

NEW SPECIES AND SUBSPECIES OF THE GENUS
CHAETISOTHRIPS FROM THE CARIBBEAN AND
CENTRAL AMERICAN REGION
(THYSANOPTERA: THRIPIDAE)¹

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ABSTRACT

Chaetisothrips striatus subsp. *caribbeanus* from Jamaica, Puerto Rico, Cuba, Mexico and Honduras, *C. mecocephalus* from Mexico, and *C. medinai* from Puerto Rico are described as new.

In a preliminary review of the genus *Chaetisothrips* Priesner (Sakimura 1967), three undescribed taxa were recognized and included in a key to species. They are herein named and described. The type specimens are in the collections specified.

Grateful acknowledgements for their cooperation in various ways are made to Silverio Medina Gaud, University of Puerto Rico Agricultural Experiment Station; Kellie O'Neill, U. S. Department of Agriculture; and Lewis J. Stannard, Illinois Natural History Survey.

Chaetisothrips striatus caribbeanus, new subspecies
(Fig. 1-7, 11)

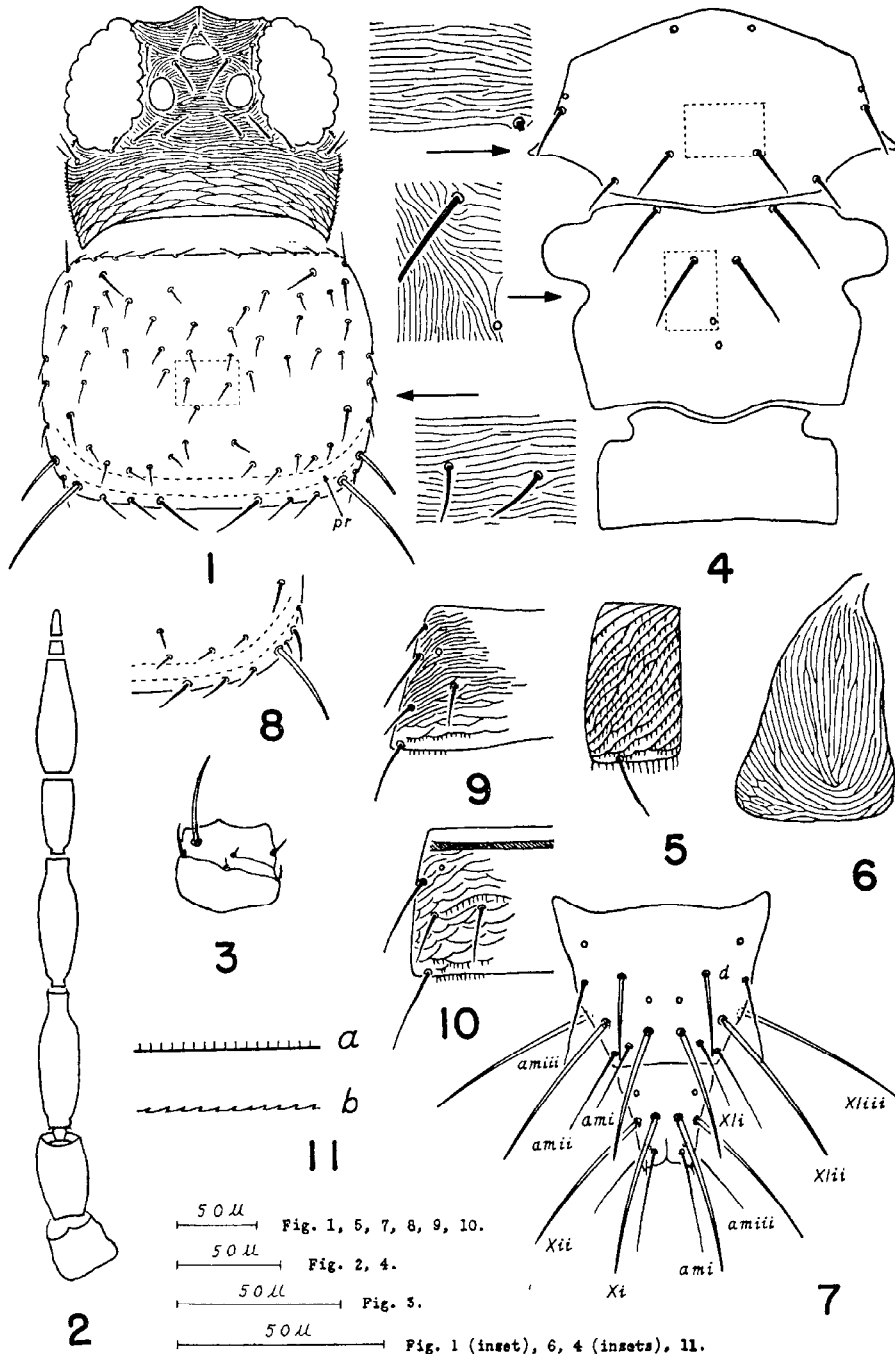
Chaetisothrips sp. No. 1: Medina 1961: 47.

Chaetisothrips sp. (couplet 8): Sakimura 1967: 166.

