine separate punctures; mesopleurum under subtegular ridge finely rugose-punctate longitudinally. Propodeum polished; apo-

physes slightly depressed and rounded apically (Fig. 30), about 1.4 as long as basal width. Areolet open distally (closed in paratypes), almost as long as its maximal width, and 0.5 as long as abscissa of second recurrent vein above the bulla; nervulus strongly antefurcal; nervellus intercepted at about lower 0.33. Basitarsus of front legs as long as fore tibia (usually shorter than tibia in other species). Hind femur 6.6 times as long as high. Ovipositor sheath about 0.9 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus abruptly tapered at proximal 0.3, very thin in its distal parts (Fig. 44), 1.15 as long as 2nd segment of hind tarsus.

Antenna black, flagellar segments 5–7 light yellow, 8–12 white (segment 5 fuscous basally). Head predominantly light yellow; malar space, clypeus and mandibles (except teeth) without black marks. Frons and vertex (except orbits), and occiput (except postgenae) black; frontal horn whitish in apical 0.4. Temple predominantly light yellow but black at upper 0.4 on its hind margin, and black at the boundary with vertex (interrupted at orbits). Propleurum yellowish rufous. Pronotum blackish; its front and dorsolateral margins broadly yellow; collar anteriorly with a median and two lateral small dark spots; dorsolateral margin weakly darkened before hind corner. Mesoscutum black with two rather small median yellow stripes and prescutal lateral whitish yellow carinae. Scutellum black, light yellow dorsolaterally, entirely at apex, and on hind margin. Mesosoma (except for pronotum and mesonotum) entirely pale rufous; subtegular ridge and postscutellum whitish yellow; propodeum at base with a pair of submedian light brown spots (Fig. 30). Legs pale rufous, front and mid tarsi (except for more light basitarsus) brownish; hind trochanter II and the very base of hind femur reddish-brown; hind femur slightly brownish posteriorly at apical 0.4; hind tibia light yellow, brownish at extreme base; hind tarsus whitish-yellow with segment 5 brown. Pterostigma brown, narrowly yellowish medially. First metasomal segment pale rufous, petiole light fulvous dorsally; postpetiole brownish dorsally with yellowish band on hind margin. Tergite 2 blackish-brown, its front corners, lateral margins (wider beyond spiracles), and apical 0.22 pale rufous (Fig. 30); tergite 3–5 blackish-brown dorsally at about basal 0.6, broadly yellowish laterally and apically (tergite 3 with large postmedian pale spot); tergites 6–8 blackish dorsally (between spiracles) with rather narrow apical white band (tergite 8 with a very narrow band). Sternites pale rufous.

Male. Front wing about 10 mm long; antenna with 37 flagellar segments; flagellomeres (8)9–16 white, (17)18–21 with a tyloid. Frontal horn entirely black. Apophyses short, about 0.8–0.9 as long as wide at base. Tergites 2–7 black dorsally (not brownish), with yellow band at apical 0.17 on tergite 2 (Fig. 31), and at apical 0.25–0.3 on other tergites. Other characters of coloration and sculpture as in female.

DISTRIBUTION. Mexico: Veracruz.

REMARKS. The species is named in honour of our friend Juan Roberto Mateos Crespo who has presented holotype of this species for the collection of UAT and many other ichneumonids from Veracruz.

10. *Polycyrtus curtispina* sp.n.

Figs 49, 52.

MATERIAL. Holotype: ♀, Mexico, Yucatan, Corral (SMSC), Febrero 1999 (Hugo Delfin). Paratypes, Mexico, Tamaulipas: Llera, Ej. La Libertad, 24.III.1990 (M. Aquino), ♂; Gomez Farias, Los Cedros, 300 m, tr. Malaise (I), 10–17 1999 (S. Hernández A.), ♂.

DESCRIPTION. *P. curtispina* closely resembles *P. soniae* in its structure by having occipital carina joining hypostomal carina, and short apophyses; it differs mainly in coloration: hind coxae with dorsal light brownish stripe, metapleurum with posterior black spot before hind coxa, and propodeal black bands a little wider (Fig. 49).

