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South American Coccinellidae (Coleoptera), Part XII: New name
for *Cyra* Mulsant, review of Brachiacanthini genera,
and systematic revision of *Cleothera* Mulsant, *Hinda* Mulsant and
Serratitibia Gordon and Canepari, new genus

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S. regularis



S. doma



S. lividipes



S. ruth



S. michelle



S. laura



S. sarah



S. melissa



S. kimberley



S. traili



S. shirley



S. angela



S. brenda



S. bisquatuorpustulata



S. arcualis



S. anna



S. rebecca



S. tortuosa



S. gaillardii



S. uncinata



S. virginia



S. fraudulenta



S. kathleen



S. rose



S. janice



S. decemsignata



S. modesta



S. pamela



S. stephanie



S. joyce



S. martha



S. debra



S. amanda



S. christine



S. janet



S. bonnie



S. julie



S. heather



S. paprzycki



S. abendrothi



S. quincemil



S. teresa



S. doris



S. katherine



S. gloria



S. linda



S. evelyn



S. mildred



S. joan



S. ashley



S. judith



S. tammy



S. humerata



S. brethesi



S. kathy



S. irene



S. judy



S. kelly



S. nicole



S. terminata



S. ambigua



S. psylloroides



S. joeli



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S. barbara



S. ruby



S. helen



S. susan



S. margaret



S. lisa



S. nancy



S. loreto



S. karen



S. betty



S. beverly



S. denise



S. barclayi



S. satipoensis



S. frances



S. jean



S. cheryl



S. marilyn



S. rachel



S. aliciae



S. andrea



S. louise



S. jacqueline



S. lori

South American Coccinellidae (Coleoptera), Part XII: New name for *Cyra* Mulsant, review of Brachiacanthini genera, and systematic revision of *Cleothera* Mulsant, *Hinda* Mulsant and *Serratitibia* Gordon and Canepari, new genus

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Abstract. Genera of Brachiacanthini (Coleoptera: Coccinellidae: Hyperaspidae) are discussed and a key to all recognized genera provided. *Cyrea*, **new genus**, is proposed, and *Serratitibia*, **new genus**, is erected and revised, *Cleothera* Mulsant and *Hinda* Mulsant are recognized as valid genera and revised. *Helesius caseyi* Sicard is transferred to *Hinda* and recognized as a synonym of *Hinda designata* Mulsant, **new synonymy**. *Brachiacantha brethesi* (Korschefsky), *Cleothera abendrothi* Kirsch, *Cleothera ambigua* Mulsant, *Cleothera bisquatuorpusculata* Mulsant, *Cleothera decemsignata* Mulsant, *Cleothera gaillardii* Mulsant, *Cleothera humerata* Mulsant, *Cleothera tortuosa* Mulsant, *Cleothera traili* Brèthes, *Cleothera uncinata* Mulsant, *Hinda joeli* Almeida and Milléo, *Hinda modesta* Weise, *Hinda regularis* Kirsch, *Hyperaspis aliciae* Crotch, and *Hyperaspis fraudulenta* Kirsch are transferred to *Serratitibia*, becoming **new combinations**. One **new species** of *Hinda*, *H. ecuadorica*, is described. A total of 73 **new species** of *Serratitibia* are described: *Serratitibia amanda*, *S. andrea*, *S. angela*, *S. anna*, *S. ashley*, *S. barbara*, *S. barclayi*, *S. betty*, *S. beverly*, *S. bonnie*, *S. brenda*, *S. cheryl*, *S. christine*, *S. cynthia*, *S. debra*, *S. denise*, *S. donna*, *S. doris*, *S. elizabeth*, *S. evelyn*, *S. frances*, *S. gloria*, *S. heather*, *S. helen*, *S. irene*, *S. jacqueline*, *S. janet*, *S. janice*, *S. jean*, *S. jennifer*, *S. joan*, *S. joyce*, *S. judith*, *S. judy*, *S. julie*, *S. karen*, *S. katherine*, *S. kathleen*, *S. kathy*, *S. kelly*, *S. kimberly*, *S. laura*, *S. linda*, *S. lisa*, *S. loreto*, *S. lori*, *S. louise*, *S. margaret*, *S. marilyn*, *S. mary*, *S. martha*, *S. melissa*, *S. michelle*, *S. mildred*, *S. nancy*, *S. nicole*, *S. pamela*, *S. paprzycki*, *S. patricia*, *S. quincemil*, *S. rachel*, *S. rebecca*, *S. rose*, *S. ruby*, *S. ruth*, *S. sarah*, *S. satipoensis*, *S. shirley*, *S. stephanie*, *S. susan*, *S. tammy*, *S. teresa*, and *S. virginia*. Lectotypes are **here designated** for *Serratitibia lividipes*, *S. gaillardii*, *S. decemsignata*, *S. abendrothi*, and *S. ambigua*.

