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The 30 known species of *Cesonia* are diagnosed, described, and assigned to species groups. *Eilicina* Bryant is newly synonymized with *Cesonia*. *Eilicina* elegans Bryant is transferred to *Drassyllus*; *Sergiolus* elegans Simon is transferred to *Cesonia*. Seventeen new species are described: *Cesonia* bixleri from California; *C. rothi* from California and western Arizona; *C. ubicki* and *C. gertschi* from the southwestern United States and northwestern Mexico; *C. cerralvo* and *C. leechi* from Baja California Sur, Mexico; *C.* iviei, C. cuernavaca, and C. coala from central Mexico; C. boca from Panama; C. chickeringi, C. cana, and C. bryantae from Jamaica; C. nadleri from Hispaniola; C. desecheo from Puerto Rico and the Virgin Islands; C. maculata from St. Kitts and Nevis; and C. ditta from Dominica. The males of C. classica Chamberlin, C. trivittata Banks, C. josephus (Chamberlin and Gertsch), and C. irvingi (Mello-Leitão) are described for the first time.

INTRODUCTION

This paper, the twelfth in a series on the spider family Gnaphosidae, contains a revision of the species previously placed in *Cesonia* Simon and *Eilicina* Bryant. These spiders, which occur in North and Central America and the West Indies, are unusual among gnaphosids in having distinct color patterns on the abdomen (and often the cephalothorax as well). In many cases, the color pattern is species-specific; hence we have provided below illustrations of a dorsal view of the body and a lateral view of the abdomen for those species with distinctive patterns.

The species of *Cesonia* are fast-moving, agile hunters usually found on sandy soils under loose leaf litter; males are frequently collected in pitfall traps. Some species have been kept in captivity by Mr. Vincent D. Roth, who reports that they will feed on drosophilids and other small flies but seem to prefer other spiders as prey, approaching them from the rear and sinking their fangs dorsally at the base of the abdomen (over the heart) while pinning the prey spider's legs down with their own front two pairs of legs.

As previously indicated (Platnick and Shadab, 1977), *Cesonia* belongs to a complex of several closely related North American genera which resemble *Herpyllus* in both somatic and genitalic characters. Because of their similarity, some workers (including ourselves) have considered lumping these species into a single genus. However,

there are a number of probably synapomorphic characters which justify retaining the hypothesis that the species of Cesonia considered below form a monophyletic group. The most obvious of these characters is the color pattern, consisting usually of two. three, or four dark longitudinal bands covering the entire length of the body dorsally (and the length of the abdomen laterally) and separated by intervening longitudinal light bands (as in figs. 1, 2). The black bands are marked with both structural pigments and black scales (similar to those described in the Salticidae by Hill, 1979, and in other gnaphosids by Forster and Blest, 1979); the light bands generally bear white scales. In some species, the black bands may be interrupted (fig. 30), whereas in others they may fuse posteriorly (fig. 36). These kinds of modifications occasionally result in patterns reminscent of other members of the Herpyllus complex. For example, the patterns of Cesonia josephus (Chamberlin and Gertsch) and its close relatives (figs. 68, 74, 78) resemble those of the only two species of *Herpyl*lus, H. ecclesiasticus Hentz and H. propinquus (Keyserling), possessing a distinct color pattern (see Platnick and Shadab, 1977, figs. 1, 2); it is probably for this reason that C. josephus was assigned to Herpyllus by Ubick and Roth (1973). However, C. josephus and its relatives have distinct lateral abdominal light bands not found in the Her*pyllus* species, as well as the other characters

of *Cesonia* noted below. Similar cases of the resemblance of the patterns of some *Cesonia* with anteriorly broken and posteriorly fused bands (as in figs. 96, 100) to those of species currently placed in *Poecilochroa* are believed to be nonhomologous for the same reasons.

In addition to their coloration, Cesonia species differ from other members of the Herpyllus complex in the spacing of their posterior eyes, the posterior medians being situated closer to the posterior laterals than to each other (as in fig. 1); in the other genera the posterior eyes are subequally spaced. There are also peculiarities of both the male and female genitalia of Cesonia. The median apophysis of the male palp protrudes beyond the tip of the palpal bulb, in close association with the embolus and, frequently, a membranous conductor (figs. 3-5); in related genera the median apophysis does not extend beyond the palpal bulb. The female genitalia are also unusual in containing thumb-shaped projections that protrude into the storage cavities of the spermathecae (as in fig. 7): these are sometimes conspicuous (particularly in the lugubris group) and sometimes difficult to see (if the spermathecae are heavily sclerotized), but at least traces of the protrusion seem to be found in all the known species.

On the basis of these four characters, then, we prefer to retain the genus Cesonia. Each of the characters, however, is also found in the type species of the genus *Eilicina* Bryant, E. cincta (Banks). When Bryant (1940) described this genus, she included in it both the type species and a new species. E. elegans. The two species are not closely related to each other; E. elegans has the closely spaced posterior median eyes, metatarsal preening comb, and genitalia characteristic of Drassyllus, and the species is therefore here transferred to that genus. Ei*licina cincta*, on the other hand, has genitalic characters (an epigynal hood leading to triangular epigynal margins and circular posterolateral epigynal openings, and a pair of posterolateral spermathecal ducts; figs. 114, 115) unique to a group of species found in southern Florida and the West Indies. Other

species belonging to this group have been described as members of Sergiolus (by Simon, 1891), Callilepis (by Banks, 1909), and Herpyllus (by Fox, 1938). This group of species (referred to as the *elegans* group below) could thus be considered to constitute Eilicina. However, although it can be argued that all the species considered below constitute a monophyletic group, we know of no characters that would support the hypothesis that the *elegans* group constitutes the sister group of all the remaining species. We therefore prefer to consider *Eilicina* a synonym of Cesonia until a more fully resolved phylogenetic hypothesis is available for these animals.

Among the other genera of the *Herpyllus* complex, it is likely that *Herpyllus* itself is the sister group of *Cesonia*, for in both genera the male embolus is typically enlarged basally and shifted prolaterally, frequently so much so as to be oriented sideways in ventral view (figs. 3, 5; compare Platnick and Shadab, 1977, figs. 27, 91). If this hypothesis is correct, it confirms the rejection of the synonymy of the predominantly Palaearctic genus *Scotophaeus* with *Herpyllus*, as the members of *Scotophaeus* lack these peculiarities of embolar shape and position, and can hence be only more distant relatives of *Herpyllus* than are the species of *Cesonia*.

The 30 known species of Cesonia are assigned below to four species groups. Three of these groups have characters unique to themselves and are therefore presumed to be monophyletic (the apomorphies of the elegans group have been cited above; in the bilineata group the abdomen bears four longitudinal black stripes and the spermathecal storage cavity has a lateral lobe; in the lugubris group the female epigynum bears a pair of lateral guides). The monophyly of the fourth group, the *josephus* group, remains uncertain, primarily because half the species assigned to it are known from only one sex; the known males, however, do seem to have shorter emboli, with less pronounced basal enlargements, than other Cesonia.

We have detected no characters which allow resolution of the interrelationships among the four species groups. The relatively unsatisfactory state of our knowledge of Cesonia interrelationships is not unexpected, however, for with the exception of two species. Cesonia bilineata (Hentz) of the eastern United States and Cesonia lugubris (O. P.-Cambridge) of Mexico, the group has been poorly collected and additional species undoubtedly remain to be discovered, particularly in northern Central America and in the West Indies. In view of the rarity of most species in collections, we have provided below complete locality data for all but the two common species. The format of the descriptions and the standard abbreviations of morphological terms follow those used by Platnick and Shadab (1975). Unless another depository is indicated, all specimens mentioned below are in the American Museum of Natural History. All measurements given are in millimeters.

We are deeply indebted to Vincent D. Roth and Darrell Ubick for making available to us the notes on *Cesonia* they accumulated some years ago in an unfinished study of the group, some of the results of which were presented in Ubick and Roth (1973), and to B. J. Kaston for reviewing a draft of the manuscript. We also thank each of the curators and collectors listed below for their efforts in helping us secure specimens of *Cesonia*.

COLLECTIONS EXAMINED

AMNH, American Museum of Natural History BJK, Dr. B. J. Kaston

- BMNH, British Museum (Natural History), Mr. F. R. Wanless
- BRV, Dr. B. R. Vogel
- CAS, California Academy of Sciences, Dr. D. H. Kavanaugh
- CNC, Canadian National Collections, Dr. C. D. Dondale
- DEB, Mr. D. E. Bixler
- EPC, Exline-Peck Collection, Dr. W. B. Peck
- FMNH, Field Museum of Natural History, Dr. J. B. Kethley
- FSCA, Florida State Collection of Arthropods, Dr. G. B. Edwards
- HKW, Dr. H. K. Wallace
- JAB, Dr. J. A. Beatty
- JSH, Mr. J. S. Heiss
- MCZ, Museum of Comparative Zoology, Dr. H. W. Levi

- MET, Mr. M. E. Thompson
- MSU, Michigan State University, Dr. R. L. Fischer
- NVH, Dr. N. V. Horner
- OFF, Texas Tech University, Dr. O. F. Francke
- REL, Dr. R. E. Leech
- TDG, Mr. T. D. Gowan
- UCB, University of California at Berkeley, Dr. E. I. Schlinger
- UCR, University of California at Riverside, Mr. S. I. Frommer
- USNM, National Museum of Natural History, Dr. R. E. Crabill, Jr.
- VDR, Mr. V. D. Roth
- WAS, Dr. W. A. Shear
- WRI, Mr. W. R. Icenogle

CESONIA SIMON

- Cesonia Simon, 1893, p. 375 (type species by original designation *Herpyllus bilineatus* Hentz). Roewer, 1954, p. 412. Bonnet, 1956, p. 1025.
- Helvidius O. P.-Cambridge, 1896, p. 220 (type species by monotypy *Helvidius lugubris* O. P.-Cambridge). Roewer, 1954, p. 1525. Bonnet, 1957, p. 2152. First synonymized by F. O. P.-Cambridge, 1899, p. 55.
- *Eilicina* Bryant, 1940, p. 390 (type species by original designation *Eilica cincta* Banks). Roewer, 1954, p. 421. NEW SYNONYMY.

DIAGNOSIS: Specimens of *Cesonia* may be recognized by their longitudinal dark bands (fig. 1), widely spaced posterior median eyes (fig. 1), elongated median apophysis reaching beyond the palpal bulb (figs. 3– 5), and spermathecal protrusion (fig. 7).

DESCRIPTION: See descriptions of species groups below.

SYNONYMY: Reasons for the synonymy of *Eilicina* are discussed in the Introduction.

MISPLACED SPECIES: Eilicina elegans Bryant is transferred to Drassyllus in the Introduction. Cesonia cincta Banks (1929) and Cesonia nigra Chickering (1949), both described from Panama, are probably the female and male, respectively, of a single species which does not meet the diagnosis of Cesonia given above. Epigynal structure indicates that the species is most closely related to the Mexican species Cesonia cingulata Roewer (1933), which was transferred to Poecilochroa by Ubick and Roth (1973). These taxa probably do not belong to Poe*cilochroa* either, but their proper placement must await further revisionary studies of the Neotropical representatives of the *Herpyllus* complex.

