



Illustrated key to the species in the genus *Sephina* (Hemiptera: Heteroptera: Coreidae: Coreinae: Spartocerini), with descriptions of three new species and new distributional records

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Abstract

Three new species of *Sephina* Amyot and Serville 1843, are described: *S. crassa* from Ecuador, *S. effrena* from Colombia and *S. ornata* from Panama. A key to the 27 known species and photographs of the dorsal habitus are included. Also included are photographs of the male genital capsule of *S. vinula* Stål 1862, and parameres of *S. indierae* Wolcott 1924 and *S. vinula*. New distributional records for *S. dorsalis* (White 1842), *S. esquivelae* Brailovsky & Sánchez 1983, *S. faceta* Brailovsky 2001, *S. formosa* (Dallas 1852), *S. geniculata* Distant 1881, *S. limbata* Stål 1862, *S. nigripes* Schmidt 1907, *S. pagella* Brailovsky & Sánchez 1983, *S. pubera* (Erichson 1848), *S. pustulata* (Fabricius 1803), *S. rogersi* Distant 1881, *S. subulata* Brailovsky & Sánchez 1983, and *S. vinula* are included. *Sephina excellens* Schmidt, 1907 is synonymized under *S. pubera* (Erichson 1848). The synonymy of *Sephina grayi* Van Duzee, 1909 under *S. gundlachi* (Guérin-Méneville 1857) is here corroborated.

Key words: Heteroptera, Coreidae, Spartocerini, *Sephina*, taxonomy, new species, new synonym, key

Introduction

The genus *Sephina* Amyot and Serville 1843, in terms of species numbers, is the most diverse and complex taxon of Spartocerini in the Western Hemisphere. Previously, it included 24 species widely distributed throughout the Neotropical Region, including California and Florida in the United States, which is considered to be Nearctic rather than Neotropical, México, Greater Antilles, Central America, and South America except Chile (Packauskas 2010, Fernandes *et al.* 2015, CoreoideaSF Team 2020).

Sephina is characterized by having the head quadrate to rectangular and declivent; the antenniferous tubercles prominent, narrowly separated from one another, unarmed and projected above and beyond the deflexed tylus and juga; antennal segments stout and short; postocular tubercle absent; ocellar tubercle large, protuberant, or slightly raised; ocelli placed between eyes; anterior border of each ocellus on an imaginary line reaching the posterior border of each eye, or reaching the middle third of each eye, or are placed far from the posterior border of each eye; interocellar distance longer than distance between ocellus and eye; rostrum short, reaching posterior border of mesosternum; anterior pronotal lobe steeply declivent, mesally split, forming two obtusely subconical humps, moderately to conspicuously prominent; in lateral view the humps are slightly or conspicuously raised (Figs. 1–4); humeral angles rounded, obtuse and not exposed (Figs. 5–7, 12, 17, 20–25, 28–33), or prominent and abruptly produced into robust spine directed laterally and acute (Figs. 10–11), or humeral angles gradually expanded into short spine slightly directed backward (Figs. 9, 15–16, 26–27, 34); posterior margin of metasternum straight; distance between metacoxae equal to distance from coxae to lateral margins of metapleura; femora and tibiae unarmed; macropterous; hemelytral membrane with numerous bifurcate veins, not anastomosing; abdomen not expanded laterally; connexivum unarmed; trichobothria of the third abdominal sternite located before the spiracle; inner laterotergites of the connexivum fused; male genital capsule with the cup bulging ventrally (cup-like) and posteroventral border in caudal view, thickest, slightly concave to straight (Figs. 37–38); parameres symmetrical, sclerotized, elongate,



FIGURES 1–4. Pronotal disc in lateral view of *Sephina* spp. 1, *S. effrena* **sp. nov.** 2, *S. pustulata* (Fabricius). 3, *S. gundlachi* (Guérin-Méneville). 4, *S. nigripes* Schmidt.

apically curved, resembling a short hook (Figs. 39–46). It includes medium to large-sized bugs (16.00 to 28.00 mm); with shiny black ground color, mixed with red, yellow, or orange. Integument. Dorsal surface of body with head, pronotal disc, scutellar disc, clavus and corium densely clothed with elongate, erect, and conspicuous golden or silver setae, or dorsally sparsely clothed with short decumbent setae, intermixed with few erect golden or silver setae, or head and pronotal disc densely clothed with elongate, erect setae and scutellum, clavus and corium sparsely clothed with decumbent setae.

Recently, Da Silva *et al.* (2020) developed a cladistic analysis of the tribe Spartocerini Amyot and Serville 1843.

In this contribution, three new species are described, and notes on several other species are given. A key to the 27 known species is provided. Photographs of each species, and parameres of a couple taxa are illustrated. New distribution records are also provided for the following species: *S. dorsalis* (White), *S. esquivelae* Brailovsky and Sánchez, *S. faceta* Brailovsky, *S. formosa* (Dallas), *S. geniculata* Distant, *S. limbata* Stål, *S. nigripes* Schmidt, *S. pagella* Brailovsky and Sánchez, *S. pubera* (Erichson), *S. pustulata* (Fabricius), *S. rogersi* Distant, *S. subulata* Brailovsky and Sánchez, and *S. vinula* Stål. *Sephina excellens* Schmidt, 1907 is synonymized under *S. pubera* (Erichson, 1848). *Sephina grayi* Van Duzee, 1909 synonymized by Baranowski and Slater 1986, under *S. gundlachi* (Guérin-Méneville, 1857) is here corroborated, based on the chromatic variation of the body, the external morphology, the dorsal and ventral pubescence, and shape of male genital capsule.

Material and methods

The following abbreviations are used for the institutions cited herein: American Museum of Natural History, New York, USA (AMNH); California Academy of Sciences, San Francisco, California, USA (CASC); Colección de Insectos, Universidad de Morelos, Cuernavaca, Morelos, México (CIUM); California State Collection of Arthropods, Sacramento, California, USA (CSCA); Universidad de Guadalajara, Centro de Estudios en Zoología, Zapopan, Jalisco, México (CUCBA); Florida State Collection of Arthropods, Gainesville, Florida, USA (FSCA); Colección Entomológica del Instituto de Ecología, A. C., Xalapa, Veracruz, México (IEXA); Instituto Nacional de Biodiversidad, Santo Domingo, Heredia, Costa Rica (INBIO); Instituto Nacional de Pesquisas da Amazonia, Manaus, Amazonas, Brazil (INPA); Natural History Museum of Los Angeles County, Los Angeles, California, USA (LACM); Museo Entomológico, León, León Department, Nicaragua (MELN); Museum National D' Histoire Naturelle, Paris, France (MHNP); Museo de Invertebrados “Graham Bell Fairchild”. Universidad de Panama, Panama, Panama Province (MIUP); Museum & Institute of Zoology of the Polish Academy of Sciences, Warsaw, Poland (MIZ); Museu de Zoologia da Universidade de Sao Paulo, São Paulo, Brazil (MZUS); Pontificia Universidad Católica del Ecuador, Quito, Ecuador (PUCE); Nationaal Natuurhistorische Museum, Leiden, The Netherlands (RMNH); Texas A & M University, College Station, USA (TAMU); University of California, Berkeley, Division of Entomology and Parasitology, California, USA (UCB); University of Georgia, Athens, Georgia, USA (UGAG); University of Missouri, Wilbur R. Enns Entomological Museum, Columbia, Missouri, USA (UMRM); Instituto de Biología, Universidad Nacional Autónoma de México, México City, México (UNAM); Universidad Nacional de Colombia, Bogotá, Colombia (UNDC); Smithsonian Institution, National Museum of Natural History, Washington D. C., USA (USNM); Zoologisches Institut und Museum, Universität of Hamburg, Germany (ZIZM).

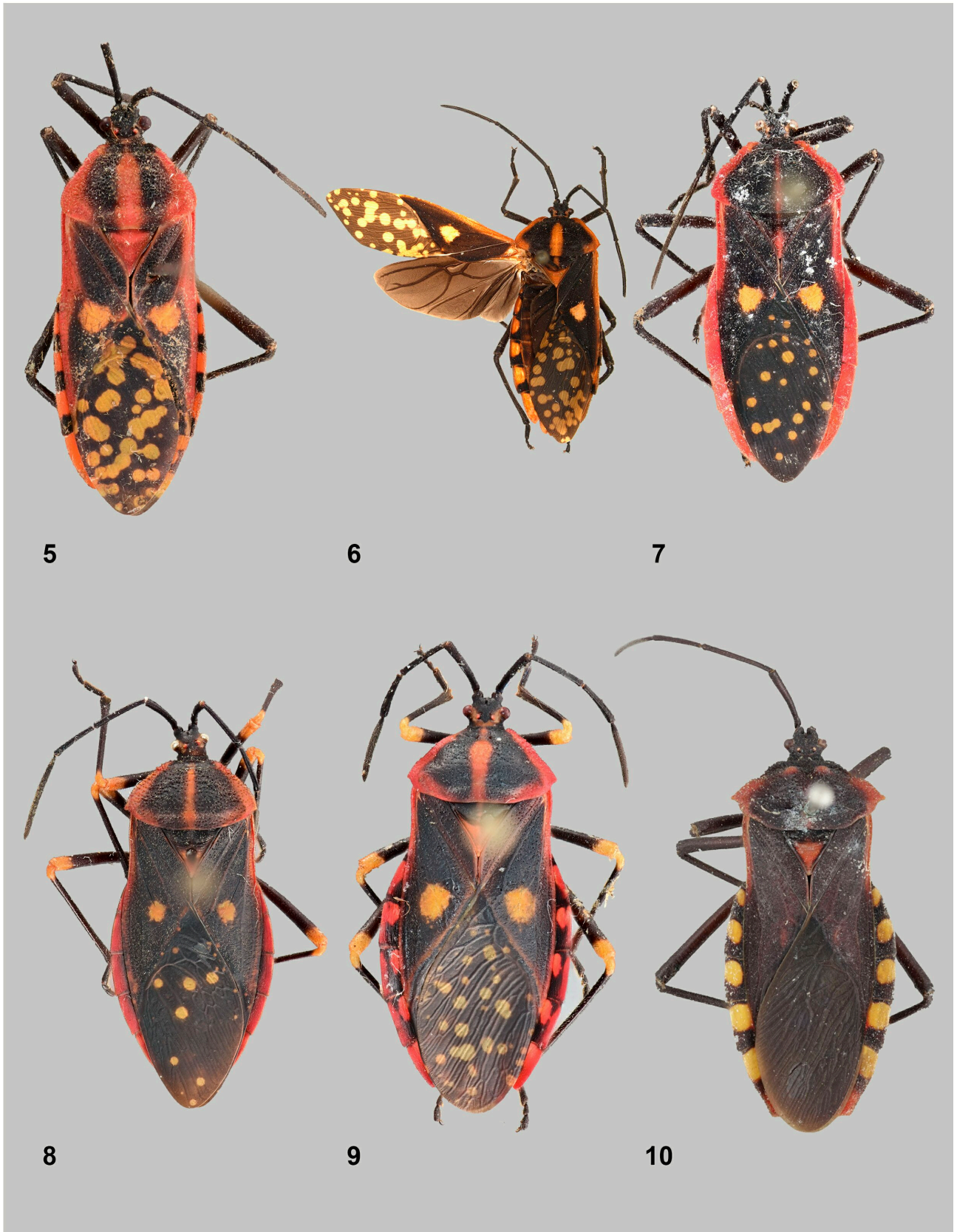
We studied the external morphology and genital structures under a stereoscopic microscope (model Zeiss Stereo Discovery 8). The measurements are in millimeters (mm) and were obtained using an eyepiece micrometer. Pictures were taken with a Nikon D200 camera. To remove soft tissues, the male genitalia were macerated in hot 10% solution of potassium hydroxide for 5 minutes, rinsed in distilled water, and dissected under stereoscopic microscope Leica MX8. The structures were preserved in microvials with glycerin.

