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South American Coccinellidae (Coleoptera), part XX:
systematic revision of South American *Calloeneis* Grote
(Cryptognathini)

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South American Coccinellidae (Coleoptera), part XX: systematic revision
of South American *Calloeneis* Grote (Cryptognathini)

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Abstract. Species of *Calloeneis* Grote (Coleoptera: Coccinellidae) are discussed, and a key to all recognized species is provided. **New species** described are *C. alexandra*, *C. angelica*, *C. blanca*, *C. bennetti*, *C. bethany*, *C. brooke*, *C. francis*, *C. jacquelin*, *C. johnnie*, *C. kara*, *C. krista*, *C. leticia*, *C. lynne*, *C. robyn*, *C. marianne*, *C. myra*, *C. rosalie*, *C. roxanne* and *C. sheri*, all authored by Gordon and Hanley.

Key words. Key, classification, list.

Introduction

In a previous publication, Gonzalez et al. (2019) reviewed Cryptognathini, provided a key to genera and discussed nomenclatural history along with necessary illustrations. A revision of *Cryptognatha* Mulsant was also provided. Here, *Calloeneis* Grote is similarly revised with modified synonymy presented. Users of this publication should refer to Gonzalez et. al. (2019) for more complete information on Cryptognathini as a whole.

Materials and Methods

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). These publications should be consulted if clarification is needed.

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 abdominal and genitalic structures in clean water, and placing the cleaned structures in glycerin for examination. Genitalia may be stored in several ways, but here they were stored in glycerin in microvials.

Types. Type specimens were examined for most specific taxa unless otherwise indicated. Detailed information is included under “Type locality,” “Type depository,” and “Remarks.”

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 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 correction of any obviously incorrect spelling.

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

NHMUK	Natural History Museum of the United Kingdom, London, UK
CPGG	Guillermo Gonzalez personal collection, Santiago, Chile
CMNH	Carnegie Museum of Natural History, Pittsburgh, PA, USA
CTNI	Colección Taxonómica Nacional de Insectos Luis María Murillo, Corpoica, C.I. Tibaitatá, Mosquera, Cundinamarca, Bogotá, Colombia.
INBP	Inventario Biológico Nacional, Museo Nacional de Historia Natural del Paraguay, Asunción, Paraguay
MEUT	Museo de Entomología de la Universidad Nacional de Tumbes, Peru
USNM	United States National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Systematics

Calloeneis Grote

Calloeneis Grote 1873: 143; Belicek 1976. Replacement name for *Oeneis* Mulsant.

Oeneis Mulsant 1850: 497, 500. Not Hübner 1819; Gordon 1971: 184.

Cryptognatha Mulsant: Crotch 1874: 206 (in part); Blackwelder 1945: 449 (in part); Gordon 1971: 184.

Delphastopsis Casey 1924: 170; Gordon 1971: 184.

Dargo Chapin 1955: 87. Unnecessary replacement name for *Oeneis* Mulsant; Gordon 1971: 184.

Type species. *Oeneis nigrans* Mulsant, by subsequent designation of Korschefsky (1931).

Description. Cryptognathini with anterior margin of clypeus margin weakly arcuate or truncate, anterior angle slightly upturned (Fig. 95); clypeus slightly expanded onto eye; antenna with eight articles, club apparently with three articles; maxillary palpus with apical article widened slightly apically. Prosternum approximately as long as median 1/3 of basal abdominal ventrite, wide anterior to coxae, completely concealing mouthparts in repose (Fig. 97); prosternal carina long, extended from apex of prosternal process to lateral margin of prosternum. Epipleuron weakly descending externally or flat (Fig. 96). Proleg with tibia moderately expanded for reception of tarsus, slightly narrower than femur, femur notched for reception of tibia. 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. Apex of male genitalia arcuate, unmodified. Female genital plate with stylus and stiff setae; spermatheca variable (Fig. 5, 16, 37).

Remarks. *Calloeneis* is clearly defined by key characters. It is most similar to *Cryptognatha* but differs from that genus by a mostly unmodified clypeus, slightly descending or nearly flat epipleuron, and slightly less strongly expanded prosternum. Korschefsky (1931) designated *Oeneis nigrans* as the type species of *Oeneis* Mulsant. However, of the two species included in that genus by Korschefsky (1931), *O. obscura* Mulsant and *O. nigrans*, type depositories could not be located so neither is included in this study. A type specimen of *Cryptognatha nitidella* Brèthes in the BMNH was examined and determined to not belong to Cryptognathini. It is a species of Coccinellidae, but generic provenance was not recognized.

Key to adults of *Calloeneis* species

1. Elytron immaculate, yellow, pale brown, or entirely black 2
 — Elytron maculate 4
- 2(1). Elytron entirely black or dark brown 15
 — Elytron with surface yellow or pale brown 3
- 3(2). Penis guide of male genitalia simple, narrowed to nearly acute apex in apical 1/2 (Fig. 3)
 1. *C. lynne* Gordon and Hanley, n. sp.
 — Penis guide of male genitalia complex, with accessory structure on each side, apex of penis guide
 emarginate (Fig. 9) 2. *C. sheri* Gordon and Hanley, n. sp.
- 4(1). Elytron with dark markings on pale background 5
 — Elytra with pale markings on a dark background 14
- 5(4). Elytron with more than two or three black or brown maculae arranged in irregular fashion 6
 — Elytron with less than four dark maculae, usually with only one or two 7
- 6(5). Elytron with about four slender, black maculae irregularly patterned (Fig. 26)
 7. *C. myra* Gordon and Hanley, n. sp.
 — Elytron with black maculae concentrated on basal 1/2 of elytron, laterally extended posteriorly,
 suture narrowly black on apical 1/2 of elytron (Fig. 32) 9. *C. signata* (Korschefsky)
- 7(5). Elytron with black spot medially on suture and curved, irregular vitta on base extended laterally
 and posteriorly to apical declivity (Fig. 49) . 12. *C. angelica* Gordon and Hanley, n. sp.
 — Elytron with maculae differently arranged 8
- 8(7). Elytron with three black maculae, two large elytral spots and irregular sutural vitta (Fig. 21)
 6. *C. blanca* Gordon and Hanley, n. sp.
 — Elytron with maculae differently arranged 9
- 9(8). Elytron with black humeral and apical maculae (Fig. 38)
 10. *C. krista* Gordon and Hanley, n. sp.
 — Elytron with maculae differently arranged 10
- 10(9). Each elytron with more than one macula 11
 — Each elytron with single macula. 12
- 11(10). Elytron with two maculae, one basally on suture and one on lateral margin in anterior 1/2 (Fig. 43)
 11. *C. roxanne* Gordon and Hanley, n. sp.
 — Elytron with suture narrowly bordered with light brown, faint brown macula on humerus, row
 of brown punctures in lateral 1/4 of elytron from base to apical 1/8 (Fig. 30)
 8. *C. leticia* Gordon and Hanley, n. sp.
- 12(10). Species with pale yellow elytron having single spot on suture in median or apical 1/2 (Fig. 12)
 13
 — Species with elytron moderately yellow having single spot in basal 1/2 (Fig. 64)
 15. *C. francis* Gordon and Hanley, n.sp.
- 13(12). Elytron with small brown spot on suture on apical declivity (Fig. 12)
 3. *C. marianne* Gordon and Hanley, n. sp.
 — Elytron with a large brown spot on suture in apical 1/2 (Fig. 14)
 4. *C. kara* Gordon and Hanley, n. sp.
- 14(4). Elytron black with small, yellow, diagonal spot on humeral angle extended posteriorly over
 callus (Fig. 59) 14. *C. robyn* Gordon and Hanley, n. sp.
 — Elytron with large, median yellow macula surrounded with black border, border may be reduced
 to nearly absent medially (Fig. 17) 5. *C. jacquelin* Gordon and Hanley, n. sp.