Key words. Brachiacanthini, *Cleothera*, *Hinda*, *Serratitibia*, systematics, keys, illustrations.

Introduction

Species of Coccinellidae occurring in South America are the subject of ongoing efforts to completely revise the family, in a taxonomic sense, for that continent. Parts I–XI have been completed, and this is the second paper dealing with the traditional subfamily Hyperaspidae.

Brachiacanthini and Hyperaspini together comprise Hyperaspidae, a widespread, generically diverse subfamily found in several parts of the world but especially diverse in the Neotropics. South Ameri-

can taxa of Hyperaspidini were recently revised by Gordon and Canepari (2008). Brachiacanthini is known only from the Western Hemisphere and its constituent genera are the subject of the present and future studies of the South American fauna.

Hyperaspidinae are small, usually colorful, highly patterned lady beetles. As such, they attracted the attention of early taxonomic researchers who created many specific names, as well as some confusion at supraspecific levels. Mulsant (1850) published an excellent study of world Coccinellidae that has become the basis for most subsequent taxonomic research on the family.

Mulsant (1850) described several genera and subgenera of “Hyperaspiens” including many species. He divided his Hyperaspiens into several “Branches”, four of which contain taxa of Hyperaspidinae as it is presently understood. These are “Thalassaires,” “Brachyacanthaires,” “Hyperaspiaires” and “Tiphysaires.” The latter three contain taxa dealt with herein (see Gordon and Canepari 2008 for further discussion of taxonomic history).

Because of the large number of taxa, the tribal study is split into segments, each containing one or more genera. All types were examined regardless of supposed generic assignment because authors subsequent to Mulsant (1850) often assigned specific taxa to the wrong genus, either by mistake or due to differing generic concepts. Crotch (1874) ignored the generic classification established by Mulsant for the Hyperaspidinae, placing all taxa in either *Brachiacantha* Dejean or *Hyperaspis* Redtenbacher. Subsequent authors such as Weise (1906, 1910) recognized Mulsant’s original system as more valid and were followed in this by all modern authors except Korschefsky (1931). The Korschefsky catalogue places specific taxa described in *Cleothera* Mulsant and *Cyra* Mulsant in *Hyperaspis*, using the classification proposed by Crotch (1874). Here, we prefer to use Mulsant’s 1850 classification, proposing minor changes and additions.

Both *Cleothera* and *Cyrea*, n. gen., are recognized herein as valid genera. The new genus *Serratitibia* is defined for most species previously assigned to *Hinda* Mulsant. *Hinda* was reviewed previously by Milléo and Almeida (2000). *Tiphysa* Mulsant was originally placed in Hyperaspidini by Duverger (1989), but Milléo and Almeida (2003) revised the genus and transferred it to Brachiacanthini.

Biology. Prey records are generally not available for South American species of Brachiacanthini. Wheeler (1911) reported that at least one species of North American Brachiacanthini lives with ants. Data for North American species of *Hyperaspis* (Gordon 1985) suggest that scale insects of the Coccidae and Pseudococcidae are their preferred prey, although aphids and other sternorrhynchan Hemiptera have been recorded also. Prey data for only nine species of South American Hyperaspidini are known (Gordon and Canepari 2008). Given the availability of prey data for *Hyperaspis* species, it is curious that almost none are available for members of Brachiacanthini. This discrepancy may imply that quite different prey are utilized, e.g., the supposed habit of myrmecophily among *Brachiacantha* species. In addition, Orivel et al. (2004) recorded *Thalassa saginata* Mulsant (*Menoscelis*) (Hyperaspidini) as an obligate myrmecophile, providing yet another clue to the possible biology of other Hyperaspidinae taxa.

Diagnostic characters in Brachiacanthini. Principal morphological terms used in descriptions and keys are here explained to simplify use of keys and descriptions.

Punctuation: Relative size of punctures on head, pronotum, elytra, and ventral surfaces is often useful. Size and spacing of punctures on various structures are compared. Spacing of punctures is expressed as “separated by diameter (of a puncture),” “separated by less than diameter,” etc.