DIAGNOSIS: Light grayish brown body with yellowish basal 1/4 of grayish brown antenna IV but entirely grayish brown V (basal 1/3 of V yellow in *striatus*), and deep brown forewing with clear basal 1/4 and clear scale. Dense and nearly black ridge type striation (Fig. 11a) conspicuous on head and thorax. Recognizable through fully developed yet short outer prothoracic posteroangle seta (minute in *striatus*), longer than minute postocular seta iii, uniform density of dense ridge type striae over entire pronotum as well as over entire mesonotum, dense ridge type striae on mesanepimeron, dense ridge type striae on tergite II but anastomosing wrinkle type striae on tergite IV, and longitudinal partially anastomosing striae on pleurites.

FEMALE HOLOTYPE: *Color*: Light grayish brown body with head (except pale for front) and tergites IX-X somewhat darker, thorax orange-washed. Legs yellow with all femora weakly brown-washed along outer margin, on some darker specimens all tibiae also weakly washed along outer margin (brown wash darker and more extensive in *striatus*). Antenna deep grayish brown with a pale narrow cross band immediately above each pedicel of III, IV, V; III yellowish brown on pedicel, yellow at second and third 1/5 above pale band, grayish brown at fourth 1/5, decidedly pale again last 1/5; IV yellowish brown at basal 1/4, V entirely grayish brown (yellowish brown at basal 1/3 in *striatus*, in addition to a pale cross band above pedi-

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cel; this difference in color persists on every specimen examined among both taxa). Forewing deep brown with basal 1/4 clear, scale clear with both apical and basal extremes weakly brown-washed. Ocellar crescent red; major setae brown to blackish brown, variable.

Integument: Nearly black, fine, dense, and non-anastomosing but cut-short ridge type striation (Fig. 11a) which constitutes the basic characteristic of the genus conspicuous on head, thorax, and some of tergites; sculpture on integuments essentially identical with that of *striatus* on every sclerite. Head (Fig. 1), occiput with freely anastomosing regular wrinkle type striae (Fig. 11b) on posterior 1/2 area, but with dense ridge type striae elsewhere (about 16 lines all together below eye, many sharp thin ridges visible on profile of cheek); ocellar hump and front with dense ridge type striae (about 1.7 μ apart). Antenna I-II with regular striae, III-VI with shallow rings, profile weakly wavy, microtrichia on II-VI long, thick, blackish, conspicuous. Pronotum (Fig. 1) entirely covered with dense ridge type striae (uniformly about 1.7 μ apart), premarginal bulge moderate and premarginal trough shallow. Mesonotum (Fig. 4) entirely covered with dense ridge type striae (uniformly about 1.6 μ apart), transverse above and divergent below seta i. Metanotum (Fig. 4) densely covered with ridge type striae (somewhat denser than those on mesonotum) which are transverse anteromesally, longitudinal and somewhat looped posteromesally, and diagonal laterad. Mesanepimeron (Fig. 6) [after anepimeron of mesothorax by Jones (1954: 174, 182, Fig. 11b, 183, Fig. 12a) who reinterpreted and modified the earlier terminology; previously called metepimeron by Sakimura (1967: 166) after Doeksen (1941: 31, 87, Fig. 85), and also called pro-epimeron by Priesner (1964: 84) also after Doeksen; See Fig. by Jones for its disposition] covered with dense ridge type striae (about as dense as those on metanotum). Abdomen, tergites I-VIII covered with striae on side only; I with dense near-ridge type striae (partially anastomosing) with few scattered microtrichia; II (ref. Fig. 9) with dense ridge type striae (about 25 lines diagonally across tergite), with few microtrichia near hind margin only (no microtrichia arise from true ridge type striae); III with dense ridge type striae on anterolateral triangle only, regular anastomosing striae elsewhere; IV-VIII uniformly with regular anastomosing striae (about 13-15 lines diagonally across tergite IV, ref. Fig. 10), sparse microtrichia at posterolateral corner only, one line each of coarse and long microtrichia before dorsal seta ii on III-VIII; hind margin

Fig. 1-7. *C. striatus caribeanus* ♀: 1. Head and prothorax (paratype ex Cuba, USNM 56-427). *pr*=pre-marginal trough; premarginal bulge borders before the trough. 2. Right antenna (holotype); sense cones, striae, microtrichia, setae, and wavy constrictions and notches in profile are not shown. 3. Right antenna segment I (holotype). 4. Meso- and metanota (paratype ex Cuba, USNM 56-427). 5. Left laterotergite III (paratype ex Jamaica, Saki 4500b-1). 6. Left mesanepimeron (paratype ex Cuba, USNM 56-427). 7. Tergites IX-X (holotype). *d*=dorsal seta; *IXi, ii, iii*=tergite IX, posteromarginal setae i, ii, iii; *Xi, ii*=tergite X, posteromarginal setae i, ii; *ami, ii, iii*=accessory marginal setae i, ii, iii. Fig. 8-10. *C. striatus striatus* ♀ (paratype, Hood 1077): 8. Prothorax, posterodextral region. 9. Tergite II, sinistral region. 10. Tergite IV, sinistral region. Fig. 11. Striae on integument in profile (diagramatic). *a*=ridge type; *b*=wrinkle type. Insets in Fig. 1 and 4 cover an area of 26 x 39 μ each. All:-KS del.

of all tergites usually smooth at sides (that on *striatus*, usually lined with microtrichia at sides). Laterotergites II-VII (Fig. 5) covered with rather dense diagonal striae and uniformly lined with microtrichia, on II microtrichia lining only near hind margin; hind margin of all laterotergites entirely lined with microtrichia; pleurites III-VII covered with longitudinal partially-anastomosing striae, hind margin irregularly notched; sternites II-VII entirely covered with anastomosing striae, hind margin smooth.