- 15(2). Head widened from base to wide, apically rounded clypeus (Fig. 54) **13. *C. johnnie* Gordon and Hanley, n. sp.**
 — Head not widened from base to apically rounded clypeus **16**
- 16(15). Pronotum entirely yellow; penis guide of male genitalia wide, apex broadly rounded (Fig. 88) **21. *C. brooke* Gordon and Hanley, n. sp.**
 — Pronotum at least partially black; penis guide of male genitalia variable, never wide with a broadly rounded apex **17**
- 17(16). Penis guide of male genitalia wide basally, basal portion with wide “shoulders” abruptly narrowed to acute apex (Fig. 93) **22. *C. bethany* Gordon and Hanley, n. sp.**
 — Penis guide of male genitalia without “shoulders”, not abruptly narrowed to acute apex ... **8**
- 18(17). Penis guide of male genitalia as long as paramere, parallel sided on basal 3/4, apical 1/4 widened, rounded laterally, apex deeply emarginate (Fig. 83) **20. *C. alexandra* Gordon and Hanley, n. sp.**
 — Penis guide of male genitalia not parallel sided in basal 3/4, simply widened from base to apex **19**
- 19(18). Penis guide of male genitalia slender basally, gradually narrowed to slightly emarginate apex on apical 1/4 (Fig. 7) **19. *C. rosalie* Gordon and Hanley, n. sp.**
 — Penis guide of male genitalia wide basally, apical 1/4 not gradually narrowed **20**
- 20(19). Penis guide of male genitalia wide on basal 3/4, abruptly narrowed to slightly emarginate, acute apex (Fig. 79) **18. *C. bennetti* Gordon**
 — Penis guide of male genitalia not strongly widened on basal 3/4, not abruptly widened apically, apex not acute (Fig. 71) **17. *C. appropinquata* (Crotch)**

List of *Calloeneis* species (in order of text)

1. *C. lynne* Gordon and Hanley, new species
2. *C. sheri* Gordon and Hanley, new species
3. *C. marianne* Gordon and Hanley, new species
4. *C. kara* Gordon and Hanley, new species
5. *C. jacquelin* Gordon and Hanley, new species
6. *C. blanca* Gordon Hanley, new species
7. *C. myra* Gordon and Hanley, new species
8. *C. leticia* Gordon and Hanley, new species
9. *C. signata* (Korschefsky), new combination
10. *C. krista* Gordon and Hanley, new species
11. *C. roxanne* Gordon and Hanley, new species
12. *C. angelica* Gordon and Hanley, new species
13. *C. johnnie* Gordon and Hanley, new species
14. *C. robyn* Gordon and Hanley, new species
15. *C. francis* Gordon and Hanley, new species
16. *C. appropinquans* (Crotch), new combination
17. *C. rosalie* Gordon and Hanley, new species
18. *C. bennetti* Gordon
19. *C. alexandra* Gordon and Hanley, new species
20. *C. brooke* Gordon and Hanley, new species
21. *C. bethany* Gordon and Hanley, new species

1. *Calloeneis lynne* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.7 mm; dorsal surface shiny, head strongly alutaceous, elytron with faint trace of microsculpture, lateral 1/4 of basal abdominal ventrite 1 densely alutaceous, ventrite 5 entirely alutaceous. Color light brownish yellow (Fig.1); head yellow; pronotum with median 2/3 darker brownish yellow; pro-, meso-, metasternum black; abdominal ventrite 5 with median 1/3 dark brown. Head with dense punctures separated by a diameter or less; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than one to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures small, separated by two or three times a diameter medially, becoming widely spaced on lateral 1/3; basal abdominal ventrite with fine punctures separated by about three times a diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly narrowed from vertex to clypeus, medially depressed, 1.5 times as wide as eye, apex weakly curved (Fig.2); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved except median portion flattened, extended nearly to rear margin of ventrite. Genitalia long, penis guide as long as paramere, basal 1/2 wide, apical 1/2 strongly narrowed to rounded apex; paramere slender, parallel sided, weakly curved, apex rounded (Fig. 3, 4); penis long, slender, apex attenuate; basal capsule short, wide, inner arm slightly produced apically, outer arm nearly truncate (Fig. 6).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Colombia, Antioquia, (Sureste) ll, Jardin 5 km SE Tebaida, car. Riosucio km 10, 5°34'N–75°46', 220 m, 8.IV.2016a, R.Constantin. (CTNI).

Other specimens. 4, Colombia, Candelaria, Colegio, Gacheta, Palmira. (USNM). Female

Remarks. This species is externally inseparable from *C. sheri* and therefore male genitalia must be examined. Females listed under “Other specimens” are probably this species but cannot be determined with certainty. Female genitalia figured are probably those of *C. lynne*.

2. *Calloeneis sheri* Gordon and Hanley, new species

Description. Male holotype. Length 1.6 mm, width 1.4 mm; dorsal surface shiny, head strongly alutaceous, elytron with faint trace of microsculpture. Color yellowish brown (Fig. 7); head, abdomen yellow; pronotum light reddish yellow; elytron yellowish brown becoming obscurely darker in lateral 1/4; ventral surface reddish yellow. Head without visible punctures; pronotal punctures small, separated by a diameter or less; elytral punctures smaller than on pronotum, separated by up to three times a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures as large as on mesosternum, separated by up to twice a diameter medially, absent in lateral 1/3; basal abdominal ventrite with fine punctures separated by about three times a diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 densely, finely punctured. Head with frons parallel sided, medially depressed, two times as wide as eye, apex weakly curved (Fig. 8); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved throughout, extended nearly to rear margin of ventrite. Genitalia long, penis guide complex, slightly longer than paramere, basal 4/5 wide, parallel sided, accessory structure on each side with slender apex extended nearly to apex of penis guide, apical 1/5 abruptly narrowed to rounded apex, apex deeply emarginated; paramere slender, curved, parallel sided, apex rounded (Fig. 9, 10); penis long, slender, apex attenuate; basal capsule wide, inner arm slightly produced apically, outer arm long, slender, apex rounded (Fig. 11).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Bolivia, H. L. Lethierry, det. by F. W. Nunenmacher, *Cryptognatha pectoralis* Gorham, Korschefsky Collection 1952. (USNM).

Remarks. This species is easily confused with *C. lynne*, therefore male genitalia must be examined.

3. *Calloeneis marianne* Gordon and Hanley, new species

Description. Female holotype. Length 1.6 mm, width 1.4 mm; dorsal surface shiny. Color yellow; head with irregular brown macula between eyes at apex of frons; pronotum with median 2/3 slightly darker yellow than lateral 1/3; elytron with small, irregularly triangular macula on suture at apical declivity (Fig. 12); pro-, meso-, metasternum black; abdominal ventrites 1, 2 dark brown. Head with dense punctures separated by a diameter or less; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by up to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, 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 three times diameter medially, ventrite 2 with coarse punctures in median 2/3 separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly narrowed from vertex to clypeus, medially depressed, 1.5 times as wide as eye, clypeal apex weakly curved, nearly truncate (Fig. 13); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron slightly descending externally. Postcoxal line on basal abdominal ventrite curved except median portion flattened, extended nearly to rear margin of ventrite. Genitalia lost.