Female (holotype). Front wing about 6 mm long. Antenna with 30 flagellar segments. Malar space about 0.8 as long as basal width of mandible. Hypostomal carina beyond mandible as rather high lobe. Occipital carina distinctly joining hypostomal carina (as on Fig. 10). Epomia strong. Mesopleurum at lower half with sparse, rather coarse punctures. Metapleurum coarsely rugose-punctate (except for anterior 0.2). Propodeum polished; apophyses very short, about 0.66 as long as basal width, obtuse apically. Areolet about 0.7 as long as abscissa of 2nd recurrent vein above the bulla; nervulus weakly antefurcal; nervellus intercepted at about lower 0.35. Hind femur 6.0 as long as high. Ovipositor sheath 1.2 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.7 as long as 2nd segment of hind tarsus.

A predominantly black and white species. Antenna black, flagellar segments 5–11 entirely, 12–13 dorsally and laterally, 14–15 only dorsally white. Head predominantly white; malar space (except for a very small white spot between clypeal fovea and eye), lower margin of clypeus, mandible at about apical 0.5, spot on cheek just beyond the base of mandible, frons and vertex (except for orbits), hind margin of temple at upper 0.4, and occiput (except for postgenae) black. Horn black, white in apical half. Palpi white; segments 3 and 4 of labial palpus brownish. Propleurum white. Pronotum black; its front margin entirely and widely, and dorsolateral margins (except hind corners) broadly white. Mesoscutum black with two median stripes and prescutellar lateral carinae whitish-yellow. Scutellum on hind, dorso-lateral margins and apically white. Mesopleurum rufous, almost white on mesosternum and partly on prepectus; tegulae, subtegular ridge and apex of mesepimeron whitish; subalar prominence and small spot on the pit beyond the subtegular ridge black (this spot shorter than in *P. burgosi* — Fig. 27). Metanotum black with hind margin and postscutellum white. Metapleurum pale rufous with small black spot on posterior pit before hind coxa. Propodeum pale rufous or reddish yellow with black band on basal groove and with three longitudinal bands; lateral ones beginning from spiracles (Fig. 49). Front and mid legs pale rufous; coxae whitish, mid coxa slightly brownish on dorso-apical margin; dorsal spots on trochanters, femora dorsoposteriorly, front tibia dorsally light brownish; tarsi brown, basitarsus reddish-brown. Hind legs reddish-rufous; coxa with brownish dorsal stripe, whitish posteriorly and ventro-laterally at basal half; tibia and basal half of basitarsus yellowish; apical 0.5 of basitarsus and segments 2–4 white; segment 5 brownish. Metasomal tergites black, whitish apically and laterally; first and second tergites coloured as in *P. soniae* — Fig. 16. Tergites 3–7 black at about basal 0.6; tergite 8 black dorsally. Sternites white. Pterostigma yellowish.

Male. Front wing 7–9 mm; antenna with 31–33 flagellar segments, segments (8)9–15(16) white, segments (16)17–21(22) with a tyloid; nervulus far basad the basal vein; very similar to female in sculpture and coloration, but metapleurum more smooth, white coloration of collar sometimes interrupted medially with black, and hind tarsus almost entirely white.

DISTRIBUTION. Mexico: Tamaulipas (Llera, Gomez Farias), Yucatan.

11. *Polycyrtus ferox* (Cresson, 1873)

Figs 1, 5, 45, 46.

Cresson, 1873: 143, ♀ [*Mesostenus (Polycyrtus)*]; type: ♀, Mexico: Orizaba]. Cushman, 1931: 59 (*Polycyrtus*, key). Townes, Townes, 1966: 113 (bibl.).

MATERIAL. Mexico. **Veracruz**: 2 ♀♀ (type and paratype), «Mex» (Mus. Philadelphia); **Tamaulipas**: Gomez Farias, Alta Cima, 940 m, tr. Malaise, 4–12.VIII.2000 (Kasparyan), ♂.