Body length: 1560 long (natural), range of 6 specimens: 1560-1700. All measurements in μ .

Head: (Fig. 1). 125 long; 155 (eye), 140 (below eye), 153 (cheek), 135 (base) wide (head of holotype tilted upward; measurements on a paratype (Saki 4500b-1) are given here); strongly constricted below eye and bulged out on cheek, front strongly concave before anterior ocellus but extended forward at base of antenna and a short mesal ridge formed, ocellar hump strongly elevated, occiput strongly bulged dorsomesally along hind margin. Eye 85 long, 49 wide, 60 wide between eyes, cheek 60 long, occiput 38 long below eye; ocellar triangle 43 high, 55 wide, all ocelli 22 across. Chaetotaxy as illustrated, interocellar seta 24 long, postocular seta series: i 23, ii 20, iii 17, iv 20, v 11 long. Mouth cone 225 long (Saki 4500b-1) (range of 6 specimens: head length 125-140, mouth cone length 225-255), maxillary palpi 40 long. Antenna (Fig. 2), length (width) of segments: 24 (33, 28 at tip), 42 (25), 70 (20), 60 (20), 38 (16), 55 (18), 7 (7), 13 (5), total 340; shape as illustrated, I (Fig. 3) with 1 long grayish brown seta (24 long) near inner apical corner of dorsum (same as in *Scirtothrips* and *Sericothrips*) (a long seta also conspicuous in *striatus*), forked sense cone on III 37 long.

Prothorax: (Fig. 1). 138 long, 180 wide; chaetotaxy as illustrated, outer posteroangle seta fully developed, deep brown, nearly as thick as but about 1/2 as long as blackish brown inner seta, outer 30 and inner 57 long, range and average of 7 specimens: outer 30-38 (34), inner 57-75 (66), posteromarginal seta i 28 long; about 23-24 pairs of disc setae (about 14 long) and 3 pairs thicker and longer than the rest. On *striatus* (Fig. 8), range and average of 6 specimens: outer (thin, decurved, yellowish brown) 17-24 (20), inner (thick, blackish brown) 45-55 (49) long; a minor seta between inner and outer angle setae also less developed (7-10 long in *striatus* vs. 15-20 long in *caribeanus*).

Pterothorax: (Fig. 4). 260 (laterally, from lateral extreme of mesopre-pisternum to posterolateral extreme of metepisternum, after Jones 1954: 182, fig. 11b), 225 (dorsally, along mason) long, 258 wide; mesonotum 90, metanotum I 95, II 40 long, chaetotaxy as illustrated; both spinulae well developed (mesospinula 100 long, metaspinula 75 long and complete), both furcas 58 wide; both sterna with many short (about 13 long) disc setae; hind leg slender, hind tibia 190 long, with 3 terminal stout setae (longest 25), hind tarsus 70 long. Forewing 830 long, 60 (middle), 80 (base) wide; setae on both veins regularly spaced, number of setae on costa, forevein, hind vein, scale vein: 36, 31, 21, 6-7; last seta 63 (costa), 45 (forevein), 53 (hind vein), 43 (scale vein; penultimate 38 and disc 30) long.

Abdomen: 1000 long, 260 wide on IV, dorsal seta i minute or nearly so and far apart from each other on tergites I-VIII, sternites without accessory setae, comb on tergite VIII complete, fine, long (teeth about 23 long,