Male. Unknown.

Variation. Unknown.

Type material. Holotype; PARAGUAY: Dpto. Cordillera: Caacupe, Inst. Agron. Nac., Colr. R. Cave. (INBP).

Remarks. Known only from a female, this species has a unique elytral color pattern by which it may be recognized.

4. *Calloeneis kara* Gordon and Hanley, new species

Description. Female holotype. Length 2.5 mm, width 1.4 mm; dorsal surface shiny. Color yellow; elytron with large, somewhat triangular macula on suture anterior to apical declivity (Fig. 14); pro-, mesosternum light brown, metasternum dark brown; abdominal ventrite 5 with median 1/3 brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by two to three times a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures small, separated by two to four times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures in median 1/3 separated by less than to twice a diameter, ventrite 2 coarsely punctured in median 2/3, punctures separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly narrowed from vertex to clypeus, medially depressed, 1.5 times as wide as eye, clypeal apex weakly curved (Fig. 15); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved except median portion flattened, extended nearly to rear margin of ventrite. Genitalia with spermathecal capsule short, wide, cornu slightly narrowed medially, apex of cornu widely rounded (Fig. 16).

Male. Unknown.

Variation. Unknown.

Type material. Holotype; 55478, C. Fry, Pernam. (Brazil), Fry.Col. 1905.100. (BMNH).

Remarks. *Calloeneis kara* is another species known only from a female with a distinctive elytral color pattern.

5. *Calloeneis jacquelyn* Gordon and Hanley, new species

Description. Male holotype. Length 1.5 mm, width 1.4 mm; dorsal surface shiny except elytron weakly alutaceous. Color yellow; pronotum dark brown with lateral 1/3 yellow; elytron slightly darker yellow with large, dark brown apical macula (Fig. 17, 20). Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated less than to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures small, separated by two to four times a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures in median 1/3 separated by less than to twice a diameter, ventrite 2 coarsely punctured in median 2/3, punctures separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons parallel sided, medially depressed, 1.2 times as wide as eye, clypeal apex weakly curved (Fig. 18); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Genitalia lost.

Female. Similar to male except head brown, lateral 1/3 of elytron dark yellow; genitalia with ramus of spermathecal capsule wide, cornu narrowed medially, apex of cornu broadly rounded (Fig. 19)

Variation. Length 1.5 to 1.8 mm, width 1.4 to 1.5 mm. Elytron dark brown with large, oval, median yellow macula, macula sometimes expanded over most of elytron.

Type material. Holotype; Captured on cocoa, I.C.T.A., St. Augustine, Trinidad BWI, Jan. 10. 1954, Collector F. D. Bennett, *Delphastus* sp. ?n. Det. R. D. Pope 1955, Pres. by Comm Inst ent B.M. 1981-315. (BMNH). Paratype, 1, labels same as holotype. (BMNH).

Other specimens. 5, one specimen, Port of Spain, Trinidad, N. M. Rohwer, 5-2-25 coll.; one specimen, Imperial College Trinidad BWI, Jan. 21, 1936, SM Dohanian; three specimens, Dept. Agr. grounds, Port-of-Spain, Trinidad, Oct. 10, 24, Nov. 2, 1918, A-764, A-825, A-868, Harold Morrison. (USNM).

Remarks. This is another species recognized by dorsal color pattern although variation is considerable. This difference is probably simple variation as some specimens bear identical collection labels. Examples listed under "Other specimens" are probably conspecific with the types but are not so designated. Genitalia described were obtained from one of those specimens.

6. *Calloeneis blanca* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.7 mm; dorsal surface shiny, head distinctly alutaceous, elytron with faint trace of microsculpture. Color brownish yellow; head yellow; pronotum with small, triangular, faint brown macula at middle, small, dark brown macula present on lateral 1/3; elytron with two large, black maculae, anterior macula irregularly rectangular, angled from pronotal margin toward lateral margin of elytron, posterior macula on apical declivity, suture narrowly black, black area widened at middle of elytron then continued narrowly along pronotal base to anterior macula (Fig. 21); pro-, meso-, metasternum black; abdominal ventrites 2, 3 medially dark brown. Head with dense punctures separated by a diameter or less; pronotal punctures small, separated by less than to twice a diameter; elytral punctures larger than on pronotum, separated by up to three times a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter; metasternal punctures large, separated by a

diameter or less medially, absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated by up to three times a diameter medially, ventrites 2–4 finely, densely punctured medially, ventrite 5 finely, densely punctured. Head with frons parallel sided, feebly depressed medially, 1.2 times as wide as eye, clypeal apex weakly curved (Fig. 22); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron weakly descending externally. Postcoxal line on basal abdominal ventrite curved except median portion flattened, extended nearly to rear margin of ventrite. Genitalia long, penis guide 3/4 as long as paramere, tapered from base toward apex, noticeably narrowed at apical 1/8 then parallel sided to rounded apex, paramere slender, slightly widened in apical 1/4, apex (Fig. 23, 24); penis long, robust, apex attenuate; basal capsule large, inner arm elongate, slender, apex rounded, outer arm wide, apex narrowly rounded; rounded (Fig. 25).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: Peru, Satipo, XI, 1941, coll. by Paprzycki (USNM).

Remarks. *Calloeneis blanca* is immediately recognized by a highly unique dorsal color pattern thus far unknown elsewhere in *Calloeneis*.

7. *Calloeneis myra* Gordon and Hanley, new species

Description. Male holotype. Length 2.1 mm, width 1.9 mm; dorsal surface shiny, head distinctly alutaceous. Color yellow; head with small, hourglass shaped brown macula on middle of frons; pronotum with small, triangular, brown macula at middle on apical margin, small, dark brown macula present medially on base anterior to scutellum; elytron with four dark brown maculae, sutural macula narrowly extended from scutellum onto apical declivity then laterally and anteriorly onto lateral 1/4 of elytron, irregular humeral macula from basal margin posteriorly and laterally around humeral callus, small, oval brown macula just anterior to apical declivity near suture, irregular, obliquely transverse brown macula on lateral 1/3 of elytron on and anterior to apical declivity (Fig. 26); ventral surface entirely yellow except median 1/3 of basal abdominal ventrite pale brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures as large as on pronotum, separated by less than to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by a diameter or less medially, absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated up to three times diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons slightly narrowed from base to apex, depressed medially, 1.2 times as wide as eye, clypeal apex weakly curved (Fig. 27); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 2/3 distance to rear margin of ventrite. Genitalia long, penis 2/3 as long as paramere, sides sinuate from base to apex, flanked on each side by long, apically rounded appendix, apex of penis guide broadly rounded, barely perceptibly emarginate (Fig. 28, 29); penis lost.

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: 1100m. Rancho Grande Aragua, Venezuela, Feb. 22–23, 1971, H. & A. Howden (USNM).

Remarks. This is another species of *Calloeneis* recognized by a highly unique dorsal color that does not resemble any other species.