KEY TO SPECIES GROUPS OF CESONIA

- 1. Abdomen with four longitudinal black stripes (as in figs. 1, 2) bilineata group Abdomen with at most three longitudinal black stripes 2
- Tip of male embolus relatively long, directed distally (as in figs. 118, 136); female spermathecae with posterolateral ducts (as in figs. 133, 139); Florida and West Indies elegans group Tip of male embolus relatively short, directed retrolaterally or ventrally; female spermathecae without posterolateral ducts 3
 Abdomen with pair of paramedian longitudinal

THE **BILINEATA** GROUP

DESCRIPTION: Total length 2.9-7.2. Carapace oval in dorsal view except for greatly narrowed front, widest between coxae II and III, pale orange with thin dark lateral margins and wide paramedian dark bands, with long erect dark setae at clypeus and posterior declivity, short recumbent light scales concentrated at ocular area, and short recumbent dark scales along paramedian bands. Cephalic area not elevated; posterior declivity steep; thoracic groove longitudinal. From above, anterior eve row recurved, posterior row straight; from front, both rows slightly procurved. AME circular, dark, other eyes oval, light. Eyes subequal in size; AME separated by their diameter or more, by less than their radius from ALE; PME separated by one and one-half to two times their diameter, by less than their diameter from PLE; ALE and PLE separated by roughly their diameter. MOQ wider in back than in

front, as wide in back as (or wider than) long. Clypeal height almost twice the AME diameter. Chelicerae usually with three promarginal teeth, of which most proximal is reduced to denticle, and one retromarginal denticle. Endites rectangular, obliquely depressed: labium expanded posteriorly, rebordered anteriorly; sternum long, narrow, with dark border recessed toward carapace and sclerotized extensions to coxae. Leg formula 4123. Typical leg spination pattern (only surfaces bearing spines listed): femora: I, II d1-1-1, p0-0-1; III d1-1-1, p0-1-1, r0-1-1; IV d1-1-1, p0-1-1, r0-0-1; patellae III, IV r0-1-0; tibiae; I, II v0-1p-1p; III d1-0-0, p1-1-1, v1p-1p-2, r0-1-1; IV d1-0-0, p1-1-1, v1p-2-2, r0-1-1; metatarsi: II v1p-0-0; III p0-1-2, v2+0-1p, r0-1-2; IV p1-2-2, v2-2-1p, r0-2-2. Legs pale orange, unmarked. Anterior metatarsi and all tarsi scopulate; tarsi with two dentate claws and thick claw tufts. Trochanters I, II unnotched, III, IV slightly notched. Metatarsal preening comb lacking but weak brush present on metatarsi III, IV. Trichobothria in two dorsal rows on distal leg segments. Abdomen pale vellow with long orange anterior scutum in males, two broad lateral longitudinal dark stripes on dorsum and narrower dark longitudinal stripe ventrolaterally on each side. Six spinnerets, anteriors separated at their base by nearly twice their diameter, with up to six spigots. Palp with laterally displaced, basally expanded embolus, long median apophysis protruding beyond palpal bulb, and membranous conductor. Epigynum with or without hood, without lateral guides; spermathecae with internal protrusions and lateral lobes, without posterolateral ducts.

KEY TO SPECIES OF THE BILINEATA GROUP

- Retrolateral tibial apophysis smoothly tapered toward tip (figs. 3, 4) bilineata Retrolateral tibial apophysis greatly narrowed below tip (figs. 8, 9) sincera
- 3. Epigynum with small anterior hood (fig. 6) bilineata Epigynum without hood (figs. 10, 12) 4



FIGS. 1–7. *Cesonia bilineata* (Hentz). 1. Body, dorsal view. 2. Abdomen, lateral view. 3. Palp, ventral view. 4. Palp, retrolateral view. 5. Palpal bulb, prolateral view. 6. Epigynum, ventral view. 7. Epigynum, dorsal view.



MAP 1. North America, showing distributions of *Cesonia bilineata* (circles), *C. chickeringi* (squares), *C. classica* (triangles), *C. cuernavaca* (diamond), and *C. cincta* (inverted triangle).

Cesonia bilineata (Hentz) Figures 1-7; Map 1

Herpyllus bilineatus Hentz, 1847, p. 456, pl. 24, fig. 5 (male and female syntypes from North Carolina and Alabama, no specific localities, destroyed).

Poecilochroa bilineata: Emerton, 1890, p. 175.

Cesonia bilineata: Simon, 1893, p. 375. Roewer, 1954, p. 412. Bonnet, 1956, p. 1026.

DIAGNOSIS: The epigynal hood (fig. 6) and smoothly tapered retrolateral tibial apophysis (fig. 4) are diagnostic.

MALE: Total length 3.99 ± 0.42 . Carapace 1.82 ± 0.21 long, 1.41 ± 0.14 wide. Femur II 1.35 ± 0.10 long (93 specimens ex-

amined). Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.07, PLE 0.05; AME-AME 0.09, AME-ALE 0.02, PME-PME 0.13, PME-PLE 0.04, ALE-PLE 0.07. MOQ length 0.24, front width 0.22, back width 0.27. Carapace with two, abdomen with four black stripes (figs. 1, 2). Palp with large median apophysis (figs. 3, 5) and smoothly tapered retrolateral tibial apophysis (fig. 4). Leg spination: femora I, II p0-1-1; patella III p0-1-0; tibiae: I v2-2-2; II p0-0-1, v1r-2-1p; III, IV v2-2-2; metatarsi: I, II v2-0-0; III p0-2-2.

FEMALE: Total length 5.67 ± 1.34 . Carapace 2.17 \pm 0.37 long, 1.66 \pm 0.24 wide. Femur II 1.55 \pm 0.21 long (118 specimens examined). Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.05; AME-AME 0.08, AME-ALE 0.02, PME-PME 0.12, PME-PLE 0.05, ALE-PLE 0.08. MOQ length 0.24, front width 0.20, back width 0.24. Coloration as in male. Epigynum with anterior hood (fig. 6), spermathecae relatively short, rounded (fig. 7). Leg spination: femora I, II p0-1-1; patella III p0-1-0; metatarsus III p0-2-2.

RECORDS: Canada: Manitoba: Spruce Woods Provincial Park. Ontario: Pelee Island, Lake Erie: Pointe au Baril: Rondeau Provincial Park; Tar Island, Rockport; Windsor. United States (county records only): Alabama: Baldwin, Dale, Lawrence. Arkansas: Newton. Connecticut: Fairfield, Litchfield, New Haven, New London, Windham. Florida: Clay, Collier, Dade, Duval, Highlands, Leon, Marion, Polk, Saint Johns. Georgia: Sumter. Illinois: Lake, Pope, Randolph. Kentucky: Breathitt. Louisiana: Caddo, East Baton Rouge. Maryland: Montgomery. Massachusetts: Barnstable, Essex, Middlesex, Norfolk, Worcester. Michigan: Calhoun, Livingston. Mississippi: Harrison, Jackson. Missouri: Wayne. New Jersey: Bergen, Hunterdon, Ocean. New Mexico: Sandoval, Socorro. New York: Jefferson, Nassau, Oneida, Rockland, Suffolk, Warren, Yates. North Carolina: Carteret, Durham, Wake. Ohio: Hocking, Ottawa. Oklahoma: Comanche. Pennsylvania: Bucks. South Carolina: Oconee. Tennessee: Henderson. Texas: Anderson, Bexar, Cameron, Dallas, Edwards, Hidalgo, Kleberg, San Patricio, Travis. Virginia: Fairfax. West Virginia: Summers. Wisconsin: Columbia, Waushara. Mexico: Nuevo León: Montemorelos. Tamaulipas: Reinosa; Río Guajolotes, 40 mi. S Ciudad Victoria.

DISTRIBUTION: Eastern North America from Manitoba and Massachusetts south to New Mexico and Florida (map 1).

VARIATION: Specimens from the southern parts of the range are generally smaller than their northern counterparts, which rarely have the lateral abdominal stripes united by a transverse ventral dark band crossing in front of the spinnerets. The female epigyna are variable in width and spermathecal spacing, and the epigynal hood is close to the spermathecae and inconspicuous in some southern females.

NATURAL HISTORY: Mature males have

been collected in every month except February and March, mature females year round. Specimens have been taken in pitcher plants and Bermuda grass, from a silk-lined tube in a clay bank, in upland woods, at forest edges, by sweeping in open mesquite woods, in pitfall traps in hillside woods, dunes, sand pine and pin oak stands, and open and tall grass prairies, on a dead pig, in malaise traps, and in houses and greenhouses.

Cesonia sincera Gertsch and Mulaik Figures 8-11; Map 2

Cesonia sincera Gertsch and Mulaik, 1936, p. 10, figs. 12, 16 (male holotype from Rio Grande City, Starr County, Texas, in AMNH, examined). Roewer, 1954, p. 412. Bonnet, 1956, p. 1026.

DIAGNOSIS: The distally narrowed retrolateral tibial apophysis (fig. 9) and elongate spermathecae (figs. 10, 11) are diagnostic.

MALE: Total length 2.99–3.96. Carapace 1.37–1.87 long, 1.01–1.51 wide. Femur II 0.97–1.22 long. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME 0.05, PLE 0.05; AME–AME 0.05, AME–ALE 0.01, PME– PME 0.07, PME–PLE 0.02, ALE–PLE 0.05. MOQ length 0.16, front width 0.15, back width 0.16. Coloration as in *C. bilineata*. Palp with long median apophysis (fig. 8) and distally narrowed retrolateral tibial apophysis (fig. 9). Leg spination: patella IV r0-0-0; tibiae: I, II v1r-1r-1p; III v1p-2-2; IV d0-0-0; metatarsi: I, II v1r-0-0; IV p0-2-2, v2-1r-1p.

FEMALE: Total length 4.91 ± 0.58 . Carapace 1.83 ± 0.18 long, 1.41 ± 0.12 wide. Femur II 1.29 ± 0.10 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.05, PLE 0.06; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.09, PME-PLE 0.02, ALE-PLE 0.05. MOQ length 0.17, front width 0.16, back width 0.20. Coloration as in *C. bilineata*. Epigynum with basal openings, without hood (fig. 10), spermathecae elongate (fig. 11). Leg spination: patella IV r0-0-0; tibiae: I, II v0-0-1p; IV d0-0-0; metatarsi: II v0-0-0; IV v2-1r-1p.



FIGS. 8-13. 8-11. Cesonia sincera Gertsch and Mulaik. 12, 13. C. chickeringi, new species. 8. Palp, ventral view. 9. Palp, retrolateral view. 10, 12. Epigynum, ventral view. 11, 13. Epigynum, dorsal view.

MATERIAL EXAMINED: United States: Colorado: Las Animas Co.: Highway 109, June 7-Aug. 13, 1966, 1∂, 3♀. Otero Co.: Highway 109, July 26, 1966, 19. New Mexico: Colfax Co.: 15 mi. S Springer (C. C. Hoff), 19. Grant Co.: Hurley, July 17, 1973, yucca, allthorn, mesquite (M. H. Muma), 13. Hidalgo Co.: Lordsburg, July 16, 1973, vucca, ephedra (M. H. Muma), 13; 6 mi. N Lordsburg, July 17, 1970, pitfall, high desert (M. M. Muma, FSCA), 19. Santa Fe Co.: 12 mi. S Lamy (C. C. Hoff), 19. Texas: Cameron Co.: Harlingen, Sept. 20, 1945, sweeping grass (D. E. Hardy), 13. Childress Co.: Childress, Sept. 4, 1933 (W. Ivie), 19. Hidalgo Co.: Edinburg, Mar.-Apr. 1934 (S. Mulaik), 39 (paratypes), Apr. 10, 1936 (S. Mulaik), 1°; June 1933 (S. Mulaik), 1° (allotype), Dec. 1939 (D. and S. Mulaik), 1, NW Edinburg, Sept. 3, 1934 (S. Mulaik), 1, 10 mi. NW Edinburg, Dec. 24, 1949 (S. Mulaik), 19; SW part of county, July 2, 1934 (S. Mulaik), 19. Mason Co.: Mason, Apr. 15, 1961 (J. Rozen, R. Schrammel), 13. Nueces Co.: Driscoll, Apr. 14, 1963 (W. J. Gertsch, W. Ivie), 19. San Patricio Co.: 8 mi. NE Sinton, Apr. 28, 1960 (H. E. Laughlin), 13, Starr Co.: Rio Grande City, July 1934 (S. Mulaik), 13 (holotype); 5 mi. W Rio Grande City, Apr. 10, 1936 (S. Mulaik), 19. Terrell Co.: Dryden, Aug. 6, 1941 (D. and S. Mulaik), 19. Tom Green Co.: Water Valley, Dec. 1939 (D. and S. Mulaik), 19. Val Verde Co.: 19 mi. N Comstock, Apr. 14, 1973 (C. McConnell, OFF), 19. Van Zandt Co.: 5 mi. N Canton, Dec. 29, 1949 (S. Mulaik), 19. Wichita Co.: Lake Wichita, Oct. 13, 1967, on tarp (R. Carpenter, NVH), 19. Utah: Kane Co.: Smoky Mountain, Aug. 2–3, 1971, 29. Mexico: Durango: San Isidro, 60 mi. NW Durango, Aug. 19, 1947 (W. J. Gertsch), 19. San Luis Potosí: 4 mi. W San Luis Potosí, June 7, 1941 (A. M. and L. I. Davis), 18.

DISTRIBUTION: Southwestern United States and northern Mexico (map 2).

VARIATION: Some males from Texas have a shorter tip of the retrolateral tibial apophysis than figured. The length of the epigynum varies even among specimens collected together.

Cesonia chickeringi, new species Figures 12, 13; Map 1

TYPE: Female holotype from Mona Heights, St. Andrew Parish, Jamaica (December 28, 1963; A. M. Chickering), deposited in MCZ.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype.