Key to the known species of *Sephina*

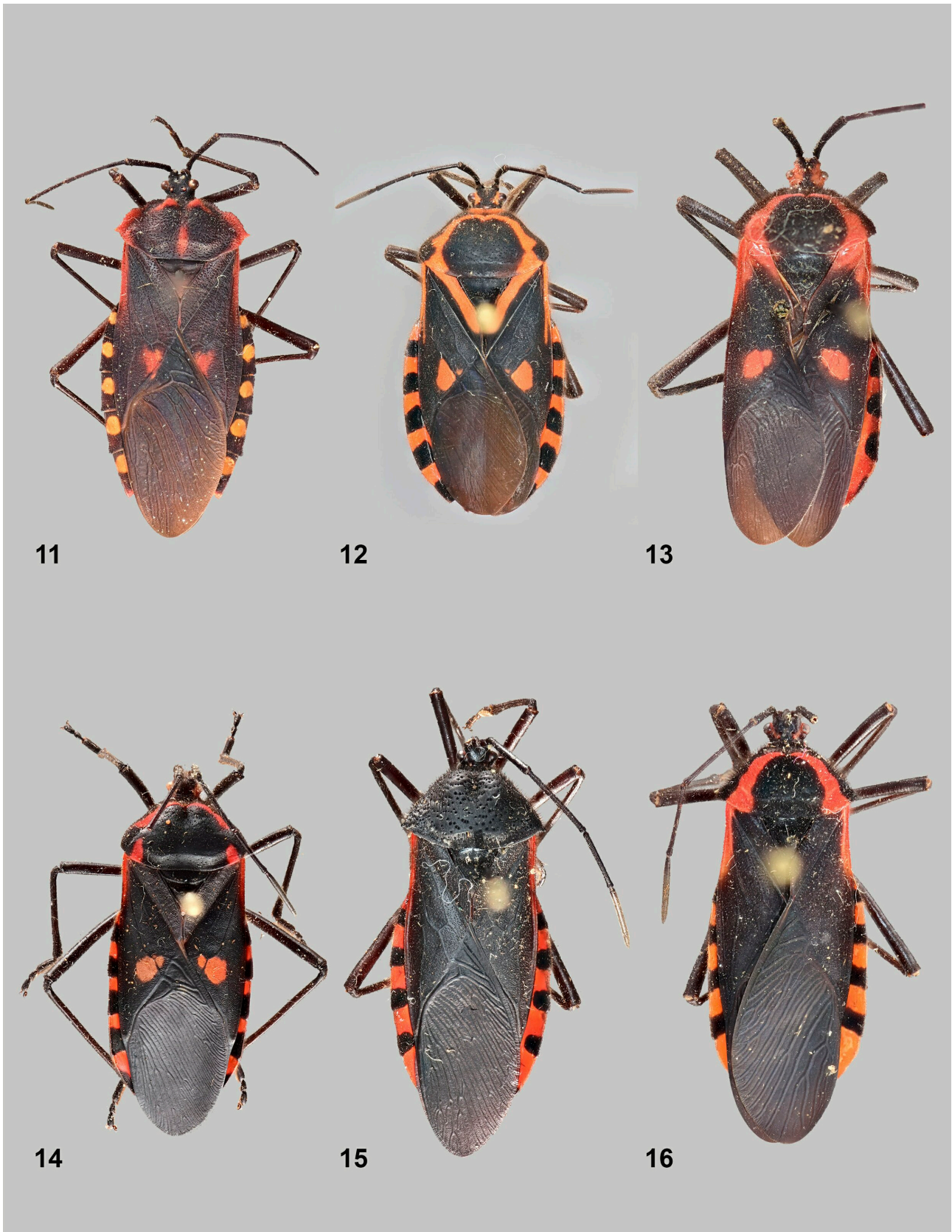
1. Hemelytral membrane black or dark brown, scattered with yellow irregular discoidal spots; anterior pronotal lobe, sloping, mesally simple, without subconical humps or subacute tubercles (Fig. 4) 2
- Hemelytral membrane entirely black or dark brown; anterior pronotal lobe sloping, mesally split, forming two obtuse subconical humps or bituberculate, with two subacute expansions (Figs. 1–3) 5

2.	Femora black with apical third yellow; tibiae black with basal third yellow; humeral angles subacute	3
-	Femora and tibiae entirely black to brownish with apex much darker; humeral angles rounded, not exposed	4
3.	Endocorium with a small yellow discoidal spot; margins of abdominal sterna III–VII entirely shiny red; upper margin of connexival segments III–VII shiny red, inner margin black; antennal segment IV longer than 4.30 mm., in each sex; anterior border of ocellus on an imaginary line extending to middle of eye; anterolateral border of pronotal disc clearly serrate at the anterior half (Fig. 8)	<i>S. faceta</i> Brailovsky
-	Endocorium with a large yellow discoidal spot; margins of abdominal sterna III–VIII bicolorous; connexival segments III–VIII bicolorous; antennal segment IV shorter than 3.60 mm in each sex; anterior border of ocellus on an imaginary line extending to posterior border of eye; anterolateral border of pronotal disc finely serrate at the anterior half (Fig. 9)	<i>S. geniculata</i> Distant
4.	Midline of corium with a yellow quadrate or semidiscoidal spot; connexival segments and pleural margins of abdominal sterna III–VI unicolorous, shiny orange; body sized longer than 21.00 mm; antennal segment IV longer than 5.30 mm; anterolateral margins of pronotal disc clearly emarginated, with anterior half serrate (Figs. 4, 6–7)	<i>S. nigripes</i> Schmidt
-	Midline of corium with a large yellow spot; connexival segments III–VI and pleural margins of abdominal sterna III–VI bicolorous, shiny orange with posterior third black; body sized less than 20.00 mm; antennal segment IV shorter than 4.60 mm.; anterolateral margins of pronotal disc non emarginated, with anterior half finely serrate (Fig. 5)	<i>S. talamancana</i> Brailovsky
5.	Head dorsally orange or shiny red	6
-	Head dorsally black or only with the interocellar space and the space between ocelli and eye orange or shiny red	10
6.	Anterior border of ocellus on an imaginary line far from the posterior border of eye	7
-	Anterior border of ocellus on an imaginary line touching the posterior border of eye	9
7.	Clavus entirely black; connexival segment VII and pleural margins of abdominal sternite VII shiny orange; humps of anterior pronotal lobe in lateral view semiglobose, slightly raised (Fig. 19)	<i>S. ayalai</i> Brailovsky
-	Clavus bicolorous; connexival segment VII and pleural margins of abdominal sternite VII bicolorous, shiny orange with posterior margin black; humps of anterior pronotal lobe hemispheric, slightly raised	8
8.	Corium black with one or two medium-sized discoidal spots red to yellowish orange; humps of anterior pronotal lobe slightly convex, not globose (Fig. 13)	<i>S. erythromelaena</i> (White) (in part)
-	Corium shiny red to orange, with apical angle and wide discoidal spot near midline black; humps of anterior pronotal lobe convex, scarcely raised (Fig. 31)	<i>S. indierae</i> Wolcott
9.	Anterior lobe of pronotal disc in lateral view with two large and remarkable globose to mamiliform humps on each side of midline; posterior margin of pronotal disc shiny orange; connexival segments III–VI shiny orange to red; pleural margins of abdominal sterna III–VI shiny orange (Figs. 1, 32–33) (Colombia)	<i>S. effrena</i> sp. nov. (in part)
-	Anterior lobe of pronotal disc in lateral view with two convex humps slightly raised; connexival segments III–VI and pleural margins of abdominal sterna III–VI bicolorous, shiny orange with posterior third black; posterior margin of pronotal disc black (Figs. 30–31)	<i>S. pubera</i> (Erichson) (= <i>S. excellens</i> Schmidt)
10.	Humeral angles prominent, abruptly exposed, with short and acute lateral spine (Figs. 4, 32); anterior pronotal lobe with two triangular expansions conspicuously raised in lateral view and placed at each side of midline	11
-	Humeral angles gradually expanded into short spine, slightly directed backward (Figs. 15–16) or humeral angles rounded, obtuse and not expanded (Figs. 12, 17); anterior pronotal disk sloping, mesally split, forming two obtusely, hemispheric humps	12
11.	Corium black without red or yellow discoidal spot; general shape of humeri triangular (Fig. 10)	<i>S. bicornis</i> Distant
-	Corium black with one reddish or yellowish discoidal spot; general shape of humeri quadrate (Figs. 2, 11)	<i>S. pustulata</i> (Fabricius)
12.	Humeral angles gradually expanded into short spine, directed outward or slightly backward (Figs. 15–16); humps of anterior pronotal lobe in lateral view slightly or conspicuously exposed	13
-	Humeral angles rounded, obtuse, not exposed (Figs. 12, 17); humps of anterior pronotal lobe in lateral view not conspicuously exposed	14
13.	Pronotal disc entirely black; (Fig. 15); humps of anterior pronotal lobe in lateral view remarkably protuberant, raised; head ventrally black	<i>S. sulcaticollis</i> Schmidt
-	Pronotal disc bicolorous; humps of anterior pronotal disc in lateral view hemispheric, not conspicuously protuberant; head ventrally shiny orange (Fig. 16)	<i>S. rogersi</i> Distant
14.	Ground color of corium mostly black	15
-	Ground color of corium mostly yellow, shiny orange or shiny red, with or without black areas	21
15.	Anterior border of ocellus on an imaginary line extending far from the posterior border of eye	16
-	Anterior border of ocellus on an imaginary line reaching posterior border of eye	17
16.	Connexival segments III–VII and pleural margins of abdominal sterna III–VII reddish to orange; corium black without yellowish orange discoidal spot; humps of anterior pronotal lobe in lateral view convex, raised; acetabulae black (Fig. 17)	<i>S. limbata</i> Stål
-	Connexival segments III–VII and pleural margins of abdominal sterna III–VII bicolorous, anterior half reddish orange, posterior half black; corium black with one or two reddish or yellowish orange discoidal spots; humps of anterior pronotal lobe in lateral view slightly convex, non globose or exposed; acetabulae reddish orange (Fig. 13)	<i>S. erythromelaena</i> (White)
17.	Upper margin of connexival segments III–VII black; pleural margins of abdominal sterna V–VII black; sternite III shiny orange with posterior half black and IV black with anterior third shiny orange; humps of anterior pronotal lobe raised, hemispheric, exposed (Fig. 20)	<i>S. pagella</i> Brailovsky & Sánchez