8. *Calloeneis leticia* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.7 mm; dorsal surface shiny, head distinctly alutaceous, elytron with faint trace of microsculpture. Color yellow; scutellum brown; elytron with suture narrowly bordered with light brown from scutellum to apex, faint, longitudinal macula on humerus from base of elytron across callus, row of punctures in lateral 1/4 brown from base of elytron to apical 1/8 (Fig. 30) metasternum medially brown; apex of median projection of basal abdominal ventrite dark brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by up to twice diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by 1 to 3 times diameter medially, absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated by less than to 3 times a diameter medially, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons strongly narrowed from base to apex of clypeus, depressed medially, 1.2 times as wide as eye, clypeal apex weakly curved (Fig. 31); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron weakly descending externally. Postcoxal line on basal abdominal ventrite curved except median portion slightly flattened, extended 3/4 distance to rear margin of ventrite. Genitalia lost.

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: Huachi, Rio Beni, Bolív. (Bolivia), WM Mann, Mulford Bio Expl 1921-22 (USNM).

Remarks. *Calloeneis leticia* is a pale, nearly all yellow species with faint brown elytral maculation. Genitalia are unknown because they were lost in dissection, in part because the holotype is a somewhat general specimen. Therefore, a completely mature example may exhibit more strongly defined elytral maculation.

9. *Calloeneis signata* (Korschefsky)

Cryptognatha signata Korschefsky 1936: 299; Blackwelder 1945: 449.

Calloeneis signata; González 2010: 248.

Description. Male. Length 2.0 mm, width 1.6 mm; dorsal surface shiny except head alutaceous, pronotum with faint microsculpture. Color yellow; head yellow with brown vertex; pronotum with median 1/3 brown; elytron with suture narrowly brown, brown sutural vitta extended posteriorly to apex, then laterally a short distance, basal 1/2 with large, irregular macula, macula with small, narrow, oblique yellow spot laterad of suture, median portion of macula deeply indented with yellow (Fig. 32); venter entirely yellow except basal ventrite with apex of median 1/3 brown. Head with punctures not visible because concealed in alutaceous sculpture; pronotal punctures small, separated by up to twice a diameter; elytral punctures as large as on pronotum, separated by up to twice a diameter; prosternal punctures small, distinct, separated by a diameter or less; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by up to twice a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures in median 1/3 separated by up to twice a diameter, ventrite 2 coarsely punctured in median 2/3, punctures separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head parallel sided, medially depressed, 1.5 times as wide as eye, apex of clypeus weakly curved (Fig. 33); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 2/3 distance to rear margin of ventrite. Genitalia long, penis guide longer than paramere, basal 1/4 wide, apical 3/4 narrow to rounded apex; paramere widened from base to setiferous apex (Fig. 34, 35); penis long, slender, inner arm apically

acute, outer arm long, apically rounded (Fig. 36).

Female. Similar to male except head dark brown, clypeus yellowish brown; genitalia with spermathecal capsule equal in width throughout, apex of cornu rounded (Fig. 37).

Variation. Length 1.7 to 2.1 mm, width 1.5 to 1.6 mm, elytral color pattern highly variable from that described above to having basal macula nearly all dark brown excepting yellow sutural spot.

Type locality. Paraguay, Villarica.

Type depository. USNM.

Geographical distribution. Argentina, Brazil, Guyana, Paraguay, Peru.

Specimens examined. 36. **Argentina.** Buenos Aires; Calilegua; Corrientes; Loreto; Misiones, Posadas. **Brazil.** Cantareira, Sao Paulo; Santana, Sao Paulo. **Guyana.** Georgetown, Univ. Guyana Campus. **Peru.** Junin, Chanchamayo, La Merced; Madre de Dios, Tahuamanu, Inapari; Pucallpa. (BMNH, CPGG, MEUT, USNM).

Remarks. *Calloeneis signata* is recognized by its distinctive dorsal color pattern in spite of some variability in that pattern. The Korschevsky collection is property of the USNM and a single specimen in that collection is labeled (red paper) "Typus." However, that specimen cannot be the holotype because it bears the label "Est. Exp. Loreto, 193.....Dr. A. Ogloblin" and the published holotype data are "Paraguay, Villarica." A single specimen in the Korschevsky collection does bear the latter label but has no type indication.

10. *Calloeneis krista* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.7 mm; dorsal surface shiny, head distinctly alutaceous, elytron with faint trace of microsculpture. Color brownish red; head yellow; pronotum entirely black; elytron with humeral angle including callus black, apical declivity black, apex of black macula sinuate (Fig. 38); prosternum, metafemur, posterior 1/2 of mesofemur black; mesosternum, median 1/3 of metasternum yellowish brown, remainder of venter yellow; abdomen yellowish brown except median 1/3 of basal ventrite brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures as large as on pronotum, separated by up to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by one to three times a diameter medially, absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated by up to three times a diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons parallel sided medially, 1.2 times as wide as eye, clypeal apex truncate (Fig. 39); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide longer than paramere, slender, tapered from base to abruptly rounded apex, flanked on each side with slender appendix extended 3/4 length of penis guide; paramere slender, apex rounded (Fig. 40, 41); penis robust, apex lost, basal capsule slender, flat, inner arm apically bifid, outer arm slender, projected (Fig. 42).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; VENEZUELA: Ar. (Aragua), Portachuelo Pass, June 22–30, 1967, RW Poole, 1100m. (USNM).

Remarks. *Calloeneis krista* has a distinctive dorsal color pattern thus far unique within the genus.

11. *Calloeneis roxanne* Gordon and Hanley, new species

Description. Male holotype. Length 1.6 mm, width 1.3 mm; dorsal surface shiny, head distinctly alutaceous. Color yellow; elytron with narrow, oval dark brown macula on sutural margin in basal 1/2, additional black macula present on lateral margin in basal 1/2 (Fig. 43); meso-, metasternum black; abdomen with basal ventrite dark brown. Head punctures separated by a diameter or less; pronotal punctures small, separated by up to twice a diameter; elytral punctures larger than on pronotum, separated by up to three times a diameter; prosternal punctures small, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by a diameter or less medially, absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated by up to 3 times diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons parallel sided, 1.2 times as wide as eye, medially depressed. clypeal apex truncate (Fig. 44); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide shorter than paramere, sides parallel in basal 3/4, rounded to acute apex; paramere slender, curved, apex abruptly rounded (Fig. 45, 46); penis long, slender, apex shortly attenuate, basal capsule lost (Fig. 47).

Female. Similar to male except genitalia with ramus bulbous, cornu strongly narrowed from base to slender apex (Fig. 48).

Variation. Length 1.5 to 2.0 mm, width 1.3 to 1.7 mm. Elytral color pattern varies from that described above to having lateral macula absent or having both maculae absent.

Type material. Holotype male: Chapada, Brazil, Acc No. 2966, Aug. (CMNH). Paratypes 29, same data as holotype except months April, June, September, October, November. (CMNH).

Remarks. This species has a recognizable dorsal color pattern, although the pattern is somewhat variable. Otherwise male genitalia must be examined for identification.