DIAGNOSIS: The absence of an epigynal hood together with relatively rounded spermathecae (figs. 12, 13) are diagnostic.

MALE: Unknown.

FEMALE: Total length 3.61 ± 0.43 . Carapace 1.52 ± 0.11 long, 1.17 ± 0.10 wide. Femur II 1.17 ± 0.09 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.05, PLE 0.05; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.12, PME-PLE 0.04, ALE-PLE 0.08. MOQ length 0.20, front width 0.16, back width 0.22. Coloration as in *C. bilineata*. Epigynum with basal openings, without hood (fig. 12), spermathecae short, rounded (fig. 13). Leg spination: metatarsus IV p0-2-2, v2-1p-1p, r1-2-2.

OTHER MATERIAL EXAMINED: Unless otherwise indicated, the following specimens were collected by A. M. Chickering and are deposited in the MCZ. Jamaica: St. Andrew Par.: Mona Road, Nov. 11, 1963, 19; Reservoir Aqueduct, Nov. 30, 1963, 19; Richards Reservoir, Nov. 19, 1963, 29, Dec. 18, 1963, 29; Trefalgar Road, Nov. 19, 1963, 19. St. Ann Par.: Runaway Bay, June 23, 1954, 19. St. Catherine Par.: Gunboat Beach, Nov. 19, 1963, 1; Hope Gardens, Kingston, June 26, 1954, 19; Kingston Park, Palisades Area, Nov. 1, 1957, 29; Port Henderson, June 20, 1954, 29; School of Agriculture, Nov. 13, 1957, 19; Spanish Town, July 10, 1974, wasp (Trypoxylon texense) nest, dry shrubs (D. B. Jayasingh), 19; near Spanish Town, Oct. 10, 1957, 19.

DISTRIBUTION: Known only from Jamaica (map 1).

THE LUGUBRIS Group

DESCRIPTION: As in the *bilineata* group except for the following: Total length 2.8– 9.2. Leg spination: femora I, II p0-1-1; pa-

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tella III p0-1-0; tibiae: I p1-0-0, v2-2-2 (males), p0-0-0, v1p-1p-1p (females); II p0-0-1, v1r-2-2 (males), p0-0-0, v0-1p-1p (females); III p2-1-1, v1p-2-2; metatarsi: I, II v2-0-0 (males), v1p-0-0 (females); III p1-2-2 (males), p1-2-2, r1-1-2 (females); IV r1-2-2. Abdomen with at most three dark longitudinal stripes, with pair of paramedian longitudinal light stripes reaching beyond middle of abdomen length. Palp with median apophysis fused to conductor. Epigynum with lateral guides; spermathecae without lateral lobes.

KEY TO SPECIES OF THE LUGUBRIS GROUP

1.	Males	(those	of	Ce	eri	ra	h	0),	С	a	n	а,	aı	nċ	1	С	и	е	rr	u	l-
	vaca	unknov	Nn)).																		2
	Femal	es																				8

- Tip of retrolateral tibial apophysis broadly curved dorsally (figs. 27, 33, 39) 3 Tip of retrolateral tibial apophysis not broadly curved dorsally (figs. 17, 45, 51, 61)... 5
- Median dark abdominal stripe broken (fig. 30); southeastern California and southwestern Arizona (map 3)..... rothi Median dark abdominal stripe not broken (figs. 24, 36)...... 4
- 4. Median dark abdominal stripe reaching anterior edge of abdomen, not fused to lateral dark stripes posteriorly (fig. 24); California and Baja California (map 3) trivittata Median dark abdominal stripe not reaching
 - anterior edge of abdomen, fused to lateral dark stripes posteriorly (fig. 36); Utah south to Morelos (map 3) gertschi
- Lateral dark abdominal stripes relatively narrow (figs. 48, 49); southwestern United States and Gulf of California (map 1)..... classica Lateral dark abdominal stripes relatively wide

(figs. 14, 58) 7

- 7. Paramedian light abdominal stripes unbroken (figs. 14, 15); Mexico and Guatemala (map 2) lugubris Paramedian light abdominal stripes broken (figs. 58, 59); western Mexico (map 6) iviei
- 8. Lateral epigynal guides connected by anterior

	epigynal margin (figs. 18, 22, 28, 34, 40,
	Lateral epigynal guides not connected by an-
	terior epigynai margin (ngs. 52, 56, 62, 66)
9.	Epigynal midpiece reaching at least half of epigynal length (figs. 28, 34, 40, 46) 10
	Epigynal midpiece restricted to basal one- third of epigynal length (figs. 18, 22) 13
10.	Spermathecae relatively short (figs. 29, 35,
	41); paramedian light abdominal stripes straight (figs. 24, 30, 36) 11
	Spermathecae relatively long (fig. 47); para- median light abdominal stripes angled pos-
	teriorly (figs. 42, 43); Arizona and Chihua-
11.	Median dark abdominal stripe broken (fig.
	western Arizona (map 3) rothi
	Median dark abdominal stripe not broken (figs. 24, 36) 12
12.	Epigynal midpiece relatively narrow anterior- ly (fig. 28): California and Baja California
	(map 3) trivittata
	(fig. 40); Utah south to Morelos (map 3)
13.	Anterior epigynal margin a double line (fig.
	22); Baja California Sur (map 2) cerralvo
	Anterior epigynal margin a single line (fig. 18); Mexico and Guatemala (map 2)
14	Lateral emission enided situated masterial
14.	(figs. 62, 66) 15
	Lateral epigynal guides situated near middle of epigynum (figs. 52, 56)
15.	Epigynal midpiece long, narrow (fig. 66); Mo- relos (map 1) cuernavaca
	Epigynal midplece short, wide (fig. 62); west- ern Mexico (map 6)
16.	Epigynal midpiece occupying posterior one- third of anigurum (fig. 56): Jamaica (mon
	2) cana
	Epigynal midpiece occupying posterior one- fifth of epigynum (fig. 52); southwestern
	United States and Gulf of Mexico (map 1) classica
	<i>Cesonia lugubris</i> (O. PCambridge)

Figures 14–19; Map 2

Helvidius lugubris O. P.-Cambridge, 1896, p. 221, pl. 27, figs. 1, 1a-1e (female holotype from Amula, Guerrero, Mexico, in BMNH, examined).



FIGS. 14–19. *Cesonia lugubris* (O. P.-Cambridge). 14. Body, dorsal view. 15. Abdomen, lateral view. 16. Palp, ventral view. 17. Palp, retrolateral view. 18. Epigynum, ventral view. 19. Epigynum, dorsal view.



MAP 2. North America, showing distributions of *Cesonia sincera* (circles), *C. lugubris* (triangles), *C. cerralvo* (squares), *C. cana* (inverted triangles), and *C. josephus* (diamonds).

- Cesonia fugax O. P.-Cambridge, 1898, p. 281, pl. 32, figs. 5, 5a-5c (female holotype from Amula, Guerrero, Mexico, in BMNH, examined). Roewer, 1954, p. 412. Bonnet, 1956, p. 1026. First synonymized by Ubick and Roth, 1973, suppl. 3, p. 1.
- Cesonia mexicana Banks, 1898, p. 221, pl. 13, fig. 24 (female syntype from Tepic, Nayarit, Mexico, in CAS, destroyed; male syntype from Pico de Orizaba, Puebla, Mexico, in MCZ, examined). Roewer, 1954, p. 412. Bonnet, 1956, p. 1026. First synonymized by Ubick and Roth, 1973, suppl. 3, p. 1.
- *Cesonia lugubris:* F. O. P.-Cambridge, 1899, p. 56, pl. 4, fig. 17. Roewer, 1954, p. 412. Bonnet, 1956, p. 1026.

DIAGNOSIS: The long, straight, narrow, unbroken paramedian light longitudinal abdominal stripes (fig. 14) are diagnostic.

MALE: Total length 4.83 ± 0.43 . Carapace 2.29 ± 0.19 long, 1.78 ± 0.13 wide. Femur II 1.60 \pm 0.15 long (22 specimens examined). Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.05; AME-AME 0.07, AME-ALE 0.03, PME-PME 0.12, PME-PLE 0.05, ALE-PLE 0.13. MOQ length 0.27, front width 0.18, back width 0.24. Abdomen with pair of narrow longitudinal paramedian white bands (figs. 14, 15). Palpal bulb narrowed distally (fig.

16), retrolateral tibial apophysis sharply pointed, narrowed distally (fig. 17). Leg spination: tibiae: I p0-0-0; II v1r-2-1p.

FEMALE: Total length 6.65 ± 0.93 . Carapace 2.91 \pm 0.25 long, 2.20 \pm 0.20 wide. Femur II 1.86 \pm 0.13 long (96 specimens examined). Eye sizes and interdistances: AME 0.09, ALE 0.10, PME 0.08, PLE 0.08; AME-AME 0.18, AME-ALE 0.03, PME-PME 0.13, PME-PLE 0.06, ALE-PLE 0.16. MOQ length 0.34, front width 0.36, back width 0.29. Coloration as in male. Epigynum with basal depression (fig. 18), spermathecae relatively elongate (fig. 19). Leg spination: tibia III v1p-1p-2.

RECORDS: Mexico: Chiapas: 3.1 mi. NE Los Amates; San Cristóbal de las Casas; 16.8 mi. SE Teopisca. Colima: 8 mi. SW Colima; 10 mi. S Colima; 20 mi. N Colima; 12 mi. E Manzanillo; Santiago, NW of Manzanillo; 2 mi. S Tonila. Guerrero: Amula; Ayotzinapa; 11 mi. W Chilpancingo; 5.3 mi. N Iguala; 38 mi. S Iguala; Pie de la Cuesta, 8 mi. W Acapulco; Taxco. Jalisco: 10 mi. N Ciudad Guzmán; 8–12 mi. W Guadalajara; 24.4 mi. E Ixtlán del Río; Lago de Chapala; W side, Laguna de Sayula; 20 mi. N La Quemada; 5–8 mi. E Magdalena; Plan de Barrancas; 12.4 mi. S Tecalitlán; nr. Tequila. México:



FIGS. 20-23. Cesonia cerralvo, new species. 20. Body, dorsal view. 21. Abdomen, lateral view. 22. Epigynum, ventral view. 23. Epigynum, dorsal view.

Lengua de Vaca, W Toluca. Michoacán: Conjumatlan. Morelos: Alpoveca; Cocovoc; Cuernavaca; Palo Bolero; Tepoztlán; Xochicalco Ruins; Zempoala. Navarit: Ixtlán del Río; San Blas; 15 mi. N Tepic; 19.3 mi. SE Tepic, Oaxaca: El Catrin; 1-5 mi. N El Punto on road to Ixtlan de Juárez: Miahuatlán: Monte Alban; Nochixtlán; 12 mi. SE Nochixtlán; Oaxaca; NW Teotitlán del Valle; 3 mi. SE Tlacolula. Puebla: Pico de Orizaba: Tehuacán: Tlacotepec: 7 mi. S Tlacotepec: 13.8 mi. W Zanatepec. San Luis Potosí: Valles. Sinaloa: 3.5 mi. S Mazatlán; Río Cosalá, 2 mi. SE Agua Nueva; Rosario. Sonora: E side, N side, Sierra Álamos. Tamaulipas: Gómez Farías; 8 mi. N Victoria. Veracruz: Tierra Colorado. Honduras: Copán: Copán.

DISTRIBUTION: Northern Mexico south to Honduras (map 2).

VARIATION: Occasional females have the spermathecae conspicuously constricted at about half their length and/or convergent anteriorly; these specimens have usually been collected together with normal females.

NATURAL HISTORY: Mature males have

been collected from March through September, mature females every month except March and October. Specimens have been taken under rocks and at elevations between 260 and 7500 feet.

Cesonia cerralvo, new species Figures 20–23; Map 2

TYPE: Female holotype from Isla Cerralvo, Baja California Sur, Mexico (March 22, 1953; J. P. Figg-Hoblyn), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The doubled anterior epigynal margin (fig. 22) is diagnostic.

MALE: Unknown.

FEMALE: Total length 6.15–9.13. Carapace 2.44–3.30 long, 1.88–2.41 wide. Femur II 1.58–2.09 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.06, PLE 0.09; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.15, PME-PLE 0.07, ALE-PLE 0.14. MOQ length 0.34, front



FIGS. 24–29. Cesonia trivittata Banks. 24. Body, dorsal view. 25. Abdomen, lateral view. 26. Palp, ventral view. 27. Palp, retrolateral view. 28. Epigynum, ventral view. 29. Epigynum, dorsal view.

width 0.24, back width 0.27. Abdomen with posteriorly expanded paramedian light stripes (figs. 20, 21). Epigynum with doubled anterior margin (fig. 22), spermathecae narrowed anteriorly (fig. 23). Leg spination: tibiae: II v1p-1p-1p; III p1-1-1.

