

INSECTA MUNDI

A Journal of World Insect Systematics

0714

South American Coccinellidae (Coleoptera), Part XIX:
Overview of Cryptognathini and systematic revision
of South American *Cryptognatha* Mulsant

Guillermo González F.
La Reina
Santiago, Chile

Guy A. Hanley
Northern Plains Entomology
Minot, ND, USA

Robert D. Gordon
Northern Plains Entomology
PO Box 65
Willow City, ND 58384, USA

Date of issue: June 28, 2019

Guillermo González F., Guy A. Hanley and Robert D. Gordon
South American Coccinellidae (Coleoptera), Part XIX: Overview of Cryptognathini
and systematic revision of South American *Cryptognatha* Mulsant
Insecta Mundi 0714: 1–32

ZooBank Registered: urn:lsid:zoobank.org:pub:F9BABD1C-B18B-47FD-9B87-F44C49FD9D30

Published in 2019 by

Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
<http://centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. *Insecta Mundi* will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. *Insecta Mundi* publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources, including the Zoological Record and CAB Abstracts. *Insecta Mundi* is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

Guidelines and requirements for the preparation of manuscripts are available on the *Insecta Mundi* website at <http://centerforsystematicentomology.org/insectamundi/>

Chief Editor: David Plotkin, insectamundi@gmail.com

Assistant Editor: Paul E. Skelley, insectamundi@gmail.com

Head Layout Editor: Robert G. Forsyth

Editorial Board: J. H. Frank, M. J. Paulsen, Michael C. Thomas

Review Editors: Listed on the *Insecta Mundi* webpage

Printed copies (ISSN 0749-6737) annually deposited in libraries

CSIRO, Canberra, ACT, Australia

Museu de Zoologia, São Paulo, Brazil

Agriculture and Agrifood Canada, Ottawa, ON, Canada

The Natural History Museum, London, UK

Muzeum i Instytut Zoologii PAN, Warsaw, Poland

National Taiwan University, Taipei, Taiwan

California Academy of Sciences, San Francisco, CA, USA

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA

Field Museum of Natural History, Chicago, IL, USA

National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (Online ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format

Printed CD or DVD mailed to all members at end of year. Archived digitally by Portico.

Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>

University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>

Goethe-Universität, Frankfurt am Main: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Layout Editor for this article: Robert G. Forsyth

South American Coccinellidae (Coleoptera), Part XIX: Overview
of Cryptognathini and systematic revision of South American
Cryptognatha Mulsant

Guillermo González F.

La Reina
Santiago, Chile
willogonzalez@yahoo.com

Guy A. Hanley

Northern Plains Entomology
Minot, ND, USA
ghanley701@gmail.com

Robert D. Gordon

Northern Plains Entomology
PO Box 65
Willow City, ND 58384, USA
rdgordonutma@gmail.com

Abstract. Genera of Cryptognathini (Coleoptera: Coccinellidae) are discussed and a key to all recognized genera is provided. *Cryptognatha* is revised, and species of this genus are keyed.

New species, authored by González and Hanley, are *Cryptognatha pam*, *C. kellie*, *C. hannah*, *C. whitney*, *C. karla*, *C. celia*, *C. shelia*, *C. gayle*, *C. della* and *C. vicki*. The following **new synonymies** are proposed: *Cryptognatha simillima* Sicard = *Cryptognatha gemellata* Mulsant, *Cryptognatha fryii* Crotch = *Cryptognatha pudibunda* Mulsant, *Cryptognatha bryanti* Brèthes = *Cryptognatha pudibunda* Mulsant. Lectotypes are here designated for *Cryptognatha amicta* Gorham, *C. weisei* Brèthes, *C. pudibunda* Mulsant and *C. fryii* Crotch.

Key words. Systematics; keys; illustrations; taxonomy; new species.

Introduction

Cryptognathini are not particularly distinctive among coccinellid tribes because they lack a single obvious identifying character. A combination of characters renders this tribe recognizable; among these are five visible abdominal ventrites, a glabrous body, the head at least partially concealed by the prosternum in some genera, a short, compact antenna, and a securiform maxillary palpus. It is a primarily Neotropical tribe, without apparent Old World relatives, and is known from Mexico, Central America, and South America.

The following is a revision of *Cryptognatha* containing comments on Cryptognathini as a whole. Following publications will be treatments of all remaining genera without tribal comments.

Nomenclatural history

Mulsant (1850) first described a member of this tribe as *Cryptognatha auriculata*, along with two other species, and described the genera *Oeneis* and *Pentilia*. Crotch (1874) included *Cryptognatha* Mulsant and *Pentilia* Mulsant in his subfamily Chilocorides. Korschefsky (1931) treated *Oeneis* Mulsant as a valid genus, placing it and *Cryptognatha* in the tribe Oeneini, and placing *Pentilia* in Pentiliini. Chapin (1940) pointed out that *Oeneis* was a preoccupied name but did not propose a replacement name. Blackwelder (1945) considered *Oeneis* a synonym of *Cryptognatha* in the tribe Oeneini and placed all genera other than *Cryptognatha* in other tribes. Chapin (1955) proposed *Dargo* as a new name for the preoccupied *Oeneis* and stated that the type species of *Oeneis*, *O. nigrans* Mulsant, might belong in what is now known as *Delphastus* Casey, a member of the Serangiini.

Gordon (1971) recognized Cryptognathini as having priority over the tribes Oeneiini and Pentiliini, and proposed the genus *Delphastopsis* (as a replacement for *Oeneis*, *Cryptognatha*, *Pentilia* and the new genus *Curticornis*). A specimen labeled *O. nigrans* Mulsant from Brazil (type locality) in the Korschefsky collection has been dissected and is an *Oeneis*, as is another Brazilian specimen labeled as *O. nigrans*. Dissection of the type specimen of *Delphastus amazonica* shows it is congeneric with *Oeneis*, thus making *Delphastopsis* available to replace the preoccupied *Oeneis* and making *Dargo* Chapin unnecessary. However, *Calloeneis* Grote, 1873 is the earliest replacement name for *Oeneis*, as pointed out by Belicek (1976), and is used herein.

This tribal study is split into individual publications, each treating a different genus. All types were examined regardless of supposed generic assignments, because authors subsequent to Mulsant (1850) often assigned specific taxa to incorrect genera, either by mistake or due to differing generic concepts.

Materials and Methods

Biology. Prey records are rare for members of Cryptognathini. Label data for examples of *Calloeneis amazonica* list “diaspine scale” as prey. Label data for *Calloeneis bennetti* list *Aspidiotus destructor* Signoret as prey. Other label data list *Pinnaspis aspidistrae* and *Selenaspidium articulatus* (Diaspididae) for *Cryptognatha auriculata*, *Aspidiotus destructor* and *Pinnaspis aspidistrae* (Diaspididae) for *Pentilia bernardette*, and *Pinnaspis aspidistrae* and *Coccus hesperidum* (Coccidae) for *Pentilia chelsea*, showing a marked predilection for Coccoidea, especially Diaspididae. Some species of Cryptognathini have been considered agents of biological control, consuming species considered important pests. *Cryptognatha nodiceps* was used in biological control programs against *Aspidiotus destructor* (Signoret), and was introduced in the Fiji Islands from Trinidad in 1928 to control coconut scale, obtaining a spectacular result. In only nine months the scale was reduced to a level without agricultural importance, and within 18 months became almost undetectable in the islands. Later it was introduced with the same purpose on Principe Island, Florida, Puerto Rico, the Dominican Republic, St. Kitts and Nevis with similar results (Fisher et al. 1999). *Pentilia egena* has been studied in Brazil, where it has become one of the most important predators of citrus armored scales such as *Selenaspidium articulatus* Morgan, *Parlatoria pergandii* Comstock, *Parlatoria cinerea* Deane and Hadden, *Chrysomphalus aonidium* L. and *Unaspis citri* Comstock (Guerreiro et al. 2003). This species has been reared on *Chrysomplaus ficus* (Diaspididae).

Diagnostic characters. Coccinellidae morphological structures, both external and internal, were discussed and illustrated by Gordon (1985) and Gordon et al. (2013). Some of the same terminology is used here, but changes have been made to conform to terminology used by Slipinski (2007) and Seago et al. (2011), which should be consulted for clarification. A few Cryptognathini characters merit explanation below.

Color. Particularly the dorsal pattern is significant and a primary distinguishing character. Discrete maculation is often present, but differentiation in the base color is also useful.

Head. Width and shape of the frons and clypeus are quite distinctive and uniform for each genus.

Prosternum. It is expanded to conceal the mouthparts in *Cryptognatha* and *Calloeneis*, and reduced to a short strap in *Pentilia* and *Curticornis*. There is little variation among species, but these characters are consistent within each genus.

Epipleuron. Strongly descending in *Cryptognatha* and *Pentilia*, not or slightly descending in *Curticornis* and *Calloeneis*.

Male genitalia. The penis guide is symmetrical and of the same general type found in many taxa of coccinellidae. Species in all genera are generally arranged by genitalic similarities.

Dissections. Both sexes should be dissected when examining specimens of Cryptognathini. A specific technique consists of softening a specimen in hot water, removing the abdomen, placing it in a dilute solution of potassium or sodium hydroxide until muscle and fat are removed, rinsing the abdomen and genitalic structures in clean water, and placing the cleaned structures in glycerin for examination. Genitalia may be stored in several ways, but for this study they were stored in glycerin in microvials.

Types. Lectotypes for many species are designated to stabilize current classification for future

researchers. Lectotype labels were affixed to specimens so designated throughout. Type specimens were examined for most specific taxa unless otherwise indicated. Detailed information is included under “Type locality” and “Type material”.

Names. Traditional methods of selecting names were not used. Instead, names were formed as nouns in apposition using female given names, except where otherwise noted.

Locality records. Locality records listed in the text were taken from specimens actually examined; published records were not accepted because genitalia were not examined by previous authors. All information listed for new taxa is given exactly as it appears on labels, with notation of any obviously incorrect spelling.

Collection codes. Specimens were borrowed from several institutions for this study. The following acronyms denote depositories for specimens used herein.

BMNH Natural History Museum, London, UK

CMNH Carnegie Museum of Natural History, Pittsburgh, PA, USA

CPGG Guillermo González, Personal Collection, Santiago, Chile

INBP Inventario Biológico Nacional, Museo Nacional de Historia Natural del Paraguay, Asunción, Paraguay

MUSM Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Peru

USNM United States National Museum of Natural History, Smithsonian Institution, Washington, DC, USA.

González and Hanley are authors of all taxa here described.

Systematics

Cryptognathini Gordon

Cryptognathaires Mulsant 1850: 496.

Pentiliaries Mulsant 1850: 501 (in part).

Chilocorides Crotch 1874: XII (in part).

Oeneiini Casey 1899: 74.

Cryptognathini Gordon 1971: 181.

Coccinellidae with body form rounded, surface glabrous. Head directed ventrally or slightly posteriorly, usually at least partly concealed behind prosternum; antenna short, compact, extending less than 1/2 distance to posterolateral angle of pronotum, with 8–10 articles; maxillary palpus with apical article ovate to broadly expanded. Prosternum narrow, not produced, or widely produced in front of procoxae. Epipleuron strongly descending externally or nearly horizontal, deeply foveate for reception of femoral apices. Metasternum and basal abdominal sternum deeply impressed for reception of femora. Leg with femora and tibia expanded, modified for reception of tibiae and tarsi, proleg with tibia strongly modified; tarsal claw feebly toothed basally. Abdomen with 5 visible ventrites, male ventrite 5 unmodified, identical to female ventrite 5; postcoxal line incomplete. Male genitalia simple, of basic coccinellid type, all structures symmetrical. Female genitalia simple, of standard coccinellid type with curved spermathecal capsule and no apparent accessory gland.