12. *Calloeneis angelica* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.7 mm; dorsal surface shiny with faint trace of microsculpture, head distinctly alutaceous. Color yellow; head with small, irregular, brown, transverse macula on frons between eyes; elytron with small, dark brown macula on suture in basal 1/2, slender, irregularly arcuate vitta extended from base inside humeral angle across humeral callus almost to apical declivity (Fig. 49); venter yellow except pro-, meso-, and metasternum black; abdomen yellow except median 1/3 of basal ventrite, median anterior margin of ventrite 2 dark brown. Head with coarse punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by up to twice a diameter; prosternal punctures large, separated by about a diameter; mesosternal punctures as large as on prosternum, punctures on metasternum large, separated by about a diameter, absent medially, present laterad of middle, absent in lateral 1/3; basal abdominal ventrite impunctate medially, ventrites 1, 2 with fine punctures separated by up to three times diameter medially, ventrites 3–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons parallel sided medially, 1.2 times as wide as eye, clypeal apex truncate (Fig. 50); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron weakly descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide slightly longer than paramere, slender, wide at base, tapered to apical 3/4 then more strongly tapered to abruptly rounded apex, flanked on each side with slender appendix extended 3/4 length of penis guide; paramere slender, apex acute (Fig. 51, 52); penis short, robust, curved apex briefly attenuate; basal capsule wide, flat, inner arm apically hooked, outer arm wide, apically rounded (Fig. 53).

Female. Unknown.

Variation. Maculae on elytron pronounced, wide, arcuate vitta reaching apical declivity, extended to sutural vitta.

Type material. Holotype male: COLOMBIA, Garzon, Huila, 8.XI.39, Murillo No. 54 (USNM).

Other specimen. Same data as holotype, dorsal color pattern as in variation above.

Remarks. *Calloeneis angelica* is recognized by the distinctive elytral color pattern not shared with other *Calloeneis* species.

13. *Calloeneis johnnie* Gordon and Hanley, new species

Description. Male holotype. Length 1.8 mm, width 1.6 mm; dorsal surface somewhat alutaceous; head strongly alutaceous, pronotum, elytron with faint trace of microsculpture. Color reddish brown; head yellow; pronotum with lateral 1/3 yellow, median 1/3 brown; elytron reddish brown medially, anterior and lateral borders dark brown (Fig. 54); venter yellow except pro-, meso-, and metasternum brown; epipleuron reddish yellow; abdomen brownish yellow. Head with punctures not visible; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by up to twice a diameter; prosternal, mesosternal punctures fine, barely visible; metasternal punctures small in median 1/3, separated by a diameter or less, punctures absent in lateral 1/3; abdominal ventrites 1, 2 with fine punctures separated by up to three times a diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons widened from vertex to clypeal apex, slightly wider than eye, clypeal apex arcuate (Fig. 55); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 2/3 distance to rear margin of ventrite. Genitalia with penis guide 3/4 as long as paramere, slender, slightly oval, tapered to abrupt apex in apical 1/4; paramere slender, weakly curved, apex rounded (Fig. 56, 57); penis slender, apex attenuate, basal capsule wide, flat, inner arm straight, slender, apically truncated, outer arm wide, apically rounded (Fig. 58).

Female. Similar to male except head reddish brown, pronotum entirely dark brown. Genitalia with ramus of spermathecal capsule bulbous, cornu curved, apex acute.

Variation. Length 1.7 to 1.8 mm, Size of median reddish-brown area on elytra varies from wide to almost entirely absent, rendering elytra nearly all black.

Type material. Holotype male: TRINIDAD, Brigand Hill, X.1966, C.I. E. A. 1306, C.I.B.C., 66/684, Pred. on *Pseudaulacaspis pentagona*, Pres by Comm Inst Ent BM 1971-1 (BMNH). Paratypes 5, same data as holotype (BMNH).

Remarks. *Calloeneis johnnie* does not have a distinctive dorsal color pattern, but the head widened from base to the wide, apically rounded clypeus is thus far unknown elsewhere in the genus.

14. *Calloeneis robyn* Gordon and Hanley, new species

Description. Male holotype. Length 2.0 mm, width 1.6 mm; dorsal surface shiny; head slightly alutaceous. Color black; head yellow; pronotum yellow; elytron black except anterolateral angle yellow, yellow area diagonal from base posteriorly across callus to lateral margin (Fig. 59); venter yellow except median 1/2 of metasternum, apical 1/4 of epipleuron dark brown; abdomen brown except ventrite 5 yellow. Head with punctures large, separated by a diameter or less; pronotal punctures small separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by up to twice a diameter; prosternal punctures fine, separated by less than a diameter, mesosternal punctures larger than on prosternum, separated by about a diameter; metasternal punctures as large as on mesosternum, separated by a diameter or less; abdominal ventrites 1, 2 with fine punctures separated by up to three times diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons narrow, parallel sided, slightly wider than eye, clypeal apex weakly arcuate, nearly truncate (Fig. 60); eye canthus short, about half width of eye. Prosternum with lateral carina on

each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide 3/4 as long as paramere, slender, tapered from base to abruptly rounded apex; paramere slender, weakly curved, apex rounded (Fig. 61, 62); penis slender, apex briefly attenuate, basal capsule robust, inner arm narrowed to acutely rounded apex, outer arm short, tapered to rounded apex (Fig. 63).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: Guyana, Georgetown, Botanic gdns., 11.VI.1999, R.G. Booth, BMNH (E) 2001-132 (BMNH).

Remarks. This species is characterized by a mostly black elytron with contrasting yellow anterolateral macula.

15. *Calloeneis francis* Gordon and Hanley, new species

Description. Male holotype. Length 1.6 mm, width 1.4 mm; dorsal surface shiny. Color reddish brown; head, pronotum yellow; elytra with large, rounded, black basomedian macula on suture (Fig. 64); ventral surface yellow except meso-, metasternum brown; abdomen yellow except apex of median 1/3 of basal ventrite dark brown. Head with dense punctures separated by a diameter or less; pronotal punctures small, separated by a diameter or less; elytral punctures as large as on pronotum, separated by up to three times a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, 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 small punctures separated by about three times a diameter medially, ventrite 2 with coarse punctures in median 2/3 separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly narrowed from vertex to clypeus, medially depressed, 1.5 times as wide as eye, clypeal apex truncate (Fig. 65); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron slightly descending externally. Postcoxal line on basal abdominal ventrite curved throughout, extended 2/3 distance to rear margin of ventrite. Genitalia with penis guide 7/8 as long as paramere, oval, narrowed to abruptly rounded apex in apical 1/4; paramere slender, curved, parallel sided, apex rounded (Fig. 66, 67); penis lost.

Female. Similar to male except genitalia with ramus of spermathecal capsule large, bulbous, cornu bent at base, narrowed before apex, apex acute (Fig. 68).

Variation. Length 1.6 to 2.1 mm. Size of median black macula somewhat variable.

Type material. Holotype male; Perú Madre de Dios, Res. Biológica CICRA, 27/28.XI.2006, 25/150m., Leg. Angélico Asenjo, Flight trap intercep,(MUSM). Paratypes, 4, 1, PERU: Madre de Dios Dept., CICRA Field Stn., trl 6, research plot, 12.55207°S 70.110962°W. 295m 11–13.VI.2011 Chaboo team, Malaise trap, PER-11-MAT-029. Paratype, 1, PERU: Cusco Dept. Villa Carmen field station, 1.7 km west cafeteria research transect 12.89213°S 71.41920°W 547m 22–24.V.2011, D.J. Bennett & E. Razuri Malaise trap PER-11-MAT-010; 2, Peru, Satipo, VII, VIII 1942, Paprzycki (MUSM, USNM).

Remarks. *Calloeneis francis* has a distinctive dorsal color pattern by which it may be recognized.

16. *Calloeneis appropinquans* (Crotch), new combination

Cryptognatha appropinquans Crotch 1874: 207; Korschevsky 1931: 219; Blackwelder 1945: 449; Gordon 1987: 26.