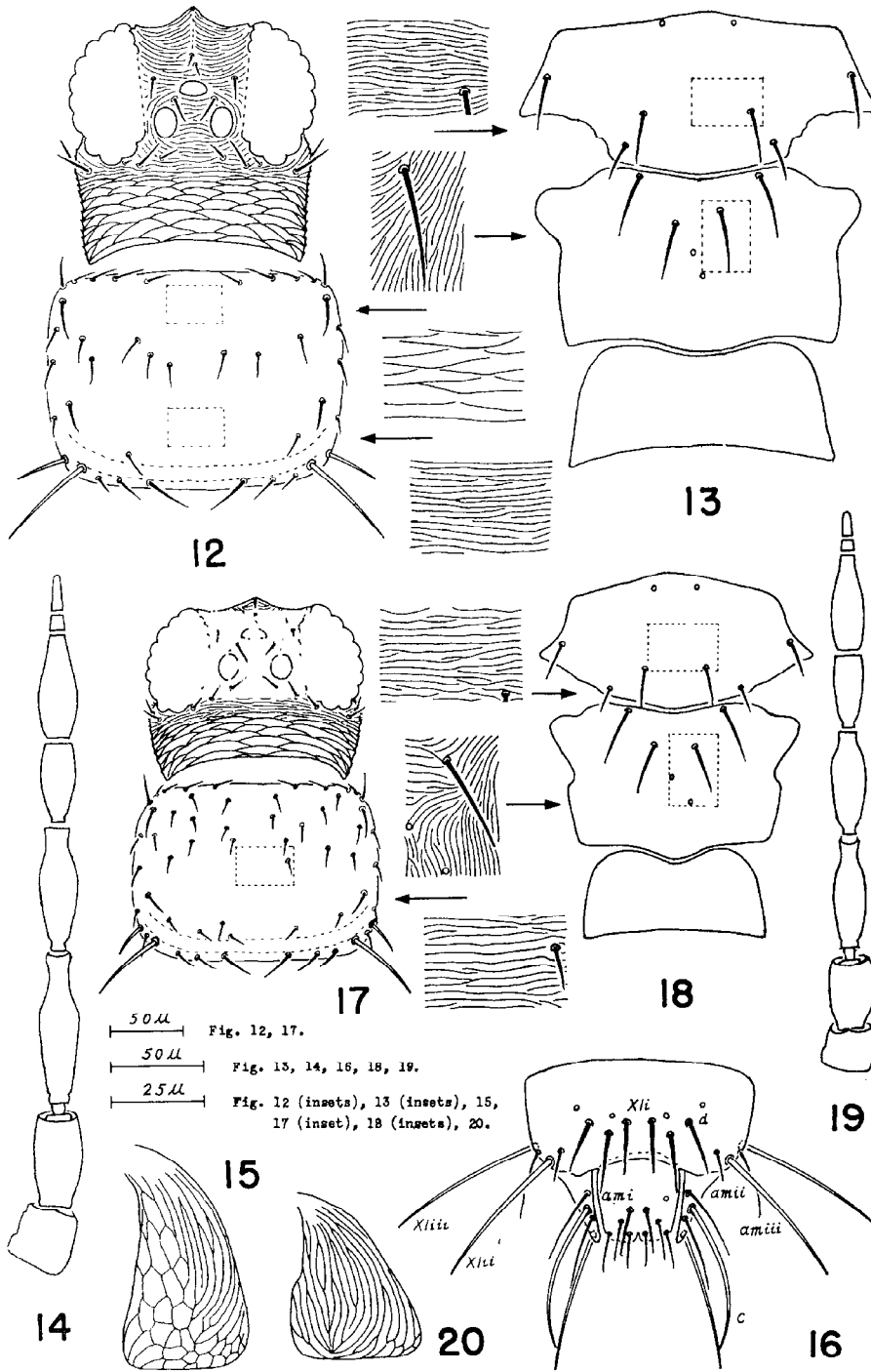
21 pairs), ovipositor 255 long. Terminal segments (Fig. 7), VIII 75, IX 93, X 60 long, IX decidedly longer than X (normal for the genus), X dorsal suture 1/4 way up; chaetotaxy as illustrated, posteromarginal setae IXi 80, ii 105, iii 110 long, dorsal seta 50 long, straight and thick, accessory marginal setae i, ii, iii 43-55 long but thin; posteromarginal setae Xi-ii both 95 long, accessory marginal setae i 63, ii 15, iii 45 long but thin; very long but thin accessory marginal setae on IX-X are different from those of *Taeniothrips*, but like those of *Scirtothrips* (in *Sericothrips*, however, these accessory marginal setae on IX develop to thick major setae); long and thick Xi-ii are different from those of *Scirtothrips*, but like those of *Sericothrips* as well as *Taeniothrips*.

HOLOTYPE ♀ (USNM Type 70489): Jamaica, Montego Bay, *Porana paniculata* (Sweet) Roxb. flowers, 27 Nov. 1964, K. Sakimura (Saki 4498a-1). **Paratypes**: 1 ♀ (Sakimura), Jamaica, Negril, *Cocos nucifera* L., sticky trap among inflorescence, 27 Nov. 1964, K. Sakimura (Saki 4500b-1); 1 ♀ (University of Puerto Rico Agricultural Experiment Station), Puerto Rico, Ponce-Guayanilla Road K.10.5, *Cestrum diurnum* L. flowers, 15 Jan. 1959, L. F. Martorell and S. Medina (15-59); 1 ♀ (UPRAES), Puerto Rico, Utuado, Rio Abajo Insular Forest, *Eugenia jambos* L. flowers, 26 Jan. 1959, G. Rivera and S. Medina (47-59); 3 ♀♀ (2 USNM, 1 Sakimura), Cuba, Havana, *Pithecolobium dulce* (Roxb.) Benth. flowers, Dec. 1955, N. L. H. Krauss (Krauss 5610; USNM 56-427); 1 ♀ (USNM), Cuba, intercepted at New York, gardenia flowers, 15 May 1959, A. L. Brown (NY 147966 AIS; USNM 57-11147); 2 ♀♀ (USNM and Sakimura), Mexico, intercepted at Brownsville, Texas, gardenia, 4 May 1937 and 15 Apr. 1940, Singleton-Callaghan and Parnell (USNM 37-14198 and 40-4963); 1 ♀ (Illinois Natural-History Survey), Honduras, La Ceiba (on Caribbean coast), light trap, 17 June 1949, E. C. Becker.

DISTRIBUTION: Jamaica, Puerto Rico, Cuba, Mexico, Honduras.

The relationship with *striatus striatus* is discussed below. *C. s. caribbeanus* is next most closely related to *reticulatus* D. L. Crawford, which is same in color of body, antenna, and wing, but has browner legs and lighter-colored major setae. Many details of structure and integumental sculpture are also same, and only the following 3 differences separate the two species. (1) Mesonotal striae are uniformly dense ridge type over the entire area on *caribbeanus*, whereas they are decidedly sparse and turn into scallops on anterior 1/3 area on *reticulatus*. (2) Striae on tergite II are dense ridge type on *caribbeanus*, whereas they are sparse and anastomosing wrinkle type on *reticulatus*. (3) Postocular seta iii attains a fair length and is subequal to ii and iv on *caribbeanus*, whereas it is minute and inconspicuous between fairly long ii and iv on *reticulatus*. *C. reticulatus* is, however, not a subspecies of *striatus*.