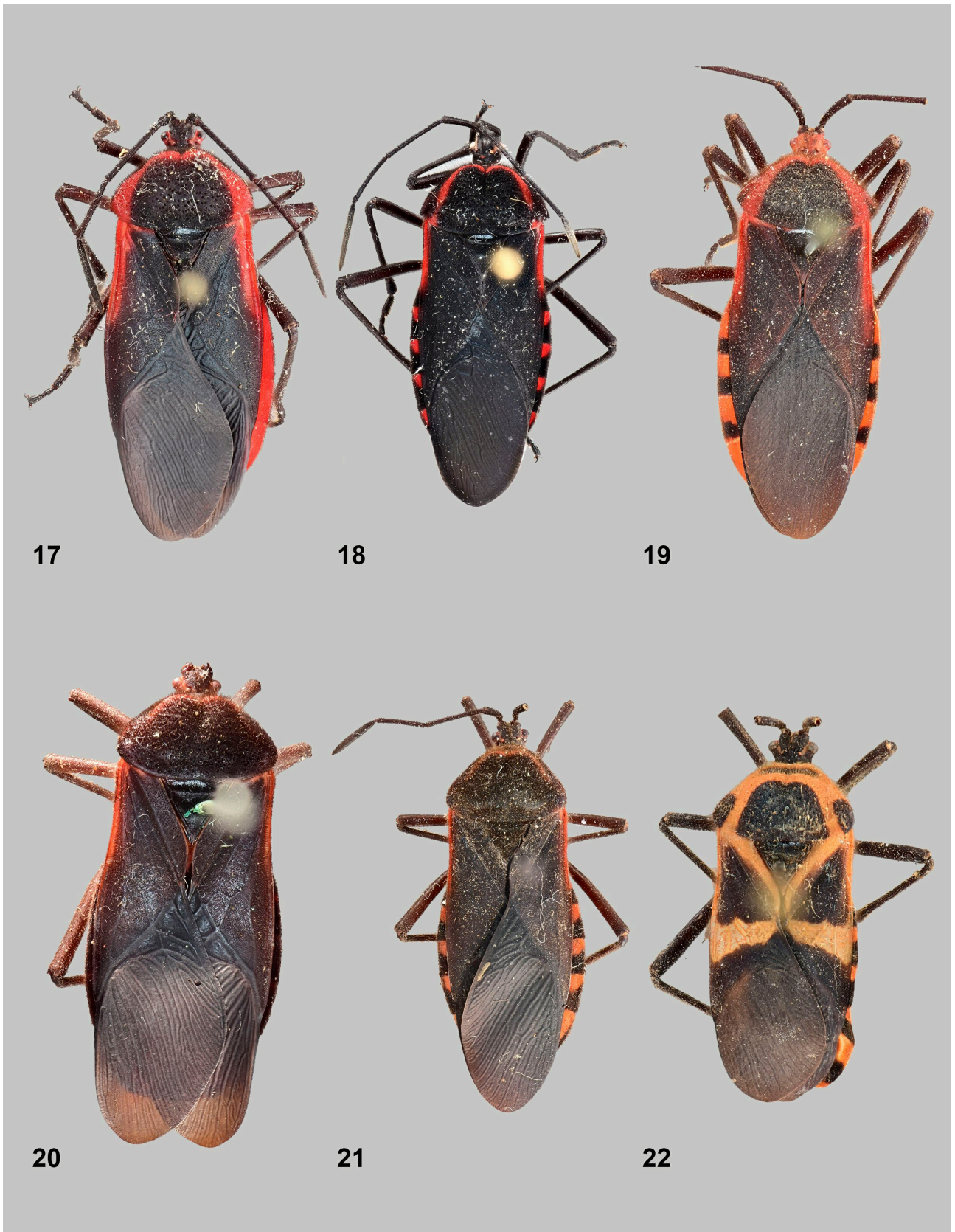
- Connexival segments III–VII and pleural margins of abdominal sterna III–VII shiny orange; humps of anterior pronotal lobe insinuate or hemispheric, and slightly exposed 18
- 18. Corium black, without red to yellow discoidal spot 19
- Corium black with one or two fused reddish or yellowish discoidal spot 20
- 19. Pronotal disc black with shiny red semicircular fascia, which arms reaching the posterolateral borders of pronotum; buccula black to dark reddish brown (Fig. 18) *S. esquivelae* Brailovsky & Sánchez
- Pronotal disc black with shiny red semicircular fascia which arms are truncate, not reaching the posterolateral borders of pronotum; buccula reddish to orange (Fig. 21) *S. subulata* Brailovsky & Sánchez
- 20. Clavus shiny orange, except claval commissure and claval margin black; collar orange; dorsal surface clothed with short, semidecumbent golden setae; humps of anterior pronotal lobe insinuate; body shorter than 20.30 mm (Fig. 12) *S. quintanarooana* Brailovsky
- Clavus black; collar black; basal angle of corium black; dorsal surface densely clothed with erect golden setae; humps of anterior pronotal lobe hemispheric, fairly exposed; body longer than 22.50 m (Fig. 14) *S. ornata* **sp. nov.**
- 21. Connexival segments III–VI and sides of abdominal sterna shiny orange; humps of anterior pronotal lobe in lateral view conspicuously protuberant, globose, mamiliform (Figs. 1, 32–33) *S. effrena* **sp. nov.** (in part)
- Connexival segments III–VI and sides of abdominal sterna bicolorous, alternating yellow and black patches; humps of anterior pronotal lobe in lateral view not conspicuously protuberant, exposed or slightly raised and not exposed 22
- 22. Corium entirely yellow to pale orange 23
- Corium not entirely yellow to pale orange 25
- 23. Anterolateral margins of pronotum almost entirely yellow with only the border of humeral angles black; collar yellow; pronotal disc with pale yellow to yellowish-white erect setae; clavus entirely yellow; rim of abdominal spiracle yellow 24
- Anterolateral margins of pronotum black or alternating black and yellowish to orange patches; collar black; pronotal disc with black erect setae; clavus yellow with claval commissure black; rim of abdominal spiracle black (Figs. 26–27) *S. formosa* (Dallas) (in part)
- 24. Meso- and metapleura shiny black, with acetabulae and posterior margin yellow; anterior lobe of metathoracic peritreme black; abdominal sternite VII almost shiny black (Figs. 3, 22–24) *S. gundlachi* (Guérin-Méneville) (in part)
- Meso- and metapleura mostly pale yellowish orange; anterior lobe of metathoracic peritreme yellowish orange; abdominal sternite VII yellowish orange (Fig. 25) *S. dorsalis* (White)
- 25. Scutellum black, with a yellow longitudinal stripe across midline; corium with broad yellow transverse stripe across midline and reaching the costal border; apical angle of corium yellow (Fig. 35) *S. miniacea* (Blanchard)
- Scutellum black or with only apex dark castaneous; corium with or without a narrow yellowish transverse stripe across midline, or corium yellow with a broad black transverse stripe across midline reaching the costal border or corium yellow with apical third and endocorium with a very, large, black, ovoid spot 26
- 26. Clavus entirely yellow; corium yellow with apical third and endocorium with a large black, ovoid spot (Figs. 3, 22–24) *S. gundlachi* (Guérin-Méneville) (in part)
- Clavus never entirely yellow usually with claval commissure black; corium with a different coloration 27
- 27. Anterolateral margins of pronotum yellow, with humeral angles black; clavus yellow with claval suture black; claval commissure yellow; corium black with a narrow yellow transverse stripe near the midline, reaching the costal border and extending along the costal border to basal angle, or corium yellow with a very large black ovoid spot at endocorium; posterior margin of corium, including the apical angle, black (Figs. 3, 22–24) *S. gundlachi* (Guérin-Méneville) (in part)
- Anterolateral margins of pronotum mostly black; humeral angles black; clavus black or yellow, with inner margin near scutellum black; claval commissure black; corium with different coloration 28
- 28. Propleuron yellow with two relatively small black discoidal spots; corium with apical angle, apical margin, basal third and narrow stripe near claval suture yellow, with a large, wide, black spot covering endocorium and exocorium (Fig. 36) *S. crassa* **sp. nov.**
- Propleuron yellow or orange, with a broad, black, longitudinal stripe; corium with a different coloration; apical angle of corium yellow, orange or black 29
- 29. Apical angle of corium black; collar orange; corium black with a wide nearly circular orange spot at midline, extending anteriorly along costal margin, to basal angle; dorsal surface clothed with short, erect setae; medium-sized species, less than 16. 50 mm long (Fig. 34) *S. maculata* (Dallas)
- Apical angle of corium yellow; collar black or yellow; corium colored differently; dorsal surface clothed with long, erect setae; large species longer than 18.00 mm 30
- 30. Corium yellow with a wide, black, transverse stripe reaching costal border and extending anteriorly along costal margin to the basal angle; pronotal disc black, with a shiny orange to yellowish semicircular fascia with arms shorter, truncated and not reaching the posterolateral borders of pronotum; humeral angles subacute; head dorsally and pronotal disc densely clothed with long erect, black, setae (Figs. 26–27) *S. formosa* (Dallas) (in part)
- Corium yellow, with an elongate, black, irregular longitudinal stripe at middle third of exocorium and extending anteriorly along costal margin to reach basal angle; pronotal disc black, with a dull yellow semicircular fascia which arms reaching the posterolateral borders of pronotum; humeral angles obtuse, rounded; head dorsally and pronotal disc clothed with short and sparsely golden setae (Fig. 28) *S. vinula* Stål



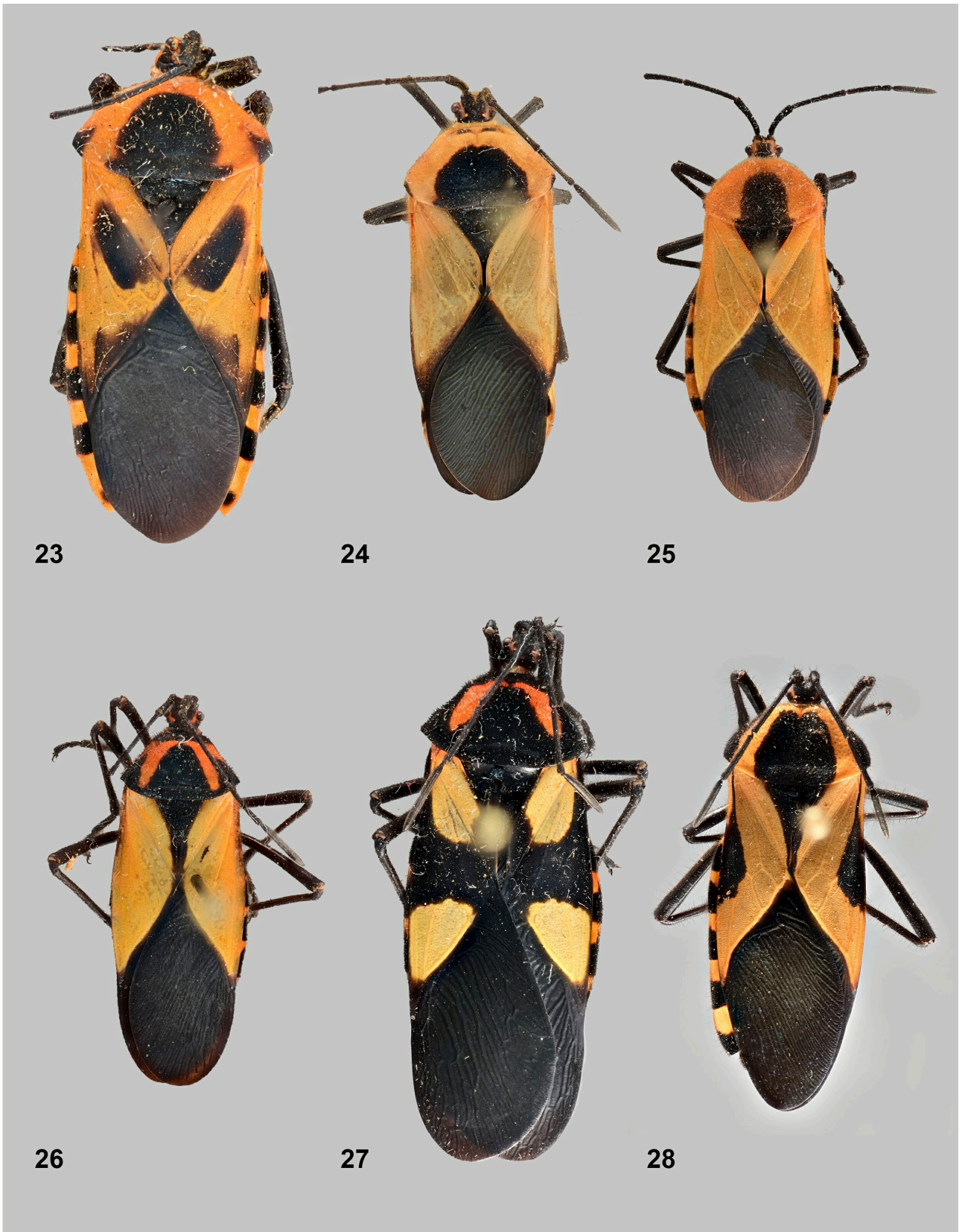
FIGURES 5–10. Dorsal view of *Sephina* spp. 5, *S. talamancana* Brailovsky (male). 6, *S. nigripes* Schmidt (female type). 7, *S. nigripes* Schmidt (male). 8, *S. faceta* Brailovsky (female). 9, *S. geniculata* Distant (female). 10, *S. bicornis* Distant (male holotype).