Key to genera of Cryptognathini

1. Prosternum strongly produced anteriorly, concealing mouthparts in repose (Fig. 117, 120) . . . **2**
- Prosternum not strongly produced anteriorly, not concealing mouthparts in repose (Fig. 123, 126) **3**
2. Antenna with 8 articles; anterior clypeal margin truncate or arcuate (Fig. 118); elytral epipleuron weakly descending externally (Fig. 119), often horizontal; lateral prosternal carina long,

- extended from apex of prosternal process to lateral margin of prosternum *Calloeneis* Grote
- Antenna usually with 10, sometimes 9 articles; anterior clypeal margin truncate or nearly so, anterior angle usually abrupt, curved upward (Fig. 115, 117); elytral epipleuron strongly descending externally (Fig. 116); lateral prosternal carina short, not extended to lateral margin of prosternum *Cryptognatha* Mulsant
3. Elytral epipleuron strongly descending externally (Fig. 122); eye slightly notched by expanded clypeus (Fig. 121); clypeus recurved (Fig. 123) *Pentilia* Mulsant
- Elytral epipleuron nearly horizontal, not strongly descending externally (Fig. 125); eye nearly completely divided by expanded clypeus (Fig. 124, 126); clypeus flat, not recurved *Curticornis* Gordon

Cryptognatha Mulsant

Cryptognatha Mulsant 1850: 497; Crotch 1874: 206; Horn 1895: 83; Korschefsky 1931: 218; Blackwelder 1945: 449; Gordon 1971: 183.

Type species. *Cryptognatha auriculata* Mulsant, 1850; subsequent designation by Crotch (1874).

Description. Cryptognathini with anterior margin of clypeus margin truncate or nearly so, anterior angle upturned, usually acute (Fig. 117); antenna usually with 10 articles, sometimes with 9 articles, club with 4 articles, maxillary palpus with apical article widened apically (Fig. 93). Prosternum approximately as long as lateral 1/3 of basal ventrite, wide anterior to coxae, completely concealing mouthparts in repose (Fig. 117); prosternal carina short, not reaching lateral margin of prosternum. Epipleuron strongly descending externally (Fig. 116). Proleg with tibia strongly expanded for reception of tarsus, outer margin sinuate or angulate, as wide as femur or slightly narrower, femur notched for reception of tibia (Fig. 23, 28). Meso- and metatibia less strongly expanded, grooved on outer margin for reception of tarsi, femur narrow, notched for reception of tibia. Abdomen with postcoxal line incomplete, extended nearly to lateral margin of abdomen. Male genitalia unmodified, of basic Coccinellidae type. Female genital plate with stylus and stiff setae; spermatheca curved, narrowed from base to apex (Fig. 17, 109).

Remarks. *Cryptognatha* is clearly defined by key characters. An apically truncate or slightly arcuate clypeus with upturned anterior angles is the most significant character, along with an anteriorly expanded prosternum concealing the mouthparts and a strongly expanded protibia with sinuate outer margin. Species descriptions list the head as impunctate, however, punctures are present but concealed in a dense alutaceous sculpture.

Cryptognatha nigrans Mulsant is not included in the text because the type(s) cannot be located. Mulsant (1850) indicated they were in the Melly collection, at least parts of which are in the Muséum d'Histoire Naturelle, Geneva. However, the type(s) of *C. nigrans* could not be located there (G. Cuccodoro, pers. comm). Similarly, type(s) of *C. obscura* Mulsant, stated by Mulsant (1850) to be in the collection of Germar and Schaum, could not be located. Type material of *Cryptognatha amabilis* Gorham is not present in the BMNH and cannot be located elsewhere, hence it is not included in the present publication.

Members of this genus may be grouped based on type of male genitalia. For example, *C. auriculata* Mulsant, *C. gemellata* Mulsant and several other species possess apparently identical or extremely similar male genitalia. Species groups are defined as follows:

auriculata group. This group contains those species with length nearly always more than 2.2 mm, male genitalia long, penis guide long, side parallel, apical 1/8 abruptly narrowed to rounded split off apex (Fig. 4, 11, 18), prosternal carina short or moderately long, rarely curved, female genitalia with base of sperm duct not sclerotized.

reedi group. Length in this species group is usually less than 2.2 mm, male genitalia with penis guide short, lobe more or less tapered from base to nearly acute or abruptly rounded apex (Fig. 51, 75, 79), prosternal carina long, usually curved outward, female genitalia with base of sperm duct sclerotized in at least two species (Fig. 98).

Key to *Cryptognatha* species

1. Elytron immaculate, entirely yellow, brownish yellow, or black. 2
 — Elytron maculate, with pale maculae on dark background, or with dark maculae on pale background 3
- 2(1). Elytron entirely yellow, brownish yellow (Fig. 1). 1. *C. auriculata* Mulsant
 — Elytron entirely black. 13
- 3(1). Elytron with pale maculae on dark background. 9
 — Elytron with dark maculae on pale background. 4
- 4(3). Maculae simple, usually single macula on lateral margin, occasionally with indistinct macula on sutural basal border 5
 — Maculae composed of multiple maculae on elytral surface 7
- 5(4). Maculae consisting of short, dark maculae on lateral border outside of humeral callus and sometimes with indistinct sutural macula in basal 1/2 (Fig. 55).
 10. *C. karla* González and Hanley, n. sp.
 — Maculae consisting of single, complete macula on or near lateral margin from base of elytron to sutural margin in apical 1/2. 6
- 6(5). Lateral macula wide, reaching lateral margin (Fig. 26) 5. *C. amicta* Gorham
 — Lateral macula separated from lateral margin (Fig. 21)
 4. *C. pam* González and Hanley, n. sp.
- 7(4). Maculae consisting of two short vittae in basal 1/2 of elytron, single macula in apical 1/2, and irregular sutural macula (Fig. 15). 3. *C. gemellata* Mulsant
 — Maculae differently arranged 8
- 8(7). Dorsal pattern consisting of single large macula on basal 1/2 of elytron, two small maculae in basal apical 1/2, and irregular sutural vitta (Fig. 110)
 21. *C. vicki* González and Hanley, n. sp.
 — Dorsal pattern consisting of irregularly arranged vittae with three more or less fused vittae in basal 1/2 becoming an irregular, large macula in basal 1/2 (Fig. 8)
 2. *C. nodiceps* Marshall
- 9(3). Elytron mostly dark with lateral margin pale 10
 — Elytron with distinct central color pattern 12
- 10(9). Pale lateral margin of elytron wide, reddish yellow; pronotum entirely yellowish red (Fig. 106)
 20. *C. della* González and Hanley, n. sp.
 — Pale lateral margin of elytron narrow, yellow; pronotum yellow with basomedian black macula 11
- 11(10). Lateral margin on elytron sharply defined (Fig. 40); Peru
 7. *C. hannah* González and Hanley, n. sp.
 — Lateral margin on elytron obscure defined (Fig. 32); Guyana.
 6. *C. kellie* González and Hanley, n. sp.
- 12(9). Elytron with basal 1/2 dark brown, apical 1/2 yellow (Fig. 49). 9. *C. reedi* Crotch
 — Elytron with elongate yellow macula next to scutellar shield, macula narrowly extended posteriorly parallel to suture ending in triangular macula at base of apical declivity (Fig. 103) 19. *C. gayle* González and Hanley, n. sp.
- 13(2). Pronotum entirely or mostly yellow 14
 — Pronotum mostly dark brown or black 15
- 14(13). Pronotum entirely yellow (Fig. 99); Brazil 18. *C. batesi* Crotch
 — Pronotum mostly yellow with small, apically sinuate basal macula (Fig. 44)
 8. *C. whitney* González and Hanley, n. sp.

- 15(13). Length 3.4 mm; Colombia (Fig. 113) **22. *C. aethiops* Crotch**
 — Length less than 3.4 mm; Brazil **16**
- 16(15). Male pronotum with narrow, yellow anterior border (Fig. 82)
 **15. *C. shelia* González and Hanley, n. sp.**
 — Male pronotum entirely black or dark brown **17**
- 17(16). Penis guide of male genitalia abruptly narrowed in apical 1/2 (Fig. 75) **18**
 — Penis guide of male genitalia parallel-sided for most of length, or gradually narrowed in apical
 1/2 (Fig. 70) **20**
- 18(17). Penis guide of male genitalia much shorter than paramere, apex very acute (Fig. 75, 76)
 **13. *C. flaviceps* Crotch**
 — Penis guide of male genitalia about as long as paramere **19**
- 19(18). Penis guide with apex rounded (Fig. 79), weakly curved downward in lateral view (Fig.
 80) **14. *C. wisei* Brèthes**
 — Penis guide of male genitalia abruptly narrowed (Fig. 64), sinuate in lateral view (Fig. 64) . . .
 **11. *C. clarki* Crotch**
- 20(17). Penis guide of male genitalia about as long as paramere, oval, slightly widened in apical 1/2,
 then narrowed to weakly emarginate apex (Fig. 70)
 **12. *C. celia* González and Hanley, n. sp.**
 — Penis guide of male genitalia long slender **21**
- 21(20). Male genitalia with phallobase long, penis guide slightly longer than paramere, slender, evenly
 narrowed from base to abruptly rounded apex (Fig. 88)
 **16. *C. yolandi* González and Hanley, n. sp.**
 — Male genitalia elongate, penis guide about as long as paramere, oval, sides parallel in basal 1/2,
 curved to rounded apex in apical 1/2 (Fig. 95) **17. *C. pudibunda* Mulsant**

List of South American species of *Cryptognatha* (in order of text)

auriculata group

1. *C. auriculata* Mulsant (Fig. 1–7)
2. *C. nodiceps* Marshall (Fig. 8–14)
3. *C. gemellata* Mulsant (Fig. 15–20)
C. simillima Sicard, **new synonym**
4. *C. pam* González and Hanley, **new species** (Fig. 21–25)
5. *C. amicta* Gorham (Fig. 26–31)
6. *C. kellie* González and Hanley, **new species** (Fig. 32–39)
7. *C. hannah* González and Hanley, **new species** (Fig. 40–43)
8. *C. whitney* González and Hanley, **new species** (Fig. 44–48)

reedi group

9. *C. reedi* Crotch (Fig. 49–54)
10. *C. karla* González and Hanley, **new species** (Fig. 55–61)
11. *C. clarki* Crotch (Fig. 62–66)
12. *C. celia* González and Hanley, **new species** (Fig. 67–72)
13. *C. flaviceps* Crotch (Fig. 73–76)
14. *C. wisei* Brèthes (Fig. 77–81)
15. *C. shelia* González and Hanley, **new species** (Fig. 82–85)
16. *C. yolandi* Crotch (Fig. 86–90)
17. *C. pudibunda* Mulsant (Fig. 91–98)
C. fryii Crotch, **new synonym**
C. bryanti Brèthes, **new synonym**
18. *C. batesi* Crotch (Fig. 99–102)

species not assignable to a group

19. *C. gayle* González and Hanley, **new species** (Fig. 103–105)
20. *C. della* González and Hanley, **new species** (Fig. 106–109)
21. *C. vicki* González and Hanley, **new species** (Fig. 110–112)
22. *C. aethiops* Crotch (Fig. 113–114)

auriculata group**1. *Cryptognatha auriculata* Mulsant**

Cryptognatha auriculata Mulsant 1850: 497; Crotch 1854: 206; Gorham 1894: 182, 1899: 258; Korschefsky 1931: 219; Blackwelder 1945: 449; Gordon 1971: 183, 1987: 26.