Description. Male holotype. Length 1.7 mm, width 1.5 mm; dorsal surface shiny except head faintly alutaceous. Color black; head yellow, pronotum with anterolateral angle yellow (Fig. 69); prosternum, legs yellow; epipleuron brown; meso- metasternum black; abdomen yellow with median 1/3 of basal

ventrite, anterior 1/2 of ventrites 2, 4 brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by a diameter or less; elytral punctures larger than on pronotum, separated by up to twice a diameter; prosternal punctures small, indistinct, separated by about a diameter; mesosternal punctures larger than on prosternum, separated by less than a diameter, metasternal punctures large, separated by less than a diameter medially, absent in lateral 1/3; basal abdominal ventrite with coarse punctures in median 1/3 separated by up to twice a diameter, ventrite 2 coarsely punctured in median 2/3, punctures separated by less than a diameter, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly narrowed from vertex to clypeus, medially depressed, 1.5 times as wide as eye, clypeal apex weakly curved (Fig. 70); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia short, penis guide as long as paramere, tapered from wide base to abruptly rounded apex; paramere widened from base to setiferous apex (Fig. 71); penis lost.

Female. Unknown.

Variation. Unknown.

Type locality. Brazil, Rio de Janeiro. Gordon (1987) (holotype).

Type depository. UMZC.

Geographical distribution. Brazil.

Specimens examined. 2. **Brasil.** Rio de Janeiro (holotype) Teresopolis. (UMZC, USNM).

Remarks. *Calloeneis appropinquans* is a very small species that is difficult to distinguish from other black taxa except by examination of male genitalia. Genitalia are similar to those of *C. bennetti* but considered sufficiently different to maintain both species.

17. *Calloeneis rosalia* Gordon and Hanley, new species

Description. Male holotype. Length 1.8 mm, width 1.6 mm; dorsal surface entirely shiny. Color black; head yellowish brown; pronotum with lateral 1/4 yellow (Fig. 72); venter yellow except lateral 1/3 of mesosternum, metasternum black. Head with punctures large, separated by a diameter or less; pronotal punctures small separated by a diameter or less; elytral punctures larger than on pronotum, separated by one to three times a diameter; prosternal punctures fine, separated by less than a diameter; mesosternal punctures larger than on prosternum, separated by about a diameter, metasternal punctures as large as on mesosternum, separated by a diameter or less medially, absent on lateral 1/4; abdominal ventrites 1, 2 with fine punctures separated by up to three times a diameter medially, ventrites 2–4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head with frons narrow, parallel sided, about as wide as eye, clypeal apex weakly arcuate (Fig. 73); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended nearly to rear margin of ventrite. Genitalia with penis guide 3/4 as long as paramere, narrow, widest at base, gradually tapered in apical 1/4 to narrow, slightly emarginate apex; paramere slightly curved, mostly parallel sided, apex rounded (Fig. 74, 75); penis robust, apex lost, basal capsule robust, dark brown, inner arm short, apically hooked, outer arm short, narrowed from base to acute apex (Fig. 76).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: Chapada, Brazil, Acc. No. 29966 (CMNH).

Remarks. As with other dorsally black species, *Calloeneis rosalia* is recognized with certainty only by examination of male genitalia.

18. *Calloeneis bennetti* Gordon

Calloeneis bennetti Gordon 1978: 216.

Description. Male. Length 1.7 mm, width 1.6 mm; dorsal surface shiny except head faintly alutaceous. Color black (Fig. 77); head with vertex, median area of frons dark brown, lateral area of frons next to eye, clypeus yellowish brown; ventral surface yellow except mesosternum reddish brown, prosternum, metasternum dark brown; abdomen yellow with median 1/3 of basal ventrite brown. Head with dense punctures separated by less than a diameter; pronotal punctures small, separated by less than a diameter; elytral punctures larger than on pronotum, separated by a diameter or less; prosternal, meso-, metasternal punctures distinct, separated by about a diameter or less; basal abdominal ventrite without visible punctures, ventrites 2, 3 finely punctured, ventrites 3, 4 finely, densely punctured medially; ventrite 5 finely, densely punctured. Head slightly widened from middle of frons to clypeal apex, clypeal apex slightly rounded (Fig. 78); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide 5/8 as long as paramere, widened anterior to base, then abruptly tapered to acute, slightly emarginate apex; paramere gradually widened from base to apex (Fig. 79, 80); penis lost.

Female. Similar to male except head entirely brown, genitalia with ramus of spermathecal capsule bulbous, cornu narrowed from base to abruptly rounded apex (Figure 33 in Gordon, 1978).

Variation. Length 1.5 to 1.7 mm, width 1.4 to 1.6 mm., male head may be entirely yellow with lateral 1/3 of pronotum yellow.

Type locality. Trinidad, Mayaro.

Type depository. USNM.

Geographical distribution. Trinidad.

Specimens examined. 6. **Trinidad.** Imperial College, Mayaro; Morne Bleu, St. Augustine.

Remarks. This is another dorsally black species separable from other such species only by examination of male genitalia.

19. *Calloeneis alexandra* Gordon and Hanley, new species

Description. Male holotype. Length 1.7 mm, width 1.6 mm; dorsal surface shiny except head strongly alutaceous. Color black (Fig. 81); head yellow; pronotum with lateral 1/6 yellow (Fig. 82); venter yellow except prosternum, mesosternum reddish yellow, metasternum dark brown. Head with punctures not visible; pronotal punctures small separated by a diameter or less; elytral punctures larger than on pronotum, separated by one to three times a diameter; prosternal, mesosternal punctures fine, separated by less than a diameter, metasternal punctures small separated by about a diameter medially, absent in lateral 1/3; abdominal ventrite 1 impunctate, ventrites 2–4 with fine punctures not clearly visible; ventrite 5 finely, densely punctured. Head with frons about as wide as eye, clypeus widened, clypeal apex arcuate (Fig. 82); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended 3/4 distance to rear margin of ventrite. Genitalia with penis guide as long as paramere, parallel sided in basal 3/4, apical 1/4 widened, rounded laterally, apex deeply emarginate; paramere long, slender, apically rounded (Fig. 83, 84); penis robust, apical 1/5 abruptly narrowed, apically attenuate, basal capsule long, inner arm apically hooked, outer arm long, apex rounded (Fig. 85).

Female. Similar to male except vertex of head brown, extreme lateral margin of pronotum faintly paler than disc. Genitalia with ramus of spermathecal capsule bulbous, cornu narrowed from base to abruptly rounded apex.

Variation. Length 1.4 to 1.7 mm, width 1.3 to 1.6 mm. Female head often entirely dark brown.

Type material. Holotype male: Taperina, Brazil, June, Acc. No. 2966. (CMNH). Paratypes, 31, 1, Chapada, Brazil, Acc. No. 2966; 3, Corumba, Brazil, March, Acc. 2966; 1, Entre Rios, Brazil, Sept., Acc. No. 2966; 1, Macura, Brazil, Jan., Acc. No. 2966; 8, Rio de Jan., July, Oct., Acc. No. 2966; 3, Santarem, Brazil, Acc. No. 2966 (CMNH); 14, BRAZIL: Am, Reserva Ducke, 26kmNE Manaus, Barbosa, G.V., Plot B Malaise 5, October 1995, BMNH(E) 2003-84 (BMNH).

Remarks. Male genitalia of this species are highly distinctive and must be examined for identification.