OTHER MATERIAL EXAMINED: Mexico: Baja California Sur: La Paz, Feb. 1–3, 1965 (V. Roth), 1 penultimate \Im (with fully developed subcuticular epigynum); San José de Comondú Canyon, Feb. 15, 1966 (V. Roth), $2\Im$; San José del Cabo, 1896 (N. Banks, MCZ), 1 \Im .

DISTRIBUTION: Known only from Baja California Sur and adjacent islands of the Gulf of California (map 2).

Cesonia trivittata Banks Figures 24–29; Map 3

Cesonia trivittata Banks, 1898, p. 220, pl. 13, fig. 23 (female syntypes from Sierra de San Lázaro, Baja California Sur, Mexico, in CAS, destroyed, and MCZ, examined). Roewer, 1954, p. 412. Bonnet, 1956, p. 1026.

DIAGNOSIS: Cesonia trivittata resembles C. rothi and C. gertschi in having a dorsally curved retrolateral tibial apophysis, but may be distinguished from them by the characters listed in the key (couplets 4 and 5 for males, 11 and 12 for females).

MALE: Total length 3.24–4.25. Carapace 1.49–1.84 long, 1.10–1.38 wide. Femur II 1.01–1.30 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.05; AME–AME 0.06, AME–ALE 0.02, PME– PME 0.09, PME–PLE 0.06, ALE–PLE 0.07. MOQ length 0.23, front width 0.16, back width 0.21. Abdomen with wide stripes, light stripes fused posteriorly (figs. 24, 25). Embolus originating near midventral line (fig. 26), tip of retrolateral tibial apophysis curved dorsally (fig. 27). Leg spination: femur II r0-1-0.

FEMALE: Total length 5.19 ± 0.68 . Carapace 2.14 ± 0.20 long, 1.61 ± 0.17 wide. Femur II 1.46 ± 0.11 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.06, PLE 0.06; AME-AME 0.07, AME-ALE 0.02, PME-PME 0.12, PME-PLE 0.05, ALE-PLE 0.09. MOQ length 0.24, front width 0.20, back width 0.24. Coloration as in male. Epigynum with hood (fig. 28), spermathecae rotund (fig. 29). Leg spination: tibia IV d0-0-0; metatarsi: I v0-0-0; III p0-2-2, r0-1-2.

MATERIAL EXAMINED: United States: California: Los Angeles Co.: Santa Monica. Dec. 19, 1933 (W. Ivie), 19; Sierra Madre, July 25, 1973 (M. E. Thompson, MET), 13; Tanbark Flats, San Gabriel Mountains, June 20, 1952 (W. J. Gertsch), 19. Orange Co.: Anaheim, July 1962 (F. W. Handsfield), 23: San Juan Creek, July 18, 1931 (W. Ivie), 19; Silverado Canyon, Santa Ana Mountains, Aug. 10, 1952 (R. X. Schick), 19. San Diego Co.: Del Mar, June 1956 (J. A. Comstock), 19; El Cajon, Feb. 26, 1969 (P. Smock, BJK), 19; La Cresta, July 27, 1947 (W. M. Pearce), 19; La Mesa, June 25, 1954 (W. M. Pearce), 19; San Diego, July 29, 1968 (J. Y. Sandoval, BJK), 19, June-Sept. 1970, pitfall trap (B. J. Kaston, BJK), 33, 19. Mexico: Baja California Norte: Puerto de Santo Tomás, July 14-15, 1956 (R. X. Schick), 19. Baja California Sur: Sierra de San Lázaro, Sept. (Eisen and Vaslit, MCZ), 19 (syntype).

DISTRIBUTION: Southwestern California south to Baja California Sur (map 3).

Cesonia rothi, new species Figures 30–35; Map 3

TYPES: Male holotype and female paratype from Gila Valley, Yuma County, Arizona (July 23, 1958; V. Roth), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the type specimens.

DIAGNOSIS: The broken dark abdominal stripes (fig. 30) are diagnostic.

MALE: Total length 3.81 ± 0.46 . Carapace 1.81 ± 0.13 long, 1.42 ± 0.11 wide. Femur II 1.33 ± 0.10 long. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.06, PLE 0.07; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.09, PME-PLE 0.05, ALE-PLE 0.07. MOQ length 0.24, front width 0.18, back width 0.22. Abdomen with median and lateral dark stripes inter-



MAP 3. North America, showing distributions of *Cesonia trivittata* (triangles), *C. rothi* (inverted triangles), *C. gertschi* (circles), *C. coala* (diamonds), and *C. notata* (squares).

rupted at about half their length (figs. 30, 31). Embolus obscured by conductor in ventral view (fig. 32); tip of retrolateral tibial apophysis strongly curved dorsally (fig. 33). Leg spination: femur II r0-1-0; metatarsus III r1-1-2.

FEMALE: Total length 4.84 ± 0.63 . Carapace 2.13 ± 0.22 long, 1.64 ± 0.19 wide. Femur II 1.51 ± 0.15 long. Eye sizes and interdistances: AME 0.07, ALE 0.07, PME 0.07, PLE 0.09; AME-AME 0.07, AME-ALE 0.02, PME-PME 0.13, PME-PLE 0.05, ALE-PLE 0.11. MOQ length 0.30, front width 0.21, back width 0.27. Coloration as in male. Epigynum with circular midpiece (fig. 34), spermathecae widest anteriorly (fig. 35). Leg spination: femur II r0-1-0.

OTHER MATERIAL EXAMINED: United States: Arizona: Yuma Co.: Gila Valley, July 23, 1958, poplar duff on sandy soil (V. Roth, VDR, AMNH), 7σ , 15φ ; N Gila Valley, Dec. 12, 1957 (V. Roth), 1φ ; Pfeiffer's, Yuma, July-Aug. 1957 (V. Roth), 1σ ; Yuma, Oct. 1–15, 1955 (V. Roth), 1φ . California: Imperial Co.: E Fort Yuma, Mar. 13, 1960 (V. Roth), 1φ . Riverside Co.: Andreas Canyon, Palm Springs, Mar. 26, 1960 (W. J. Gertsch, W. Ivie, R. Schrammel), $2\mathfrak{P}$; Palm Canyon, Palm Springs, Mar. 27, 1960 (W. J. Gertsch, W. Ivie, R. Schrammel), $1\mathfrak{J}$, $1\mathfrak{P}$.

DISTRIBUTION: Known only from southeastern California and southwestern Arizona (map 3).

Cesonia gertschi, new species Figures 36–41; Map 3

TYPES: Male holotype and female paratype from pitfall trap among oaks at Elgin, Santa Cruz County, Arizona (July 9–14, 1973, F. Enders), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of W. J. Gertsch, who first recognized the species as new.

DIAGNOSIS: Cesonia gertschi resembles C. trivittata and C. rothi in having a dorsally curved retrolateral tibial apophysis, but may be distinguished from them by the characters listed in the key (couplets 4 and 5 for males, 11 and 12 for females).

MALE: Total length 3.61 ± 0.50 . Carapace 1.72 ± 0.21 long, 1.28 ± 0.14 wide. Femur II 1.19 ± 0.09 long. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME



FIGS. 30-35. Cesonia rothi, new species. 30. Body, dorsal view. 31. Abdomen, lateral view. 32. Palp, ventral view. 33. Palp, retrolateral view. 34. Epigynum, ventral view. 35. Epigynum, dorsal view.



FIGS. 36–41. Cesonia gertschi, new species. 36. Body, dorsal view. 37. Abdomen, lateral view. 38. Palp, ventral view. 39. Palp, retrolateral view. 40. Epigynum, ventral view. 41. Epigynum, dorsal view.

0.05, PLE 0.06; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.09, PME-PLE 0.06, ALE-PLE 0.08. MOQ length 0.23, front width 0.15, back width 0.19. Median dark abdominal stripe fused to lateral dark stripes posteriorly (figs. 36, 37). Base of embolus directed prolaterally (fig. 38), tip of retrolateral tibial apophysis curved dorsally (fig. 39). Leg spination: femur II r0-1-0; tibiae: I p0-1-1; III v1p-1p-2.

FEMALE: Total length 5.33 ± 0.85 , Carapace 2.21 \pm 0.30 long, 1.67 \pm 0.23 wide. Femur II 1.49 \pm 0.21 long. Eye sizes and interdistances: AME 0.07, ALE 0.06, PME 0.07, PLE 0.07; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.11, PME-PLE 0.07, ALE-PLE 0.09. MOQ length 0.28, front width 0.20, back width 0.25. Coloration as in male. Epigynum with wide midpiece (fig. 40), spermathecae rectangular (fig. 41). Leg spination: metatarsi: II v2-0-0; III r0-1-2.

OTHER MATERIAL EXAMINED: United States: Arizona: Cochise Co.: Crystal Cave Wash, near Southwestern Research Station. Aug. 3, 1974, on rotten oak log (V. Roth, VDR), 1♂; Mule Mountains, 3 mi. N Bisbee, Sept. 7, 1950 (W. J. Gertsch), 19; Portal, July 22, 1975, in house (W. J. Gertsch), 1 ; Southwestern Research Station, Chiricahua Mountains, matured May 10, 1974, at pool, feeding on immature clubionid (V. Roth), 13, July 26, 1971, pitfall trap, elevation 5400 feet (A. Jung), 13, Oct.-Nov. 1955 (E. Ordway), 19. Coconino Co.: Manzanita Camp, Oak Creek Canyon, July 25, 1952 (W. J. Gertsch, M. Cazier, R. Schrammel), 19. Mohave Co.: Virgin Narrows, 5 mi. E Littlefield, June 11, 1934 (W. Ivie, H. Rasmussen), 13, 39. Pima Co.: Cherry Valley Ranch, Santa Catalina Mountains, Mar. 19, 1961, under rock in rocky oak-grassland (J. A. Beatty, JAB), 19; Molina Basin, Santa Catalina Mountains, Nov. 27, 1976 (V. Roth, R. Schroepfer), 19; Sabina Canvon, Tucson, June 5, 1952 (W. J. Gertsch, M. Cazier, R. Schrammel), 19. Santa Cruz Co.: Elgin, July 9-14, 1973, pitfall, oaks (F. Enders), 33, 29. New Mexico: Grant Co.: Burro Mountains. June 16, 1972, pinyon, juniper, nolina (M. H. Muma), 19. Hidalgo Co.: Guadalupe Canyon, 38 mi. E Douglas, Arizona, June 19, 1974, under dry oak leaves on sandy soil (V. Roth), 5δ , $5\circ$, July 12, 1972 (V. Roth, VDR), $1\circ$. *Utah:* Washington Co.: Zion National Park, June 9, 1934 (W. Ivie, H. Rasmussen), $1\circ$. **Mexico**: *Morelos*: Oaxtepec, May 17, 1942 (M. Correa, M. Cardenas), $1\circ$. *Sonora*: 30 mi. W Agua Prieta, 7 mi. S border, July 18, 1974, under poplar leaves (V. Roth) 1δ , $1\circ$.

DISTRIBUTION: Utah south to Morelos (map 3).

Cesonia ubicki, new species Figures 42–47; Map 4

TYPES: Male holotype from swimming pool at an elevation of 5400 feet at the Southwestern Research Station, Chiricahua Mountains, Cochise County, Arizona (May 29, 1966; V. Roth), and female paratype from a pitfall trap at the same locality (July 26, 1971; A. Jung), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of D. Ubick, who first recognized the species as new.

DIAGNOSIS: The short, wide retrolateral tibial apophysis (fig. 45) and extremely wide epigynal midpiece (fig. 46) are diagnostic.

MALE: Total length 4.07. Carapace 2.05 long, 1.55 wide. Femur II 1.48 long. Eye sizes and interdistances: AME 0.05, ALE 0.08, PME 0.06, PLE 0.06; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.10, PME-PLE 0.05, ALE-PLE 0.09. MOQ length 0.23, front width 0.16, back width 0.22. Abdomen with paramedian light stripes angled outward posteriorly (figs. 42, 43). Palpal bulb gradually narrowed distally (fig. 44), retrolateral tibial apophysis short, wide (fig. 45). Leg spination: metatarsus III r1-12.