Pubescence: Presence or absence of setal tufts on male metaventrite, basal abdominal ventrite, and apices of 5th and 6th abdominal ventrites vary between genera or groups of species.

Color and surface sculpture: Color, particularly dorsal pattern, is extremely significant and is a primary distinguishing character. Different genera and species groups have converged on similar basic patterns multiple times. Of these, black background with varying numbers of yellow spots is by far the most frequent. Surface appearance varies from shiny to quite dull depending on degree of alutaceous sculpture.

Head: Clypeal apex either truncate (Fig. 1) or more or less emarginate (Fig. 2–5). The lateral frontal extension (eye canthus) varies in size and shape (Fig. 1–5) among species or groups of species and may be useful as a diagnostic character.

Prosternum: There are 2 parallel or convergent prosternal carinae that usually join at some point between the apex and base of prosternum, and usually connected to the base by a short medial carina (Fig. 6–8). Occasionally, the carinae reach the base before converging, and rarely they are parallel for the full length and not basally joined.

Protibia: Widely flanged with outer margin of flange serrate in *Hinda* (Fig. 9.); weakly flanged with outer margin variably serrate in most species of *Serratitibia* (Fig. 10); widely flanged with outer margin of flange smooth in most species of *Dilatitibialis* Duverger (Fig. 13–14); slender, lacking flange in most species of *Cyrea* (Fig. 12); and with a single tooth of varying size on outer margin in most species of *Brachiacantha* (Fig. 15–16). All protibiae have a structure referred to as a “sponda” (Latin, meaning “bed” or “couch”) at the inner tibial apex which forms a “bed” for the tarsus when folded up. This structure is somewhat variable in size.

Abdomen: Postcoxal line on basal abdominal ventrite incomplete and of the *Scymnus*, s. str., type (Fig. 20, 22, 26). Median setal tufts are sometimes present on the basal ventrite (Fig. 18, 24). Male abdominal ventrites 5–6 vary in shape or degree of apical emargination and some species have tubercles or similar structures on one or more of the ventrites. In some species they are densely pubescent. Modification of male ventrites 5–6 take different forms within Brachiacanthini, examples are: slightly depressed medially, apical margin weakly emarginate, lateral angle of depression not angulate, usually not densely pubescent, as in *Cyra* spp. (Fig. 27); deeply depressed medially, apical margin strongly emarginate, lateral angle of depression on 6th ventrite with angulate “horn,” some *Dilatitibialis* spp.; modification as in *Cyra* spp. except lateral angle of depression on 6th ventrite angulate, angulations nearly hidden in dense setal tuft (Fig. 28); and small tubercle present on each side of middle in species of *Serratitibia* (Fig. 18–19, 21). Male specimens of *Hinda* have a median carina (or tubercle) on the 6th abdominal ventrite set back from the apical margin (Fig. 17). Some *Brachiacantha* species have projections on abdominal ventrite 2 (Fig. 29). Small abdominal pores (probably glandular pores) are present on each side between ventrites 2–4 in all species of Brachiacanthini. Larger, more conspicuous primary pores are present laterally between ventrites 4–5 only in species of *Hinda* and most species of *Serratitibia*, and *Dilatitibialis* (Fig. 23). They vary somewhat in size and are occasionally difficult to detect on external examination. The pore is created by an anterior extension of the apical border of ventrite 5 forming the inner wall of the pore. This extension runs anteriorly under ventrite 4 in varying degrees so that the pores are highly variable in size between species. In the abdominal interior, ventrite 5 has an apical narrow reinforcing lamina extending between gland openings with an anterior projection at each end. In addition to 6 visible abdominal ventrites, males of Brachiacanthini have a visible tergite 7 posterior to ventrite 6. This apical tergite varies somewhat in shape, degree of punctation, and presence or absence of surface pubescence.

Male genitalia: Genital structure is of primary importance for identification of males. Gordon (1985, 1999) illustrated genitalic parts in detail, and the most important structures are discussed here. Basal lobe: median projection of phallobase, serving as a siphonal guide, a simple structure, differing in length and shape. Parameres: paired lateral projections of the phallobase serving to position and hold basal lobe in position during copulation. Phallobase: includes the basal piece, basal lobe, parameres, and trabes. Siphon: sclerotized rod inserted through the basal piece and into the female bursa copulatrix during copulation, corresponds to the aedeagus or penis, differing in length, form of apex, and structure of basal capsule. Trabes: sclerotized rodlike structure connecting base of phallobase to siphonal base. Some species of Brachiacanthini have lateral or ventral membranous “alae” in the apical 1/2 of the siphon. These are usually present or absent in specific taxa without regard to generic placement, hence are generally not useful in generic diagnoses. Nearly all members of *Hinda* and *Serratitibia* have spinelike projections in various positions in the apical 1/2 of the siphon instead of membranous alae. These spines are difficult to detect unless deployed, but are usually not seen because they lie flat along the siphonal axis. If visible, they are illustrated exactly as seen.