20. *Calloeneis brooke* Gordon and Hanley, new species

Description. Male holotype. Length 1.6 mm, width 1.3 mm; dorsal surface shiny except head alutaceous. Color black; head, pronotum yellow (Fig. 86); venter yellow except prosternum yellow, mesosternum reddish brown, metasternum dark brown, epipleuron yellowish brown. Head with punctures not visible; pronotal punctures small separated by a diameter or less; elytral punctures small, faint, nearly invisible, separated by about four times a diameter; prosternal punctures small, dense, separated by less than a diameter; mesosternal punctures apparently absent; metasternal punctures small, widely spaced, absent in lateral 1/3; basal abdominal ventrite with small punctures separated by about a diameter, ventrites 2–4 with fine punctures not clearly visible; ventrite 5 finely, densely punctured. Head with frons slightly wider than eye, clypeus widened, apex truncate (Fig. 87); eye canthus short, less than half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended to rear margin of ventrite. Genitalia with penis guide slightly longer than paramere, wide, curved from base to widely rounded apex; paramere slender, slightly curved, apically rounded (Fig. 88, 89); penis robust, apical 1/5 abruptly narrowed, apex acute; basal capsule slender, inner arm slightly curved with rounded apex, outer arm short, apex obliquely truncate (Fig. 90).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male: Venezuela, nr. Petare, 20.VI.1926, H. E. Box collector (USNM). Barbosa, G.V., Plot B Malaise 5, October 1995, BMNH(E) 2003-84 (BMNH).

Remarks. This species has all black elytra but is distinguished from other such species by an entirely yellow pronotum. The male genitalia are also distinctive.

21. *Calloeneis bethany* Gordon and Hanley, new species

Description. Male holotype. Length 1.6 mm, width 1.5 mm; dorsal surface shiny except head alutaceous. Color black; head yellow; pronotum yellow with small, dark brown basomedian macula narrowly extended to apical margin (Fig. 91); venter yellow except prosternum, mesosternum black, epipleuron brownish yellow. Head with punctures not visible; pronotal punctures small separated by less than twice a diameter; elytral punctures larger than on pronotum, separated by less than twice a diameter; prosternal punctures fine, barely visible; mesosternal punctures coarse, separated by less than a diameter, metasternal punctures large, separated by a diameter or less, absent in lateral 1/3; abdominal ventrite 1 impunctate medially except some large punctures on anterior 1/4, ventrites 2–4 with fine punctures not clearly visible; ventrite 5 finely, densely punctured. Head with frons parallel sided, 1.2 times as wide as eye, clypeal apex slightly arcuate (Fig. 92); eye canthus short, about half width of eye. Prosternum with lateral carina on each side curved, extended from apex of intercoxal process to lateral margin of prosternum. Epipleuron not descending externally. Postcoxal line on basal abdominal ventrite curved, extended to rear margin of ventrite. Genitalia with penis guide longer than paramere, basally narrow, strongly widened from base to median 1/2, then abruptly widened, side rounded, tapered to acute apex in apical 1/4 (Fig. 93, 94); penis lost.

Female. Similar to male except for the black head and reddish-brown clypeus.

Variation. Length 1.4 to 1.6 mm, width 1.3 to 1.5 mm. Male pronotal macula may be slightly larger than described above.

Type material. Holotype male: Peru, Satipo, IX-X, 1942, Paprzycki (USNM). Paratypes, 4, same data as holotype except dates X, 1942, XI, 1942 (USNM).

Remarks. Male genitalia are distinctive, but a mostly yellow pronotum and Peruvian type locality will also aid in identification.

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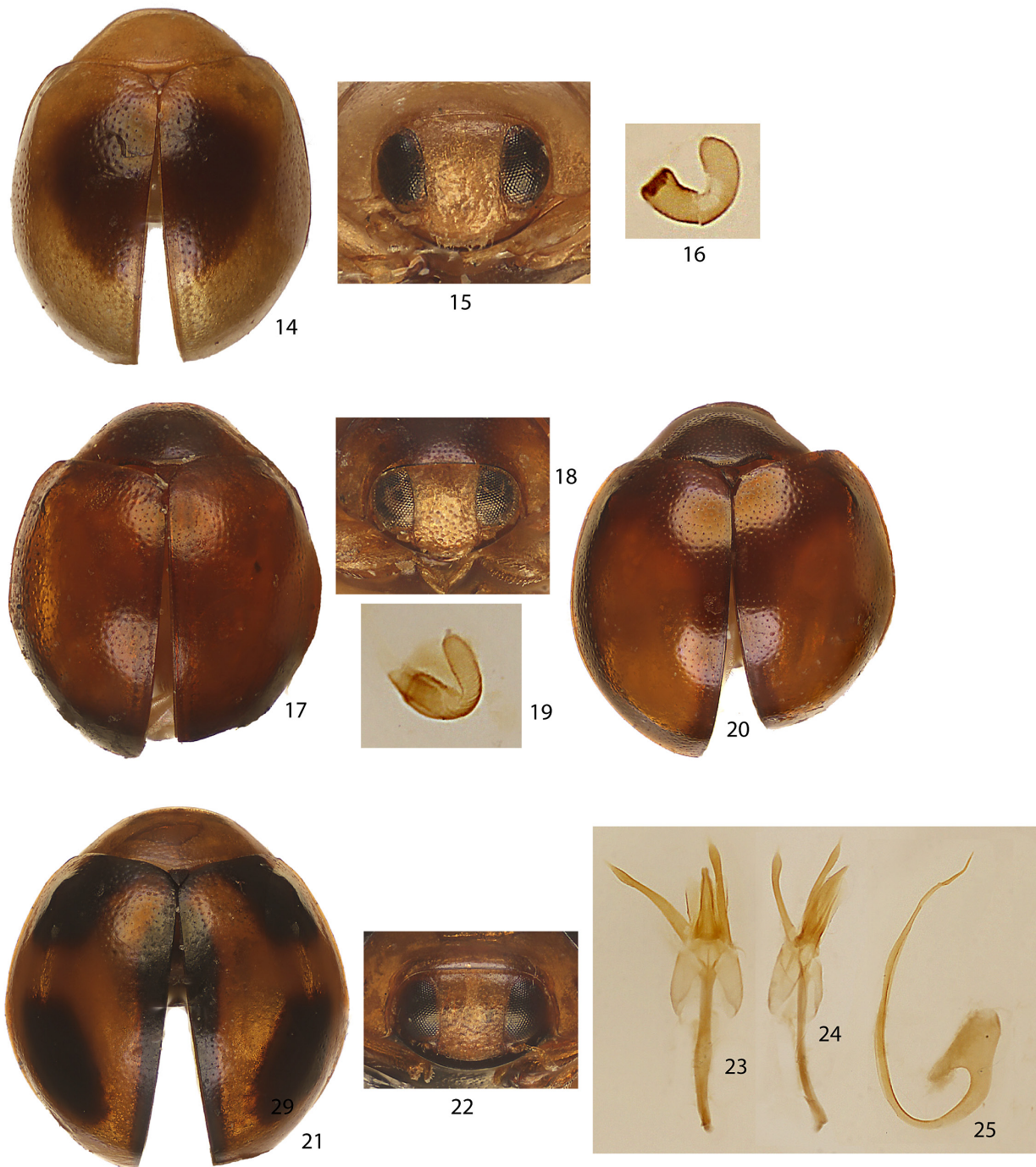
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Figures 1–13. *Calloeneis* spp. 1–6) *Calloeneis lynne*. 1) Habitus. 2) Frons. 3) Penis guide ventral. 4) Penis guide lateral. 5) Penis. 6) Spermathecal capsule. 7–11) *Calloeneis sheri*. 7) Habitus. 8) Frons. 9) Penis guide ventral. 10) Penis guide lateral. 11) Penis. 12–13) *Calloeneis marianne*. 12) Habitus. 13) Frons.