FIGURES 11–16. Dorsal view of *Sephina* spp. 11, *S. pustulata* (Fabricius) (female). 12, *S. quintanarooana* Brailovsky (female). 13, *S. erythromelaena* (White) (male). 14, *S. ornata* **sp. nov.** (female). 15, *S. sulcaticollis* Schmidt (male). 16, *S. rogersi* Distant (male).



FIGURES 17–22. Dorsal view of *Sephina* spp. 17, *S. limbata* Stål (male). 18, *S. esquivelae* Brailovsky & Sánchez (male). 19, *S. ayalai* Brailovsky (male). 20, *S. pagella* Brailovsky & Sánchez (male). 21, *S. subulata* Brailovsky & Sánchez (male). 22, *S. gundlachi* (Guérin-Méneville) (male).



FIGURES 23–28. Dorsal view of *Sephina* spp. 23, *S. grayi* Van Duzee (female) (synonym of *S. gundlachi*). 24, *S. grayi* Van Duzee (female) (synonym of *S. gundlachi*). 25, *S. dorsalis* (White) (female). 26, *S. formosa* (Dallas) (female). 27, *S. formosa* (Dallas) (male). 28, *S. vinula* Stål (female).

Sephina crassa, sp. nov.

(Figs. 36, 41–42)

Type locality. Ecuador, Guayaquil.

Description. Holotype male. Dorsal coloration. Head black, tinged with pale yellowish orange on each side near eyes, including the postocular surface; tylus yellowish orange, apically black; ocelli pale reddish; antennal segments I–IV dark brown; pronotal disc including anterior margin, collar, anterolateral margins and humeral angles black, with following areas yellow: calli and relatively wide arched fringe, running from the raised areas of the anterior third of disc to the posterolateral borders; scutellum black with apex dark yellow; clavus yellow with claval commissure and inner margin close to scutellum black; corium black with anterior third near clavus, apical margin and apical angle yellow; costal margin black except the yellow apical third; hemelytral membrane dark brown; connexival segments III–VI bicolorous, yellow with posterior third black; VII yellow with inner margin black; dorsal abdominal segments III–V pale yellow, VI pale yellow with two dark brown spots at each side of posterior margin, and VII dark brown to black with posterior margin yellow. **Ventral coloration.** Head including the buccula yellow; rostral segments I–IV black; pro-, meso-, and metasternum, and acetabulae yellow; propleuron yellow with two black discoidal spots; mesopleuron yellow with anterior margin and two black discoidal or irregular spots; metapleuron yellow with two irregular black spots, one is covering the evaporative surface; anterior lobe of metathoracic peritreme black, posterior lobe yellow; coxae and trochanters pale castaneous orange; femora pale castaneous orange with apical third dark reddish; tibiae dark castaneous orange with basal joint dark reddish; tarsi dark castaneous orange; abdominal sterna yellow with dark brown to black irregular spots on each side of midline; rim of abdominal spiracles black; pleural margins III–VI yellow with posterior third black, VII yellow with inner margin black; genital capsule black with posteroventral edge dark castaneous orange. **Structure.** Body medium size, robust, with greatest width across abdominal segments IV–V. **Head.** Ocellar tubercle slightly raised, not protuberant; anterior margin of each ocellus just reaching the posterior border of each eye; rostrum reaching the posterior border of mesosternum; rostral segment I stouter, almost reaching the anterior border of prosternum. **Thorax.** Pronotum campanuliform, punctate, with punctures scattered and shallow; anterior third of pronotal disc sloping and medially split forming two small humps or tubercles; in lateral view the humps are not conspicuously raised; humeral angles rounded, obtuse, not exposed (Fig. 36); posterior border of metapleuron slightly convex. **Genitalia.** Parameres. Elongate, apically with short, and thin hook (Figs. 41–42). **Integument.** Dorsal surface with head, pronotal disc, scutellar disc, clavus and corium densely clothed with elongate, erect and conspicuous, silver setae; antennal segments I–III thickly, with rather long, silvery, erect setae, IV with short depressed setae.

Female. Habitus and color are similar to male holotype. Humeral angles of pronotum slightly subacute; connexival segments VIII–IX with anterior half and upper margin of posterior half yellow and posterior half black to dark brown; dorsal abdominal segments VIII–IX dark brown to black with upper margin yellow; valvulae VIII black with outer border yellow; laterotergite VIII yellow with the rim of abdominal spiracle and an apical discoidal spot near posterior third dark brown; laterotergite IX yellow.

Measurements. Male. Body length 17.90; head length 1.36; head width across eyes 1.98; interocular distance 1.11; interocellar distance 0.59; length antennal segments I 2.66, II 2.97, III 2.23, IV 3.12; pronotum total length 3.72, maximum width across humeral angles 6.01; scutellum length 2.17, width 2.23.

Female. Body length 19.82; head length 1.42; head width across eyes 2.07; interocular distance 1.13; interocellar distance 0.62; length antennal segments I 2.60, II 3.02, III 2.48, IV 3.16; pronotum total length 3.78, maximum width across humeral angles 6.94; scutellum length 2.17, width 2.51.

Type material. HOLOTYPE male: **ECUADOR: Guayaquil**, 6-VII-1905, F. von Buchwald (ZIZM). PARATYPES: **ECUADOR: Guayaquil**, 6-VII-1905, F. von Buchwald (UNAM 1 female, ZIZM 1 male, 2 females).

Etymology. From the Latin “*crassus*” (thick or stout), referring to the broad body of this insect.

Discussion. Differential diagnosis. *Sephina crassa* sp. nov., described from Ecuador, is very similar to *S. miniacea* (Blanchard 1843), which was described from Bolivia. Both species have the pronotum, including the anterolateral margins and the humeral angles, black, with calli and relatively wide arched fringe running from the raised areas of the anterior third of the disc to the posterolateral borders; the clavus yellow with claval commissure and claval margin black, and corium black with anterior third near clavus, apical margin and apical angle yellow with costal margin black except the yellow apical third. In *S. miniacea* (Fig. 35), the scutellum is black with a yellow longitudinal stripe across midline; the pronotal disc has the posterior margin and wide longitudinal stripe running

across midline yellow and corium with the wide yellow transverse stripe absent. In *S. crassa* **sp. nov.**, (Fig. 36), the posterior margin of pronotum is black, and pronotal disc lacks the yellow longitudinal stripe crossing the midline; scutellum is entirely black. In *S. miniacea*, the legs are brassy and in *S. crassa*, the coxae, trochanters and femora are pale castaneous orange, with the apical third of femora, tibiae, and tarsi dark castaneous orange (perhaps this difference in coloration due to the conservation of each species).

Sephina faceta (Fig. 8), the only other known species recorded from Ecuador, is distinguished in having the femora black with apical third yellow; the tibiae black with basal joint yellow; the hemelytral membrane black with several yellow spots; the clavus black and the corium with a yellow discoidal spot near the middle third. In the new species, the femora are pale castaneous orange with apical third darker; the tibiae are dark castaneous orange with the dark reddish basal joint; the hemelytral membrane is entirely black; the clavus is yellow, and the corium lacks a yellow discoidal spot. The ocellar tubercles are conspicuously protuberant and the anterior margin of each ocellus reaching the middle third of each eye. In *S. crassa*, the ocellar tubercles are slightly raised, and the anterior margin of each ocellus just reaching the posterior border of each eye.

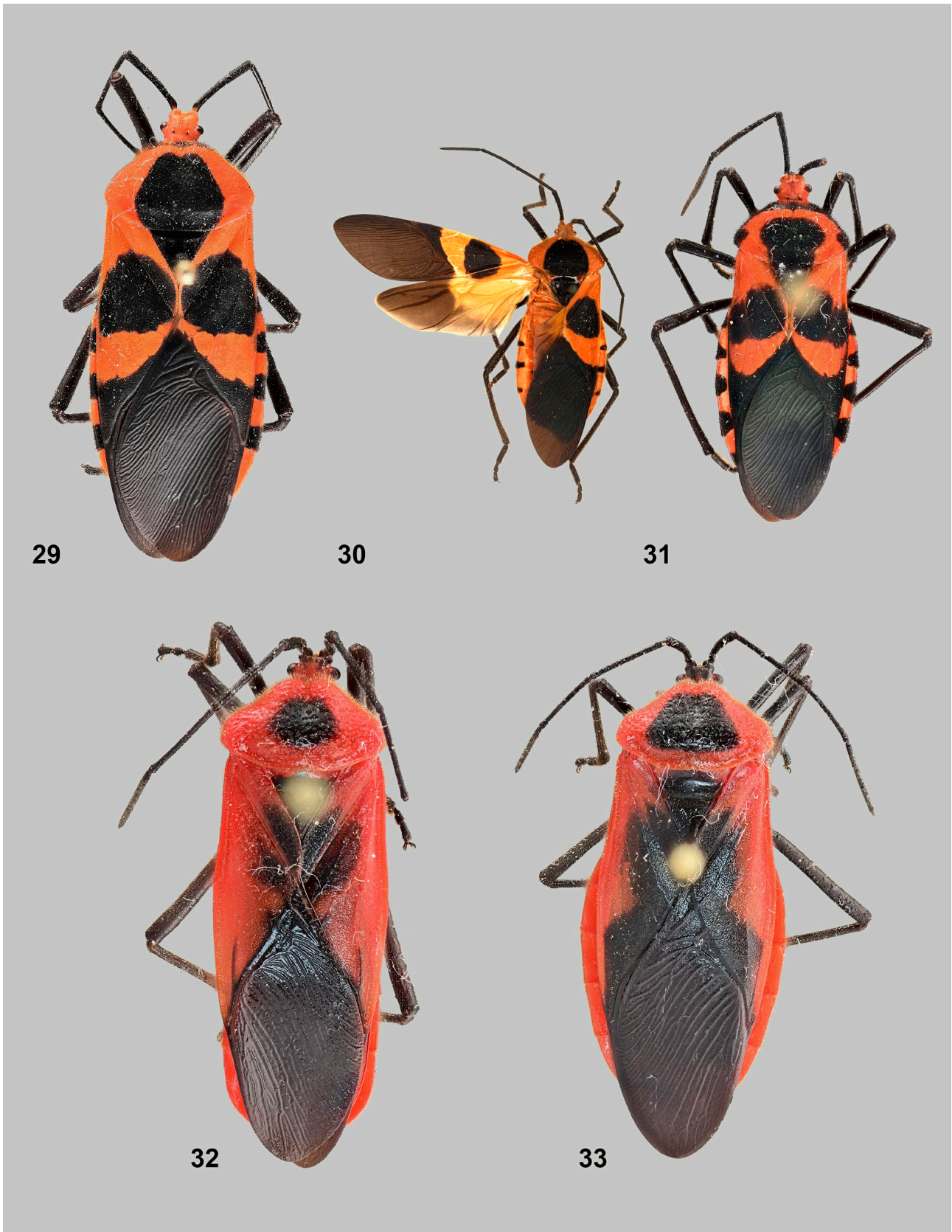
Sephina effrena, **sp. nov.**

(Figs. 1, 32–33, 45)