DESCRIPTION. Male (**nov.**). Front wing 11.5 mm long. Antenna with 33 flagellar segments; approximately 8 apical segments widened and compressed, about 1.3 as wide as long (Fig. 46) and wider than middle segments; flagellar segments 9–15 white, segments 15–22 with a tyloid and with white ventral spot along tyloid (Fig. 45); similar to female structurally and in other characters of coloration.

DISTRIBUTION. Mexico: Tamaulipas (Gomez Farias), Veracruz.

12. *Polycyrtus furvus* (Cresson, 1873)

Fig. 32.

Cresson, 1873: 147, ♂ [*Mesostenus (Polycyrtus)*]; type: ♂, Mexico: Orizaba]. Cushman, 1931: 57 (key, *Polycyrtus*). Townes, Townes, 1966: 113 (bibl.).

MATERIAL. Mexico. **Veracruz**: type and paratype, «Mex» – 2 ♂♂ (Mus. Philadelphia); **Chiapas**: Palenque, selva alta, 4 IV 1997 (A. Martinez et al.), ♀.

DESCRIPTION. Female (**nov.**). Front wing 8.3 mm long. Antenna with 29 flagellar segments. Malar space about 1.2 as long as basal width of mandible. Hypostomal carina moderately high, gradually tapered to occipital foramen. Occipital carina at the level of lower eye margin strongly bent to hypostomal carina but does not reach it. Temples dorsally concave before occipital carina. *Epomia absent*. Mesopleurum with sparse fine punctures. Metapleurum smooth, medially with some confluent coarse punctures. Propodeum polished; apophyses long and curved, about 2 times as long as basal width. Areolet rather small, about 0.45 as long as abscissa of 2nd recurrent vein above the bulla; nervulus almost interstitial (very weakly antefurcal); nervellus intercepted at about lower 0.27. Hind femur 5.8 as long as high. Ovipositor sheath about as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.35 as long as 2nd segment of hind tarsus.

A predominantly black (head, pronotum and mesonotum) and rufous species. Antenna black, flagellar segments (5)6–11 white. Head black; clypeus with a large central white spot; mandibles blackish-brown, yellowish on upper margin and just before teeth; palpi pale rufous. Mesosoma rufous; propleurum anteriorly with blackish lateral marks; *pronotum black*, its lower corner widely reddish; mesoscutum entirely black, prescutellar carinae whitish; scutellum black, its lateral sides and apex reddish-brown; tegulae and postscutellum apically brownish. Propodeum basad of basal transverse carina predominantly brownish between spiracles except for median reddish spot. Legs rufous; four anterior tarsi brownish (basitarsus rufous ventrally); hind femur blackish, rufous at extreme base; hind tibia yellow; hind tarsus whitish with segment 5 brown. Metasoma pale rufous, tergites with a basal light brownish spot. First tergite entirely light brownish, paler at base and apex. Tergites 2 brownish at basal 0.5 (Fig. 32), tergite 3 — at basal 0.4, tergite 4 — at basal 0.3; tergites 5–8 brownish dorsally (except for narrow hind margin).

DISTRIBUTION. Mexico: Veracruz, Chiapas.

13. *Polycyrtus guatemalensis* Cameron, 1885

Figs 36, 37, 53.

Cameron, 1885: 237, ♂ (Type: ♂, Guatemala: Purulhá). Cushman, 1931: 58 (key). Townes, Townes, 1966: 114 (= *nigritibialis*).

nigritibialis Cameron, 1885: 238, ♂ (Type: ♂ Panamá, Volcán de Chiriquí at 4,000–6,000 ft).

MATERIAL. Mexico. **Tamaulipas**, Gomez Farias: Los Cedros, 300 m, tr. Malaise, 27.III–22.V.1999 (S. Hernández A.), 3 ♀♀ 1 ♂; Alta Cima, 940 m, tr. Malaise, 24.IV–22.V.1999 (S. Hernández A.), 2 ♀♀. **Veracruz**: Tihuatlan, Juana Moza, citricos, 13 and 27.X.1995 (R.C. Azuara, R. Herrera), 3 ♂♂. **Guatemala**: type *P. guatemalensis* (Mus. London). **Panamá**: type *P. nigritibialis* (Mus. London).