Figures 14–25. *Calloeneis* spp. 14–16) *Calloeneis kara*. 14) Habitus. 15) Frons. 16) Spermathecal capsule. 17–20) *Calloeneis jacquelin*. 17) Habitus. 18) Frons. 19) Spermathecal capsule. 20) Habitus variation. 21–25) *Calloeneis blanca*. 21) Habitus. 22) Frons. 23) Penis guide ventral. 24) Penis guide lateral. 25) Penis.



Figures 26–37. *Calloeneis* spp. **26–29)** *Calloeneis myra*. **26)** Habitus. **27)** Frons. **28)** Penis guide ventral. **29)** Penis guide lateral. **30–31)** *Calloeneis leticia*. **30)** Habitus. **31)** Frons. **32–37)** *Calloeneis signata*. **32)** Habitus. **33)** Frons. **34)** Penis guide ventral. **35)** Penis guide lateral. **36)** Penis. **37)** Spermathecal capsule.



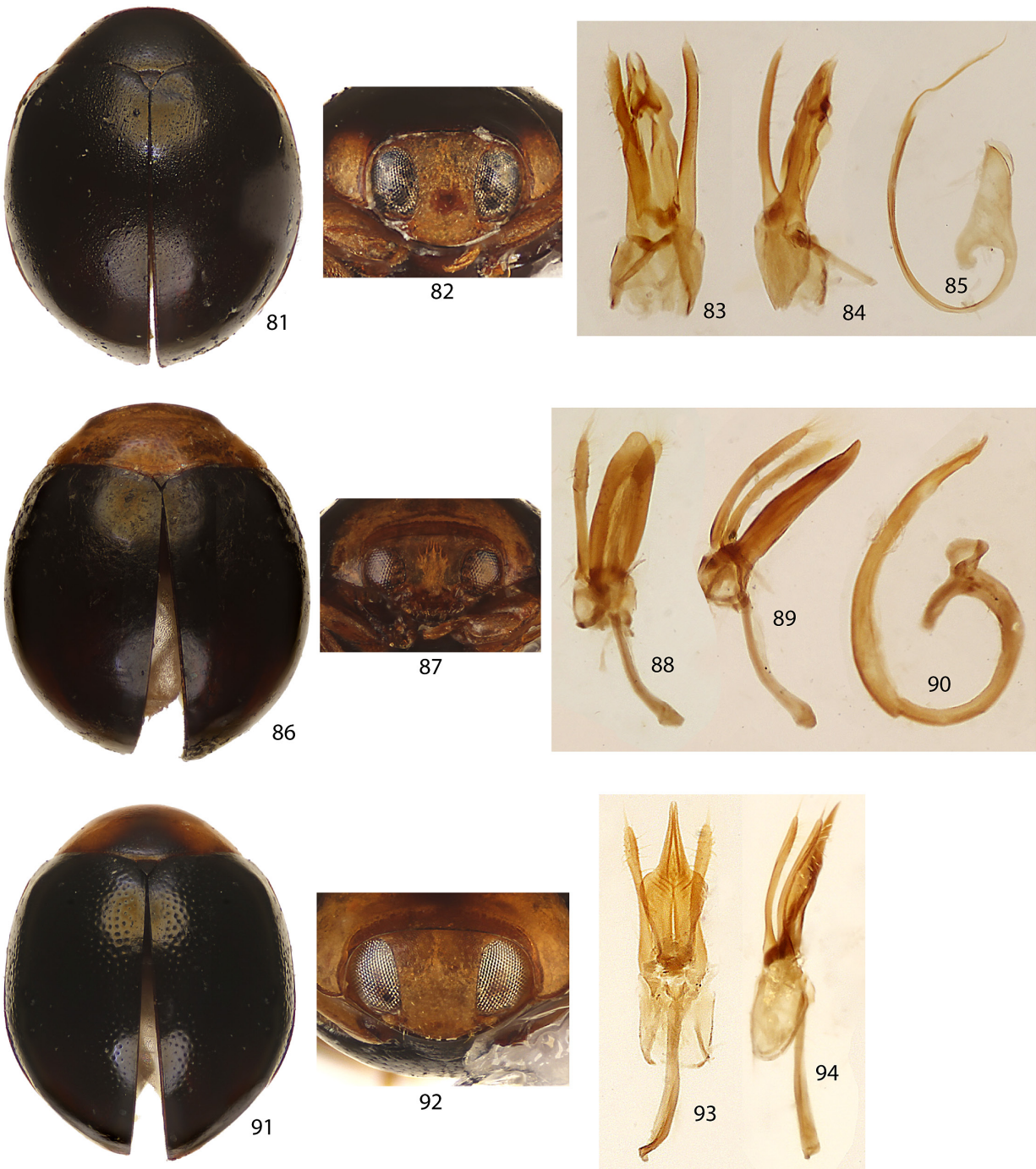
Figures 38–53. *Calloeneis* spp. 38–42) *Calloeneis krista*. 38) Habitus. 39) Frons. 40) Penis guide ventral. 41) Penis guide lateral. 42) Penis. 43–48) *Calloeneis roxanne*. 43) Habitus. 44) Frons. 45) Penis guide ventral. 46) Penis guide lateral. 47) Penis. 48) Spermathecal capsule. 49–53) *Calloeneis angelica*. 49) Habitus. 50) Frons. 51) Penis guide ventral. 52) Penis guide lateral. 53) Penis.



Figures 54–68. *Calloeneis* spp. **54–58)** *Calloeneis johnnie*. **54)** Habitus. **55)** Frons. **56)** Penis guide ventral. **57)** Penis guide lateral. **58)** Penis. **59–63)** *Calloeneis robyn*. **59)** Habitus. **60)** Frons. **61)** Penis guide ventral. **62)** Penis guide lateral. **63)** Penis. **64–68)** *Calloeneis francis*. **64)** Habitus. **65)** Frons. **66)** Penis guide ventral. **67)** Penis guide lateral. **68)** Spermathecal capsule.



Figures 69–80. *Calloeneis* spp. 69–71) *Calloeneis appropinquans*. 69) Habitus. 70) Frons. 71) Penis guide ventral. 72–76) *Calloeneis rosalie*. 72) Habitus. 73) Frons. 74) Penis guide ventral. 75) Penis guide lateral. 76) Penis. 77–80) *Calloeneis bennetti*. 77) Habitus. 78) Frons. 79) Penis guide ventral. 80) Penis guide lateral.



Figures 81–94. *Calloeneis* spp. 81–85) *Calloeneis alexandra*. 81) Habitus. 82) Frons. 83) Penis guide ventral. 84) Penis guide lateral. 85) Penis. 86–90) *Calloeneis brooke*. 86) Habitus. 87) Frons. 88) Penis guide ventral. 89) Penis guide lateral. 90) Penis. 91–94) *Calloeneis bethany*. 91) Habitus. 92) Frons. 93) Penis guide ventral. 94) Penis guide lateral.