Species of Brachiacanthini are grouped according to genitalia type, based primarily on parameral form. These groups proposed here are defined as: *Unm* — paramere unmodified, of the type predominant in coccinellid taxa (Fig. 33, 83); *Pav* — paramere with apical projections or “ears”; *Psc* — paramere similar in shape to a scimitar; *Pem* — paramere apically emarginate; *Pvl* — paramere mostly unmodified, but distinctly lobed ventrally. The *Unm* type is the only one present in those genera revised herein. All

types recognized are mentioned here because, in order to avoid future repetition, this publication includes all tribal characters

Female genitalia: Gordon (1985, 1999) discussed and illustrated the type of female genitalia characteristic of most coccinellid species. In Brachiacanthini, spermathecae are of the typical type usually connected to a supposed infundibulum and/or a sclerotized bursal cap by a short sperm duct. The bursal cap is usually composed of 2 or 3 “arms”, the outer arms arcuate on the head of the bursa, middle arm longitudinal at middle of bursal cap. The cap usually has an apical “strut” projecting forward at the middle. Several different types of genitalia have been observed within the tribe and are loosely defined as follows, although there is a good deal of overlap between types: 1) Spermatheca long, strongly curved, not bulbous on end, bursal cap with 3 arms; 2) as preceding except ramus bulbous; 3) spermatheca short, very slightly curved, not bulbous, bursal cap with 3 arms; 4) spermatheca short or slightly elongate, or long, strongly curved, bursal cap with 2 arms; 5) spermatheca short, distinctly curved, tapered from ramus to apex, or elongate, distinctly curved, without sclerotized arms; 6) as in the first type except bursal cap with middle arm lacking.

Methods

Morphological structures, both external and internal, were discussed and illustrated by Gordon (1985). Some of the same terminology is used here but changes have been made to conform to terminology used by Slipinski (2007). This publication should be consulted if clarification is needed. Genital techniques are discussed under “Dissection” below.

Dissection. Both sexes should be dissected when examining specimens of Brachiacanthini. Specific techniques consist of softening a specimen in hot water, removing the abdomen, placing it in a 10% solution of potassium or sodium hydroxide until muscle and fat are removed, rinsing abdomen and genitalic structures in clean water, and placing cleaned structures in glycerin for examination. Genitalia were stored in glycerine-filled microvials.

Types. Taxa newly described herein are authored by Gordon and Canepari. Lectotypes for many species are designated to stabilize current classification for future researchers. Lectotype and paralectotype labels were affixed to specimens as designated.

Names. Because of the large number of new names necessary, 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 included because genitalia, nearly always the most diagnostic features at the species level, were not examined by previous authors. All information listed for new taxa is given as it appears on the labels, with correction of obvious misspellings.

Species descriptions are based on a single specimen of each species, if that specimen is a holotype or lectotype it is so stated. If the specimen is not a holotype or lectotype then no designation other than that of sex is given. Complete label data is given for specimens of a newly described species, and country names are not bolded. For previously described species only localities are given and country names are bolded.

Type materials

Type specimens were examined for all specific taxa unless otherwise indicated. Detailed information is included under “Type locality,” “Type depository,” and “Remarks.” The “Methods” section in Gordon (1985) contains discussions of locality records and primary type depositories that are applicable here. Gordon and Canepari (2008) provide a discussion of Hyperaspidae type materials that should be consulted for additional information.

There are specimens in the ZMHB collection that are almost certainly type material of the following, although only *Cleothera ormanceayi* bears a type label: *C. ormanceayi* Mulsant, *C. gracilis* Mulsant, *C. fuscomaculata* Mulsant, *C. glyphica* Mulsant, and *C. hexastigma* Mulsant.