DESCRIPTION. Female (**nov.**) similar in coloration to male, but hind tibia weakly darkened basally. Female of *P. guatemalensis* may easily be recognized by elongate black spot under subtegular ridge (Fig. 37), strongly convex clypeus at level of its lower margin (similar to *P. copiosus* — Fig. 33), by tooth on front margin of pronotum at its lower 0.4 (Fig. 36); hind coxa, propodeum, two basal segments of metasoma coloured more or less as in *P. comma* (Figs 17, 21), except that petiolus of first segment in *P. guatemalensis* is black dorsally. In *P. melanocephalus* and *P. neglectus* there is a similar black spot under subtegular ridge, but in both these species a white median spot before base of second tergite absent.

DISTRIBUTION. Mexico: Tamaulipas, Veracruz; Guatemala, Panamá.

14. *Polycyrtus junceus* (Cresson, 1873)

Figs 2, 6.

Cresson, 1873: 145, ♂ [*Mesostenus (Polycyrtus)*]; type: ♂, Mexico: Orizaba]. Cushman, 1931: 59 (key, *Polycyrtus*). Townes, Townes, 1966: 115 (bibl.).

MATERIAL. Mexico: **Veracruz**, type, «Mex», M (Mus. Philadelphia).

DISTRIBUTION. Mexico: Veracruz.

15. *Polycyrtus macer* (Cresson, 1873)

Fig. 7.

Cresson, 1873: 144, ♀ ♂ [*Mesostenus (Polycyrtus)*]; lectotype: ♀, Mexico: Córdoba]. Cushman, 1931: 37, 58 (des., key, *Polycyrtus*). Townes, Townes, 1966: 115 (= *cruciatus*; bibl.).

cruciatus Cameron, 1885: 232, ♀ [type: ♀, Mexico (Mus. London)]. Cushman, 1931: 58, key.

MATERIAL. Mexico. **Tamaulipas**, Gomez Farias: Los Cedros, 350 m, 93/020, Tr. Malaise, 27–30.VII.1993 (J. Woolley, M. Quinn), ♂; same locality, tr. amarillas, 26.II.1995 (S. Niño et al.), ♀; same locality, tr. Malaise, 27.III–7.VIII.1999 (S. Hernández A.), 2 ♀♀ 2 ♂♂; Alta Cima, 940 m, tr. Malaise, 15–22.V.1999 (S. Hernández A.), ♀. **Veracruz**: lectotype and paralectotypes, «Mex», ♀ and 3 ♂♂ (Mus. Philadelphia). **Yucatan**, Corral (SMSC), enero 1999 (Hugo Delfín), ♀.

DISTRIBUTION. Mexico: Tamaulipas, Veracruz, Yucatan. Venezuela: San Esteban (Marshall, 1892) — not seen.

16. *Polycyrtus major* (Cresson, 1873)

Figs 3, 4, 9, 26.

Cresson, 1874 (1873): 143, ♀ [*Mesostenus (Polycyrtus)*]; lectotype: ♀, Mexico: Orizaba]. Cushman, 1931: 40, 59, des., key, (*Polycyrtus*; distr.: Mexico, San Rafael near Jicaltepec; Panamá: Rio Trinidad). Townes, Townes, 1966: 116.

championi Cameron, 1885 (May): Plate 9, fig 23, ♀ [Type: ♀ (same specimen as the type of *P. fulvofemoratus*), Guatemala:

San Jerónimo), **syn.n.** Townes, Townes, 1966: 111 (= *fulvofemoratus*, = *montezuma*, = *canaliculatus*, = *blanditus*).

fulvofemoratus Cameron, 1885 (November): 233, ♀ (Type: ♀, Guatemala: San Jerónimo), **syn.n.** Cushman, 1931: 59, key. *montezuma* Cameron, 1885 (November): 234, ♂ (Type: ♂, Mexico), **syn.n.** Cushman, 1931: 40, 59, des., key.

canaliculatus Cameron, 1885 (November): 234, ♂ (Type: ♂, Guatemala: San Jerónimo), **syn.n.** Cushman, 1931: 59, key.

blanditus Cameron, 1885 (November): 234, ♂ (Type: ♂, Guatemala: El Reposo at 800 ft), **syn.n.** Cushman, 1931: 59, key.