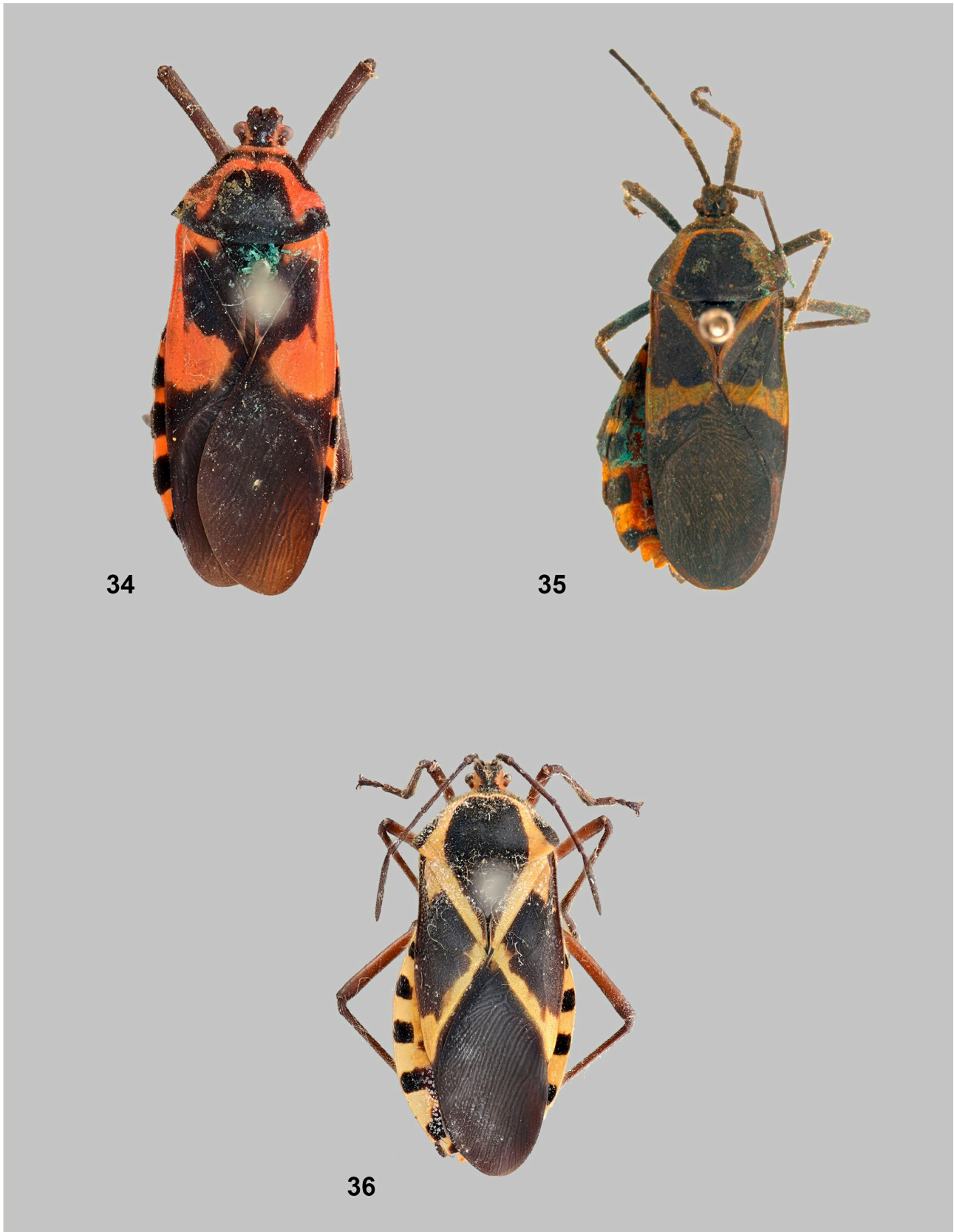
Type locality. Colombia, Choco.

Description. Holotype male. Dorsal coloration. Shiny orange to reddish orange, with tylus, antenniferous tubercles, ocellar tubercle, postocular tubercle, and antennal segments I–IV black; pronotum shiny red with a wide black discoidal spot at midline; scutellum black; clavus with posterior half black and anterior half, including the total upper border of clavus and claval commissure, shiny red; corium shiny red with following areas black: large irregular spot near apical margin, apical border and apex of apical angles; hemelytral membrane dark brown; connexival segments III–VII shiny red; dorsal abdominal segments shiny red, with scars IV–V and V–VI dark brown. **Ventral coloration.** Head shiny red with buccula and rostral segments I–IV black; pro-, meso-, and metasternum shiny red; acetabulae shiny red; propleuron shiny red, with a large black discoidal spot at midline; mesopleuron shiny red, with two large black elongate and irregular stripes; metapleuron shiny red with one large black irregular spot near midline; anterior and posterior lobes of metathoracic peritreme dark reddish brown; coxae black with inner face shiny orange; trochanters, femora, tibiae and tarsi black; abdominal sterna III–VII shiny red, with an irregular, wide, black stripe at each side of midline; rim of abdominal spiracles red; pleural abdominal margins shiny red; genital capsule black with posteroventral edge shiny red. **Structure.** Body large sized, robust, with the greatest width across abdominal segments IV–V. **Head.** Ocellar tubercle slightly raised, not protuberant; anterior margin of each ocellus just reaching the posterior border of each eye; rostrum reaching the posterior border of mesosternum; rostral segment I stouter, reaching posterior border of head. **Thorax.** Pronotum campanuliform; anterior third of pronotal disc sloping, mesally split, forming two large and conspicuous humps; in lateral view the humps are distinctly raised (Fig. 1); humeral angles rounded, obtuse, not exposed (Figs. 18–19); posterior border of metapleuron straight. **Genitalia.** Posteroventral edge of genital capsule slightly convex. Parameres. Elongate, apically broad, and gently curved (Fig. 45). **Integument.** Dorsal surface with head, pronotal disc, scutellar disc, clavus and corium densely clothed with elongate, erect and conspicuous, silver and golden setae; antennal segments I– III thickly with rather long silver and black setae, IV with short, and depressed setae. Pronotum densely and deeply punctate; clavus, corium, acetabulae and propleuron faintly punctate; head, scutellum, connexivum, pro-, meso-, and metasternum, meso-, and metapleura, abdominal sterna, genital capsule, and female genital plates impunctate.

Female. Dorsal coloration. Head including antennal segments I–IV black; space near each eye shiny red; pronotum black with a wide arched fringe running from the raised areas of the anterior lobe of the disc to posterolateral borders and covering the humeral angles; anterior margin shiny red with midline black; calli black; anterolateral and posterolateral margins shiny red; scutellum black; clavus black with basal third and inner border shiny red; corium black with exocorium, including the costal margin, shiny red; hemelytral membrane dark brown; connexival segments III–IX shiny red; dorsal abdominal segments III–IX black with outer margin shiny red. **Ventral coloration.** Similar to the male holotype. Valvulae VIII black with outer margin shiny red; laterotergite VIII shiny red, with rim of abdominal spiracle black; laterotergite IX shiny red.



FIGURES 29–33. Dorsal view of *Sephina* spp. 29, *S. pubera* (Erichson) (male). 30, *S. excellens* Schmidt (male type = synonym of *S. pubera*). 31, *S. indierae* Wolcott (male). 32, *S. effrena* **sp. nov.** (female). 33, *S. effrena* **sp. nov.** (male).



FIGURES 34–36. Dorsal view of *Sephina* spp. 34, *S. maculata* (Dallas) (male). 35, *S. miniacea* (Blanchard) (female syntype). 36, *S. crassa* **sp. nov.** (female).

Variation. 1—Head dorsally orange to reddish orange with antenniferous tubercles, tylus, ocellar tubercle, and postocular area black or head dorsally black, with interocellar space and space between the eye and ocelli orange to reddish orange. 2—Clavus with basal half shiny red and apical half black or clavus black with only the basal third shiny red. 3—Corium black with costal border and exocorium shiny red or corium shiny red with an only irregular black spot near apical margin and covering the borders of apical margin and apical angle.

Measurements. Male. Body length 23.45; head length 1.73; head width across eyes 2.35; interocular distance 1.36; interocellar distance 0.55; length antennal segments I 4.03, II 4.52, III 3.84, IV 5.02; pronotum total length 4.58, maximum width across humeral angles 7.25; scutellum length 2.66, width 2.66.

Female. Body length 23.54; head length 1.80; head width across eyes 2.54; interocular distance 1.44; interocellar distance 0.62; length antennal segments I 4.21, II 4.71, III 3.84, IV 4.89; pronotum total length 5.70, maximum width across humeral angles 8.18; scutellum length 2.85, width 2.72.

Type material. HOLOTYPE male: **COLOMBIA: Choco**, Rio Sucio, La Balsa, 65 m, 7°2'26"N–77°20'16"W, (without date), F. Fernandez (UNDC). PARATYPES: **COLOMBIA: Choco**, Rio Sucio, La Balsa, 65 m, 7°2'26"N–77°20'16"W, (without date), F. Fernandez (UNDC 1 female, UNAM 1 female).

Etymology. From the Latin “*effrena*” (unrestrained) referring to the absence of a yellow longitudinal stripe across the midline of the scutellar disc.

Discussion. Differential diagnosis. This new species exhibits a great chromatic variation on the dorsum of the head, pronotum, clavus, and corium, but always the connexival segments III–IX, pleural abdominal margins III–VII and abdominal segments III–IX are always shiny red (scars of abdominal segments IV–V and V–VI always pale brown). In *S. pubera* (Figs. 29–30), that is the most similar species from Guyana and Venezuela, the connexival segments and pleural abdominal margins III–VI are bicolorous, with anterior half shiny reddish orange and the posterior half black, and dorsal abdominal segments III–IV shiny red, V–VI pale brown and VII pale brown with posterior margin shiny red. *Sephina indierae* (Fig. 31), recorded from Puerto Rico, has the connexival segments and pleural margins III–VII bicolorous with the anterior half of each shiny red, and posterior half of each black, dorsal abdominal segments III–VI pale orange, scattered with pale brown spots, and VII pale brown with the posterior margin orange; the parameres elongate, with apex comparative thin and curved (Figs. 43–44). In *S. effrena* **sp. nov.** (Figs. 32–33, 45), described from Colombia, the rim of abdominal spiracles is shiny black, and the anterior lobe of the pronotal disc has two large conspicuous humps at each side of midline, distinctly raised in lateral view (Fig. 1). In the other two species, the rims of abdominal spiracles are orange, and the anterior pronotal disc has two small humps, slightly raised in lateral view (like fig. 4). In *S. indierae* and *S. pubera*, the anterior margin of each ocellus is placed far from the posterior border of each eye; in *S. effrena* the anterior margin of each ocellus reaches the posterior border of each eye.