Description. Male. Length 2.5 mm, width 2.3 mm. Dorsal surface shiny except elytron with faint trace of microsculpture. Color pale brownish yellow (Fig. 1); head, anterior 1/3, lateral 1/4 of pronotum pale yellow, pale area weakly indenting basal black macula medially (Fig. 2). Head without punctures; pronotal punctures small, separated by less than a diameter; elytral punctures slightly larger than on pronotum, separated by a diameter or less; prosternal punctures small, separated by less than a diameter; meso- and metasternal punctures large, separated by a diameter or less on mesosternum, widely separated on median 1/3 of metasternum, lateral 1/3 without punctures; basal abdominal ventrite with coarse punctures separated by about a diameter, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 2); eye canthus long, about 1/2 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 4, 5); penis slender, equal in width throughout, apex acute, penis capsule with long, slender inner arm, outer arm short, wide (Fig. 6).

Female. Similar to male except head weakly depressed; pronotum entirely brownish yellow medially; head not medially depressed, brownish yellow; genitalia with ramus of spermathecal capsule wide, capsule strongly narrowed to acute apex of cornu (Fig. 7).

Variation. Length 2.1 to 3.0 mm, width 1.9 to 2.4 mm. Dorsal color varies from typical to darker reddish brown, darker color most prevalent in specimens from Guyana and Suriname. Some specimens, especially from Peru, have margins of pronota brownish and little noticeable.

Type locality. Colombia. Lectotype designated by Gordon (1987). The single paralectotype belongs to *Pentilia*.

Type depository. UMZC.

Geographical distribution. Colombia, Guyana, Suriname, Peru, Venezuela.

Specimens examined. 89. Widely distributed in northern South America.

Remarks. This species apparently is distinctive based on dorsal color and comparatively large size. However, male genitalia are not separable from those of several following taxa, thus creating a group of species distinguished mostly by dorsal color pattern.

2. *Cryptognatha nodiceps* Marshall

Cryptognatha nodiceps Marshall 1912: 321; Korschefsky 1931: 219; Blackwelder 1945: 449.

Description. Male. Length 2.6 mm, width 2.6 mm. Dorsal surface entirely shiny. Color yellow (Fig. 8); pronotum with 5 pale brown spots, 2 on disc, 3 along posterior margin; elytron with irregular black

spot occupying most of disc, and elongate longitudinal spot close to sutural margin anterior to middle (Fig. 8). Head without punctures; pronotal punctures small, separated by less than a diameter; elytral punctures slightly larger than on pronotum, separated by less than a diameter to twice a diameter; prosternal punctures small, separated by less than a diameter; meso- and metasternal punctures large, separated by a diameter or less on mesosternum, widely separated on median 1/3 of metasternum, lateral 1/3 without punctures; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 9); eye canthus long, about 1/2 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process nearly to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 11, 12); penis slender, equal in width throughout, apex acute (Fig. 13).

Female. Similar to male except head weakly depressed, dark yellow; pronotum brownish yellow medially, lacking brown spots; genitalia with spermathecal capsule slender, evenly curved from ramus to acute apex of cornu (Fig. 14).

Variation. Length 2.4 to 2.9 mm, width 2.0 to 2.7 mm. Elytral color highly variable from typical to having disc entirely black with reddish yellow spot near suture posterior to middle.

Type locality. Trinidad, Cedros.

Type depository. BMNH.

Geographical distribution. Guyana, Trinidad.

Specimens examined. 44. Distributed throughout Trinidad, also a single specimen examined from Blairmont, Guyana.

Remarks. This species has a distinctive dorsal color pattern, but male genitalia appear identical to those of *C. auriculata*.

3. *Cryptognatha gemellata* Mulsant

Cryptognatha gemellata Mulsant 1850: 498; Crotch 1874: 206; Korschefsky 1931: 219; Blackwelder 1945: 449; Gordon 1971: 183, 1987: 26.

Cryptognatha simillima Sicard 1929: 519; Korschefsky 1931: 219; Blackwelder 1945: 449. **New synonym.**

Description. Male. Length 2.6 mm, width 2.4 mm. Dorsal surface entirely shiny. Color yellow (Fig. 15); pronotum with 7 pale brown spots, 2 on disc, 5 along posterior margin, median spot elongate, spot lateral of middle large, irregular, outer spot small, round; elytron with 3 brown spots and an additional spot on sutural margin on disc narrowly continued to apex, 1 slender, elongate spot medially in anterior 1/2, 1 large humeral spot in anterior 1/2, single large, irregular spot on apical declivity (Fig. 15). Head without punctures; pronotal punctures small, separated by less than a diameter; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter; prosternal punctures small, separated by less than a diameter; meso- and metasternal punctures large, separated by a diameter or less on mesosternum, widely separated on median 1/3 of metasternum, lateral 1/3 without punctures; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 16); eye canthus long, about 1/2 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process nearly to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 18, 19); penis slender, equal in width throughout, apex acute (Fig. 20).

Female. Similar to male except head weakly depressed, apical 1/2 of frons obscurely brown; genitalia with capsule wide, evenly curved from wide ramus to abruptly rounded apex of cornu (Fig. 17).

Variation. Length 1.8 to 2.7 mm, width 1.5 to 2.0 mm. Elytral spots with tendency to unite, sometimes with anterior 3 spots partially fused or with spots united to form a single large spot. Sometimes sutural spot pale brown.

Type locality. *C. gemellata*, Mexico? (Mulsant, 1850, questioned the country of origin.); of *C. simillima*, Trinidad.

Type material. *C. gemellata* and *C. simillima*, PMNH. Not examined.

Geographical distribution. Brazil, Colombia, Panama, Peru, Trinidad.

Specimens examined. 31. Widely distributed in **Colombia**. **Brazil.** Bonito Province. **Peru.** Amazonas, Pedro Ruiz; Loreto, Padre Isla. **Trinidad.** Blanchisseuse; Maracas; Mayaro; Morne Bleu; St. Augustine; Tunapuna.

Remarks. *Cryptognatha gemellata* has a distinctive color pattern, although spots of that pattern tend to fuse, creating some confusion. This is another species of the auriculata group.

Cryptognatha simillima Sicard was described from Trinidad and considered a synonym of *C. gemellata* by Chapin (label data), an opinion agreed upon here.

4. *Cryptognatha pam* González and Hanley, new species

Description. Male holotype. Length 2.6 mm, width 2.4 mm; Dorsal surface shiny, elytron with faint trace of microsculpture. Color yellow; pronotum with 5 faint brown spots, 2 on disc, 3 along posterior margin, all spots small, round; elytron with single dark brown vitta extended from base across humeral angle to apex at suture on apical declivity (Fig. 21). Head without punctures; pronotal punctures small, separated by less than a diameter; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter; prosternal punctures large, separated by less than a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by 2 or 3 times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 22); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process nearly to slightly more than 1/3 length of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 24); penis lost.

Female. Similar to male except head weakly depressed; median 1/3 of pronotum entirely light brown; genitalia with spermathecal capsule comparatively slender, tapered from wide ramus to acute apex of cornu.

Variation. None observed.

Type material. Holotype male: Venezuela, Aragua, Ocumare de la Costa, s.n.m, 25-VII-1974, En Aspidiotus sobre Cocofaro. (USNM). Paratypes: 2, 1 same data as holotype except collector C. J. Rosales; 1, San Esteban, Ven. nr. Puerto Cabello, Dec. 1 to 20, 1939, P. J. Anduze. (USNM).

Remarks. This species has an extremely distinctive dorsal color pattern unlike any other observed in *Cryptognatha*. The three specimens available for observation did not show color variation.

5. *Cryptognatha amicta* Gorham

Cryptognatha amicta Gorham 1897: 259; Korschefsky 1931: 219; Blackwelder 1945: 449.

Description. Male. Length 3.0 mm, width 2.8 mm. Dorsal surface entirely shiny. Color yellow; pronotum with black basal maculae in basal 3/8, yellow area weakly indenting basal black macula medially; elytron with complete macula on lateral margin from base of elytron to sutural margin, apical margin of elytron narrowly yellowish red (Fig. 26); ventral surface pale yellowish brown. Head without punctures; pronotal punctures small, separated by less than a diameter; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter; prosternal punctures small, separated by less than a diameter; meso- and metasternal punctures large, separated by a diameter or less on mesosternum, widely separated in median 1/3 of metasternum, lateral 1/3 without punctures; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, nearly 3 times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 27); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 1/3 distance to apex of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 29, 30); penis slender, equal in width throughout, apex acute, penis capsule with inner arm long, slender, outer arm short, tapered from base to apex (Fig. 31).

Female. None examined.

Variation. Length 2.7 to 3.0 mm, width 1.6 to 2.8 mm. Elytral spots with tendency to unite, sometimes with anterior 3 spots partially fused or with spots united to form a single, large spot.

Type locality. Panama, Bugaba; lectotype here designated.

Type material. Lectotype here designated: A specimen in the BMNH is labeled lectotype “Type/Bugaba, Panama. Champion./*Cryptognatha amicta*, Gorh./B.C.A., Col., VII. *Cryptognatha amicta*, Gorh.” Gorham (1897) stated he had two type specimens of this species.

Geographical distribution. Colombia. Panama.

Specimens examined. 4. **Colombia.** Choco, Istmina. **Panama.** Type locality.

Remarks. *Cryptognatha amicta* has a distinctive color pattern not seen elsewhere in *Cryptognatha*. It is described from Panama but is also present in Colombia.

6. *Cryptognatha kellie* González and Hanley, new species

Description. Male holotype. Length 2.6 mm, width 2.5 mm. Dorsal surface shiny, pronotum with distinct microsculpture, elytron with faint trace of microsculpture. Color dark brown; head yellow; pronotum with lateral 1/3 yellow; elytron with lateral 1/5 brownish yellow from base to apex (Fig. 32); venter yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than a diameter to three times a diameter; prosternal punctures large, separated by less than a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 33); eye canthus long, about 1/2 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide nearly as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere

slender, parallel-sided, apex rounded (Fig. 35, 36); penis long, slender, apical 1/3 attenuate; base with inner arm slender, curved, narrowed from base to apex, outer arm short, wide (Fig. 37).

Female. Similar to male except head weakly depressed medially; lateral 1/3 of pronotum yellow, median 2/3 dark brown; genitalia with spermathecal capsule short, wide, slightly tapered from ramus to rounded apex of cornu (Fig. 38).

Variation. Length 2.6 to 3.0 mm, width 2.5 to 2.7 mm. Brownish yellow macula on elytron often narrowly extended along suture to apex.

Type material. Holotype male: Brit. Guiana (Guyana), Blairmont, Sept. 1923 H. E. Box Collector, Attacking Coccin on Anon sp., Pres. by Imp. Inst. Ent. Brit. Mus. 1930-336. (BMNH). Paratypes: 4, same data as holotype except lacking host. (BMNH).

Remarks. This species has a reduced dorsal color pattern not shared with any other species in *Cryptognatha*.