FEMALE: Total length 4.92–7.74. Carapace 2.14–2.88 long, 1.66–2.10 wide. Femur II 1.30–1.81 long. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.06, PLE 0.06; AME–AME 0.06, AME–ALE 0.03, PME–PME 0.13, PME–PLE 0.05, ALE–PLE 0.11. MOQ length 0.26, front width 0.18, back width 0.25. Coloration as in male. Epigynum with extremely wide midpiece (fig. 46), spermathecae elongate, sin-



FIGS. 42–47. *Cesonia ubicki*, new species. 42. Body, dorsal view. 43. Abdomen, lateral view. 44. Palp, ventral view. 45. Palp, retrolateral view. 46. Epigynum, ventral view. 47. Epigynum, dorsal view.



FIGS. 48-53. Cesonia classica Chamberlin. 48. Body, dorsal view. 49. Abdomen, lateral view. 50. Palp, ventral view. 51. Palp, retrolateral view. 52. Epigynum, ventral view. 53. Epigynum, dorsal view.

uous (fig. 47). Leg spination: tibiae: III v1p-1p-2; IV v2-2-2; metatarsus III r0-1-2.

OTHER MATERIAL EXAMINED: United States: Arizona: Cochise Co.: Cave Creek Canyon, July 13–19, 1967, pitfall trap, elevation 5400 feet (D. E. Bixler), 1° ; Garden Canyon, Huachuca Mountains, July 8–12, 1950 (C. M. Bogert), 1° . Mexico: Chihuahua: Cañón Prieta, near Primavera, June 30, 1947 (W. J. Gertsch), 2° .

DISTRIBUTION: Known only from southeastern Arizona and northwestern Chihuahua (map 4).

Cesonia classica Chamberlin Figures 48–53; Map 1

Cesonia classica Chamberlin, 1924, p. 619, fig. 57 (female holotype from Isla Monserrate, Baja California Sur, Mexico, in CAS, examined). Roewer, 1954, p. 412. Bonnet, 1956, p. 1026.

DIAGNOSIS: *Cesonia classica* resembles *C. cana* in having small, rounded, anteriorly situated lateral epigynal guides, but may be distinguished by the narrower lateral dark abdominal stripes (figs. 48, 49).

MALE: Total length 4.00 ± 0.40 . Carapace 1.83 ± 0.16 long, 1.44 ± 0.14 wide. Femur II 1.24 ± 0.12 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.05, PLE 0.05; AME-AME 0.08, AME-ALE 0.02, PME-PME 0.11, PME-PLE 0.03, ALE-PLE 0.10. MOQ length 0.22, front width 0.18, back width 0.22. Wide median and narrow lateral abdominal dark stripes fused posteriorly (figs. 48, 49). Median apophysis wide basally (fig. 50), retrolateral tibial apophysis greatly narrowed at tip (fig. 51). Leg spination: metatarsi: III p0-2-2; IV r0-2-2.

FEMALE: Total length 5.23 ± 0.84 . Carapace 2.30 ± 0.17 long, 1.78 ± 0.15 wide. Femur II 1.54 ± 0.14 long. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.07, PLE 0.07; AME-AME 0.11, AME-ALE 0.03, PME-PME 0.16, PME-PLE 0.05, ALE-PLE 0.11. MOQ length 0.26, front width 0.23, back width 0.30. Coloration as in male. Epigynum with basal depression (fig. 52), spermathecae elongate, concave medially (fig. 53). Leg spination typical for the species group.

MATERIAL EXAMINED: United States: Arizona: Maricopa Co.: 6 mi. NE Cavecreek, Aug. 1966 (W. Eberhard, MCZ), 19. Pima Co.: Ajo Way, Tucson Mountains, June 19, 1971 (D. Richman), 1; Madera Canvon, Santa Rita Mountains, Aug. 2, 1963, under rock, elevation 4800 feet (J. A. Beatty, JAB), 13. Pinal Co.: 30 mi. W Casa Grande, Mar. 27, 1940 (R. H. Crandall), 13. Yuma Co.: Gila Valley, July 23, 1958, poplar duff (V. Roth, VDR), 13; Martinez Lake, Apr. 3, 1960 (V. Roth, VDR), 19. California: Imperial Co.: Fish Springs, Salton Sea, Mar. 12, 1941 (A. and W. Ivie), 13. Inyo Co.: near Cartago, Aug. 6, 1931 (W. Ivie), 19. Kern Co.: near Laurel Mountain. El Paso Mountains, 1 mi. W Highway 395, Aug. 31, 1963 (D. Gibo, WRI), 29. Riverside Co.: Deep Canyon, Coyote Creek, May 10, 1975 (UCR), 13; 9 mi. E Indio, June 11, 1956, at light (M. Wasbauer), 13; Whitewater Canyon, Feb. 3, 1957, shrub litter (I. Newell), 1; Winchester, collected or matured May 26-June 15, 1972-1974, on sidewalk, under rocks (W. Icenogle; WRI), 43. San Bernardino Co.: Pisgah Lava Flow, May 10, 1960 (B. Banta, CAS), 13, 19, Aug. 30, 1959 (B. Banta, CAS), 19; Twentynine Palms, July 1-15, 1945 (J. H. Branch), 13, 29. San Diego Co.: Anza-Borrego Desert State Park, Apr. 22, 1954 (E. I. Schlinger), 1∂; San Diego, June 1970, pitfall trap (B. J. Kaston, BJK), 13. Nevada: Nye Co.: Mercury, June-Aug. 1961-1963, 123, 39. Mexico: Baja California Norte: Bahía de Los Ángeles, Jan. 15, 1965, on beach (V. Roth), 1, El Cardonal, E Rosario, July 15, 1962 (C. Parrish), 19; Isla Cedros, Mar. 10, 1945 (B. F. Osorio Tafall), 29; 10 mi. E Rosario, May 5, 1961 (W. J. Gertsch, V. Roth), 19. Baja California Sur: Isla Monserrate, S end, May 25, 1921 (J. C. Chamberlin, CAS, MCZ), 29, SW side, May 23, 1970 (S. C. Williams, V. F. Lee, CAS), 19; Isla San José, near boy's prison, Mar. 25, 1953 (B. Firstman), 13; La Paz, Feb. 2-3, 1966, beach, above high tide line (V. Roth), 13. Sonora: Guaymas, Feb. 1953 (A. Ebeling), 19, Apr. 9, 1921 (E. P.



FIGS. 54-57. Cesonia cana, new species. 54. Body, dorsal view. 55. Abdomen, lateral view. 56. Epigynum, ventral view. 57. Epigynum, dorsal view.

Van Duzee, MCZ), 1, May 21, 1942 (F. Bonet), 1.

DISTRIBUTION: Southwestern United States and northwestern Mexico (map 1).

Cesonia cana, new species Figures 54–57; Map 2

TYPE: Female holotype from Cane River at Morant Bay Road, St. Andrew Parish, Jamaica (October 4, 1957; A. M. Chickering), deposited in MCZ.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Cesonia cana resembles C. classica in having small, rounded, anteriorly situated lateral epigynal guides, but may be distinguished by the longer epigynal midpiece (fig. 56).

MALE: Unknown.

FEMALE: Total length 4.48-5.74. Carapace 1.91-2.47 long, 1.57-1.78 wide. Femur II 1.26-1.60 long. Eye sizes and interdistances: AME 0.07, ALE 0.07, PME 0.07, PLE 0.07; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.14, PME-PLE 0.06, ALE-PLE 0.13. MOQ length 0.31, front width 0.22, back width 0.28. Wide median and lateral abdominal dark stripes fused posteriorly (figs. 54, 55). Epigynal midpiece relatively long (fig. 56), spermathecae twisted posteriorly (fig. 57). Leg spination: tibiae: III v1p-1p-2; IV d0-0-0; metatarsus III p0-2-2.

OTHER MATERIAL EXAMINED: Jamaica: St. Catherine: 3 mi. E May Pen, Nov. 11, 1957 (A. M. Chickering, MCZ), 2 \odot . St. Thomas: 14 mi. E Kingston, Oct. 4, 1957 (A. M. Chickering, MCZ), 1 \odot .

DISTRIBUTION: Known only from Jamaica (map 2).

Cesonia iviei, new species Figures 58-63; Map 6

TYPES: Male holotype from an elevation of 1200 meters on the east side of Sierra Álamas, Sonora, Mexico (collected November 9–13, 1972, matured February 1, 1973; V. Roth), and female paratype from 5 miles northeast of San Blas, Nayarit, Mexico (May 14, 1963; W. J. Gertsch and W. Ivie), deposited in AMNH.



FIGS. 58-63. Cesonia iviei, new species. 58. Body, dorsal view. 59. Abdomen, lateral view. 60. Palp, ventral view. 61. Palp, retrolateral view. 62. Epigynum, ventral view. 63. Epigynum, dorsal view.

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FIGS. 64-67. Cesonia cuernavaca, new species. 64. Body, dorsal view. 65. Abdomen, lateral view. 66. Epigynum, ventral view. 67. Epigynum, dorsal view.

ETYMOLOGY: The specific name is a patronym in honor of one of the collectors of the paratype.

DIAGNOSIS: Cesonia iviei resembles C. cuernavaca in having small, triangular, posteriorly situated lateral epigynal guides, but may be distinguished by the sinuous retrolateral tibial apophysis (fig. 61) and rounded epigynal midpiece (fig. 62).

MALE: Total length 4.90. Carapace 2.27 long, 1.91 wide. Femur II 1.58 long. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.06, PLE 0.07; AME-AME 0.09, AME-ALE 0.03, PME-PME 0.11, PME-PLE 0.06, ALE-PLE 0.11. MOQ length 0.27, front width 0.21, back width 0.23. Paramedian light abdominal stripes broken (figs. 58, 59). Embolus situated beside and below median apohysis and conductor (fig. 60), retrolateral tibial apophysis sinuous (fig. 61). Leg spination: femur II r0-1-0; tibia III v2-2-2; metatarsus III r1-1-2.

FEMALE: Total length 6.35. Carapace 2.76 long, 2.01 wide. Femur II 1.68 long. Eye sizes and interdistances: AME 0.08, ALE

0.09, PME 0.07, PLE 0.07; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.14, PME-PLE 0.08, ALE-PLE 0.16. MOQ length 0.32, front width 0.24, back width 0.28. Coloration as in male. Epigynum with rounded midpiece (fig. 62), spermathecae concave medially (fig. 63). Leg spination: tibia I v0-1p-1p; metatarsus III p1-1-2, r0-1-2.

MATERIAL EXAMINED: Only the type specimens.

DISTRIBUTION: Northwestern Mexico (map 6).

Cesonia cuernavaca, new species Figures 64–67; Map 1

TYPE: Female holotype from north of Cuernavaca, Morelos, Mexico (May 6, 1963; W. J. Gertsch and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The extremely long and narrow epigynal midpiece (fig. 66) is diagnostic. MALE: Unknown.

FEMALE: Total length 5.72–7.52. Carapace 2.43–2.91 long, 1.91–2.24 wide. Femur II 1.58–1.89 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.08, PLE 0.08; AME–AME 0.11, AME–ALE 0.03, PME–PME 0.14, PME–PLE 0.05, ALE–PLE 0.15. MOQ length 0.33, front width 0.27, back width 0.30. Paramedian light abdominal stripes relatively short (figs. 64, 65). Epigynal midpiece long, narrow (fig. 66), spermathecae with anteromedian lobes (fig. 67). Leg spination typical for the species group.

MATERIAL EXAMINED: Five females taken with the holotype.

DISTRIBUTION: Known only from the type locality in Morelos, Mexico (map 1).

THE JOSEPHUS GROUP

DESCRIPTION: As in the *bilineata* group except for the following: Total length 2.4– 7.5. Carapace usually without distinct paramedian dark bands. Leg spination: femora I, II p0-1-1; tibiae: III p2-1-1; IV d0-0-0; metatarsi: I, II v2-0-0 (males), v1p-0-0 (females); III p0-2-2. Some leg segments often darkened. Abdomen without paramedian longitudinal light stripes or with short ones only. Palp with median apophysis fused to conductor. Spermathecae without lateral lobes.