C. s. caribbeanus is, however, readily separable from its other congeners: from *gardeniae* J. C. Crawford which has peculiar coloration of mesal gray-blotching on body, brown-washed scale at apical 1/2, and faint but non-ridge type striae on tergite II; from *mecocephalus* which has elongated head and banded wing; and from *medinai* which has peculiar coloration of transverse gray-blotching on each tergite, entirely yellow antenna III-IV, and entirely grayish brown forewing and scale.



Chaetisothers striatus striatus (Hood)

(Fig. 8-10)

Isochaetothrips striatus Hood, 1935: 166, Fig.*Chaetisothers striatus*: Priesner 1957: 161; Sakimura 1967: 167.

SPECIMENS EXAMINED: Holotype and 2 paratype ♀♀ (USNM), Panama, Barro Colorado Island, *Coutarea hexandra* (Jacq.) Schum. flowers, Oct. 1933, Silvestro Aviles (Hood 1077); 3 ♀♀ (INHS), Honduras, La Ceiba (on Caribbean coast), light trap, 11 June 1949 and 26 Aug. to 3 Sep. 1949, E. C. Becker (Stannard 301); 1 ♀ (INHS), Honduras, Olanchito (near Caribbean coast, 25 miles SW of La Ceiba), 12 km W, no host record, 21 June 1949, E. C. Becker.

DISTRIBUTION: Panama, Honduras.

C. s. striatus and *caribeanus* are allopatric subspecies. Both subspecies apparently make a contact along the Caribbean coastal region of Honduras. The former has not yet been collected on any of the Caribbean islands, but the latter has also been collected in Mexico to north of Honduras, but not yet in Panama to south of Honduras. Collection data in Honduras, however, do not show whether both taxa are intermixed in the field. One of the *striatus* specimens from La Ceiba, however, shows a possible intermediary effect on intergradation in length and color of the outer prothoracic posteroangle seta, although antenna V retains coloration of *striatus*.

These 2 subspecies are essentially identical in body size and color, integumental sculpture on every sclerite, and structural details on whole body, but with 2 exceptions which are both beyond the range of variations within each taxon. They are (1) antenna segment V which in both taxa has a pale narrow cross band above pedicel, is entirely grayish brown on *caribeanus*, but basal 1/3 yellow on *striatus*; (2) outer prothoracic posteroangle seta fully developed on *caribeanus* (Fig. 1), but only minor on *striatus* (Fig. 8).

The primary indication for supporting the subspecies relationship between both taxa is that integumental sculptures throughout body are not only in the same pattern and in the same prominence, but also minutely identical even in stria-density. Setal length is usually an unreliable characteristic and is extremely difficult to evaluate for separating different taxa, because a wide range of variation usually prevails within a taxon. In the present case, however, the outer prothoracic posteroangle seta shows not only a difference in length, but also difference between decurved minor seta and well-developed major seta, and difference in color too. In addition, the ranges of variation in length determined from a few examples of each

Fig. 12-15. *C. mecocephalus* ♀: 12. Head and prothorax (holotype). 13. Meso- and metanota (paratype). 14. Left antenna (paratype). 15. Right mesanepimeron (paratype). Fig. 16. *C. mecocephalus* ♂, tergites IX-X (allotype). IX*i, ii, iii*=tergite IX, posteromarginal setae i, ii, iii; *ami, ii, iii*=accessory marginal setae i, ii, iii; *c*=clasper on sternite IX. Fig. 17-20. *C. medinai* ♀: 17. Head and prothorax (holotype). 18. Meso- and metanota (holotype). 19. Left antenna (paratype). 20. Right mesanepimeron (paratype). On Fig. 14 and 19, sense cones, striae, microtrichia, setae, and wavy constrictions and notches in profile are not shown. Insets in Fig. 12, 13, 17, and 18 cover an area of 26 x 39μ each. All:-KS del.

taxon clearly suggest a good probability that discontinuities exist between the two taxa. These facts together with the persisting difference in color on antenna V support that both taxa are sufficiently distinct to be different subspecies.

Chaetisothrips mecocephalus, new species
(Fig. 11-16)

Chaetisothrips sp. (couplet 1): Sakimura 1967: 166.

DIAGNOSIS: A large species. Chestnut brown body with fully quadrate head, freely anastomosing striae on nearly entire occiput, entirely yellow antenna III-IV, and banded wing make this species distinct from its congeners. Dense and nearly black ridge type striation (Fig. 11a) conspicuous on pro- and pterothoraxes. Further recognizable through reduced striadensity at anterior 1/3 area of pronotum, reticulated mesanepimeron, dense ridge type striae on tergite II with anastomosing regular striae on tergite IV, scalloped sculpture on pleurites, minute postocular seta iii, fully developed but short outer prothoracic posteroangle seta, and unusually long wing setae. Male with transversely oblong glandular area on sternites III-VII, and 3 pairs of fully developed long stout setae on dorsum of tergite IX.

FEMALE HOLOTYPE: *Color:* Chestnut brown body with head (including front) and abdomen (X paler than IX) darker. Legs chestnut brown as body, with entire foretibia and apical 1/4 to 1/3 of mid- and hind tibiae and all tarsi yellow. Antenna I-II chestnut brown as head, III-V yellow with apical extreme of V slightly brown-washed, VI-VIII light grayish brown with basal 1/3 of VI yellowish. Forewing banded, basal 1/4 clear, second 1/4 deep brown, third 1/4 and next 1/8 pale brown, apical 1/8 again deep brown; scale clear with extreme base brown-washed. Ocellar crescent red; major setae dark brown.