7. *Cryptognatha hannah* González and Hanley, new species

Description. Male holotype. Length 3.1 mm, width 2.9 mm. Dorsal surface shiny, pronotum with distinct microsculpture, elytron with faint trace of microsculpture. Color black; head yellow; pronotum with lateral 1/3 yellow, anterior margin of median black macula deeply indented with yellow at apex, lateral angle; elytron with wide yellow border extended from base to apex (Fig. 40); venter reddish brown except epipleuron, abdomen yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter; prosternal punctures small, barely visible, separated by less than a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 41); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide about 3/4 as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 42, 43); penis lost.

Female. Similar to male except head weakly depressed; pronotum with apex of black macula not indented medially; genitalia not examined.

Variation. None observed.

Type material. Holotype male: Peru, Loreto, Iquitos, Padre Isla, 100 m., 3-XI-2006, Leg. R. Westerduijn, Annually flooded wetland. (MUSM). Paratype; 1, same data as holotype. (MUSM).

Remarks. A black elytron with yellow lateral border is thus far a unique pattern in *Cryptognatha* and will distinguish *C. hannah* from other species of the genus.

8. *Cryptognatha whitney* González and Hanley, new species

Description. Male holotype. Length 3.0 mm, width 2.8 mm. Dorsal surface shiny with faint trace of microsculpture. Color black; head yellow; pronotum yellow with black area restricted to basomedian 1/3, apex of black area sinuate, abruptly indented with yellow medially (Fig. 44); venter black except mouthparts yellow, legs reddish yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by less than a diameter to 4 times a diameter except lateral margin with coarse punctures separated by a diameter or less; prosternal punctures large, separated by a diameter or less; mesosternal punctures larger than

on prosternum, separated by less than a diameter, contiguous, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite and ventrites 2–4 lacking punctation, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, slightly less than twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 45); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process nearly to midpoint of prosternum. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia long, penis guide about 3/4 as long as paramere, parallel-sided with apical 1/8 narrowed to rounded apex; paramere slender, parallel-sided, apex rounded (Fig. 46, 47); penis lost.

Female. Similar to male except head weakly depressed, brownish yellow with dark brown macula on vertex; pronotum black except anteromedian 1/5 of pronotum yellow; genitalia with spermathecal capsule comparatively slender, tapered from wide ramus to acute apex of cornu.

Variation. Length 2.7 to 3.1 mm, width 2.6 to 2.9 mm.

Type material. Holotype male: Colombia, Guateque (B), Oct. 10, 1938, Alt. 1900 m, LM Murillo No. (USNM). Paratypes; 10, 8 same data as holotype; 1, Guyata, Colombia, Boy;18.X.40, altitude 1720 m, Murillo No 5295; 1, Colombia, Boy 1720 m, Guayata, Oct. 18, 1940, Murillo No 5296. (USNM).

Remarks. This is the only known species of the auriculata group with entirely black elytra. It is distinguished from other entirely black species by its larger size.

reedi group

9. *Cryptognatha reedi* Crotch

Cryptognatha reedi Crotch 1874: 207; Korschefsky 1931: 219, Blackwelder 1945: 449.

Description. Male. Length 2.0 mm, width 1.8 mm. Dorsal surface shiny, pronotum with faint trace of microsculpture. Color dark brown; head yellow; pronotum yellow; elytron black with apical 1/2, base, humeral angle narrowly reddish yellow (Fig. 49); venter reddish yellow except epipleuron brownish yellow; basal abdominal ventrite brownish yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures as large as on pronotum, separated by less than a diameter to twice a diameter, becoming gradually larger toward lateral margin; prosternal punctures large, indistinct, separated by a diameter or less; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by 2 or 3 times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 50); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process nearly to apex of prosternum. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia short, penis guide about 3/4 as long as paramere, oval, with apical 1/8 narrowed to abruptly rounded apex; paramere long, slender, apex rounded (Fig. 51, 52); penis long, robust (?), apical 1/8 attenuate; penis capsule with inner arm short, apex abrupt, outer arm short, large (Fig. 53).

Female. Similar to male except head weakly depressed; genitalia with spermathecal capsule short, wide, tapered from wide ramus to abruptly rounded apex of cornu, long portion of heavily sclerotized sperm duct present at base of ramus (Fig. 54).

Variation. Length 1.8 to 2.0 mm, width to 1.6 to 1.8 mm. Black area on elytron varies in size from typical to completely absent; metasternum black or medium brown.

Type locality. Bahia (Brazil).

Type material. UMCZ (holotype, Gordon 1987).

Geographical distribution. Brazil.

Specimens examined. 21. **Brazil.** Alagoas, Sao Miguel dos Campos; Bahia; Recife.

Remarks. *Cryptognatha reedi* is recognized by the distinctive, thus far unique, dorsal color pattern.

10. *Cryptognatha karla* González and Hanley, new species

Description. Male holotype. Length 1.9 mm, width 1.8 mm. Dorsal surface shiny, pronotum with faint trace of microsculpture. Color yellow; head slightly darkened yellow; pronotum yellow; elytron with large dark brown macula extended from just anterior to humeral callus posteriorly to midpoint of elytron, macula narrow at base, widened to irregularly truncate apex (Fig. 55); venter with metasternum dark brown; basal abdominal ventrite brownish yellow medially. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by a diameter or less, becoming gradually larger toward lateral margin; prosternal punctures large, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, contiguous, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, three times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 56); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 3/4 distance to apex of prosternum, strongly curved laterally. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia short, penis guide about 3/4 as long as paramere, oval, with apical 1/8 narrowed to abruptly rounded apex; paramere long, slender, apex rounded (Fig. 58, 59); penis long, robust, apex shortly attenuate; penis capsule with inner arm long, tapered to abrupt apex, outer arm elongate, large (Fig. 60).

Female. Similar to male except head weakly depressed; genitalia with spermathecal capsule short, wide, tapered from wide ramus to abruptly rounded apex, portion of heavily sclerotized sperm duct present at base of ramus (Fig. 61).

Variation. Length 1.9 to 3.1 mm, width to 1.7 to 1.8 mm. Pale areas on elytron may be slightly larger or smaller than described above.

Type material. Holotype male: PARAGUAY, Caaguazú, Repatriación. 22-I-2001 (INBP). Paratypes: 10, Chapada, Brazil, Acc.No. 2966, Aug., Nov., Sept. (CMNH).

Remarks. Typical specimens of *Cryptognatha karla* are recognized by the dark humeral macula and dark brown metasternum, those specimens lacking a dark macula on elytron are difficult to recognize but they also have a darkened metasternum, which is distinct on an otherwise yellow venter.

11. *Cryptognatha clarki* Crotch

Cryptognatha clarki Crotch 1874: 207; Korschevsky 1931: 219; Blackwelder 1945: 449.

Description. Male. Length 2.0 mm, width 1.8 mm. Dorsal surface shiny except head densely alutaceous. Color dark blackish brown; head yellow; pronotum black with lateral 1/8 yellow; elytron with lateral 1/4 black, bordering large, obscurely defined blackish brown central macula (Fig. 62); venter brown except mouthparts, legs yellow; abdomen yellow except apex of median 1/3 of ventrite 1 dark brown. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by a less than a diameter to twice a diameter, becoming gradually

larger toward lateral margin; prosternal punctures large, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, contiguous, metasternal punctures large, separated by 2 or 3 times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, 2.5 times as wide as eye, clypeal apex arcuate medially, lateral 1/8 slightly retracted, angle acute (Fig. 63); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 3/4 distance to apex of prosternum, strongly curved laterally. Epipleuron descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 7/8 distance to rear margin of ventrite. Genitalia with penis guide about as long as paramere, basal 2/3 parallel-sided, apical 1/3 abruptly narrowed to small, rounded apex; paramere slender, apex rounded (Fig. 64, 65); penis long, sinuate in apical 1/3, apex shortly attenuate; penis capsule large, wide, inner arm short, apex medially emarginate, outer arm short, large, apex abruptly curved (Fig. 66).

Female. Similar to male except head brown (Fig. 63), weakly depressed medially, pronotum entirely black; spermathecal capsule lost.

Variation. Length 2.0 to 2.4mm, width 1.8 to 2.2 mm.

Type locality. Rio de Janeiro (Brazil).

Type material. The BMNH holotype is labeled “Type/clarkii/37580/clarkii/Fry RioJan/TYPE.”

Geographical distribution. Brazil.

Specimens examined. 7. **Brazil.** Entre Rios; Rio de Janeiro. (BMNH) (CMNH).

Remarks. The elytral color pattern of this species is obscure and poorly defined. The male genitalia, however, are distinctive enough to confirm identification.

12. *Cryptognatha celia* González and Hanley, new species

Description. Male holotype. Length 2.3 mm, width 2.1 mm. Dorsal surface shiny with faint trace of microsculpture. Color black; head yellow; pronotum with anterior margin narrowly yellowish brown, lateral 1/4 yellow (Fig. 67); venter dark brown except legs reddish yellow; basal abdominal ventrite brown, ventrites 2–5 brownish yellow. Head without punctures; pronotal punctures large, separated by a diameter or less; elytral punctures larger than on pronotum, separated by a diameter or less, becoming gradually larger toward lateral margin; prosternal punctures large, indistinct, separated by two to three times a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, 3 times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 68); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process more than 1/2 distance to apex of prosternum. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 5/8 distance to rear margin of ventrite. Genitalia short, penis guide about as long as paramere, oval, slightly widened in apical 1/2, then narrowed to weakly emarginate apex; paramere long, slender, widened in apical 1/2 to rounded apex (Fig. 70, 71); penis long, robust, apical 1/3 attenuate; penis capsule slender, elongate, inner arm short, narrow, apex somewhat truncate, outer arm long, slender, sinuate (Fig. 72).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: 558, Estado de Bahia, Brazil, G. Bondar leg., Predator on *Aspidiotus destructor*, Com Inst. Ent. Coll. No. 11290, 1=Pentilia discors Gorh. 2=P. egena Muls., D.J. Atkinson det. 1949, Pres by Com Inst Ent B M. (BMNH).

Remarks. This mostly black species is identified by its male genitalia, which distinguish it from other black species of *Cryptognatha*.

13. *Cryptognatha flaviceps* Crotch

Cryptognatha flaviceps Crotch 1874: 207; Korschefsky 1931: 219; Blackwelder 1945: 449.

Description. Male. Length 2.1 mm, width 1.9 mm. Dorsal surface shiny with faint trace of microsculpture on pronotum. Color black; head yellow; pronotum with lateral 1/4 yellow (Fig. 73); venter with prosternum, epipleuron brownish red, legs reddish yellow; abdomen brownish yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures as large as on pronotum, separated by less than a diameter to 3 times a diameter, becoming gradually larger toward lateral margin; prosternal punctures not visible, mesosternal punctures large, separated by less than a diameter, nearly contiguous, metasternal punctures large, separated by two or three times a diameter medially, fine, sparse in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, twice as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 74); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 2/3 distance to apex of prosternum, curved laterally. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 2/3 distance to rear margin of ventrite. Genitalia short, penis guide 2/3 as long as paramere, oval, anterior 1/3 abruptly narrowed to sharply rounded apex; paramere long, slender, parallel-sided to rounded apex (Fig. 75, 76); penis lost.

Female. Unknown.

Variation. Unknown.

Type locality. Sao Paulo (Brazil).

Type material. Lectotype designated by Gordon (1987). UMZC.

Geographical distribution. Brazil.

Specimens examined. 2. **Brazil.** São Paulo (lectotype); Rio de Janeiro. (BMNH).