KEY TO SPECIES OF THE JOSEPHUS GROUP

- 3. Retrolateral tibial apophysis relatively short (fig. 71) josephus Retrolateral tibial apophysis relatively long (fig. 81) leechi

- 6. Embolus basally curved (fig. 86) coala Embolus basally straight (fig. 92) ... notata
- Retrolateral tibial apophysis straight in ventral view (fig. 102)..... pudica Retrolateral tibial apophysis curved in ventral view (fig. 104) boca
- 8. Epigynum without hood (figs. 72, 76) 9 Epigynum with hood (figs. 82, 88, 94) ... 10
- 9. Spermathecae round (fig. 73) josephus Spermathecae elongate (fig. 77) bixleri
- 10. Epigynal hood relatively narrow (fig. 82).... Epigynal hood relatively wide (figs. 88, 94)...1
- 11. Spermathecae with median projections (fig. 89) coala Spermathecae without median projections (fig. 95) notata

Cesonia josephus (Chamberlin and Gertsch) Figures 68–73; Map 2

- Poecilochroa josephus Chamberlin and Gertsch, 1940, p. 4, fig. 32 (female holotype from Atherton, San Mateo County, California, in AMNH, examined). Roewer, 1954, p. 432.
- Herpyllus josephus: Ubick and Roth, 1973, suppl. 2, p. 5.
- Cesonia josephus: Platnick and Shadab, 1977, p. 6.

DIAGNOSIS: The short, sinuous retrolateral tibial apophysis (fig. 71) and anterior spermathecal lobes (fig. 73) are diagnostic.

MALE: Total length 3.96–4.75. Carapace 1.78–2.05 long, 1.31–1.55 wide. Femur II 1.19–1.33 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.07, PLE 0.07; AME–AME 0.06, AME–ALE 0.02, PME– PME 0.06, PME–PLE 0.05, ALE–PLE 0.08. MOQ length 0.20, front width 0.16, back width 0.20. Abdomen with short median and long paired lateral light stripes (figs. 68, 69). Palp with recessed embolus (fig. 70), retrolateral tibial apophysis short, sinuous (fig. 71). Leg spination: femur II r0-1-0; patella III p0-1-0; tibiae: I v2-2-2; II v1r-2-1p; III v1p-2-2; IV d1-0-0; metatarsi: III p1-2-2, r1-1-2; IV r1-2-2.



FIGS. 68–73. Cesonia josephus (Chamberlin and Gertsch). 68. Body, dorsal view. 69. Abdomen, lateral view. 70. Palp, ventral view. 71. Palp, retrolateral view. 72. Epigynum, ventral view. 73. Epigynum, dorsal view.

FEMALE: Total length 5.18–7.45. Carapace 2.19–2.52 long, 1.59–1.85 wide. Femur II 1.42–1.55 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.08, PLE 0.08; AME–AME 0.06, AME–ALE 0.02, PME–PME 0.09, PME–PLE 0.08, ALE–PLE 0.12. MOQ length 0.26, front width 0.20, back width 0.24. Coloration as in male. Epigynal midpiece extending length of spermathecae (fig. 72), spermathecae with anterior lobes (fig. 73). Leg spination: patella III p0-1-0; tibiae: III v1p-2-2; IV d1-0-0, p2-1-1; metatarsi: III p1-2-2, r1-1-2; IV r1-2-2.

MATERIAL EXAMINED: United States: California: Los Angeles Co.: Mt. Baldy Road, Evey Canyon, May 1-12, 1969, pitfall in oak woodland, elevation 2000 feet (D. Bixler), 13. Marin Co.: Mill Valley, July 7, 1956, among redwoods (W. J. Gertsch, V. Roth), 13; no specific locality, Nov. 8, 1919 (Dietrich), 13. San Mateo Co.: Atherton, Dec. 11, 1927 (J. C. Chamberlin), 19 (holotype). Santa Cruz Co.: 14 mi. N Boulder Creek, Oct. 3, 1972, elevation 2630 feet (L. Herman), 13. Solano Co., 14 mi. N Vacaville, Dec. 1, 1956 (R. O. Schuster), 19. Tulare Co.: near Ash Mountain entrance, Sequoia National Park, July 5, 1956, elevation 3700 feet (W. J. Gertsch, V. Roth), 19; California Hot Springs, Jan. 28, 1970, Berlese, nest cup of woodrat nest, elevation 4000 feet (K. Phillips), 1♂.

DISTRIBUTION: Known only from California (map 2).

Cesonia bixleri, new species Figure 74–77; Map 4

TYPE: Female holotype taken by sweeping a boggy and wet meadow at an elevation of 3900 feet in Yosemite Valley, Mariposa County, California (May 10, 1968; D. E. Bixler), deposited in AMNH courtesy of Mr. Bixler.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype.

DIAGNOSIS: Cesonia bixleri resembles C. josephus and C. leechi but may be distinguished from the former by the shorter lateral white abdominal stripes (figs. 74, 75) and

from the latter by lacking an epigynal hood (fig. 76).

MALE: Unknown.

FEMALE: Total length 5.72. Carapace 2.59 long, 1.81 wide. Femur II 1.52 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.07, PLE 0.09; AME-AME 0.09, AME-ALE 0.03, PME-PME 0.11, PME-PLE 0.09, ALE-PLE 0.10. MOQ length 0.31, front width 0.22, back width 0.24. Abdomen with median and paired lateral light stripes all short (figs. 74, 75). Epigynal midpiece extending length of spermathecae (fig. 76), spermathecae narrowed anteriorly (fig. 77). Leg spination: tibiae: III v1p-2-2; IV d1-0-0; metatarsus IV r1-2-2.

MATERIAL EXAMINED: Only the holo-type.

DISTRIBUTION: Known only from the type locality in California (map 4).

Cesonia leechi, new species Figures 78–83; Map 5

TYPES: Male holotype and female paratype taken by beating leaves of living *Yucca valida* 2.8 miles south-southeast of Todos Santos, Baja California Sur, Mexico (December 25, 1958; H. B. Leech), deposited in CAS.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the type specimens.

DIAGNOSIS: Cesonia leechi resembles C. josephus and C. bixleri but may be distinguished by the longer retrolateral tibial apophysis (fig. 81) and the presence of an epigynal hood (fig. 82).

MALE: Total length 3.46. Carapace 1.75 long, 1.30 wide. Femur II 1.08 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.05, PLE 0.05; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.11, PME-PLE 0.06, ALE-PLE 0.08. MOQ length 0.22, front width 0.15, back width 0.21. Abdomen with lateral light stripes broken (figs. 78, 79). Palp with recessed embolus (fig. 80), retrolateral tibial apophysis relatively long (fig. 81). Leg spination: patella III p0-1-0; tibiae: I v0-0-0; III p1-1-1, v2-2-2; IV p1-0-1,



FIGS. 74–77. Cesonia bixleri, new species. 74. Body, dorsal view. 75. Abdomen, lateral view. 76. Epigynum, ventral view. 77. Epigynum, dorsal view.

v2-2-2; metatarsi: I v0-0-0; II v1p-0-0; III p0-1-2; IV p1-1-2.

FEMALE: Total length 5.15. Carapace 2.29 long, 1.73 wide. Femur II 1.45 long. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.07, PLE 0.06; AME–AME 0.08, AME–ALE 0.02, PME–PME 0.11, PME–PLE 0.06, ALE–PLE 0.11. MOQ length 0.29, front width 0.20, back width 0.25. Coloration as in male. Epigynum with curved hood (fig. 82), spermathecae narrowed anteriorly (fig. 83). Leg spination: tibiae: I v0-0-0; III d0-0-0, p2-1-0, v2-2-2; IV p1-0-1, v2-2-2; metatarsi: I v0-0-0; III p0-1-2; IV p1-1-2.

MATERIAL EXAMINED: Only the type specimens.

DISTRIBUTION: Known only from the type locality in Baja California Sur (map 5).

Cesonia coala, new species Figures 84–89; Map 3

TYPES: Male holotype from Ruinas de Palenque, Chiapas, Mexico (June 26–30, 1959; C. and P. Vaurie), and female paratype from the west side of Coatzacoalcos, Veracruz, Mexico (August 11, 1966; J. and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Cesonia coala resembles C. notata but may be distinguished by the continuous lateral dark abdominal stripes (figs. 84, 85).

MALE: Total length 2.92. Carapace 1.36 long, 0.99 wide. Femur II 0.94 long. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.06, PLE 0.05; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.04, ALE-PLE 0.05. MOQ length 0.16, front width 0.14, back width 0.19. Abdomen with irregularly shaped median light stripe (figs. 84, 85). Palp with curved embolus (fig. 86), retrolateral tibial apophysis long, sinuous (fig. 87). Leg spination (leg IV absent): tibiae: I p1-0-0, v2-2-2; II p0-0-1, v1r-2-2.

FEMALE: Total length 4.05. Carapace 1.58 long, 1.17 wide. Femur II 1.04 long. Eye sizes and interdistances: AME 0.05, ALE



MAP 4. North America, showing distributions of *Cesonia ubicki* (diamonds), *C. bixleri* (triangle), *C. lacertosa* (square), *C. elegans* (circles), and *C. bryantae* (inverted triangles).

0.05, PME 0.07, PLE 0.05; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.05, ALE-PLE 0.06. MOQ length 0.20, front width 0.15, back width 0.21. Coloration as in male. Epigynum with straight anterior hood (fig. 88), spermathecae with median lobes (fig. 89). Leg spination: femur IV p0-0-1; patella IV r0-0-0; tibiae: III p1-1-1; IV p1-0-1; metatarsi: III p0-1-2; IV p0-2-2, v2-1p-1p.

MATERIAL EXAMINED: Only the type specimens.

DISTRIBUTION: Southern Mexico (map 3).

Cesonia notata Chickering Figures 90–95; Map 3

Cesonia notata Chickering, 1949, p. 319, figs. 6-8 (male holotype from Barro Colorado Island, Canal Zone, Panama, in MCZ, examined). Roewer, 1954, p. 412.

DIAGNOSIS: Cesonia notata resembles C. coala in having a straight anterior epigynal hood, but may be distinguished by the inclusion of dark markings within the light median abdominal stripe (figs. 90, 91). MALE: Total length 2.40–3.01. Carapace 1.18–1.33 long, 0.84–0.95 wide. Femur II 0.83–0.90 long. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME 0.05, PLE 0.05; AME–AME 0.03, AME–ALE 0.01, PME– PME 0.06, PME–PLE 0.04, ALE–PLE 0.05. MOQ length 0.16, front width 0.13, back width 0.16. Median light abdominal stripe containing dark markings (figs. 90, 91). Embolus almost straight (fig. 92), retrolateral tibial apophysis long, gradually tapered toward tip (fig. 93). Leg spination: femur IV p0-0-1; tibiae: I p1-0-0, v2-2-2; II p0-0-1, v1r-2-1p; metatarsus IV p0-2-2, v2-1p-1p.

FEMALE: Total length 3.61 ± 0.35 . Carapace 1.55 ± 0.12 long, 1.09 ± 0.09 wide. Femur II 1.00 ± 0.07 long. Eye sizes and interdistances: AME 0.06, ALE 0.06, PME 0.06, PLE 0.06; AME-AME 0.04, AME-ALE 0.01, PME-PME 0.09, PME-PLE 0.05, ALE-PLE 0.06. MOQ length 0.20, front width 0.16, back width 0.21. Coloration as in male. Epigynum with straight anterior hood (fig. 94), spermathecae without median lobes (fig. 95). Leg spination: femur IV p0-0-1; tibiae: I v1p-1p-1p; IV p1-0-1; metatarsus IV p0-2-2, v2-1p-1p.



FIGS. 78-83. Cesonia leechi, new species. 78. Body, dorsal view. 79. Abdomen, lateral view. 80. Palp, ventral view. 81. Palp, retrolateral view. 82. Epigynum, ventral view. 83. Epigynum, dorsal view.



FIGS. 84–89. Cesonia coala, new species. 84. Body, dorsal view. 85. Abdomen, lateral view. 86. Palp, ventral view. 87. Palp, retrolateral view. 88. Epigynum, ventral view. 89. Epigynum, dorsal view.



FIGS. 90-95. Cesonia notata Chickering. 90. Body, dorsal view. 91. Abdomen, lateral view. 92. Palp, ventral view. 93. Palp, retrolateral view. 94. Epigynum, ventral view. 95. Epigynum, dorsal view.



FIGS. 96-101. 96-99. Cesonia lacertosa Chickering. 100, 101. C. pudica Chickering. 96, 100. Body, dorsal view. 97, 101. Abdomen, lateral view. 98. Palp, ventral view. 99. Palp, retrolateral view.



FIGS. 102–105. 102, 103. Cesonia pudica Chickering. 104, 105. C. boca, new species. 102, 104. Palp, ventral view. 103, 105. Palp, retrolateral view.