Integument: Nearly black, fine, dense, and non-anastomosing but cut-short ridge type striation (Fig. 11a) conspicuous on thorax, but scarcer or less dense on head and some of tergites. Head (Fig. 12), occiput with deep freely anastomosing regular wrinkle type striae (Fig. 11b) practically over entire area (about 8 to 10 lines below eye), cheek margin deeply serrate throughout; ocellar hump and front covered with ridge type striae only 1/2 as dense as those on posterior portion of pronotum. Antenna I-II with deep regular wrinkle type striae, III-VI weakly wavy in profile, microtrichia long and dense but inconspicuous because of their yellowish color. Pronotum (Fig. 12) entirely covered with dense ridge type striae, dense on posterior 2/3 area (about 2.0 μ apart), but sparse and almost scalloped on anterior 1/3 area (about 4.3 μ apart), premarginal bulge weak and premarginal trough shallow. Mesonotum (Fig. 13) covered with dense ridge type striae, dense on middle 1/3 area (about 1.6 μ apart) and less dense on anterior and posterior 1/3 areas, a small stria-free area around mesal pores. Metanotum (Fig. 13) entirely covered with dense ridge type striae (about 1.7 μ apart), transverse anteromesally, longitudinal and somewhat looped posteromesally, diagonal laterad. Mesanepimeron (Fig. 15) prominently reticulated along inner and hind margins but covered with ridge type striae elsewhere (reticulation on mesanepimeron is unique among

all the known species of the genus). Abdomen, tergites I-VIII covered with deep striae at side area only, dense ridge type striae on I-II and becoming somewhat scalloped locally near hind margin, anastomosing wrinkle type striae on III-VIII (about 22 lines diagonally across tergite II but only 13 lines across IV); a single line each of long and coarse microtrichia before dorsal seta ii on III-VIII, few other short microtrichia on some anastomosing striae locally near hind margin on all tergites; hind margin of all tergites lined with microtrichia at side. Laterotergites II-VII with deep diagonal striae, microtrichia on these striae and also along hind margin not readily visible but presumably present; pleurites III-VII with deep longitudinal striae freely anastomosed into fine scallops, particularly well developed on anterior 1/4 area (on allotype ♂, scallops more conspicuous) (scalloped pleurites are unique among all the known species of the genus), hind margin shallowly serrated; sternites II-VII entirely covered with deep anastomosing striae, particularly deep and dense near anterolateral corner, hind margin practically smooth.

Body length: 1700 (natural); all measurements in μ .

Head: (Fig. 12). 158 long; 165 (eye), 150 (below eye), 163 (cheek at swell), 153 (cheek at middle constriction), 145 (base) wide; cheek strongly constricted below eye and bulged once at postocular seta level but conspicuously narrowed again at middle, front strongly concave before anterior ocellus but strongly extended forward at base of antenna and a weak mesal ridge formed; ocellar hump moderately elevated, occiput scarcely bulged dorsomesally along hind margin. Eye 95 long, 50 wide, 65 wide between eyes, cheek 80 long, occiput 55 long below eye; ocellar triangle 38 high, 53 wide, ocelli 17-18 across. Chaetotaxy as illustrated, interocellar seta 20 long, postocular seta series: i 13, ii 22, iii minute, iv 28, v 20 long, affinity of postocular seta series with those of *reticulatus* and *gardeniae*, but not with those of *striatus-caribeanus* and *medinai*. Mouth cone 280 long, maxillary palpi rather stout and short (43 long). Antenna (Fig. 14) long and slender, length (width) of segments: 35(38, 33 at tip), 45(30), 85(21), 63(21), 48(20), 63(21), 10(9), 19(7), total 370; shape as illustrated, long and narrow neck of III and fully developed neck of IV conspicuous, forked sense cone rather short, 33 long on III, I with a long seta near inner apical corner of dorsum.

Prothorax: (Fig. 12). 150 long, 190 wide; chaetotaxy as illustrated, outer posteroangle seta fully developed, blackish, somewhat thinner than and about 1/2 as long as inner seta (outer 35, inner 73 long), posteromarginal seta i 31 long, without minor seta between outer and inner posteroangle setae; disc setae sparse, only about 8 pairs (about 20 long) and 2 pairs thicker and longer than the rest.

Pterothorax: (Fig. 13). 300 (laterally, see *caribeanus*), 235 (dorsally) long, 288 wide; mesonotum 85, metanotum I 100, II 50 long, chaetotaxy as illustrated; both spinulae well developed; mesospinula 105 long, metaspinula 80 long and complete; mesofurca 58, metafurca 45 wide; disc setae on both sterna thin, short and light-colored; hind tibia slender, 3 terminal stout setae (longest 25), hind tarsus 90 long. Forewing 1120 long, 65 (middle), 100 (base) wide; setae on both veins regularly spaced, number of setae on costa, forevein, hind vein, scale vein: 34, 26, 17, 7; last seta 90

(costa), 63 (forevein), 75 (hind vein), 50 (scale vein; penultimate 40, disc 38) long.