Remarks. This mostly black species is distinguished from similar appearing *Cryptognatha* taxa only by examination of male genitalia.

14. *Cryptognatha weisei* Brèthes

Cryptognatha weisei Brèthes 1925a: 8; Korschefsky 1931: 220; Blackwelder 1945: 450.

Description. Male. Length 1.6 mm, width 1.5 mm. Dorsal surface shiny with distinct pronotal microsculpture, elytron with faint microsculpture. Color black; head yellow; pronotum with lateral 1/8 yellow (Fig. 77); apex of elytron narrowly yellow; venter with prosternum, epipleuron yellowish brown, meso- and metasternum brown, remainder of ventral surface and legs yellow; abdomen brownish yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures smaller than on pronotum, separated by less than a diameter to 3 times a diameter, becoming gradually larger toward lateral margin; prosternal punctures coarse, sparse, mesosternal punctures large, separated by less than a diameter, nearly contiguous, metasternal punctures large, separated by two or three times a diameter medially, fine and sparse in lateral 1/3; basal abdominal ventrite with fine, indistinct punctures, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite

5 with dense, fine punctation. Head with frons slightly narrowed between eyes, medially depressed, 1.5 times width of eye, apex faintly curved medially, lateral 1/8 slightly retracted, angle acute (Fig. 78); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 2/3 distance to apex of prosternum, curved laterally. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 2/3 distance to rear margin of ventrite. Genitalia short, penis guide nearly as long as paramere, oval, anterior 1/3 abruptly narrowed to sharply rounded apex; paramere long, slender, weakly widened in middle, apex rounded (Fig. 79, 80); penis long, slender, apical 1/4 attenuate; penis capsule with inner arm long, slender, apically tapered to abruptly rounded apex, outer arm elongate, wide, apex broadly rounded (Fig. 81).

Female. Unknown.

Variation. Length 1.6 to 2.2 mm. width 1.5 to 2.0 mm.

Type locality. Brazil, Amazonas, lectotype here designated.

Type material. Lectotype here designated. The BMNH lectotype is labeled "Type/Amazons. 75.8/*Cryptognatha* Weise Brèthes". Brèthes (1925a) stated that he had two type specimens.

Geographical distribution. Brazil.

Specimens examined. 3. **Brazil.** Amazonas (lectotype), Minas Gerais, Aguas Vermelhas; MG (Minas Gerais), Ingal, Tangue R.L. (BMNH) (CMNH) (CPGG).

Remarks. This mostly black species is similar to *C. latoya* in external appearance and male genitalia. It differs from that species by a reduced yellow pronotal area, the apex of each elytron narrowly yellow, and the penis guide about as long as the paramere.

15. *Cryptognatha shelia* González and Hanley, new species

Description. Male holotype. Length 2.6 mm, width 1.5 mm. Dorsal surface slightly dull, with distinct microsculpture. Color dark brown; head yellow; pronotum with narrow anterior border, lateral 1/4 yellow (Fig. 82); venter entirely yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by a diameter or less, becoming gradually larger toward lateral margin; prosternal punctures large, indistinct, mesosternal punctures large, separated by less than a diameter, nearly contiguous, metasternal punctures large, separated by two or three times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, three times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 83); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 1/2 distance to apex of prosternum, curved laterally. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia elongate, penis guide about as long as paramere, oval, sides parallel in basal 3/4, curved to rounded apex in anterior 1/4; paramere long, slender, narrow in basal 1/3, widened to rounded apex in apical 2/3 (Fig. 84, 85); penis lost.

Female. Similar to male except head brown, pronotum brown with anterior 1/4 yellowish brown; genitalia lost.

Variation. Length 2.6 to 2.7 mm, meso- and metasternum vary from yellow to dark brown.

Type material. Holotype male; Bahia Brazil. (USNM). Paratypes, 2, same data as holotype except 1 paratype with additional label "*Cryptognatha pudibunda* Muls." Ch'28. (USNM).

Remarks. *Cryptognatha shelia* differs from similar black or dark brown species by a slightly larger size, the male pronotum with a yellow anterior border, and distinctive male genitalia.

16. *Cryptognatha yolandi* Crotch

Cryptognatha yolandi Crotch 1874: 206; Korschefsky 1931: 220; Blackwelder 1945: 450.

Description. Male. Length 2.3 mm, width 2.0 mm. Dorsal surface weakly alutaceous with head densely alutaceous, pronotum and elytron with slight trace of microsculpture. Color black; head yellow; pronotum with lateral 1/3 yellow (Fig. 86); venter yellow with prosternum brown in lateral 1/3, mesosternum, metasternum and epipleuron brown; abdomen brownish yellow except median portion of basal abdominal ventrite brown. Head with punctures hidden in microsculpture; pronotal punctures small, separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by less than a diameter to three times a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, separated by a diameter or less; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures larger than on mesosternum, separated by a diameter or less, entirely absent in lateral 1/4; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons slightly widened toward apex, medially depressed, 1.5 times as wide as eye, clypeal apex arcuate, lateral 1/8 slightly retracted, angle acute (Fig. 87); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side angled laterally, extended from apex of intercoxal process about 1/3 distance to apex of prosternum. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia with phallobase long, penis guide slightly longer than paramere, slender, evenly narrowed from base to abruptly rounded apex; paramere long, slender, apical 1/8 slightly widened, curved to rounded apex (Fig. 88, 89); penis long, slender, apex acute; penis capsule slender, inner arm short, apex rounded, outer arm short, tapered to rounded apex (Fig. 90).

Female. Unknown.

Variation. Unknown.

Type locality. Ega (Brazil).

Type material. UMCZ (holotype, Gordon 1987).

Geographical distribution. Brazil.

Specimens examined. Holotype.

Remarks. As with most other dorsally black species of this genus, male genitalia must be examined to permit identification. The long, slender penis guide is a character not shared with other known species and is most similar to that of *C. pudibunda*.

The holotype was not in good condition when dissected and is less so now. Both elytra became detached and are now glued on the point next to rest of the specimen.

17. *Cryptognatha pudibunda* Mulsant

Cryptognatha pudibunda Mulsant 1850: 499; Crotch 1874: 206; Korschefsky 1931: 219; Blackwelder 1945: 449.

Cryptognatha fryii Crotch 1874: 207; Korschefsky 1931: 219; Blackwelder 1945: 449. **New synonym.**

Cryptognatha bryanti Brèthes 1925b: 201; Korschefsky 1931: 219; Blackwelder 1945: 449. **New synonym.**

Description. Male. Length 2.3 mm, width 2.0 mm. Dorsal surface shiny with faint trace of microsculpture on pronotum. Color black; head yellow; pronotum with lateral 1/4 yellow (Fig. 91); venter with mouthparts and legs yellow; median portion of basal abdominal ventrite, ventrites 2–4 brown, ventrites 2–5 brownish yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, indistinct; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by two or three times a diameter medially, entirely absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking

punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, 2.5 times as wide as eye, apex feebly arcuate medially, lateral 1/8 slightly retracted, angle acute (Fig. 92); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process more than 2/3 distance to apex of prosternum. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended slightly more than 1/2 distance to rear margin of ventrite. Genitalia short, penis guide nearly as long as paramere, slender, evenly narrowed from base to abruptly rounded apex; paramere long, slender, curved to rounded apex (Fig. 95, 96); penis long, apex slightly attenuate; penis capsule slender, elongate, with inner arm long, sinuate, apex somewhat truncate, outer arm long, apex slightly convex (Fig. 97).

Female. Similar to male except head black with dark brown clypeus, often with clypeus entirely black, pronotum entirely black, head feebly impressed medially; spermathecal capsule short, ramus widened, cornu widened from base to abruptly rounded apex, with long, sclerotized portion of sperm duct (Fig. 98).

Variation. Length 2.2 to 2.5 mm, width 1.8 to 2.1 mm. Penis guide of male genitalia slightly variable, apex nearly smoothly rounded or with indication of “shoulders” before apex.

Type locality. Of *C. pudibunda*, “Brésil”; of *C. fryii*, Rio de Janeiro (Brazil); of *C. bryanti*, Santo Amara, Santos (Brazil).

Type material. Of *C. pudibunda*, Dejean collection, Musée des confluences, Lyon, France; lectotype here designated; of *C. fryii*, BMNH, lectotype here designated; of *C. bryanti*, BMNH. The lectotype of *C. pudibunda* is labeled “Type/15139/TYPE/Fry RioJan/Type/Fry Coll. 1905-100.” The lectotype of *C. fryii* is labeled “Type/Ilha Santo Amaro,nr. Santos, Brazil, G. E. Bryant iv.1912/G. Bryant Coll. 1919-147/*Oeneis bryanti* Brethes.”

Geographical distribution. Brazil, Paraguay, Peru, Venezuela.

Specimens examined. 42. Widely distributed in Brazil with specimens examined from other countries listed above.

Remarks. Of the dorsally black species *C. pudibunda* is most widely distributed, particularly in Brazil. Male genitalia must be examined to identify this and all other taxa with entirely black elytra. Mulsant (1850) stated his type material was in the Dejean collection, now housed in Musée des confluences, Lyon. Harold Labrique provided us with images of the type specimen and that specimen labeled “Bresil” is here designated as the lectotype, because Mulsant (1850) specified it as the type.

Specimens identified as *C. pudibunda* may actually represent more than one species, however, no convincing evidence of this was forthcoming. Both *C. fryii* (lectotype) and *C. bryanti* are considered synonyms of *C. pudibunda*.

18. *Cryptognatha batesi* Crotch

Cryptognatha batesi Crotch 1874: 206; Korschefsky 1931: 219; Blackwelder 1945: 449; Gordon 1987: 26.

Description. Male holotype. Length 3.8 mm, width 3.4 mm. Dorsal surface shiny. Color black; head, pronotum pale yellow, pronotum with faint, brown basomedian macula (Fig. 99); venter dark brown except mouthparts, legs yellow; abdomen brown except mediobasal portion of basal ventrite dark brown. Head finely punctured, punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter, becoming gradually larger toward lateral margin; prosternal punctures large, indistinct; mesosternal punctures larger than on prosternum, contiguous, metasternal punctures large, separated by a diameter or less medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons slightly narrowed from base to clypeus, medially depressed, three times as wide as eye, apex emarginate medially, strong lateral carina present on frons near apex of eye (Fig. 100); eye canthus

short, about 1/2 width of eye. Prosternum with lateral carina on each side long, curved, extended from apex of intercoxal process about 2/3 distance to apex of prosternum. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended about 3/4 distance to rear margin of ventrite. Genitalia long, penis guide 3/4 as long as paramere, slender, evenly narrowed from base to abruptly rounded apex; paramere long, slender, curved to rounded apex (Fig. 101); penis long, apex acute; penis capsule slender, elongate, inner arm slightly curved, apex rounded, outer arm slender, apex truncate. Penis not examined.

Female. Unknown.

Variation. Unknown.

Type locality. Ega (Brazil).

Type material. UMZC. Holotype, Gordon (1987).

Geographical distribution. Brazil.

Specimens examined. 1, holotype.

Remarks. This is an unusual species because of large size, striking contrast between black elytra and pale-yellow head, pronotum, emarginate clypeal apex, and the pronounced frontal carinae. Known only from the holotype.