MATERIAL. Mexico. **Tamaulipas:** Cd Victoria, ♀; Cd Victoria, cañon Novillo, 19.VII.1985 (A Del Valle), ♀; San Carlos, Rincon Murillo, selva baja and bosque encino, 20–21.X.1995 (S. Hernández, C. Covarrubias), 4 ♀♀; km 68 Cd Victoria – Soto la Marina, Rancho El Cimarron, Villa Casas, 28.XII.1986 (E. y H. Ruíz C.), 1 ♀ 60 ♂♂; same locality, 3.I – 14.IV.1987 (E. a. H. Ruíz C., S. Arrambida), 16 ♀♀ 1 ♂; Gomez Farias, El Cielo, 1200 m, 1.XI.1990 (E. Ruíz C.), ♂, Gomez Farias, El Nacimiento, 100 m, 17.XI.1998 (Kasparyan), ♀; Los Cedros, 300 m, tr. Malaise, 6.II–27.III.1999 (S. Hernández A.), 7 ♀♀ 2 ♂♂; Gomez Farias, Alta Cima, 940 m, tr. Malaise, 27.II–24.VI.1999 (S. Hernández A.), 3 ♀♀; type and paratype of *P. major*, «Mex», 2 ♀♀ (Mus. Philadelphia); type of *P. montezuma* (Mus. London). Guatemala: types *P. championi* (same specimen as the type of *P. fulvofemoratus*), *P. blanditus*, *P. canaliculatus* (Mus. London).

DISTRIBUTION. Mexico, Guatemala, Panamá.

17. *Polycyrtus mancus* (Cresson, 1873)

Fig. 58.

Cresson, 1873: 145, ♀♂ [*Mesostenus* (*Polycyrtus*); lectotype: ♀, Mexico: Orizaba]. Cushman, 1931: 52, 59, des., key, *Polycyrtus*. Townes, Townes, 1966: 115 (bibl.).

MATERIAL. Mexico. **Veracruz:** F (type) and 2 ♂♂, «Mex» (Mus. Philadelphia); Tuxpan, Tihuatlan, citricos, 27.X.1995 (R.C. Azuara), ♀, ♂. **Yucatan,** Corral (SMSC), Enero 1999 (Hugo Delfin), ♂.

DISTRIBUTION. Mexico: Veracruz, Yucatan.

REMARKS. A female and two males in collection of UAT differ from type (mandible entirely black) in having basal half of mandible white (Fig. 58), but no other differences from type have been found; for this reason we consider this material as a variation of *P. mancus*.

18. *Polycyrtus melanoleucus* (Brullé, 1846)

Figs 8, 12, 40.

Brullé (in Lepeletier), 1846: 204, ♂ [*Mesostenus*; type: ♂, Mexico (Mus. Paris)]; Cresson, 1873: 141, 142 [key, des., *Mesostenus* (*Polycyrtus*)]. Cushman, 1931: 59 (key, *Polycyrtus*). Townes, Townes, 1966: 116 (= *confirmatus*, = *nigricornis*; bibl.).

confirmatus Cameron, 1885: 232, ♀ [key, des., Fig.; type: ♀, Guatemala (Mus. London)]. Cushman, 1931: 59 (key).

nigricornis Szépligeti, 1916: 275, ♀, [key, des.; type: ♀, Colombia (Mus. Budapest)]. Cushman, 1931: 58 (key).