Bernd Jaeger (pers. comm.) of the ZMHB explains the justification as follows: The entry '55700' in the catalogue of our Historical Collection lists the following information: '55700', *Hyperaspis Ormanceayi* Muls., Columb., Coll. Schaum, 1 (one specimen). Thus, we can be sure that this specimen was from Schaum's collection and could be regarded as a syntype of this species. Under the name "*gracilis* Mulsant", Jaeger states "Our historical collection includes only one specimen (already seen by you and assigned to *U.*). This specimen is labeled '55699' and '*gracilis* Muls. Bras.' Contrary to *ormanceayi* Mulsant, in this case the Catalogue to our Historical Collection doesn't provide the information 'Coll. Schaum.' However, it is interesting that the label '*gracilis* Muls. Bras.' shows the same handwriting as our historical specimens of *hexastigma*, *glyphica* and *fuscumaculata*, which Mulsant also described from specimens of Coll. Germar et Schaum. Thus, it seems possible that the mentioned specimens of these four taxa represent missing Mulsant syntypes from Coll. Germar et Schaum.

The evidence presented above seems compelling, therefore we accept and so designate and label these specimens as paralectotypes.

Gordon and Canepari (2008) listed names of those Hyperaspidinae species whose types could not be located. Types for some of those names have subsequently been found, and others need to be added to the list. In the revised listing below, Mulsant names are followed by the name of the original collection from which his specimens came.

- Cleothera adhaerens* Mulsant — Sallé (not found)
Cleothera billoti Mulsant — Pilate, should be in the UMZC but not there
Cleothera bistrimaculata Sicard — Should be in MNHP but not there
Cleothera bourdini Mulsant — perhaps should be in UMZC but not there
Cleothera brucki Mulsant — Bruck (collection lost)
Cleothera cincta Kirsch — Should be in the SNSD but not there.
Cleothera circeae Mulsant — Bruck (collection lost)
Cleothera consanguis Mulsant — Chevrolat, should be in the UMZC but not there
Cleothera flavida Mulsant — Bruck (collection lost)
Cleothera gemellata Mulsant — Bruck (collection lost)
Cleothera graminicola Mulsant — Trobert (collection lost)
Cleothera illegitima Mulsant — Should be in BMNH but not there.
Cleothera laqueata Mulsant — Bruck (collection lost)
Cleothera limata Mulsant — Deyrolle, should be in the UMZC but not there.
Cleothera maisonii Mulsant — Bruck (collection lost)
Cleothera millieri Mulsant — Trobert (collection lost)
Cleothera ovatonotata Mulsant — Trobert (collection lost)
Cleothera pallax Mulsant — Sallé (not found)
Cleothera pedicata Mulsant — Bruck (collection lost)
Cleothera ponderosa Mulsant — Bruck (collection lost)
Cleothera pretiosa Mulsant — Bruck (collection lost)
Cleothera proserpinae Mulsant — Bruck (collection lost)
Cleothera puella Mulsant — Bruck (collection lost)
Cleothera punctum Mulsant — Chevrolat, should be in the UMZC but not there.
Cleothera recordata Mulsant — Chevrolat, should be in UMZC but not there.
Cleothera secessionis Weise — Should be in MBR, but not available.
Cleothera septenaria Mulsant — Bruck (collection lost)
Cleothera subparallela Mulsant — Bruck (collection lost)
Cleothera trivialis Mulsant — Chevrolat, should be in UMCZ but not there.
Cleothera turbata Mulsant — Germar and Schaum, should be in the ZMHB but not there.
Cleothera vaticina Mulsant — Bruck (collection lost)
Cleothera venalis Mulsant — Bruck (collection lost)
Cleothera vexata Mulsant — Deyrolle, should be in the UMZC but not there.
Hyperaspis cleida Mulsant — Chevrolat, should be in the UMZC but not there.
Hyperaspis vetusta Weise — Should be in the ZMHB but not there.
Tiphysa plumbea Mulsant — Dejean, should be in the MNHL but not there.