Species not assignable to a group

19. *Cryptognatha gayle* González and Hanley, new species

Description. Male holotype. Length 2.9 mm, width 2.8 mm. Dorsal surface shiny with little trace of microsculpture. Color dark brown; head, epipleuron yellow; pronotum with lateral 1/5 yellow; elytron with elongate macula next to scutellar shield, macula narrowly extended posteriorly parallel to suture ending in triangular macula at apex of apical declivity, lateral 1/3 reddish brown from base to apex (Fig. 103); venter reddish yellow; abdomen mostly yellow. Head without punctures; pronotal punctures small, separated by less than a diameter to twice a diameter; elytral punctures smaller than on pronotum, separated by less than to 3 times a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, nearly absent, mesosternal punctures small, nearly invisible, metasternal punctures small, widely separated medially, absent in lateral 1/3; basal abdominal ventrite with fine, indistinct punctures in median 1/3, lateral 1/3, ventrites 2–4 with punctures apparently absent, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, nearly twice width of eye, apex truncate, lateral 1/8 slightly retracted, angle acute (Fig. 104); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process slightly more than 1/2 distance to apex of prosternum, slightly curved laterally. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 3/4 distance to rear margin of ventrite. Genitalia with phallobase lost; penis short, robust, apical 1/4 wide; penis capsule with inner arm long, slender, apically tapered to abruptly rounded apex, outer arm short, wide, apex truncate (Fig. 105).

Female. Similar to male in all external characteristics, genitalia not examined.

Variation. None observed.

Type material. Holotype male: On Paw Paw, 33, Collector F. J. Simmonds. (USNM). Paratypes (3): 1, On Paw Paw, Paramaribo, Suriname, April 1951, Collector F. J. Simmonds; 2, Paramaribo, DG Jan. 54, van Dinther. (USNM).

Remarks. A distinctive dorsal color pattern distinguishes this species from other taxa of *Cryptognatha*. It is relatively large in size and most likely a member of the auriculata group, but without male genitalia this cannot be conclusively stated.

20. *Cryptognatha della* González and Hanley, new species

Description. Female holotype. Length 2.3 mm, width 2.1 mm. Dorsal surface with head dull, strongly alutaceous, pronotum shiny with trace of microsculpture, elytron lacking microsculpture. Color reddish brown; head, epipleuron yellow; pronotum entirely reddish brown; elytron with large, black, median macula extended from base to apical declivity, laterally 1/2 distance to lateral margin (Fig. 106, 107); venter brown; legs yellow. Head without punctures; pronotal punctures small, separated by less than a diameter to twice a diameter; elytral punctures slightly larger than on pronotum, separated by less than a diameter to three times a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, indistinct, mesosternal punctures large, separated by less than a diameter, nearly contiguous, metasternal punctures large, separated by 2 or 3 times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, not medially depressed, three times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 108); eye canthus long, about 3/4 times width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 1/4 distance to apex of prosternum, straight. Epipleuron moderately descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 2/3 distance to rear margin of ventrite. Genitalia with spermathecal capsule short, gradually widened from base of ramus to abruptly rounded apex of cornu (Fig. 109).

Male. Unknown.

Variation. Length 2.3 to 2.4 mm., a single paratype has the black, median, elytral macula brown, not strongly distinctive from color of remainder of elytra.

Type material. Holotype female: PERU: Madre de Dios Dept., CICRA Field Stn, near intrscn trails 19, 15, and 27, 56713° S 70.09184° W, 270 m. 14.VI.2011, CS Chaboo, ex. *Heliconia*, PER-11-CSC-026 (MUSM). Paratypes (2): 1, PERU: Madre de Dios: CICRA Field Stn, garden, 12.56940° S 70.10100° W, 260 m, 2-11-X,2010, MJ Endaraa, malaise trap, PER10-10-MAT-018; 1, PERU: Madre de Dios Dept., CICRA Field Stn, trl 6, research plot, 12.55207° S 70.10962° W, Malaise trap, PER-11-MAT-029 (MUSM).

Other specimens. 2. A specimen (USNM) labeled “Peru, Satipo, V-VI-1942, Paprzycki” has a similar color pattern to that of *C. della* except for the following differences: length 3.0 mm., pronotum bright yellow with small black macula at base anterior to scutellar shield, lateral 1/2 of elytron with reddish brown more pronounced than that in *C. della* (USNM). Another specimen (CPGG) labeled “Peru, Loreto, Padre Cocha, 150 m., 17-III-2006, Leg. R. Westerduijn. Under *Heliconia* leaves.”

Remarks. *Cryptognatha della* is recognized by elytra with a large, black, median macula, a character not shared with any presently known species of the genus. The USNM specimen listed as “other specimen” is tentatively regarded as the same species. It is larger with a yellow pronotum, but identical in most other respects including female spermathecal capsule. Another specimen with much different dorsal coloration is also considered this species because of a similar collection locality and identical female spermatheca. This specimen has a black pronotum with lateral 1/8 yellow, elytron entirely black except narrowly reddish brown along lateral margin.

21. *Cryptognatha vicki* González and Hanley, new species.

Description. Female holotype. Length 2.6 mm, width 2.4 mm. Dorsal surface shiny except head less shiny, weakly alutaceous. Color yellow; head, epipleuron yellow; pronotum with seven dark maculae, a single pale brown macula on basal border at lateral 1/8, five dark brown, median maculae arranged in arc on median 1/2 of pronotum; elytron with four dark maculae, a single pale brown macula on sutural border in apical 1/2 narrowly extended along suture to apex, one large, dark brown macula medially in basal 1/2 of elytron, two pale brown maculae medially on apical declivity (Fig. 110); pro- and mesosternum brownish yellow; metasternum dark brown; legs pale brownish yellow; abdomen yellow. Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger

than on pronotum, separated by less than a diameter to twice a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, indistinct, mesosternal punctures large, separated by less than a diameter, metasternal punctures large, separated by two or three times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, 1.5 times as wide as eye, apex truncate medially, lateral 1/8 slightly retracted, angle acute (Fig. 111); eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 1/3 distance to apex of prosternum, straight. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 2/3 distance to rear margin of ventrite. Genitalia with spermathecal capsule short, gradually widened from base of ramus to abruptly rounded apex of cornu (Fig. 112).

Male. Unknown.

Type material. Holotype female; Bolivia, Upper Mamore R., Sept. 1909, Carn. Mus. Acc. 4043. (CMNH).

Remarks. This species has one of the most striking dorsal color patterns of any species of *Cryptognatha*, and is somewhat similar to *C. gemellata* but with a much different arrangement of dorsal maculae.

22. *Cryptognatha aethiops* Crotch

Cryptognatha aethiops Crotch 1874: 206; Korchevsky 1931: 219; Blackwelder 1945: 449.

Description. Female holotype. Length 3.4 mm, width 3.2 mm. Dorsal surface shiny except head dull, alutaceous. Color black; head with vertex black, apex of black vertex irregular; pronotum with antero-lateral angle broadly yellow (Fig. 113); median projection of basal abdominal sternum black, legs and abdomen reddish yellow (Fig. 114). Head without punctures; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than a diameter to twice a diameter, becoming gradually larger toward lateral margin; prosternal punctures small, indistinct, mesosternal punctures large, separated by less than a diameter, metasternal punctures small, separated by two or three times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures separated by about a diameter medially, lateral 1/3 of ventrite lacking punctation, ventrites 2–4 finely punctured, punctures separated by about a diameter, ventrite 5 with dense, fine punctation. Head with frons parallel-sided, medially depressed, 1.5 times as wide as eye, apex weakly arcuate, lateral 1/8 slightly retracted, angle acute; eye canthus long, about 3/4 width of eye. Prosternum with lateral carina on each side extended from apex of intercoxal process 1/3 distance to apex of prosternum, straight. Epipleuron strongly descending externally. Postcoxal line on basal abdominal ventrite evenly curved, extended 2/3 distance to rear margin of ventrite.

Male. Unknown.

Variation. Unknown.

Type locality. Colombia.

Type material. Holotype, UMZC.

Geographical distribution. Colombia.

Specimens examined. 1, holotype.

Remarks. This species is known only from the female holotype, making it difficult to distinguish from other entirely black species except by its Colombian origin. Similar appearing species are known from Brazil. In addition, *C. aethiops* is at least slightly larger than other entirely black species. The holotype of *C. aethiops* in the Crotch collection is labeled “Columbia/Hoffm./aethiops Boh.”

Acknowledgments

Collection curators and other individuals listed below have made preparation of this publication possible.

We are indebted to Roger Booth (BMNH), Edgar Turner and Russell Stebbings (UMZC), and Olaf Jaeger (SMTD) for loans of type specimens. We thank Harold Labrique, Musée des confluences, Lyon, France, for images of a type specimen in the DeJean Collection. Thanks are due to Giulio Coccodoro (Muséum d'histoire naturelle, Geneva, Switzerland) for searching for the type of *Cryptognatha nigrans*, and Gunvi Lindberg (Swedish Museum of Natural History, Stockholm) for loan of type of *Cryptognatha aethiops*. For additional loans of specimens, we are indebted to Roger Booth and Max Barclay (BMNH), Robert Androw (CMNH), Natalia Vandenberg (USNM), Carlos Aguilar (INBP) and Caroline Chaboo (University of Nebraska-Lincoln, MUSM). Guy Hanley provided all images of color habitus and other structures. We also thank Lúcia Massutti de Almeida and Thomas J. Henry for their reviews of the manuscript.