MATERIAL. Mexico. **Nuevo Leon,** La Cieneguilla, Santiago, 8.XI.1987 (E. Ruíz C.), ♀. **Tamaulipas:** Cd Victoria, cañon Novillo, 2.VI.1985 (E. Echartea), ♀; Cd Victoria, Jardin, 25.I.1987 (H. Ruíz C.), ♀; Cd Victoria, Troncones, Libertad, 25.IX.1988 (R. Thompson F.), ♀; Llera, Ej. La Libertad, 24.III.1990 (R. Rocha), ♀; Antigua Morelos Gde. De Mainero, selva baja, tr. aqua, 25.VI.1995 (S. Hernández A.), ♀; Gomez Farias, Los Cedros, 300 m, 26.II.1995 (S. Niño et al.), ♀; same place, 16.III.1989 (L. Martinez P.), ♀; same place, tr. Malaise, 28.XI.1998–14.VIII.1999 (S. Hernández A.), 5 ♀♀ 4 ♂♂; Gomez Farias, Alta Cima, 940 m, tr. Malaise, 27.III–7.VIII.1999 (S. Hernández A.), 8 ♀♀ 1 ♂; Cd Mante, 8 km N, El Limon, Rio Frio, 26.XII.1998 (Kasparyan), ♂. **Costa Rica:** Monteverde, 11–12.II (Ch. Palmer), ♀ (homotype'64, Townes det.; AEI). **Panamá:** Canal Zone, 17.XI.1937 (L. Stannard), ♀ (homotype'58, Townes det.; AEI).

DISTRIBUTION. Mexico, Guatemala, Costa Rica, Panamá, Columbia.

19. *Polycyrtus pallidibalteatus* Cameron, 1885

Fig. 50.

Cameron, 1885: 240, ♀ (type: ♀, Mexico, Orizaba). Cushman, 1931: 57, key. Townes, Townes, 1966: 117.

MATERIAL. Mexico. **Veracruz:** Orizaba, type (Mus. London); Tuxpan, Chacoaco, citricos, 31.X.1995 (M. Molina), ♀. **Tabasco,** Jalapa, herbacea, 25.III.1997 (A. Martinez et al.), ♀. **Oaxaca:** Vista Hermosa, 96.5 km SW of Tuxtepec, 1450 m, 20.X.1962 (H. and M. Townes), ♀ (AEI).

DISTRIBUTION. Mexico: Veracruz, Tabasco, Oaxaca.

20. *Polycyrtus pallidus* (Cresson, 1874)

Cresson, 1874 (1873): 148, ♂ [*Mesostenus* (*Polycyrtus*); type: ♂, Mexico: Cordoba]. Cushman, 1931: 54, key (*Polycyrtus*). Townes, Townes, 1966: 118 (bibl.).

MATERIAL. Mexico, **Veracruz:** type (Mus. Philadelphia).

DISTRIBUTION. Mexico: Veracruz

21. *Polycyrtus semialbus* (Cresson, 1874)

Figs 24, 25.

Cresson, 1865: 30, ♀ ♂ (*Mesostenus*; lectotype: ♀, Cuba). Ashmead, 1900: 351 (*Polycyrtus*). Cresson, 1916: 54 (lectotype designated). Cushman, 1931: 40, 41, 59 (key, des). Short, 1959: 440 (Fig. of larva). Townes, Townes, 1966: 119 (bibl.; Cuba; hosts: *Dyaphania hyalinata*, *Sylepta silicalis*).

MATERIAL. Cuba: lectotype (Mus. Philadelphia). Mexico: **Veracruz,** Tuxpan, Tihuatlan and Juana Moza, citricos, 18.IX–10.XI.1995 (R. Azuara, M. Molina), 3 ♀♀ 3 ♂♂; Veracruz, 28.VII–11.VIII.1956 (R. and K. Dreisbach), ♀ (Townes det., AEI). **Jalisco,** Chamela, 5.VIII.1989 (A. Rodríguez P.), ♂.

DISTRIBUTION. Cuba, Mexico (Veracruz, Jalisco). The species is recorded for Mexico for the first time.

22. *Polycyrtus soniae* sp.n.

Fig. 10, 16, 20.