Collection codens. The following codens denote depositories for borrowed specimens of *Cleothera*, *Hinda*, and *Serratitibia*: (**BMNH**) Natural History Museum, London; (**CAS**) California Academy of Sciences, San Francisco, California; (**CSCA**) California State Collection of Arthropods, California Department of Food and Agriculture, Sacramento; (**CMNH**) Carnegie Museum of Natural History, Pittsburgh, Pennsylvania; (**CNC**) Canadian National Collection, Ottawa, Ontario; (**DEI**) Deutsches Entomologisches Institut, Müncheberg; (**DZUP**) Universidade Federal do Paraná, Curitiba, Brazil; (**GGC**) Colección Guillermo González, Santiago, Chile; (**ICN**) Colección de insectos del Instituto de Ciencias Naturales de la Universidad Nacional de Colombia, Colombia-SURAMÉRICA, Bogota, Colombia; (**JEBC**) Colección Juan Enrique Barriga, Santiago, Chile; (**MBR**) Museo Argentino de Ciencias Naturales “Bernardo Rivadavia”; (**MDC**) Manuel Diéguez Santiago, Chile; (**MIZA**) Museo del Instituto de Zoología Francisco “Fernandez Yepez”, Maracay, Venezuela; (**MKRB**) Museo de Entomología Klaus Raven Búller, Universidad Agraria la Molina, Peru; (**MNHL**) Muséum d’Histoire Naturelle, Lyon, France; (**SNSD**) Staatliches Museum für Tierkunde, Dresden, Germany; (**MZSP**) Museo de Zoologia, Universidad de São Paulo, São Paulo, Brazil; (**UMZC**) Cambridge University Museum, Cambridge, England; (**UNMSM**) Universidad Nacional Mayor de San Marcos, Lima, Perú; (**UNSAC**) Universidad Nacional de San Antonio Abad, Cusco, Perú; (**USNM**) U.S. National Museum of Natural History, Smithsonian Institution, Washington, DC; (**ZMHB**) Zoologisches Museum, Humboldt Universität, Berlin, Germany; (**ZMMU**) Zoological Museum of Moscow, Lomosov State University, Moscow, Russia.

Systematics

Hyperaspidae Mulsant

Hyperaspiens Mulsant, 1850: 495.

Hyperaspidae Berg, 1874: 291.

Hyperaspides Crotch, 1873: 363; Crotch 1874: 208.

Hyperaspites Chapuis, 1876: 166.

Hyperaspinae Duverger, 1989: 143.

Description. Small to medium size. Form primarily round, convex, often elongate, slightly flattened. Dorsal surface glabrous except clypeus and often frons next to eye pubescent (except *Blaisdelliana* Gordon which is entirely pubescent). Antenna short, with 9–11 articles, club elongate, fusiform, apical antennomere small, recessed in preceding article; antennal insertion exposed or concealed. Eye large, entire, emarginate or not by eye canthus, finely faceted, without pubescence. Maxillary palpus with apical segment securiform. Scutellum usually large. Tarsus cryptotetramerous. Abdomen with 6 visible ventrites, small glandular pores between ventrites 2–3 and 3–4 present, with or without large primary pores between ventrites 4–5, male with an additional visible apical tergite in Brachiacanthini.

Remarks. Mulsant (1850) listed three members of his “Premier Groupe,” Coccinelliens, Chilocoriens, and Hyperaspiens. In that same work, he later listed and defined the various “Branches” of Hyperaspiens, which included Brachiacanthaires, Hyperaspiars, Thalassaires, and Tiphysaires, thus he was the first to group taxa in a hierarchical fashion extending his 1846 treatment. Therefore, we consider Mulsant (1846) the author of the modern term “Hyperaspidae.”

Since 1850 the hyperaspine genera have variously been assigned to Hyperaspini in the subfamily Scymninae, or placed as a tribe within the Chilocorinae (Sasaji 1968). Duverger (1989) defined Hyperaspidini and Brachiacanthini, listing them as the only tribes comprising Hyperaspidae. Coccinellidae classification has been discussed by various authors in recent years, and Slipinski (2007) stated that he has, at least temporarily, lumped most of the tribes including Hyperaspini together as Coccidulinae. Here we retain the classical classification which recognizes the subfamily Hyperaspidae to simplify references to previous usage.

Key to tribes of Hyperaspidinae

1. Inner margin of eye complete, not emarginated by a frontal (eye) canthus; female genitalia with compound spermatheca, basal unit and apical portion connected by a short or long duct **Hyperaspidini Brèthes**
- Inner margin of eye emarginated by a frontal (eye) canthus (Fig. 3–4); female genitalia not modified, spermatheca in one piece (Fig. 36) **Brachiacanthini Duverger**

See Gordon and Canepari (2008) for illustrations of Hyperaspidini tribal characters.

Brachiacanthini Duverger

Brachyacanthidini Duverger, 1989: 145.

Brachiacanthini: Duverger 2001: 222 (emendation); Duverger 2003: 67; Gordon and Canepari 2008: 247.