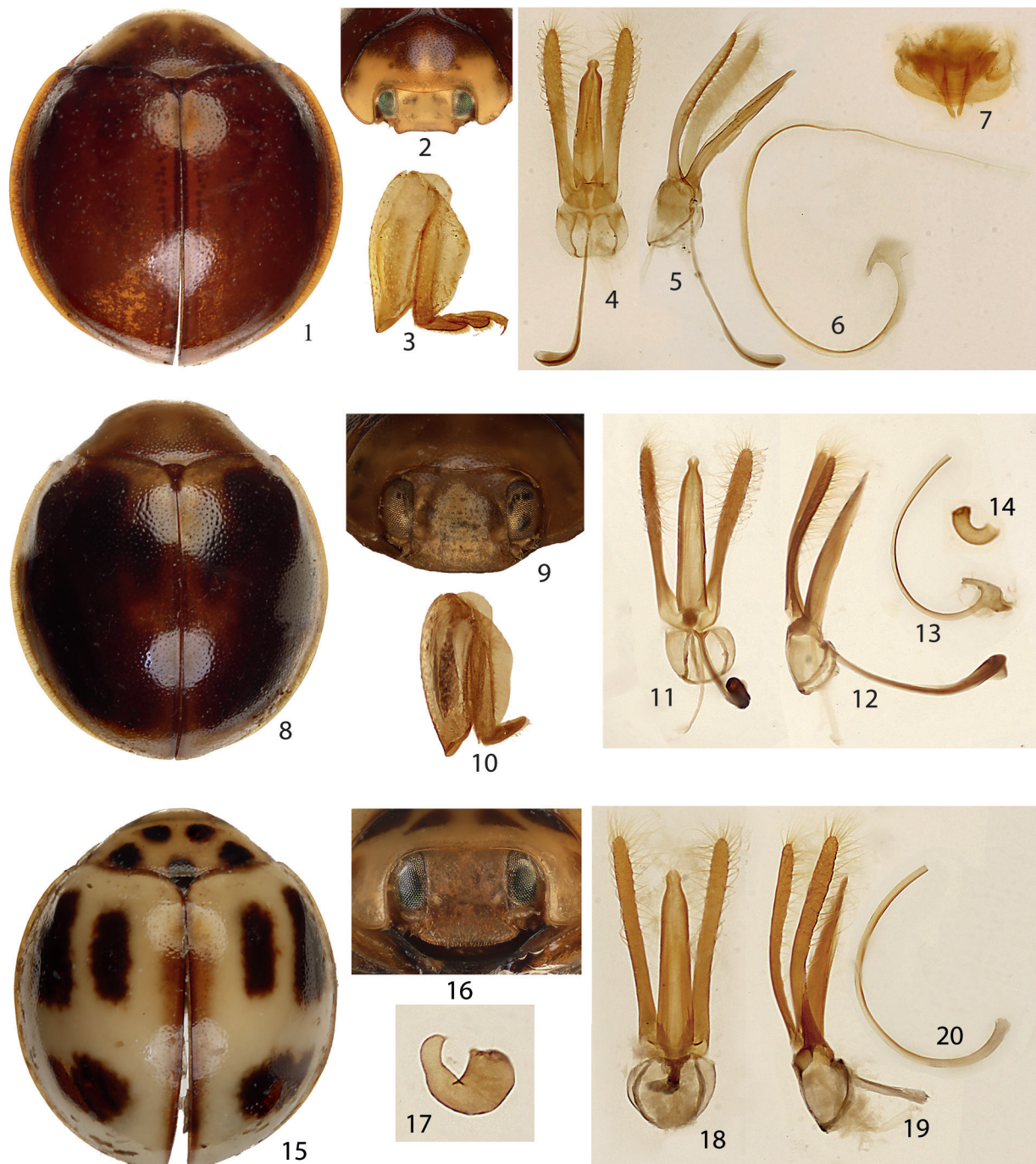
Literature Cited

- Belicek, J. 1976.** Coccinellidae of western Canada and Alaska with analysis of the transmontane zoogeographic relationships between the fauna of British Columbia and Alberta (Insecta: Coleoptera: Coccinellidae). *Quaestiones Entomologicae* 12: 283–409.
- Bellows, T. S., and W. Fisher (eds.). 1999.** Handbook of biological control: Principles and applications of biological control. Academic Press; New York. xxiii +1046 p.
- Blackwelder, E. 1945.** Checklist of the coleopterous insects of Mexico, Central America, the West Indies and South America. Part 3. *Bulletin of the United States National Museum* 185: 343–550.
- Bortoli, S. A., S. R. Venvenga, S. Gravena, and J. E. Miranda. 2001.** Biología de *Pentilia egena* Mulsant (Coleoptera: Coccinellidae) e predação sobre *Chrysomphalus ficus* Ashmead (Homoptera: Diaspididae). *Boletín Sanidad Vegetal Plagas, Madrid* 27: 337–343.
- Brèthes, J. 1925a.** Coléoptères, principalement coccinellides du British Museum. *Nunquam Otiosus* 3: 1–16.
- Brèthes, J. 1925b.** Coccinellides du British Museum. *Anales Museo Histoire Naturelle* 33: 195–214.
- Casey, T. L. 1899.** A revision of the American Coccinellidae. *Journal of the New York Entomological Society* 7: 71–169.
- Chapin, E. A. 1940.** New genera and species of lady-beetles related to *Serangium* Blackburn. *Journal of the Washington Academy of Sciences* 30: 263–272.
- Chapin, E. A. 1955.** Name changes in Coccinellidae. *Psyche* 62: 87–88.
- Crotch, G. R. 1874.** A revision of the coleopterous family Coccinellidae. E. W. Janson; London. 311 p.
- Gordon, R. D. 1971.** A generic review of the Cryptognathini, new tribe, with a description of a new genus (Coleoptera: Coccinellidae). *Acta Zoologica Lilloana* 26: 179–196.
- Gordon, R. D. 1985.** The Coccinellidae (Coleoptera) of America North of Mexico. *Journal of the New York Entomological Society* 93: 1–912.
- Gordon, R. D. 1987.** A catalogue of the Crotch collection of Coccinellidae (Coleoptera). *Occasional Papers on Systematic Entomology* 3: 1–46.
- Gordon, R. D., C. Canepari, and G. A. Hanley. 2013.** South American Coccinellidae (Coleoptera). Part XII: New name for *Cyra* Mulsant, review of *Brachiacantha* genera, and systematic revision of *Cleothesa* Mulsant, *Hinda* Mulsant and *Serratitibia* Gordon and Canepari, new genus. *Insecta Mundi* 0278: 1–150.
- Gorham, H. S. 1894.** Coccinellidae. p. 150–246. *In*: H. S. Gorham. *Biologia Centrali-Americana, Insecta, Coleoptera, Vol. VII. Erotylidae, Endomychidae, and Coccinellidae*. R. H. Porter; London. xii + 276 p.
- Gorham, H. S. 1897.** Supplement. p. 247–265. *In*: H. S. Gorham. *Biologia Centrali-Americana, Insecta, Coleoptera, Vol. VII. Erotylidae, Endomychidae, and Coccinellidae*. R. H. Porter; London. xii + 276 p.
- Grote, A. R. 1873.** On Mr. Scudder's systematic revision of some New England butterflies (3rd Paper). *The Canadian Entomologist* 5: 143–145.
- Guerreiro, J. C., A. C. Busoli, and E. Berti Filho. 2003.** Oviposition and predation of *Pentilia egena*

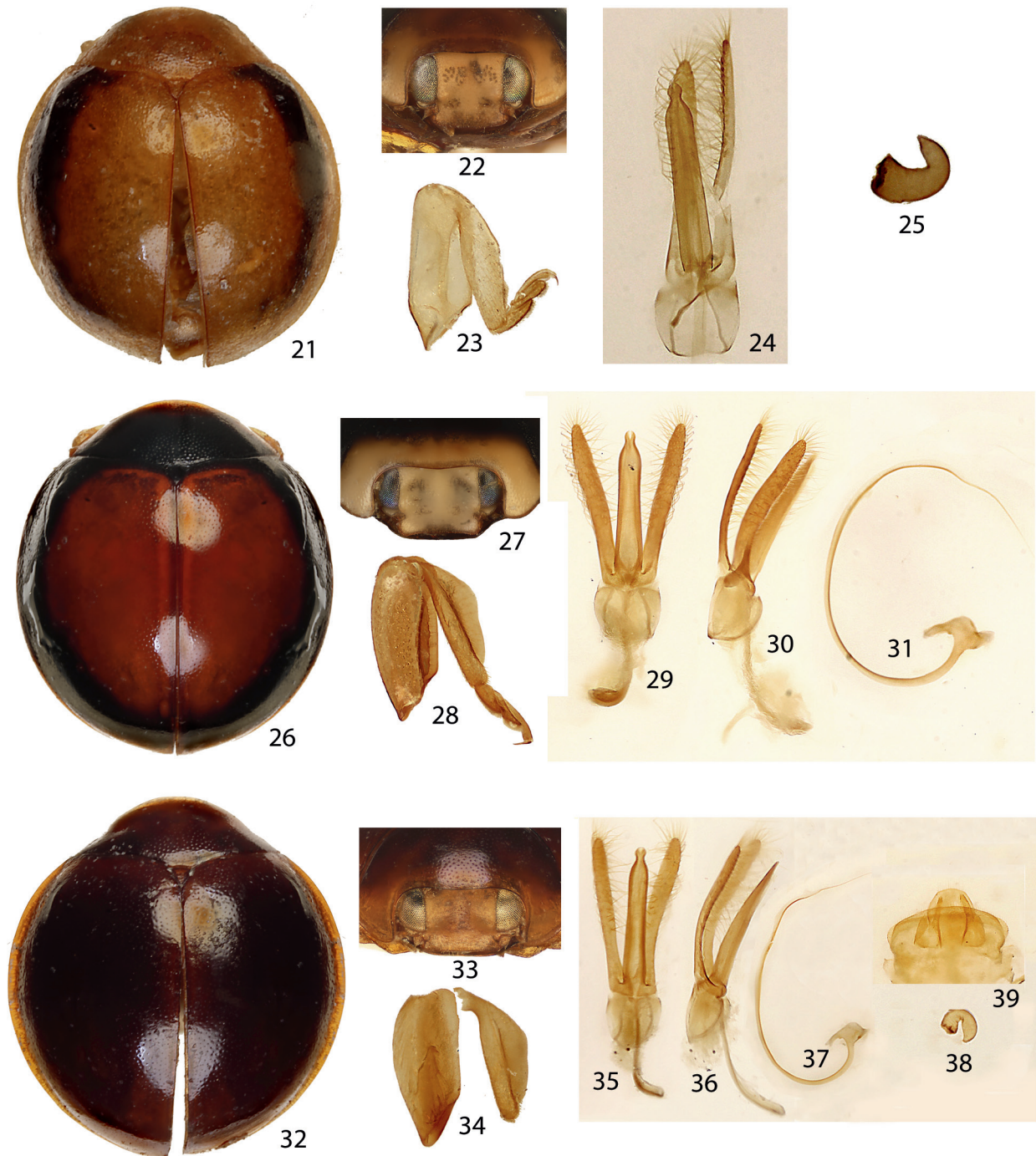
- Mulsant (Coleoptera: Coccinellidae) in response to temperature. *Scientia Agricola* 60(3): 587–589.
- Horn, G. H. 1895.** Studies in Coccinellidae. Transactions of the American Entomological Society 22: 81–214.
- Korschefsky, R. 1931.** Coccinellidae I. Coleopterorum Catalogus. Part 118. W. Junk; Berlin. 224 p.
- Marshall, G. A. K. 1912.** Three new species of Neotropical Coccinellidae. *Annals and Magazine of Natural History*, ser. 8, 10: 320–322.
- Mulsant, M. E. 1850.** Species de coléoptères trimères sécuripalpes. *Annales des Sciences Physiques et Naturelles*, Lyon 2: 1–1104.
- Seago, A. E., J. A. Giorgi, L. Jiahui, and A. Slipinski. 2011.** Phylogeny, classification and evolution of ladybird beetles (Coleoptera: Coccinellidae) based on simultaneous analysis of molecular and morphological data. *Molecular Phylogenetics and Evolution* 60: 137–151.
- Sicard, A. 1929.** Description d'espèces nouvelles de Coccinellidae. *Annals and Magazine of Natural History*, ser. 10, 4: 515–524.
- Slipinski, A. 2007.** Australian ladybird beetles (Coleoptera: Coccinellidae). Their biology and classification. Department of the Environment and Water Resources; Canberra. xvii + 286 p.

Received April 14, 2019; accepted May 23, 2019.