MATERIAL EXAMINED: Mexico: Oaxaca: 5 mi. N Palomares, Aug. 31, 1964 (J. and W. Ivie), 1 \bigcirc . **Panama** (all specimens collected by A. M. Chickering and deposited in MCZ): Canal Zone: Barro Colorado Island, July 1939–1954, 3 \Diamond , June 13–Aug. 1934–1954, 20 \heartsuit ; Experimental Gardens, July 26, 1954, 1 \Diamond ; Fort Sherman, Aug. 1939, 1 \Diamond ; Madden Dam, Nov. 30, 1957, 2 \heartsuit ; Pedro Miguel, Jan. 24, 1958, 1 \heartsuit , July 5, 1950, 2 \heartsuit ; 4 mi. beyond Pedro Miguel, Aug. 25, 1954, 1 \heartsuit ; Summit, July 7–10, 1950, 1 \Diamond ; Summit Park, Feb. 25, 1958, 1 \Diamond . Colón: Portobelo, Aug. 1936, 1 \Diamond . Panamá: Chilibre, July 1939, 1 \Diamond , 1 \heartsuit .

DISTRIBUTION: Oaxaca south to Panama (map 3).

Cesonia lacertosa Chickering Figures 96–99; Map 4

Cesonia lacertosa Chickering, 1949, p. 314, figs. 1, 2 (male holotype from Fort Sherman, Canal Zone, Panama, in MCZ, examined). Roewer, 1954, p. 412. DIAGNOSIS: The wide embolus (fig. 98) and short, stubby retrolateral tibial apophysis (fig. 99) are diagnostic.

MALE: Total length 4.93, 4.95. Carapace 2.24, 2.27 long, 1.61, 1.62 wide. Femur II 1.55, 1.57 long. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.07, PLE 0.08; AME-AME 0.07, AME-ALE 0.02, PME-PME 0.11, PME-PLE 0.07, ALE-PLE 0.09. MOQ length 0.24, front width 0.19, back width 0.24. Lateral dark abdominal stripes broken anteriorly, fused posteriorly (figs. 96, 97). Embolar base wide, situated below conductor (fig. 98), retrolateral tibial apophysis short (fig. 99). Leg spination: tibiae: I v1p-2-2; II p0-0-1, v0-2-2; III v1p-2-2; metatarsus IV v2-1p-1p, r1-2-2.

FEMALE: Unknown.

MATERIAL EXAMINED: One male taken with the holotype in August 1939 (A. M. Chickering, MCZ).

DISTRIBUTION: Known only from the Panama Canal Zone (map 4).

1980



MAP 5. North America, showing distributions of *Cesonia leechi* (inverted triangle), *C. pudica* (diamond), *C. irvingi* (circles), *C. grisea* (square), and *C. nadleri* (triangle).

Cesonia pudica Chickering Figures 100–103; Map 5

Cesonia pudica Chickering, 1949, p. 323, figs. 9, 10 (male holotype from El Valle, Coclé, Panama, in MCZ, examined). Roewer, 1954, p. 412.

DIAGNOSIS: The extremely long, narrow retrolateral tibial apophysis (fig. 102) is diagnostic.

MALE: Total length 2.99, 3.30. Carapace 1.37, 1.55 long, 0.94, 1.02 wide. Femur II 0.85, 0.94 long. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.04, PLE 0.05: AME-AME 0.04, AME-ALE 0.01, PME-PME 0.06, PME-PLE 0.03, ALE-PLE 0.06. MOO length 0.19, front width 0.12, back width 0.14. Abdomen with transverse lateral white bands connected to vaguely discernable paramedian longitudinal light stripes under scutum (figs. 100, 101). Palpal bulb with parallel edges (fig. 102) closely paralleled by narrow retrolateral tibial apophysis extending almost to tip of bulb (fig. 103). Leg spination: femur IV p0-0-1; tibiae: I v1p-1p-1p; IV p1-0-1; metatarsus IV p0-2-2.

FEMALE: Unknown.

MATERIAL EXAMINED: One male taken with the holotype in July 1936 (A. M. Chickering, MCZ).

DISTRIBUTION: Known only from the type locality in Panama (map 5).

Cesonia boca, new species Figures 104, 105; Map 6

Cesonia pudica (misidentification): Chickering, 1949, p. 325 (male from Boquete only).

TYPE: Male holotype from Boquete, Chiriquí, Panama (July, 1939; A. M. Chickering), deposited in MCZ.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: *Cesonia boca* may be distinguished from *C. pudica* by the wider embolar base (fig. 104) and shorter, more sinuous retrolateral tibial apophysis (fig. 105); Chickering (1949) only "doubtfully assigned" the holotype of *C. boca* to *C. pudica*.

MALE: Total length 2.95. Carapace 1.46 long, 1.06 wide. Femur II 0.95 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.06, PLE 0.06; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.04, ALE-PLE 0.04. MOQ length 0.20, front width 0.14, back width 0.19. Abdomen with pattern indistinct but probably similar to that of *C. pudica*. Embolus situated beside conductor, with wide base (fig.

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104), retrolateral tibial apophysis relatively wide, curved in ventral view (figs. 104, 105). Leg spination: femora: I, II p0-0-1; III r0-0-1; patella III p0-1-0; tibia IV d1-0-0; meta-tarsus IV r1-2-2.

FEMALE: Unknown.

MATERIAL EXAMINED: Only the holotype.

DISTRIBUTION: Known only from the type locality in Panama (map 6).

THE ELEGANS GROUP

DESCRIPTION: As in the *bilineata* group except for the following: Total length 2.5– 6.3. Carapace with paramedian light or dark stripes. Leg spination: femora: I p0-1-1, r0-0-1; II p0-1-1, r0-1-0; tibiae: II p0-0-1, v1r-2-2 (males), p0-0-1, v0-1p-1p (females); III p2-1-1, v1p-2-2; IV d0-0-0, p1-0-1; metatarsi: I, II v2-0-0; III p1-2-2, r1-1-2; IV v2-1p-1p, r1-2-2. Legs sometimes with dark rings. Abdomen with median light or dark stripe. Palp with folded embolar base, often with twisted embolar tip. Epigynum with hood connected to anterior margins; spermathecae without lateral lobes, with posterolateral ducts.

KEY TO SPECIES OF THE ELEGANS GROUP

- 2. Abdomen with median dark stripe (fig. 134); Florida and Bahama Islands *irvingi* Abdomen without median dark stripe 3
- 3. Retrolateral tibial apophysis reaching almost to tip of palpal bulb (figs. 118, 119); St. Kitts and Nevis maculata Retrolateral tibial apophysis not reaching almost to tip of palpal bulb (figs. 125, 131).
- to Rico and Virgin Islands desecheo 5. Abdomen with median dark stripe (figs. 134, 140) 6 Abdomen without median dark stripe (figs. 106, 110, 116, 122, 128) 8
- Spermathecae extending far beyond epigynal hood (fig. 138); Florida and Bahama Islands irvingi

- Spermathecae rounded anteriorly (fig. 145); Cuba grisea Spermathecae angular anteriorly (fig. 143); Hispaniola nadleri
- Spermathecae extending nearly to epigynal hood (fig. 108); Dominica and St. Vincent elegans
 Spermathecae extending only halfway to epigynal hood (figs. 112, 120) 10
- Epigynal midpiece relatively narrow posteriorly (fig. 112); Dominica ditta Epigynal midpiece relatively wide posteriorly (fig. 120); St. Kitts and Nevis . maculata
- 12. Spermathecae widely separated posteriorly (fig. 114); Cuba cincta Spermathecae approximate posteriorly (fig. 132); Jamaica bryantae

Cesonia elegans (Simon), new combination Figures 106–109; Map 4

Sergiolus elegans Simon, 1891, p. 38 (female holotype from St. Vincent, British West Indies, in BMNH, examined). Roewer, 1954, p. 438. Bonnet, 1958, p. 4032.

DIAGNOSIS: The angular and posteriorly broadened posterolateral spermathecal ducts (fig. 109) are diagnostic.

MALE: Unknown.

FEMALE: Total length 4.07, 5.69. Carapace 1.55, 2.39 long, 1.12, 1.65 wide. Femur II 0.92, 1.48 long. Eye sizes and interdistances: AME 0.09, ALE 0.10, PME 0.09, PLE 0.11; AME-AME 0.08, AME-ALE 0.02, PME-PME 0.12, PME-PLE 0.07, ALE-PLE 0.10. MOQ length 0.37, front width 0.26, back width 0.30. Abdomen with sinuous paramedian dark stripes (figs. 106, 107). Spermathecae reaching to near epigynal hood (fig. 108), with large, angular posterolateral ducts (fig. 109). Leg spination: fe-



FIGS. 106–109. Cesonia elegans (Simon). 106. Body, dorsal view. 107. Abdomen, lateral view. 108. Epigynum, ventral view. 109. Epigynum, dorsal view.

mur II r0-0-0: tibiae: I v0-2-1p; II v1r-2-1p; III v1p-1p-2.

MATERIAL EXAMINED: The holotype and one female from Long Ditton, Dominica (June 1911).

DISTRIBUTION: Known only from St. Vincent and Dominica (map 4).

Cesonia ditta, new species Figures 110–113; Map 6

TYPE: Female holotype from Long Ditton, Dominica, British West Indies (June 1911), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Cesonia ditta resembles C. maculata in having an elongate epigynal hood and angular posterolateral spermathecal ducts, but differs in having a narrower epigynal midpiece (fig. 112).

MALE: Unknown.

FEMALE: Total length 4.54. Carapace 2.27 long, 1.69 wide. Femur II 1.48 long. Eye sizes and interdistances: AME 0.09, ALE

0.10, PME 0.09, PLE 0.11; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.10, PME-PLE 0.09, ALE-PLE 0.09. MOQ length 0.33, front width 0.26, back width 0.30. Abdomen with broken paramedian dark stripes (figs. 110, 111). Spermathecae reaching only halfway to epigynal hood (fig. 112), with angular posterolateral ducts widest near middle (fig. 113). Leg spination: tibiae: I v0-2-2; II v0-1p-2; IV p1-1-1.

MATERIAL EXAMINED: Only the holotype.

DISTRIBUTION: Known only from Dominica (map 6).

> **Cesonia maculata**, new species Figures 116–121; Map 6

TYPES: Male holotype and female paratype from St. Kitts, British West Indies (September 14–22, 1966; A. M. Chickering), deposited in MCZ.

ETYMOLOGY: The specific name is from the Latin *macula* (spot), referring to the spotted abdominal color pattern.



FIGS. 110-115. 110-113. Cesonia ditta, new species. 114, 115. C. cincta (Banks). 110. Body, dorsal view. 111. Abdomen, lateral view. 112, 114. Epigynum, ventral view. 113, 115. Epigynum, dorsal view.



MAP 6. North America, showing distributions of *Cesonia iviei* (inverted triangles), *C. boca* (circle), *C. ditta* (diamond), *C. maculata* (squares), and *C. desecheo* (triangles).

DIAGNOSIS: The embolus with a single twist (fig. 118) and posterolateral spermathecal ducts with a bifid tip (fig. 121) are diagnostic.

MALE: Total length 3.98, 4.00. Carapace 1.80, 1.87 long, 1.33, 1.37 wide. Femur II 1.26, 1.30 long. Eye sizes and interdistances: AME 0.08, ALE 0.08, PME 0.08, PLE 0.09; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.06, ALE-PLE 0.06, MOQ length 0.24, front width 0.21, back width 0.23. Abdomen with broken paramedian dark stripes (figs. 116, 117). Embolus with a single twist (fig. 118), retrolateral tibial apophysis long, narrow (fig. 119). Leg spination: tibiae: I p1-0-0, v2-2-2; IV p1-1-1.

FEMALE: Total length 4.09–4.36. Carapace 1.84–2.05 long, 1.34–1.48 wide. Femur II 1.22–1.33 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.08, PLE 0.09; AME–AME 0.07, AME–ALE 0.02, PME–PME 0.09, PME–PLE 0.06, ALE–PLE 0.06. MOQ length 0.26, front width 0.22, back width 0.25. Coloration as in male. Spermathecae reaching only halfway to epigynal hood (fig. 120), with bifid tips on posterolateral ducts (fig. 121). Leg spination typical for the species group.

MATERIAL EXAMINED: One female taken with the types (MCZ) and a pair taken on Nevis, British West Indies, September 24–29, 1966, by A. M. Chickering (MCZ).

DISTRIBUTION: Known only from St. Kitts and Nevis (map 6).