MATERIAL. Holotype: ♀, Mexico, **Tamaulipas,** Gomez Farias, 300 m, Los Cedros, tr. Malaise (1), 1–8.V.1999 (S. Hernández A.). Paratypes. Mexico, Tamaulipas: Cd Victoria, cañon Novillo, Bosque de pino con encino, 840–1200 m, 18.I and 28.II.1988 (R. Meza V.), 1 ♀ 1 ♂; Jaumave (about 30 km to Occampo), Paso Real de Guerrero, bosque pino, tr. aqua, 18.II and 26.III.1995 (S. Hernández A.), 4 ♀♀ 1 ♂; Gomez Farias, 16.III.1989 (H. Ruíz C., L. Martinez P.), 2 ♀♀, 1 ♂; Gomez Farias, same data as holotype, 27.III–29.V.1999 (S. Hernández A.), 5 ♀♀ 2 ♂♂; Gomez Farias, Alta Cima, 940 m, tr. Malaise, 27.III–26.VI.1999 (S. Hernández A.), 4 ♀♀ 1 ♂.

DESCRIPTION. *P. soniae* may easily be recognized by its very narrow longitudinal median black stripe of propodeum (Fig. 16) and entirely pale rufous hind coxa (Fig. 20). *P. soniae* differs from *P. areolaris* (Panamá) in having occipital carina distinctly joining hypostomal carina, and metapleurum coarsely rugose-punctate.

Female. Front wing about 6–9 mm long. Antenna with 30–32 flagellar segments. Malar space 0.8–1.0 as long as basal width of mandible. Hypostomal carina beyond mandible as a moderately high lobe. Occipital carina distinctly joining hypostomal carina (Fig. 10). Epomia strong. Mesopleurum at lower half with sparse, moderately coarse punctures. Metapleurum coarsely rugose-punctate (except for anterior 0.2). Propodeum polished, sometimes with coarse punctures close to metapleurum and usually with some apico-lateral wrinkles. Apophyses rather short, about 0.6–1.0 as long as basal width, slightly depressed apically. Areolet about 0.8 as long as abscissa of 2nd recurrent vein above the bulla; nervellus intercepted at about lower 0.35. Hind femur 5.8–6.2 as long as high.

Ovipositor sheath 1.2 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.5–1.6 as long as 2nd segment of hind tarsus.

Antenna black, flagellar segments 6–11 white (apex of segment 5 and base of segment 12 often also white). Head predominantly white; malar space (except for a small white spot between clypeal fovea and eye), lower margin of clypeus, mandible about at apical 0.6, spot just beyond the base of mandible, frons and vertex (except for orbits), hind margin of temple at upper 0.3–0.5, and occiput (except for postgenae) black. Horn black, sometimes white at apex. Palpi white with 2 or 3 apical segments brownish. Propleurum white. Pronotum black; its front margin entirely white (except for narrow median black mark on collar), and dorso-lateral margins (except hind corners) broadly white. Mesoscutum black, two median stripes and prescutellar lateral carinae whitish-yellow. Scutellum on hind, dorso-lateral margins, and apically white; its dorso-basal black spot at apical part sometimes confluent with lateral black coloration. Mesopleurum rufous, paler on mesosternum, and partly on prepectus; tegulae, subtegular ridge and apex of mesepimeron whitish; subalar prominence and small spot on the pit beyond the subtegular ridge black (about as on Fig. 25). Metanotum black with its hind margin and postscutellum white. Metapleurum entirely pale rufous. Propodeum pale rufous or reddish yellow with basal black groove and usually with three thin longitudinal bands; these bands thinner than in other Mexican species; lateral band may be entirely reduced (Fig. 16); black median longitudinal band sometimes erased before basal transverse carina and apically; black coloration on basal transverse carina expands only to its median 0.2–0.35. Front and mid legs pale rufous, base of coxa whitish, tarsi brownish. Hind legs reddish-rufous, tibia yellowish; tarsal segments 2–4 and apical 0.5 of segment 1 white; segment 5 brownish. Pterostigma yellowish. Metasomal tergites black, whitish apically and laterally; petiole white, black dorsally; postpetiole often darkened on hind and ventro-lateral margins. 2nd tergite black at basal 0.8, its subbasal white spot entirely surrounded with black (Fig. 16). Tergites 3–7 black at about basal 0.6; tergite 8 black dorsally. Sternites white.

Male. Similar in structure and coloration to female, except that white ring on antenna expands to flagellar segments (8)9–17 and segments about 16 to 21 with a tyloid; hind tarsus almost completely white.