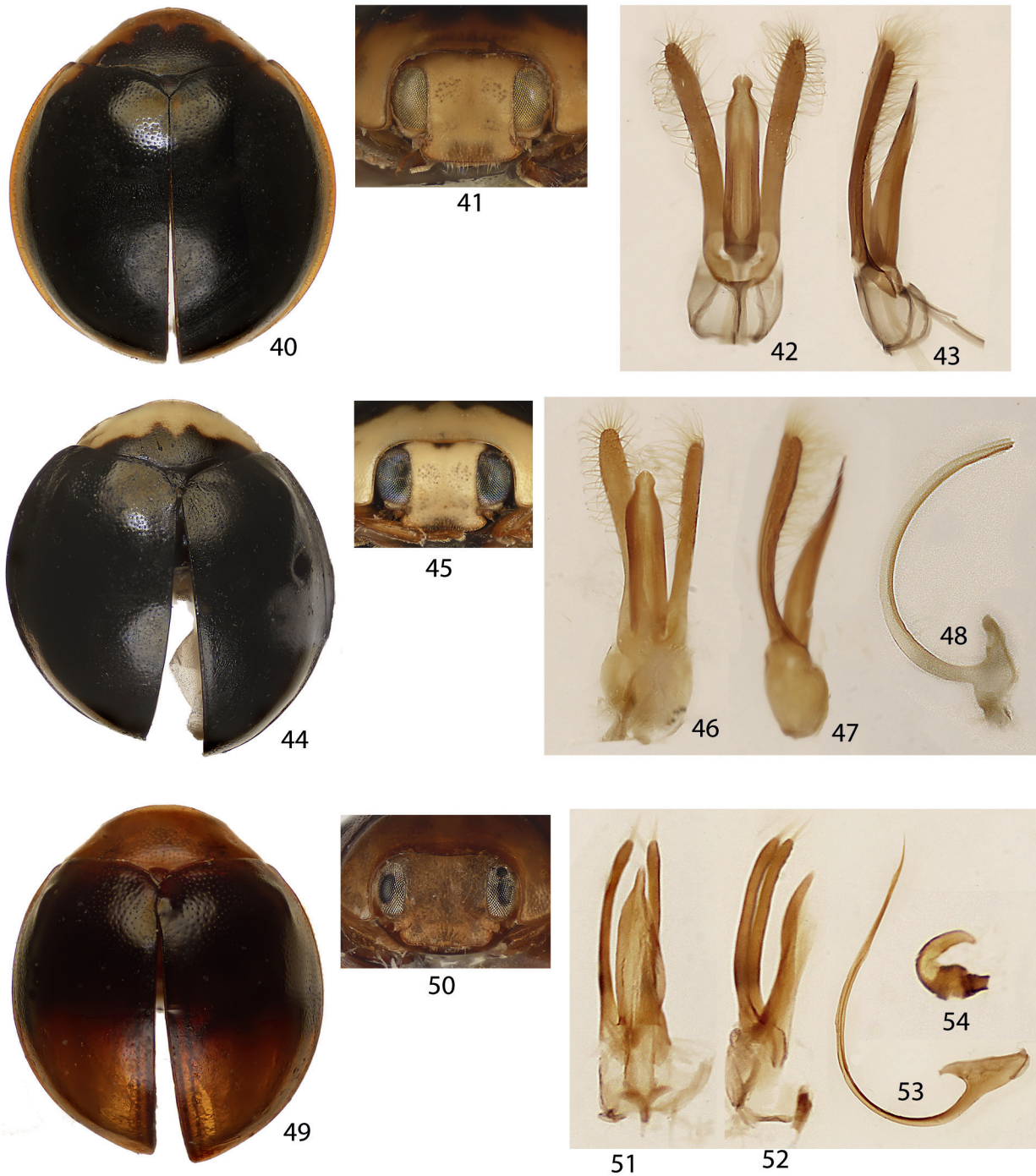
Review editor Jiri Zidek.



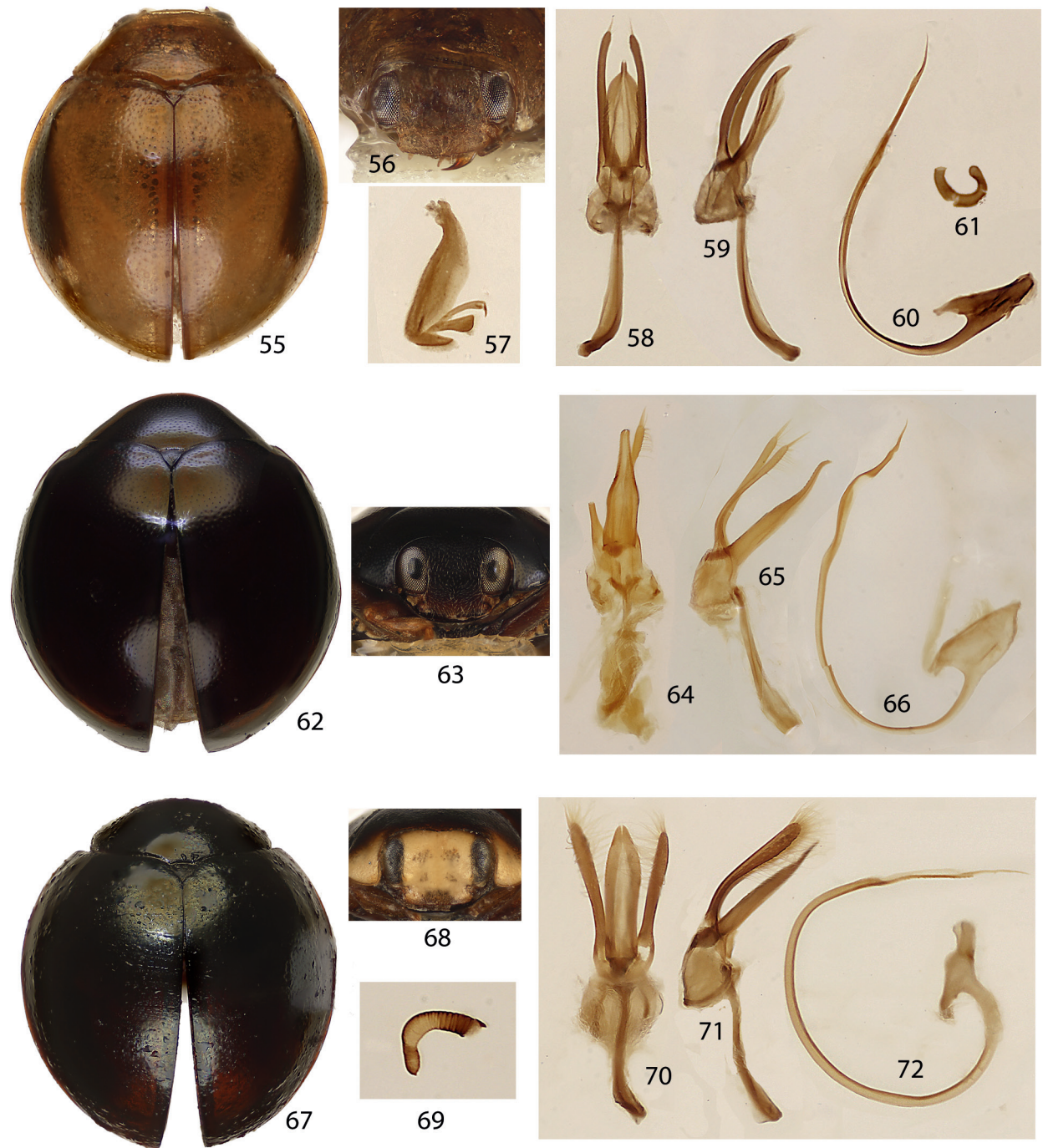
Figures 1–20. *Cryptognatha* spp. 1–7) *Cryptognatha auriculata*. 1) Habitus. 2) Frons. 3) Proleg. 4) Phallobase ventral. 5) Phallobase lateral. 6) Penis. 7) Genital plates. 8–14) *Cryptognatha nodiceps*. 8) Habitus. 9) Frons. 10) Proleg. 11) Phallobase ventral. 12) Phallobase lateral. 13) Penis. 14) Spermathecal capsule. 15–20) *Cryptognatha gemellata*. 15) Habitus. 16) Frons. 17) Spermathecal capsule. 18) Phallobase ventral. 19) Phallobase lateral. 20) Penis.



Figures 21–39. *Cryptognatha* spp. 21–25) *Cryptognatha pam.* 21) Habitus. 22) Frons. 23) Proleg. 24) Phallobase ventral. 25) Spermathecal capsule. 26–31) *Cryptognatha amicta*. 26) Habitus. 27) Frons. 28) Proleg. 29) Phallobase ventral. 30) Phallobase lateral. 31) Penis. 32–39) *Cryptognatha kellie*. 32) Habitus. 33) Frons. 34) Proleg. 35) Phallobase ventral. 36) Phallobase lateral. 37) Penis. 38) Spermathecal capsule. 39) Genital plates.



Figures 40–54). *Cryptognatha* spp. 40–43) *Cryptognatha hannah*. 40) Habitus. 41) Frons. 42) Phallobase ventral. 43) Phallobase lateral. 44–48) *Cryptognatha whitney*. 44) Habitus. 45) Frons. 46) Phallobase ventral. 47) Phallobase lateral. 48) Penis. 49–54) *Cryptognatha reedi*. 49) Habitus. 50) Frons. 51) Phallobase ventral. 52) Phallobase lateral. 53) Penis. 54) Spermathecal capsule.



Figures 55–72. *Cryptognatha* spp. **55–61)** *Cryptognatha karla*. **55)** Habitus. **56)** Frons. **57)** Protibia. **58)** Phallobase ventral. **59)** Phallobase lateral. **60)** Penis. **61)** Spermathecal capsule. **62–66)** *Cryptognatha clarki*. **62)** Habitus. **63)** Frons. **64)** Phallobase ventral. **65)** Phallobase lateral. **66)** Penis. **67–72)** *Cryptognatha celia*. **67)** Habitus. **68)** Frons. **69)** Spermathecal capsule. **70)** Phallobase ventral. **71)** Phallobase lateral. **72)** Penis.



Figures 73–85. *Cryptognatha* spp. **73–76)** *Cryptognatha flaviceps*. **73)** Habitus. **74)** Frons. **75)** Phallobase ventral. **76)** Phallobase lateral. **77–81)** *Cryptognatha weisei*. **77)** Habitus. **78)** Frons. **79)** Phallobase ventral. **80)** Phallobase lateral. **81)** Penis. **82–85)** *Cryptognatha shelia*. **82)** Habitus. **83)** Frons. **84)** Phallobase ventral. **85)** Phallobase lateral.



Figures 86–102. *Cryptognatha* spp. **86–90)** *Cryptognatha yolandi*. **86)** Habitus. **87)** Frons. **88)** Phallobase ventral. **89)** Phallobase lateral. **90)** Penis. **91–98)** *Cryptognatha pudibunda*. **91)** Habitus. **92)** Frons. **93)** Maxillary palpus. **94)** Antenna. **95)** Phallobase ventral. **96)** Phallobase lateral. **97)** Penis. **98)** Spermathecal capsule. **99–102)** *Cryptognatha batesi*. **99)** Habitus. **100)** Frons. **101)** Phallobase lateral. **102)** Phallobase ventral.



Figures 103–112. *Cryptognatha* spp. **103–105)** *Cryptognatha gayle*. **103)** Habitus. **104)** Frons. **105)** Penis. **106–109)** *Cryptognatha della*. **106)** Habitus. **107)** Habitus variation. **108)** Frons. **109)** Spermathecal capsule. **110–112)** *Cryptognatha vicki*. **110)** Habitus. **111)** Frons. **112)** Spermathecal capsule.



113



114



115



116



117



118



119



120

Figures 113–120. Cryptognathini genera. 113–114) *Cryptognatha aethiops*. 113) Habitus dorsal. 114) Ventral surface. 115–117) *Cryptognatha*. 115) Frons. 116) Epipleuron. 117) Prosternum. 118–120) *Calloeneis*. 118) Frons. 119) Epipleuron. 120) Prosternum.



121



122



123



124



125



126

Figures 121–126. Cryptognathini genera. **121–123) *Pentilia*.** 121) Frons. 122) Epipleuron. 123) Prosternum. **124–126) *Curticornis*.** 124) Frons. 125) Epipleuron. 126) Prosternum.