Description. Form ranging from elongate oval to rounded, convex. Dorsal surface glabrous except head with clypeus setose, head partially setose. Antenna short, with 11 articles; club elongate, fusiform, apical article small; antennal insertion exposed. Eye large, emarginated by frontal eye canthus (Fig. 1–5), finely faceted, without pubescence. Maxillary palpus with apical segment securiform. Scutellum large. Epipleuron narrow, excavated for reception of femoral apices. Legs short; femur grooved or flattened for reception of tibia; protibia slender and unmodified, or narrowly or widely flanged, outer margin of flange serrate or not; apex of protibia with sponda for reception of basal tarsal segments variably modified; tarsus cryptotetramerous; claws with basal tooth or angulation. Abdomen with 6 visible ventrites, males apparently with 7 visible ventrites, the 7th “ventrite” is actually a modified tergite (Fig. 20–24); basal ventrite with postcoxal line incomplete, of *Scymnus* (*Scymnus*) type (Fig. 25–26); small pores present on each side of middle between ventrites 2–3 and 3–4; some species with small to large primary pores laterally between ventrites 4–5 (Fig. 20–26). Male abdominal ventrites 5–6 apically emarginate, always with additional modifications; female abdominal ventrites 5–6 unmodified, apically truncate, arcuate or 5th ventrite weakly emarginate apically. Primary pores present between abdominal ventrites 4–5 in some genera and species. Female genitalia typical of most Coccinellidae with single spermathecal capsule composed of ramus, nodulus, and cornu; with distinct infundibulum and or modified bursal apex, spermatheca sausage-like, connected to infundibulum or bursal cap by a short or long duct (Fig. 36), with accessory gland; genital plate basically transverse, somewhat variable (Fig. 96).

Remarks. Seven South American genera are recognized as belonging to Brachiacanthini: *Brachiacantha* Mulsant, *Cleothera* Mulsant, *Cyrea*, n. gen., *Dilatitibialis* Duverger, *Hinda* Mulsant, *Serratitibia*, n. gen., and *Tiphysa* Mulsant.

Cleothera, *Hinda*, and *Serratitibia* are revised herein, all remaining Brachiacanthini genera will be treated in future publications.

Mulsant’s original (1850) classification of generic taxa now in Brachiacanthini was slightly altered by subsequent authors (Crotch 1874, Chapuis 1876). *Cyra* Mulsant was described as a subgenus of *Cleothera*, but subsequently was treated as a synonym of that genus or also as a valid genus. Weise (1895) placed *Cleothera* as a synonym of *Hinda* Mulsant based on the widely flanged, serrate protibiae. We consider all of Mulsant’s original genera valid except for *Cyra*, and they, together with *Dilatitibialis* Duverger, *Cyrea*, n. gen., and *Serratitibia*, n. gen., currently comprise Brachiacanthini.

Hyperaspidini (Gordon and Canepari 2008) and Brachiacanthini are extremely similar in general appearance, but are distinguished by both external and genital characters. Hyperaspidini are distinguished by the lack of a lateral frontal extension onto inner margin of eye, which is smoothly rounded; presence of a fine, basal pronotal line, and basomedial projection of pronotum truncate; abdomen lacking openings between ventrites; male genitalia have parameres rooted inside basal piece; female spermatheca is compound, lacking infundibulum and visible ramus, with a basal unit separated from apical portion by a duct.

Brachiacanthini are distinguished by having a lateral frontal canthus of varying size and shape extending onto inner margin of eye; usually without basal pronotal line, basomedial projection of pronotum not truncate; male genitalia with parameres attached to outer portion of basal piece (as typical for most Coccinellidae); female genitalia of typical Coccinellidae type with single spermathecal capsule composed of ramus, nodulus, and cornu; with distinct infundibulum and/or modified bursal base, spermatheca sausage-like, connected to infundibulum or bursal base by a short or long duct (Fig. 36, 54); genital plate basically transverse, somewhat variable (Fig. 72); stylus reduced or absent (Fig. 72).

The key to genera below is provisional, pending final revision of all included genera, and is intended only to enable generic recognition of Brachiacanthini taxa as currently delineated. For example, *Brachiacantha* is perhaps polyphyletic as now constituted, and may be split into at least two genera in the future.