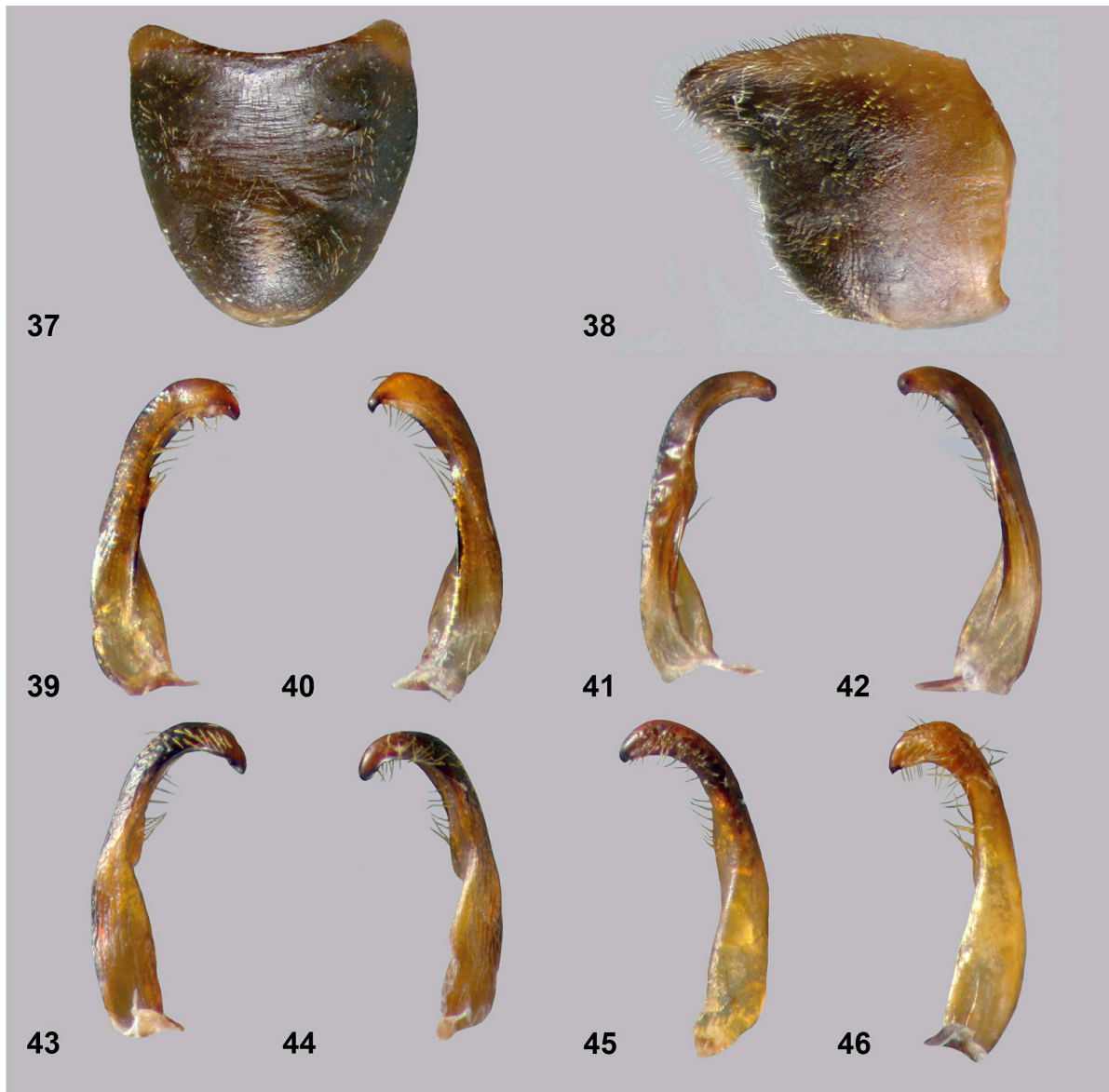
***Sephina ornata*, sp. nov.**

(Figs. 14, 46)

Type locality. Panama, Ocu, and Altos de Pacora.

Description. Holotype female. Dorsal coloration. Head, antennal segments I–IV and ocellar tubercles black; postocular area shiny orange, faintly tinged with pale brown; pronotum black with a shiny reddish semicircular fascia, bifurcate near posterior third; fascia beginning on each side slightly before the anterior margin, and extending subparallel to the anterolateral margins until the middle third of posterolateral margins; the arms are interrupted at humeri; scutellum black with apex dark castaneous; clavus black; corium black with basal third of costal margin reddish; apical margin of endocorium with two or three yellow discoidal spots, one large, the others smaller; hemelytral membrane black; connexival segments III–VI black with anterior third shiny orange, VII–IX shiny orange, with black to pale brown stripe covering the upper margin of the middle and posterior third; dorsal abdominal segments III–VI shiny orange, VII–IX shiny orange with the posterior border near midline black. **Ventral coloration.** Head including the buccula shiny orange; rostral segments I–IV black; pro-, and metasternum shiny orange; mesosternum pale yellow with black stripe at each side of lateral margins; propleuron with collar, acetabulae, posterior margin (except middle third black) and anterior margin shiny orange with anterior angle black; anterior border and middle section of propleuron with an irregular wide black stripe; mesopleuron shiny black with acetabulae and inner third of posterior margin shiny orange; metapleuron shiny black with acetabulae and posterior angle shiny orange; meso-, and meta acetabulae with a black discoidal spot; anterior lobe of metathoracic peritreme pale brown with

upper margin dark orange, posterior lobe black; legs black; abdominal sterna shiny orange with an irregular black stripe running lateral to midline and close to pleural margins; posterior margins of abdominal sterna III–IV with short stripe at outer third; abdominal sternite IV near to anterior margin with short black stripe at outer third; pleural abdominal sterna III–VI black with anterior third shiny orange, VII shiny orange with upper margin of middle and posterior third black; rim of abdominal spiracles pale brown; gonocoxae I black with outer margin orange; laterotergites VIII–IX shiny orange, with apex dark brown. **Structure.** Body large sized, robust, with the greatest width across abdominal segments IV–V. **Head.** Ocellar tubercle slightly raised, not protuberant; anterior margin of each ocellus just reaching the posterior border of each eye; rostrum reaching posterior border of mesosternum; rostral segment I stouter, reaching anterior margin of prosternum. **Thorax.** Pronotum campanuliform; anterior third of pronotal disc sloping and mesally split, forming two obtusely, subconical humps, moderately prominent; in lateral view slightly raised (like fig. 4); humeral angles rounded, obtuse, not exposed (Fig. 14); posterior border of metapleuron almost straight. **Integument.** Dorsal surface with head, pronotal disc, scutellar disc, clavus and corium densely clothed with elongate, erect and conspicuous, silver and golden setae; antennal segments I–III thickly clothed with rather long, silvery, erect setae, IV with short depressed setae; posterior lobe of pronotal disc, clavus, corium, propleuron and acetabulae faintly punctate; anterior lobe of pronotal disk, scutellum, connexival segments, pro-, meso-, and metasternum, meso-, and metapleuron, abdominal sterna and female genital plates and male genital capsule impunctate.



FIGURES 37–46. 37–38. Male genital capsule of *Sephina vinula* Stål. 37, caudal view. 38, lateral view. 39–46. Parameres of *Sephina* spp. 39–40, *S. vinula* Stål. 41–42, *S. crassa* sp. nov. 43–44, *S. indierae* Wolcott. 45, *S. effrena* sp. nov. 46, *S. ornata* sp. nov.

Male. Habitus and color similar to female holotype. Pronotum black with a shiny reddish semicircular fascia beginning on each side before anterior margin and extending subparallel to anterolateral margins until middle third of posterolateral margins; the fascia is bifurcate near humeri; abdominal segments III–VII pale orange; genital capsule black with an irregular, castaneous, orange spot near middle third. **Genitalia.** Parameres. Elongate, apically robust and faintly curved (Fig. 46).

Measurements. Female. Body length 24.71; head length 1.79; head width across eyes 2.43; interocular distance 1.48; interocellar distance 0.84; length antennal segments I 3.78, II 4.46, III 3.72, IV 4.09; pronotum total length 4.89, maximum width across humeral angles 8.86; scutellum length 2.84, width 3.22.

Male. Body length 22.60; head length 1.67; head width across eyes 2.29; interocular distance 1.36; interocellar distance 0.80; length antennal segment: I 3.47, II 3.59, III 3.34, IV 3.72; pronotum total length 4.15, maximum width across humeral angles 7.76; scutellum length 2.35, width 2.79.

Type material. HOLOTYPE female: **PANAMA: Provincia Herrera**, Ocu, 27-XII-1994, R. Chang (MIUP). PARATYPES: **PANAMA: Provincia Herrera**, Ocu, 27-XII-1994, R. Chang (UNAM 1 male, MIUP 1 female); **Provincia Panama**, Altos de Pacora, 7-X-1994, L. Hernandez (UNAM 1 female).

Etymology. From the Latin “*ornata*” (handsome, splendid) referring to the attractive shape and color of this species.

Discussion. The genus *Sephina* is represented in Panama by four species. In *S. limbata* (Fig. 17), *S. rogersi* (Fig. 16), and *S. sulcaticollis* (Fig. 15), the corium is black without yellow discoidal spots. The fourth species, *S. geniculata* (Fig. 9), like *S. ornata* **sp. nov.** (Fig. 14), has the corium black with a round yellow spot on the disc. The new species is separated by having the scutellum, femora, tibiae and hemelytral membrane black. In *S. geniculata*, the scutellum is pale orange, the apical third of femora and basal joint of tibiae are yellow, and the hemelytral membrane is black, with several white discoidal spots (Froeschner 1999, Packauskas 2010).

Sephina erythromelaena (Fig. 13), described from Brazil, has the corium black with one or two orange to yellow discoidal spots, and the hemelytral membrane, femora and tibiae are black. In this species, the clavus is black with inner margin orange and pronotal disc black with a reddish orange semicircular fascia not bifurcate and extending until the end of posterolateral borders. In *S. ornata*, described from Panama, the clavus is entirely black and the pronotal disc black with a reddish-orange semicircular fascia bifurcate at the humeri. In *S. erythromelaena*, the anterior margin of each ocellus is placed far from the posterior border of each eye; in *S. ornata*, the anterior margin of each ocellus reaches the posterior border of each eye.

Distributional notes on *Sephina* spp.

Sephina dorsalis (White)

(Fig. 25)

Spartocerus dorsalis White 1842: 92.

General distribution. White (1842) described this species from México without a formal locality and later Brailovsky and Sánchez (1983) added the first Mexican record. MEXICO: JALISCO: Guadalajara (Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. MÉXICO. ESTADO DE MÉXICO: 3 ♂♂, San Luis Taxhimay, 29-vi-1984, M. Aguilera (UNAM). **GUERRERO:** 2 ♂♂, 19 km W of Arcelia, 23-vi-1990, H. Brailovsky & E. Barrera (UNAM) (collected on *Dalbergia congestiflora* Pittier, Leguminosae). **JALISCO:** 1 ♀, 16 km N of Autlan, 7-vii-1984, Carroll & Schaffner (TAMU); 1 ♀, La Floresta, Lago de Chapala, 1510 m, 4-ix-1977, E. Schlinger (UCB); 1 ♀, 30 m S of Autlan, 21-xii-1967, A. & A. Gillogly (TAMU); 1 ♀, Chapala, Ajijic, 1600 m, 21-vii-1994, H. Ferros (CUCBA); 1 ♀, Ajijic, 16–18-vii-1966, Flint & Ortiz (USNM). **MORELOS:** 1 ♂, 1 ♀, Tepalcingo, El Limon, 1330 m, 18°32'34"N–98°58'10"W, 23–25-vi-2006, 25-vii-2006, V. H. Toledo & A. M. Corona (CIUM). **OAXACA:** 1 ♀, 3 km NW, Huajuapán de Leon (Hwy 190), 1860 m, 7-vii-1992, C. L. Bellamy (CASC). **QUERETARO:** 1 ♂, 1 ♀, Vizarron, 15-v-1978, R. M. Murillo (UNAM). **SAN LUIS POTOSI:** 1 ♂, km 66 San Luis Potosi- Ciudad Valles, 1224 m, 22°03'68"N–100°29'47"W, 2-vii-2006, L. Cervantes Peredo & D. Brzoska (IEXA).

Sephina esquivelae Brailovsky & Sánchez

(Fig. 18)

Sephina esquivelae Brailovsky & Sánchez 1983: 189–191.