Abdomen: 1100 long, 325 wide on IV; dorsal setae i minute or nearly so and far apart from each other on tergites I-VIII, sternites without accessory setae; comb on tergite VIII complete, fine, dense, long (about 24 pairs of teeth, 25 long); ovipositor 270 long. Terminal segments VIII 88, IX 88, X 65 long, X dorsal suture 1/2 way up; all major setae on IX-X very thick, accessory marginal setae on IX-X very long but thin (normal for the genus); posteromarginal setae IXi 93, ii 100, iii 130 long, dorsal seta 60 long, thick and straight (normal for the genus); posteromarginal setae Xi-ii both 110 long.

MALE ALLOTYPE: *Color and integument*: As ♀, but different with all tibiae and all tarsi yellow, with antenna II pale grayish brown instead of as dark as I.

Body length: 1200 (natural); all measurements in μ .

Head: 135 long; 143 (eye), 125 (below eye), 130 (cheek at swell), 118 (base) wide; shape as ♀. Eye 80 long, 43 wide, 58 wide between eyes, cheek 70 long, occiput 55 long below eye; ocellar triangle 35 high, 46 wide, ocelli 16-17 across. Chaetotaxy as ♀, interocellar seta 20 long, postocular seta series: i 12, ii 20, iii minute, iv 22, v 12 long. Antenna, length (width) of segments: 25 (34, 25 at tip), 38 (22), 70 (18), 59 (18) 43 (17), 50 (20), 8 (8), 16 (6), total 315; shape as ♀, sense cone on III 30 long. Prothorax: 125 long, 163 wide; chaetotaxy as ♀, posteroangle setae 28 (outer, thick and blackish), 53 (inner) long, posteromarginal seta i 25 long, disc setae 8 pairs and 2 pairs longer and thicker than the rest. Pterothorax: 225 (laterally), 195 (dorsally) long, 210 wide; mesonotum 75, metanotum I 78, II 40 long, chaetotaxy as ♀; mesospinula 75, metaspinula 63 long; mesofurca 65, metafurca 50 wide; hind tarsus 80 long. Forewing 900 long, 48 (middle), 63 (base) wide; number of setae on costa, forevein, hind vein, scale vein: 27, 23, 18, 6; last seta 73 (costa), 63 (forevein), 63 (hind vein), 43 (scale vein; penultimate 33, disc 21) long.

Abdomen: 750 long, 180 wide on IV; glandular area on sternites III-VII transversely oblong, 17-20 long, 33-38 wide; comb on tergite VIII complete, dense, long. Terminal segments (Fig. 16), IX 105 long (laterally, from anterolateral extreme of tergite to posterolateral extreme of sternite), X 48 long (dorsally along mason); chaetotaxy as illustrated, 3 pairs of stout and long setae on IX dorsum, posteromarginal IXi 28, accessory marginal setae i 32, dorsal setae 30 long (normal for the genus); IXii 80 long, thickest of all, its accessory seta thin and short, IXiii 87 long, its accessory seta thin and long; clasper 75 long, somewhat thinner than IXii; without small cuticular projection near IXii (commonly present in *Thrips* and *Taeniothrips*); on tergite X, all setae long but delicate, yellow in color; genitalia 70 long, 55 wide.

Holotype ♀ (USNM Type 70490): Mexico, Morelos, Cuernavaca, road 60 km on Mexico City, no host record, 18 Sep. 1944, N. L. H. Krauss (USNM 45-1651). Allotype ♂ (USNM) and 5 paratype ♀♀ (3 USNM, 2 Sakimura), as holotype.

DISTRIBUTION: Mexico.

C. mecocephalus is well differentiated from its congeners by having non-ridge type striae on occiput, banded forewing, reticulated mesanepimeron, and scalloped pleurites.

Chaetisothrips medinai, new species
(Fig. 11, 17-20)

Chaetisothrips sp. No. 2: Medina 1961: 47.

Chaetisothrips sp. (couplets 5 and 9): Sakimura 1967: 166.

DIAGNOSIS: Yellow body with transverse gray-blotching band completely circumscribing every abdominal segment, and uniformly deep brown forewing and scale make this species distinct from its congeners. Dense and nearly black ridge type striation (Fig. 11a) conspicuous on head and thorax. Further recognizable through fully developed but very short outer prothoracic posteroangle seta, uniform stria-density over entire pronotum, a stria-free area around mesonotal mesal pores, postocular seta iii longer than minute, and ridge type dense striae on tergite II with anastomosing wrinkle type striae on IV.

FEMALE HOLOTYPE: *Color*: Light grayish yellow body with head (except pale front) and prothorax darker gray, tergites IX-X yellower than basal tergites, anterior halves of all abdominal segments (circumscribing through tergite, laterotergite, pleurite, and sternite) gray-washed. Legs uniformly light brownish yellow. Antenna deep grayish brown with both basal and apical quarters of III-IV and basal 1/3 of V decidedly pale. Forewing and scale uniformly deep brown. Ocellar crescent presumably red; major setae black on wing and tergites IX-X, yellow on legs, dark brown elsewhere.