Cesonia desecheo, new species Figures 122–127; Map 6

TYPES: Male holotype from Desecheo Island, Puerto Rico (May 27–29, 1965; H. Heatwole, R. Levins, F. McKenzie), and female paratype from Port Grilo, San Germán, Puerto Rico (February 23–April 4, 1955; A. M. Nadler), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The multiply twisted embolus (fig. 124) and the combined presence of rounded posterolateral spermathecal ducts and spermathecae extending only halfway to the epigynal hood (figs. 126, 127) are diagnostic.

MALE: Total length 3.48–4.75. Carapace 1.57–2.21 long, 1.22–1.55 wide. Femur II 1.12–1.51 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.09, PLE 0.09; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.06, PME-PLE 0.05, ALE-PLE 0.06. MOQ length 0.28, front width 0.21, back



FIGS. 116–121. Cesonia maculata, new species. 116. Body, dorsal view. 117. Abdomen, lateral view. 118. Palp, ventral view. 119. Palp, retrolateral view. 120. Epigynum, ventral view. 121. Epigynum, dorsal view.



FIGS. 122–127. Cesonia desecheo, new species. 122. Body, dorsal view. 123. Abdomen, lateral view. 124. Palp, ventral view. 125. Palp, retrolateral view. 126. Epigynum, ventral view. 127. Epigynum, dorsal view.



FIGS. 128–133. Cesonia bryantae, new species. 128. Body, dorsal view. 129. Abdomen, lateral view. 130. Palp, ventral view. 131. Palp, retrolateral view. 132. Epigynum, ventral view. 133. Epigynum, dorsal view.

width 0.23. Abdomen with broken paramedian dark stripes (figs. 122, 123). Embolus with several twists (fig. 124), retrolateral tibial apophysis long, relatively wide at base (fig. 125). Leg spination: tibia I p1-0-0, v2-2-2; metatarsus IV p0-2-2.

FEMALE: Total length 4.18. Carapace 1.91 long, 1.37 wide. Femur II 1.17 long. Eye sizes and interdistances: AME 0.09, ALE 0.09, PME 0.09, PLE 0.09; AME-AME 0.07, AME-ALE 0.02, PME-PME 0.08, PME-PLE 0.06, ALE-PLE 0.09. MOQ length 0.30, front width 0.25, back width 0.26. Coloration as in male. Spermathecae reaching only halfway to epigynal hood (fig. 126), with rounded posterolateral ducts (fig. 127). Leg spination: tibia II v0-2-1p.

OTHER MATERIAL EXAMINED: Puerto Rico: Cayo Gusano, off Culebrita, Apr. 15, 1965 (H. Heatwole, F. McKenzie), 13; Río Piedras, Mar. 2, 1953 (A. M. Nadler), 13. United States Virgin Islands: St. John: Cinnamon Bay, Mar. 1970 (H., L., and F. Levi, MCZ), 13. St. Thomas: Charlotte Amalie, Feb. 12, 1964 (A. M. Chickering, MCZ), 13.

DISTRIBUTION: Known only from Puerto Rico and the Virgin Islands (map 6).

Cesonia bryantae, new species Figures 128–133; Map 4

TYPES: Male holotype from 2 miles south of Unity Valley, St. Ann Parish, Jamaica (December 9, 1954; A. M. Nadler), deposited in AMNH, and female paratype from 1 mile west of Spanishtown, St. Catherine Parish, Jamaica (October 21, 1957; A. M. Chickering), deposited in MCZ.

ETYMOLOGY: The specific name is a patronym in honor of E. B. Bryant, who first recognized the species as new.

DIAGNOSIS: The inverted T-shaped anteromedian light abdominal stripe (figs. 128, 129) is diagnostic.

MALE: Total length 2.56, 2.92. Carapace 1.33, 1.35 long, 0.88, 0.94 wide. Femur II 0.86, 0.88 long. Eye sizes and interdistances: AME 0.05, ALE 0.05, PME 0.06, PLE 0.06; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.06, PME-PLE 0.04, ALE-PLE 0.05. MOQ length 0.22, front width 0.15, back width 0.18. Abdomen with medially expanded and posteriorly broken median light stripe (figs. 128, 129). Embolus with expanded base (fig. 130), retrolateral tibial apophysis gradually narrowed toward tip (fig. 131). Leg spination (leg I missing): femur IV p0-0-1; tibiae: II v1r-2-1p; III v1p-1p-2; IV p0-1-1, v2-2-2; metatarsus III p0-2-2.

FEMALE: Total length 4.05. Carapace 1.78 long, 1.20 wide. Femur II 1.12 long. Eye sizes and interdistances: AME 0.08, ALE 0.08, PME 0.08, PLE 0.08; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.06, ALE-PLE 0.06. MOQ length 0.25, front width 0.21, back width 0.23. Coloration as in male. Spermathecae approximate posteriorly (fig. 132), with rounded posterolateral ducts (fig. 133). Leg spination (leg I missing): femur II r0-00: tibiae: II v1r-2-1p; III p1-1-1, v1p-1p-2; IV p0-1-1.

OTHER MATERIAL EXAMINED: Jamaica: St. Ann: Moneague, Aug. 26, 1934 (P. J. Darlington, Jr., MCZ), 13.

DISTRIBUTION: Known only from Jamaica (map 4).

> Cesonia cincta (Banks), new combination Figures 114, 115; Map 1

- *Eilica cincta* Banks, 1909, p. 157, pl. 45, fig. 8 (female holotype from Havana, La Habana, Cuba, in MCZ, examined). Bonnet, 1956, p. 1650.
- *Eilicina cincta:* Bryant, 1940, p. 390, figs. 168, 172. Roewer, 1954, p. 421.

DIAGNOSIS: Cesonia cincta resembles C. bryantae in having the spermathecae reaching almost to the epigynal hood and rounded posterolateral spermathecal ducts, but differs in having the spermathecae widely separated posteriorly (fig. 114).

MALE: Unknown.

FEMALE: Total length 4.03. Carapace 1.43 long, 1.07 wide. Femur II absent. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.07, PLE 0.08; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.07, PME-PLE 0.05, ALE-PLE 0.06. MOQ length 0.23, front width 0.16, back width 0.21. Abdomen badly rubbed but probably with trans-



FIGS. 134–139. Cesonia irvingi (Mello-Leitão). 134. Body, dorsal view. 135. Abdomen, lateral view. 136. Palp, ventral view. 137. Palp, retrolateral view. 138. Epigynum, ventral view. 139. Epigynum, dorsal view.

verse white band at one-third its length, similar to *C. bryantae*. Spermathecae reaching almost to epigynal hood (fig. 114), with rounded posterolateral ducts (fig. 115). Leg spination (legs I and II missing): femur IV p0-0-1; patella III r0-0-0; tibiae: III p1-1-1; IV p0-0-1; metatarsi: III p0-2-2, v1p-0-1p, r0-1-2; IV p0-2-2, v1p-0-1p, r0-2-2.

MATERIAL EXAMINED: Only the holo-type.

DISTRIBUTION. Known only from Cuba (map 1).

Cesonia irvingi (Mello-Leitão) Figures 134–139; Map 5

- Herpyllus australis Fox, 1938, p. 233, pl. 2, fig. 1 (female holotype from Key West, Monroe County, Florida, in USNM, examined). Bonnet, 1957, p. 2171.
- Herpyllus irvingi Mello-Leitão, 1944, p. 4 (nomen novum for Herpyllus australis Fox, believed by Mello-Leitão to be preoccupied in Herpyllus by Drassus australis Holmberg, 1881). Roewer, 1954, p. 422.

Cesonia irvingi: Platnick and Shadab, 1977, p. 6.

DIAGNOSIS: The invaginated tip of the retrolateral tibial apophysis (fig. 137) and spermathecae extending far beyond the epig-ynal hood (fig. 138) are diagnostic.

MALE: Total length 4.39. Carapace 2.09 long, 1.53 wide. Femur II 1.47 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.07, PLE 0.08; AME-AME 0.08, AME-ALE 0.02, PME-PME 0.10, PME-PLE 0.06, ALE-PLE 0.12. MOQ length 0.30, front width 0.22, back width 0.24. Carapace and abdomen with median dark stripe (figs. 134, 135). Palpal duct with three loops (fig. 136), retrolateral tibial apophysis invaginated at tip (fig. 137). Leg spination: femur I r0-0-0; patella III p0-1-0; tibiae: I p1-0-1, v2-2-2; IV p1-1-1, v2-2-2.

FEMALE: Total length 5.51, 7.81. Carapace 2.29, 2.61 long, 1.73, 1.87 wide. Femur II 1.69 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.08, PLE 0.09; AME-AME 0.08, AME-ALE 0.03, PME-PME 0.13, PME-PLE 0.07, ALE-PLE 0.14. MOQ length 0.36, front width 0.24, back

width 0.28. Coloration as in male. Spermathecae extending far beyond epigynal hood (fig. 138), with small, squared posterolateral ducts (fig. 139). Leg spination (legs I and II missing): patella III p0-1-0; metatarsus III p0-2-2, r0-1-2.

MATERIAL EXAMINED: United States: Florida: Monroe Co.: Bob Allen Keys, second key from east, May 19, 1967 (J. A. Beatty), 13: Key West (USNM), 19 (holotype). Bahama Islands: South Bimini, Feb. 17, 1970 (V. Roth), 19.

DISTRIBUTION: Known only from southern Florida and the Bahamas (map 5).

Cesonia nadleri, new species Figures 140–143; Map 5

TYPE: Female holotype from Boca Chica, National District, Dominican Republic (March 5–7, 1955; A. M. Nadler), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of the collector of the holotype.

DIAGNOSIS: Cesonia nadleri resembles C. grisea in having the spermathecae extending to but not beyond the epigynal hood, but differs in the shape of the spermathecae and their posterolateral ducts (fig. 143).

MALE: Unknown.

FEMALE: Total length 5.51. Carapace 1.93 long, 1.37 wide. Femur II 1.33 long. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.07, PLE 0.07; AME-AME 0.07, AME-ALE 0.03, PME-PME 0.10, PME-PLE 0.05, ALE-PLE 0.10. MOQ length 0.24, front width 0.19, back width 0.24. Carapace and abdomen with median dark stripe (figs. 140, 141). Spermathecae extending to epigynal hood (fig. 142), posterolateral ducts square (fig. 143). Leg spination: femora: I, II r0-0-0; III r0-0-1; IV p0-0-1; tibiae: II p0-0-0; IV p1-1-1, v1p-1p-2; metatarsi: I, II v1p-0-0; III p0-2-2, r0-1-2; IV p0-2-2, v1p-1p-1p, r0-2-2.

MATERIAL EXAMINED: Only the holo-type.

DISTRIBUTION: Known only from Hispaniola (map 5).



FIGS. 140–145. 140–143. Cesonia nadleri, new species. 144, 145. C. grisea (Banks). 140. Body, dorsal view. 141. Abdomen, lateral view. 142, 144. Epigynum, ventral view. 143, 145. Epigynum, dorsal view.

Cesonia grisea (Banks), new combination Figures 144, 145; Map 5

Callilepsis grisea Banks, 1914, p. 639, fig. 2 (female holotype from Pinar del Río, Pinar del Río, Cuba, in AMNH, examined). Lapsus for Callilepis.

Pterotricha grisea: Roewer, 1954, p. 378. Callilepis grisea: Bonnet, 1956, p. 931.

Eilicina grisea: Platnick, 1975, p. 6.

DIAGNOSIS: Cesonia grisea resembles C. nadleri but may be distinguished by the narrower posterolateral spermathecal ducts (fig. 145).

MALE: Unknown.

FEMALE: Total length 6.23. Carapace 2.20 long, 1.30 wide. Femur II 1.39 long. Eye

sizes and interdistances: AME 0.07, ALE 0.08, PME 0.08, PLE 0.08; AME-AME 0.10, AME-ALE 0.02, PME-PME 0.11, PME-PLE 0.06, ALE-PLE 0.12. MOQ length 0.32, front width 0.24, back width 0.27. Specimen badly rubbed but coloration probably as in *C. nadleri*. Spermathecae extending to epigynal hood (fig. 144), with narrow posterolateral ducts (fig. 145). Leg spination: femora: I, II r0-0-0; IV p0-0-1; patella IV r0-0-0; tibiae: I v1p-1p-1p; II p0-0-0; metatarsi: I, II v1p-0-0; III p0-2-2, r0-1-2; IV p0-2-2, r0-2-2.

MATERIAL EXAMINED: Only the holo-type.

DISTRIBUTION: Known only from Cuba (map 5).

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