General distribution. Previously known from México. MEXICO: CHIAPAS: Lagunas de Montebello. PUEBLA: Necaxa (Brailovsky & Sánchez 1983, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. MÉXICO. CAMPECHE: 1 ♂, 1 ♀, El Tormento, 13-vi-1985, M. Vertiz (UNAM). **CHIAPAS:** 3 ♂♂, 3 ♀♀, Laguna Belgica, 12 mi N Ocozocuatla, 8-ix-1985, D. B. Thomas (UNAM), 5–13-vi-1990, D. B. Thomas, B. Gill, and H. and A. Howden (UNAM); 1 ♀, Sumidero National Park, 17-vi-1989, D. B. Thomas, H. Howden & B. Ratcliffe (UNAM); 1 ♀, 4 km E. Rayon, 26-ix-1983, E. González (UNAM); 2 ♀♀, Tuxtla Gutierrez, El Chorreadero, 26-ix-1961, F. Pacheco (UNAM). **QUINTANA ROO:** 1 ♂, Tulum, 19-vi-1957, E. C. Welling (UNAM); 4 ♂♂, 1 ♀, X-Can, 14–16-v-1967, E. C. Welling (UNAM). **SAN LUIS POTOSI:** 1 ♂, 1 ♀, 4.1 mi E Agua Zarca, 2-vi-1982, R. Turnbow (UGAG). **TAMAULIPAS:** 1 ♀, Gomez Farias, 20-iv-1985, J. Pettis (UGAG). **VERACRUZ:** 1 ♀, Orizaba, v-2005, L. Rivera (UNAM). **New country records. COLOMBIA. DEPARTAMENTO CORDOBA:** 1 ♂, Hacienda el Torno de Matamoros, entre Monteria and Tierra Alta, 5-i-1968, M. Descamps (MHNP). **COSTA RICA. PROVINCIA GUANACASTE:** 2 ♂♂, 1 ♀, Parque Nacional Santa Rosa, 17-ii-1979, C. K. Starr (UGAG), 3-ix-1988, C. W. & L. O'Brien (UNAM); 1 ♀, Finca Jenny, 30 km N. Liberia, iii–iv-1989, Biodiversity Survey (INBIO); 2 ♂♂, 15 km N Bagaces, 11-ii-1972, G. Frankie (UNAM). **PANAMA. CHIRIQUI:** 1 ♀, Fortuna, 8°44'N–82°15'W, 16-v-1978, O'Briens & Marshall (UMRM). **COLON:** 1 ♀, Isla Barro Colorado, 130 m, 06°2670'N–101°2277'W, 6–8-xi-2018. J. A. Ramirez (UNAM). **VENEZUELA. GUARICO:** 1 ♂, 20 km SW de Altigracia de Or, 300 m, 21-viii-1983, C. Bordon (UNAM). **ARAGUA:** 1 ♂, 1 ♀, El Limon, 24-v-1948, H. E. Box (UNAM); 1 ♂, Portachuelo, Rancho Grande, 1100m, 20-v-1980, J. A. Clavijo & A. Chacon (UNAM). **CARABOBO:** 1 ♀, Chirgua, Montecristo, 700 m, 24-v-1976, B. Bechyne (UNAM).

Sephina faceta Brailovsky

(Fig. 8)

Sephina faceta Brailovsky 2001: 74–77.

General distribution. Known from Ecuador and Venezuela. ECUADOR: NAPO: Reventador. VENEZUELA: CARABOBO: San Esteban, 8 mi SE Puerto Cabello (Brailovsky 2001, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. ECUADOR. NAPO: 1 ♀, 20 km E of Napo, Aliñahui, 450 m, 1°03'S–77°40'W, viii-1991, E. S. Ross (CASC).

Sephina formosa (Dallas)

(Figs. 26–27)

Spartocera formosa Dallas 1852: 372.

General distribution. Described from Venezuela without formal locality and later recorded from Colombia. COLOMBIA: New Granada. VENEZUELA: TRUJILLO: Bocono (Dallas 1852, Brailovsky 1983, Packauskas 2010, CoreoideaSF Team2020).

Material examined. New records. COLOMBIA: CUNDINAMARCA: 1 ♂, 1 ♀, Lago Pedro Pal, 2030 m, 4°40'54"N–74°23'54"W, 16-ix-1995, D. Forero (UNDC). **VALLE DE CAUCA:** 1 ♀, 4 km NW San Antonio, 6500 ft, 24-xii-1958, A. H. Miller (UNAM). **New country records. ECUADOR: PICHINCHA:** 1 ♀, Puerto Quito, 15-i-1984, L. Jaras (UNAM); 2 ♂♂, 1 ♀, Palmeras, 2000 m, 7–20-xi-1992, C. Fletcher & I. Cordobez (UNAM). **COTOPAXI:** 1 ♀, Calupiña, vii-1987 G. Onore (PUCE); 2 ♂♂, 2 ♀♀, Otonga, 2000 m, 0°27'S–79°05'W, 2-v-1997, I. Muñoz & C. Perez (PUCE). **NAPO:** 1 ♂, El Chaco, 1200 m, 6-v-1995, P. Salazar (PUCE).

Sephina geniculata Distant

(Fig. 9)

Sephina geniculata Distant 1881: 132.

General distribution. Known from Costa Rica and Panama. COSTA RICA: Cache. PANAMA: BUGABA: Volcan de Chiriqui (Distant 1881, 1892, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. COSTA RICA: PROVINCIA GUANACASTE: 2 ♂♂, 1 ♀, Estacion Pitilla, 9 km S Santa Cecilia, 700 m, i-1989, ii-1994, 4–24-iv-1995, E. Araya, E. Alfaro, Biological Survey (INBIO). **PROVINCIA PUNTARENAS:** 1 ♂, 2 ♀♀, Estacion Biologica Las Alturas, Coto Brus, xi-1991, xii-1991, iii-1992, M. A. Zumbado (INBIO, UNAM). **PROVINCIA CARTAGO:** 1 ♀, Grano de Oro, Chirripo Turrialba, 1120 m iii-1993, P. Campos (INBIO). **PANAMA: COLON:** Sherman, 26-vi-2000, F. Beyano (MIUP). **New country records. COLOMBIA: META:** 1 ♂, Municipio Restrepo, Vega Grande, 15-vi-1979, F. Fernandez (UNDC). **ECUADOR: PICHINCHA:** 1 ♂, km 113 Puerto Quito, 5-xii-1983, V. Ceballos (PUCE).

Sephina limbata Stål

(Fig. 17)

Sephina limbata Stål 1862: 273.

General distribution. Widely distributed across British Honduras, El Salvador, Guatemala, Honduras, México, Panama, and United States of North America. BELIZE (British Honduras): River Sarstoon. GUATEMALA: Panzoz and Chacoj. HONDURAS: Atlantida and Comayagua. MÉXICO: BAJA CALIFORNIA: Isla Santa Cruz. NAYARIT: Tepic. OAXACA: Uxpanapa. SINALOA: Mazatlan. VERACRUZ: Atoyac, Jalapa, Omealca, Orizaba, and San Andres Tuxtla. PANAMA: Volcan Chiriqui. UNITED STATES OF NORTH AMERICA: California (Brailovsky & Sánchez 1983, Packauskas 2010, Linares & Orozco 2017, CoreoideaSF Team 2020).

Material examined. New records. MÉXICO: CHIAPAS: 1 ♂, 1 ♀, Selva Lacandona, Estación Biológica Chajul, 157 m, 16°6'48"N–96°56'26.4"W, 22-iii-2012, L. Rengifo (UNAM). **OAXACA:** 1 ♀, Sierra de Juárez, Puerto Elegeo, 12-ix-1982, A. Ibarra (UNAM). **New country records. COSTA RICA: PROVINCIA LIMON:** 1 ♀, Pacuarito, Las Brisas, 20-vii-1986, M. M. Chavarria Diaz (UNAM); 1 ♂, Estacion Hitoy Cerere, Reserva Biologica Hitoy Cerere, vi-1992, G. Carbello (INBIO). **PROVINCIA PUNTARENAS:** 2 ♂♂, 1 ♀, Estacion Pittier, Pila-Acla, 1670 m, 5–18-i-1995, M. Madrigal & E. Alfaro (INBIO, UNAM); 1 ♀, Puerto Golfito, 25-vi-1987 (FSCA). **PROVINCIA ALAJUELA:** 1 ♂, 24-II.1982, H. Brailovsky & E. Barrera (UNAM). **NICARAGUA:** 1 ♀, Rio San Juan, Cerro El Gigante, ix-1998, I. Coronado (MELN).

Sephina nigripes Schmidt

(Figs. 4, 6–7)

Sephina nigripes Schmidt 1907: 111.

General distribution. Only known from Brazil. BRAZIL: Santa Catarina (Schmidt 1907, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. Type species housed at MIZ: **BRAZIL:** Santa Catarina, ♀. **New records. BRAZIL: MATO GROSSO:** 1 ♂, Villa Vera, x-1973, M. Alvarenga (AMNH). **BENJAMIN CONSTANT:** 2 ♂♂, 2 ♀♀, Rio Javary, Alto Amazonas, v-1942, viii-1942, B. Pohl, xii-1961, iii-1962, Dirings (MZUS, UNAM). **AMAZONAS:** 1 ♂, Manaus (Estr. AM. I, km 182), vii-1975 (without collector) (INPA). **New country records. ECUADOR: NAPO:** 1 ♀, Avila Viejo, 750 m, 18-vi-1999 (PUCE). **PASTAZA:** 1 ♂, Ashuara Village, on Rio Macuma, 10 km from Rio Morona, 300 m, 5–16-vii-1971, B. Malkin (UNAM). **PERU: TINGO MARIA:** 1 ♂, Monzon Valley, 10-xi-1954, E. I. Schlinger & E. S. Ross (CSCA); 1 ♂, **HUANUCO DEPARTMENT:** Cueva de las Lechuzas, South of Tingo Maria, 28-iv-1987, Ch. De Vela (UNAM).

Sephina pagella Brailovsky & Sánchez

(Fig. 20)

Sephina pagella Brailovsky & Sánchez 1983: 191–192.

General distribution. Only known from México. MÉXICO: OAXACA: Itsmo de Tehuantepec. (Brailovsky & Sánchez 1983, Packauskas 2010, CoreoideaSF Team2020).

Material examined. New records. MEXICO: CHIAPAS: 1 ♀, 4 km E Rayon, 26-ix-1983, E. González (UNAM).

Sephina pubera (Erichson)

(Figs. 29–30)

Spartocera pubera Erichson 1848: 611.

Sephina excellens Schmidt 1907: 109–110, **nov. syn.**

Sephina pubera da Silva Costa, Barcellos, & Brailovsky 2020: 1–35.

Remarks. We examined photographs of the type specimens for both *S. excellens* and *S. pubera*, and we did not see any significant differences in color or morphology. So, we are placing *S. excellens* as a subjective junior synonym of *S. pubera*.

General distribution. Described from British Guiana, and later reported from Bolivia, Peru and Venezuela. BOLIVIA: Gonini and Tapanahoni. BRITISH GUIANA: R. Berhice. VENEZUELA: CURAPO: Delta Amacuro. (Schmidt 1907, Brailovsky & Sanchez 1983, Blöte 1936, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. Type species housed at MIZ: Peru: Chanchamayo, ♂. **New country records. BRAZIL: ATO TURI:** 1 ♀, Sta. Helena, 18-vi-1965, Ed Cerq (UNAM). **AMAZONAS:** 1 ♂, 1 ♀, São Paulo de Olivença, x–xi-1959 Diring (MZUS). **ECUADOR: NAPO:** 1 ♀, El Aula, 10-xi-1984, J. Valamezo (UNAM); 1 ♀, Rio Hollin, 1100 m, 7-xii-1996, E. Gortaire (PUCE). **SURINAME:** 2 ♂♂, 1 ♀, Driebabhely, 3-iii-1952, without collector (RMNH); 1 ♀, Mambari, 26-ii-1952, without collector (RMNH).

Sephina pustulata (Fabricius)

(Figs. 2, 11)

Lygaeus pustulata Fabricius 1803: 205.