Integument: Nearly black, fine, dense, and non-anastomosing but cut-short ridge type striation (Fig. 11a) conspicuous on head, thorax, and some of tergites. Head (Fig. 17), occiput with freely anastomosing wrinkle type striae (Fig. 11b) on posterior 2/3 area but with dense ridge type striae elsewhere (about 10 to 12 lines all together below eye; sharp thin ridges on profile of cheek only near eye); ocellar hump and front with dense ridge type striae (about 2.0 μ apart). Antenna I-II with regular striae, III-VI with shallow rings, weakly wavy in profile, microtrichia on II short but those on III-VI long, nearly black, conspicuous. Prothorax (Fig. 17) entirely covered with dense ridge type striae (uniformly about 2.0 μ apart), premarginal bulge weak and premarginal trough shallow. Mesonotum (Fig. 18) covered with dense ridge type striae except around mesal pores (about 2.0 μ apart), somewhat less dense in posterior 1/3 area. Metanotum (Fig. 18) entirely covered with dense ridge type striae (somewhat denser than those on mesonotum), transverse anteromesally, longitudinal and somewhat looped posteromesally, diagonal laterad. Mesanepimeron (Fig. 20) densely covered with ridge type striae. Abdomen, tergites I-VIII covered with striae at side area only, I-II with nearly-black dense ridge type striae, but III-VIII with inconspicuous shallow anastomosing regular wrinkle type striae (about 19 lines diagonally across tergite II but about 8 lines across IV), a single line each of long and coarse microtrichia before dorsal seta ii on III-VIII, few other short microtrichia on some anastomosing striae locally near hind margin of all tergites, hind margin of all tergites lined with microtrichia at side; laterotergites II-VII with diagonal striae lined with short and scattered microtrichia, hind margin lined with microtrichia; pleurites III-VII with shallow longitudinal striae, hind margin irregularly notched; sternites II-VII entirely covered with shallow anastomosing striae, hind margin smooth.

Body length: 1450 long (natural); all measurements in μ .

Head: (Fig. 17). 105 long; 145 (eye), 130 (below eye), 143 (cheek), 125 (base) wide; strongly constricted below eye and bulged out on cheek, front strongly concave before anterior ocellus but extended forward at base of antenna forming a short mesal ridge, ocellar hump strongly elevated, occiput strongly bulged dorsomesally along hind margin. Eye 70 long, 43 wide, 60 wide between eyes, cheek 53 long, occiput 38 long below eye; ocellar triangle 35 high, 50 wide, ocelli 20-22 across. Chaetotaxy as illustrated, interocellar seta 15 long, postocular seta series: i 15, ii 12, iii 12, iv 12, v 8 long. Mouth cone 225 long, maxillary palpi 43 long. Antenna (Fig. 19), length (width) of segments: 25(28, 25 at tip), 38(26), 63(18), 55(18), 38(15), 50(18), 7(8), 12(5), total 300 (I-II of holotype ill-oriented, measurements on a paratype are given here); shape as illustrated, forked sense cone on III slender and 40 long, I with a long and dark-colored seta near inner apical corner of dorsum (some variation prevails in difference of length from adjacent setae).

Prothorax: (Fig. 17). 120 long, 166 wide; chaetotaxy as illustrated, outer posteroangle seta fully developed, nearly black, nearly as thick as and not 1/2 as long as inner seta (outer 22, inner 55 long), posteromarginal seta i 22 long; about 15 pairs of disc setae and 2 pairs longer and thicker than the rest.

Pterothorax: (Fig. 18). 235 (laterally, see *caribeanus*), 185 (dorsally) long, 245 wide; mesonotum 73, metanotum I 75, II 35 long, chaetotaxy as illustrated; both spinulae well developed and metaspina complete, both 75 long, both furcae 50-60 wide; disc setae on both sterna thin, short, yellowish; hind tibia slender, with 3 terminal stout setae (longest 20), hind tarsus 75 long. Forewing 780 long, 50 (middle), 73 (base) wide; setae on both veins regularly spaced, number of setae on costa, forevein, hind vein, scale vein: 30, 22, 10, 6; last seta 55 (costa), 43 (forevein), 50 (hind vein), 45 (scale vein; penultimate 30, disc 28) long.

Abdomen: 950 long, 260 wide on IV; dorsal seta i minute or nearly so and far apart from each other on tergites I-VIII, sternites without accessory setae; comb on tergite VIII complete, fine, long (about 19 pairs of teeth, 18 long); ovipositor 250 long. Terminal segments VIII 75, IX 88, X 58 long, X dorsal suture 1/3 way up; posteromarginal setae IXi 80, ii 90, iii 90 long, dorsal seta 40 long, rather thin but straight (normal for the genus); posteromarginal setae Xi 95, ii 90 long, accessory marginal setae on IX-X thin but very long (normal for the genus).

Holotype ♀ (USNM Type 70492): Puerto Rico, Arecibo, Cambalache Insular Forest, *Chiococca alba* (L.) Hitch. flowers, 27 Jan. 1959, G. Rivera and S. Medina (53-59); 4 paratype ♀♀ (1 USNM, 2 UPRAES, 1 Sakimura), as holotype.

DISTRIBUTION: Puerto Rico.

C. medinai is distinct by its color of abdomen, forewing, and scale. The nearest species in coloration is *gardeniae* which has, however, a single mesal gray blotching from head to abdominal tip, and basal 1/4 of forewing as well as scale is partly clear. Furthermore, *medinai* is separable from its congeners as follows: from *gardeniae* which has practically indiscernible striae on tergite II; from *reticulatus* which has wrinkle type striae on tergite II; from *mecocephalus* which has varying stria-density over

pronotum and extensive wrinkle type striae over the entire occiput; from *striatus* and *caribeanus* which has uniform stria-density over the entire mesonotum.

This species is named after Silverio Medina Gaud in honor of his contribution in the first monographic study of the Thysanoptera of Puerto Rico.

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