DISTRIBUTION. Mexico, Tamaulipas: Cd Victoria, Jaumave, Gomez Farias.

REMARKS. This species is named in honour of our colleague and friend Sonia Hernández Aguillar in recognition of years of her studying of ichneumonids of reserve «El Cielo» and collecting most material on this species

23. *Polycyrtus yucatan* sp.n.

Figs 38, 42, 48, 60.

MATERIAL. Holotype: ♀, Mexico, Yucatan, Corral (SMSC), Febrero 1999 (Hugo Delfin). Paratypes. Yucatan: Sudzal Chico (SMSP), Julio 1999 (Hugo Delfin), ♂.

DESCRIPTION. *P. yucatan* may most easily be recognized by the combination of the complete occipital carina with its coloration of mesopleurum (Fig. 38)

Female (holotype). Front wing 8.8 mm long. Antenna with 31 flagellar segments. Malar space 0.66 as long as basal width of mandible. Hypostomal carina beyond mandible as a moderate high lobe, rather low behind occipital carina. Occipital carina joining hypostomal carina. Epomia strong. Mesopleurum with scarce fine punctures. Metapleurum

polished with separate fine punctures, and medially with weak vertical wrinkles on hind half. Propodeum polished; apophyses moderately long, about 1.0 as long as basal width (Fig. 48), distinctly depressed. Areolet about 0.5 as long as abscissa of 2nd recurrent vein above the bulla; nervulus strongly antefurcal; nervellus intercepted at about lower 0.27. Hind femur 6.5 as long as high. Second segment of hind tarsus (Fig. 42) elongate, about 6.5 times as long as wide, and about 2 times as long as segment 5; in most other Mexican *Polycyrtus* species these parameters are smaller (4–5 times and about 1.5 correspondingly). Ovipositor sheath about 1.3 as long as hind tibia; ovipositor with distinct nodus; upper valve beyond the nodus about 1.1 as long as 2nd segment of hind tarsus (Fig. 42).

A predominantly black and white species. Antenna black, flagellar segments 6–11 white (extreme apex of segment 5 and base of segment 12 also white). Head predominantly white; malar space (except area adjacent to eye), lower margin of clypeus, mandible (except for white spot at basal 0.3 — Fig. 60), spot just beyond the base of mandible, hypostomal carina and impression along carina, frons and vertex (except orbits), horn, hind margin of temple at upper 0.4, and occiput (except postgenae) black. Palpi white, segments 2–4 of labial palpus blackish, apical segment of maxillar palpus rufous. Propleurum white. Pronotum mainly black; its front margin entirely (except median narrow gap on collar) and dorso-lateral margins (except for hind corners) broadly white. Mesoscutum black, two median stripes and prescutellar lateral carinae whitish. Scutellum white dorsally (except for black basal groove and basal spot), apically, and on hind margin. Mesopleurum, metapleurum and propodeum ivory; tegulae white; black pattern of mesopleurum and propodeum as on figures 38, 48. Metanotum black with hind margin and postscutellum white. Metapleurum with front suture and posterior pit before hind coxa black. All coxae ivory with black dorsal band (about as on Fig. 21). Front and mid legs (except for coxae and tarsi) yellowish; trochanters dorsally and femora posteriorly brownish; tibia pale brownish dorso-posteriorly; tarsi brown with segments 1 and 2 paler ventrally. Hind trochanters and femora pale rufous, brownish dorsally, femur also brown posteriorly at upper half and with an unclear yellow longitudinal dorsal line. Hind tibia yellowish, brown laterally at extreme base. Hind tarsus white with basal 0.8 of segment 1 rufous, segment 5 brownish. Pterostigma yellowish. Metasomal tergites black, white apically and laterally; tergite 2 with medio-basal white spot. All sternites white.

Male. Similar in structure and coloration to female; differs in having: antenna with 33 flagellar segments; flagellomeres 9–15 white, segments about 15–20 with a tyloid; only one apical segment of labial palpus darkened; malar space and basal half of mandible lighter; second tergite with subbasal white spot entirely surrounded with black; hind tarsus almost completely white.

DISTRIBUTION. Mexico: Yucatan.

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