General distribution. Described from Venezuela and later reported from Argentina, Bolivia, Brazil, Paraguay and Suriname. ARGENTINA: Gran Chaco. BOLIVIA: Coroico and Mapiro. BRAZIL: Amazon region. VENEZUELA: ZULIA: Perija. ARAGUA: Limon. GUARICO: La Palmita. ANZOATEGUI: Mesa de Guanipa. No formal records are given for Paraguay and Suriname (Walker 1871, Pennington 1922, Blöte 1936, Brailovsky 1983, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. BOLIVIA: DEPARTAMENTO SANTA CRUZ: 1 ♂, Provincia Luhilo, Saguayo, 30–35 m, 5-ix-1997, J. Salvatore (UNAM). **BRAZIL: NORD PARANA:** 1 ♀, Londrina Heimtal, ii-1942, B. Pohl (MZUS). **SAO PAULO:** 1 ♂, Cassia dos Coqueiros, Cajuru, xi-1954, M. P. Larretto (MZUS). **SANTA CATARINA:** 5 ♂♂, 1 ♀, Nova Teutonia, iii-1972, F. Plauman (UNAM). **MATO GROSSO:** 1 ♂, Diamantino, Fazenda Sao Joao, 8-ii-1981(CASC). **RONDONIA:** 1 ♀, 62 km S, Ariquemes, Fazenda Rancho Grande, 165 m, 10°53'S–62°80' W, 19–29-ix-1996, B. Harris (LACM). **VENEZUELA: COJEDES:** 1 ♂, 1 ♀, El Baúl, 1-viii-1976, O. Mattei (UCUM). **ARAGUA: PORTACHUELO:** 1 ♂, P. N. Henri Pittier, 1100 m, 10-x-1980, J. M. Ayala (UNAM). **New country records. ECUADOR: NAPO:** 1 ♂, Talag, 500 m, 01°03'35"S–77°54'24"W, 12-vi-1999, C. Proaño (PUCE); 1 ♀, Rio Hollín, 1100 m, 10-xii-1995, D. Prado (PUCE); 1 ♀, Cascadas San Rafael, 1400 m, 17°33'30"S–00°04'44"W, 27-v-2000, F. Prieto (PUCE). **PERU: DEPARTAMENTO HUANUCO:** 1 ♀, Cueva de las Lechuzas S of Tingo María, 30-ix-1988, J. Ch. De Vela (TAMU).

Sephina rogersi Distant 1881

(Fig. 16)

Sephina rogersi Distant 1881: 132.

General distribution. Described from Costa Rica and later reported from Panama. COSTA RICA: Cache. PANAMA: Bugaba: Volcan de Chiriqui OAXACA: Itsmo de Tehuantepec. (Distant 1881, 1892, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. COSTA RICA: PROVINCIA GUANACASTE: 1 ♀, Rio San Lorenzo, 1050 m, ix-1995, G. Rodriguez (UNAM). **PROVINCIA CARTAGO:** 2 ♂♂, Ref., Nacional Fauna Silvestre, Tapanti, 1250 m, viii-1991, i-1992, G. Mora (INBIO). **PROVINCIA SAN JOSE:** 1 ♂, Tarrazu, San Carlos, Reserva Rios Paraiso, Albergue Pecari, 405 m, 1-v-2006, B. Gamboa (UNAM). **PROVINCIA PUNTARENAS: SAN VITO:** 1 ♂, Coto Bins, Fila Cruces, entrada de los Atunes, 1200 m, 1-xi-1995, J. A. Chacon (INBIO); 1 ♂, Cerro Quemado, 3–6-vi-1996, R. Villalobos (INBIO). **PANAMA: CHIRIQUI:** 1 ♀, Continental divide trail, 3-vii-1997, R. Turnbow (UGAG); 1 ♂, Fortuna, 8°44'N–82°15'W, 16-v-1978, O'Briens & Marshall (UNAM).

Sephina subulata Brailovsky & Sánchez 1983

(Fig. 21)

Sephina subulata Brailovsky & Sánchez 1983: 188–189.

General distribution. Described from México. MÉXICO: SINALOA: Mazatlán, and Teacapan (Brailovsky & Sanchez 1983, Packauskas 2010, CoreoideaSF Team 2020).

Material examined. New records. MÉXICO: CHIAPAS: 1 ♂, Villa Flores, 16-ix-2006, E. Diaz Hernandez (UNAM). **JALISCO:** 1 ♀, Estación de Biología Chamela, 7-vii-1990, Guillermina Ortega León & Cristina Mayorga (UNAM). **NAYARIT:** 1 ♂, Laguna Santa María del Oro, 15–16-vii-1970, B. & R. Harding (LACM). **TAMAULIPAS:** 1 ♂, Gomes Farias, 19–20-vii-1970, Murray & Schaffner (TAMU). **YUCATAN:** 1 ♂, 2 km N Chichen-Itza, 27-v-1984, R. Turnbow (UGAG). **New country records. HONDURAS: PROVINCIA OLANCHO:** 1 ♀, El Boqueron, 3-vi-1995, Bonta & Wells (LACM). **NICARAGUA: LEÓN:** 3 ♂♂, 3 ♀♀, Finca El Porvenir, 17-viii-1993, J. Munguia (MELN, UNAM); 1 ♀, León Viejo, 5-vi-1994, Maes, Tellez & Johnson (MELN). **MASAYA:** 1 ♀, vic. Laguna de Apoyo, 23-xii-1992, Maes (MELN). **COSTA RICA: PROVINCIA GUANACASTE:** 3 ♀♀, Playa Naranjo, Santa Rosa, P. N. Guanacaste, xii-1990, E. Alcazar (INBIO); 1 ♀, Cerro El Hacha, 12 km SE La Cruz, 300 m, xi–xii-1991, R. Espinoza (INBIO); 1 ♀, Finca Jenny, 30 km N Liberia, Guanacaste National Park, x-1988, GNP Biological Survey (INBIO); 3 ♂♂, 1 ♀, Estación Murciégalo, 8 km SW Cuajiniquil, 100 m, ii-1989, GNP Biological Survey (INBIO, UNAM); 1 ♂, 1 ♀, Parque Nacional Barra Honda, 100 m, viii-1994, M. Reyes (UNAM); 1 ♀, 3 km NW Nacaome, 100 m, Parque Nacional Barra Honda, i-1993, M. Reyes (UNAM); 1 ♀, Los Almendros, Parque Nacional Guanacaste, 17–21-xii-1992, E. López (INBIO); 1 ♀, Finca Pacifica 19-vi-1976, D. Hoebeck (FSCA). **MONTE VERDE:** 1 ♀, 10 km SW Monte Verde, 2000 m, 7–10-x-1983, P.Colby (LACM).

Sephina vinula Stål 1862

(Figs. 28, 37–40)

Sephina vinula Stål 1862: 273.

General distribution. Previously only known from México. CHIAPAS: Tuxtla Gutierrez (Cañón del Sumidero) and 2–4 km W of Soyalo (Chicoasen). GUERRERO: Chilpancingo, Teloloapan, Acuitlapan and Jalpan. GUANAJUATO: Valle de Santiago. MORELOS: Jalostoc, San Gaspar, Cañón de Lobos and Huauxtla (Tlaquiltenango). OAXACA: City of Oaxaca. QUERETARO: City of Queretaro. VERACRUZ: Xalapa, Chicontepec and El Higo (Stål 1862, Distant 1881, 1892, Packauskas 2010, Martinez *et al* 2020, CoreoideaSF Team 2020).

Material examined. New records. MÉXICO: CHIAPAS: 1 ♂, Villa Flores, Col. 16 Septiembre, 24-vi-1985, T. Ramirez (UNAM); 1 ♂, Ocozocauatla, Santa Cruz, 5-v-1990, C. Morales (UNAM); 1 ♂, Ocosingo, km 28 Ocos-

ingo-Palenque, Xaquira, 884 m, 17°03'43"N–92°08'42"W, 27-vi-2007, C. Mayorga, G. Ortega León & L. Cervantes Peredo (UNAM); 1 ♂, Chicoasen, 20-x-1980, D. T. Thomas, F. Hovore & A. Schneider (CASC); 1 ♂, 1 ♀, Ocozocoautla, Rancho Chipilinar, 14–24-vii-2007. C. Morales (UNAM). **ESTADO DE MEXICO:** 1 ♀, 5 km S of Des poblado, 1250 m, 11-xi-2000, H. Brailovsky & E. Barrera (UNAM). **GUERRERO:** 6 ♂♂, 2 ♀♀, Acahuizotla, 11-xi-1982, H. Brailovsky & E. Barrera (UNAM); 2 ♀♀, Atlixco, 16-i-1984, R. Corona (UNAM); 1 ♂, 1 ♀, 2.4 mi N Mazatlan, 9-vii-1974, Clark & Schaffner (TAMU); 1 ♀, 55 km NE Villa de Zaragoza, 16-vii-1985, R. Turnbow (UGAG); 1 ♀, Iguala, Estacion de Micro-ondas Tuxpan, 1267 m, 18°24'00"N–99°28'49"W, 13-x-2006, L. Cervantes Peredo & C. Mayorga (UNAM); 1 ♂, 29 km E Chichihualco, 16-ix-1989, R. Turnbow (UGAG). **JALISCO:** 1 ♀, 6 mi NE Barra de Navidad, 500', 11-viii-1982, C. W. and L. O'Brien and G. Wibmer (UNAM); 14 ♂♂, 21 ♀♀, Estación de Biología Chamela, 12-x-1991, G. Ortega León & C. Mayorga (UNAM); 1 ♀, 5.5 mi NE, Tecolotlan, 13-vii-1982, T. G. Andrews (CSCA); 1 ♀, San Sebastian del Oeste, road to Bulera, BTSC, 1050 m, 11-vii-1997, J. L. Navarrete (CUCBA). 1 ♂, 16 mi SE Mazamitla, 11-vii-1982, A. J. Gilbert (CSCA); 1 ♀, Mascota, El Crucero, 1480 m, 11–12-vi-2013, G. Nogueira (UNAM); 1 ♀, 7 km N Autlan on road to micro-ondas San Francisco, 31-vii-2011, F. Skillman & R. Turnbow (UNAM); 1 ♀, 1.2 km S La Cumbre, 21-vii-2011, F. Skillman & R. Turnbow (UNAM). **MICHOACAN:** 1 ♀, Uruapan, 1500 m, 26–28-iv-1996, G. Nogueira (UNAM). **MORELOS:** 1 ♂, km 67 road Cuernavaca-Taxco, 17-vi-1987, H. Brailovsky (UNAM); 4 ♀♀, Tepaltzingo, 10-vi-1989, H. Brailovsky & E. Barrera (UNAM); 1 ♂, 2 ♀♀, 4.4 mi E Cuernavaca, 6–8-vii-1974, Clark & Schaffner (TAMU). **NAYARIT:** 2 ♂♂, km 98 road Guadalajara-Tepic, 27-vii-1984, E. Barrera (UNAM). **OAXACA:** 1 ♂ 1 ♀, Montealban, 28-vi-1970, 27-iii-1990, H. Brailovsky, E. Barrera & A. Cadena (UNAM); 1 ♀, 23 km NW Totolapan, 28-vi-1981, J. D. Pinto (UNAM); 1 ♂, 11.2 mi S Matatlan, 12-vii-1981, Bogar & Schaffner (TAMU). **PUEBLA:** 1 ♀, 4.4 mi SW Acatepec, 9-vii-1981, Bogar & Schaffner (TAMU); 3 ♂♂, La Trinidad, 28-x-1994, H. Brailovsky & E. Barrera (UNAM); 3 ♂♂, 2 ♀♀, La Trinidad, 5 km SE Atlixco, 15-vi-1994, H. Brailovsky & E. Barrera (UNAM); 1 ♂, 8 km N Acatlan, 1290 m, 11-vii-1999, H. Brailovsky & E. Barrera (UNAM). **QUERETARO:** 1 ♂, 4 ♀♀, 24 mi NW Jalpan, 22–24-vii-1974, Harwell (UNAM); 1 ♀, Aztlan, 6-vii-2003, W. Lopez Forment (UNAM). **SAN LUIS POTOSI:** 1 ♂, 1 ♀, vic El Salto Falls, Hydroelectric Plant, 17-x-1985, R. Turnbow & C. L. Smith (UGAG); 6 ♂♂, 5 ♀♀, km 66 San Luis Potosi-Ciudad Valles, Puente El Charco, 1224 m, 22°03'38"N–100°29'47"W, 2-vii-2006, L. Cervantes Peredo & D. Brzoska (IEXA, UNAM). **VERACRUZ:** 1 ♀, Los Tuxtlas, Estacion de Biologia Tropical Los Tuxtlas, 12-x-1988, V. Melendez (UNAM). **New country records.** **BELIZE:** 2 ♀♀, Mile 28 Humingbird road, 20-viii-1977, C. L. & L. O'Brien, and Marshall (UNAM). **HONDURAS:** 1 ♂, **Francisco Morazan:** 25 km SSW Talanga, 3-vi-1993, R. Turnbow (UGAG).

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