Key to genera of Brachiacanthini

1. Protibia nearly always with narrow, outwardly serrate flange (Fig. 10), rarely with outer margin smooth (Fig. 493, 511); apex of male abdominal ventrite 5 with small tubercle at least partially concealed by a dense clump of setae on each side of median depression (Fig. 18, 19); phallobase of male genitalia small, unmodified, basal lobe asymmetrical (Fig. 67) ***Serratitibia* Gordon and Canepari, n. gen.**
- Protibia with large, wide, outwardly serrate flange (Fig. 31, 38), or flange lacking serrations, or without flange; apex of male abdominal ventrite 5 rarely with tubercle on each side of median depression; phallobase of male genitalia, nearly always modified, basal lobe asymmetrical or symmetrical (Fig. 51, 39) **2**
- 2(1). Protibia with wide, outwardly serrate flange **3**
- Protibia with or without flange, if flange present, then not outwardly serrate **4**
- 3(2). Primary abdominal pores present between ventrites 4–5; basal lobe of male genitalia symmetrical (Fig. 51) ***Hinda* Mulsant**
- Primary abdominal pores not present between ventrites 4–5; basal lobe of male genitalia asymmetrical (Fig. 32) ***Cleothera* Mulsant**
- 4(2). Primary abdominal pores present between ventrites 4–5 (Fig. 23), if pores apparently absent, then protibia with large flange (Fig. 14); protibia usually with large or small flange smooth on outer margin (Fig. 13, 14) ***Dilatitibialis* Duverger**
- Abdomen lacking primary pores between ventrites 4–5; protibia variable but rarely with flange **5**
- 5(4). Protibia with external tooth, tooth large (Fig. 16), reduced (Fig. 15), rarely absent; male genitalia with basal lobe symmetrical (except *B. bistrispustulata*) ***Brachiacantha* Mulsant**
- Protibia without tooth; basal lobe of male genitalia nearly always asymmetrical **6**
- 6(5). Protibia distinctly flanged; dorsal surface black with metallic greenish or bluish tint; epipleuron wide medially, strongly descending externally ***Tiphysa* Mulsant**
- Protibia occasionally flanged, but not widely so (Fig. 12), usually without flange or with narrow flange (Fig. 11); dorsal surface not black with metallic tints; epipleuron not strongly descending externally ***Cyrea* Gordon and Canepari, n. gen.**

***Cleothera* Mulsant, new status**

Cleothera (*Cleothera*) Mulsant, 1850: 542, 543; Crotch 1874: 213 (as a synonym of *Hyperaspis*); Weise 1895: 127 (as synonym of *Hinda*); Korschefsky 1931: 177; Blackwelder 1945: 446; Almeida and Milléo 2000: 72.

Type species. *Cleothera* (*Cleothera*) *buqueti* Mulsant 1850, by monotypy.

Description. Form elongated, wide, sides nearly parallel, convex. Elytra pale yellowish brown with dark maculae (Fig. 30). Head yellow in male, partially brown or black in female. Antenna with 11 articles, basal article longer than wide, antennal insertion exposed. Clypeus with apical margin deeply emarginate. Labrum rectangular. Apical maxillary palpomere securiform with sides slightly diverging. Scutellum large, transverse. Elytral epipleuron narrow, deeply excavated for reception of tibiae. Prosternal process slightly convex, with two carinae. Protibia with large, arcuate, outwardly serrate flange (Fig. 31). Abdomen without primary pores between ventrites 4 and 5. Tarsal claw with subquadrate basal tooth. Male abdominal ventrites 5–6 slightly modified, lacking tubercles or pronounced setal tufts. Male genitalia with basal lobe asymmetrical, paramere *Unm*, wide (Fig. 32, 33). Female genitalia with spermathecal capsule long, slender (Fig. 36).

Remarks. Mulsant described *Cleothera* as a subgenus with *Cyra* Mulsant as the other subgenus. Crotch (1874) disregarded all of Mulsant's (1850) generic criteria and dumped nearly all of his "genera" into *Hyperaspis*. Weise (1895) recognized *Hinda* as a valid genus, and placed *Cleothera* as a junior synonym. The Korschefsky (1931) and Blackwelder (1945) catalogs also recognized *Hinda* as valid but followed Crotch (1874) in considering *Cleothera* a synonym or subgenus of *Hyperaspis*. Almeida and Milléo (2000) considered *Cleothera* synonymous with *Hinda*, following Weise (1895).

Weise (1895) united *Cleothera* and *Hinda* because of the shared outwardly serrate, large protibial flange. Mulsant's original (1850) classification is accepted here, but *Cleothera* is accorded generic status based on the following characters: body form large, elongate, somewhat rectangular; protibia with large, outwardly serrate flange; lack of primary pores between abdominal ventrites 4–5; male abdominal ventrites 5–6 unmodified; and basal lobe of male genitalia asymmetrical. However, *Hinda* differs by having body rounded or oval; presence of primary pores between abdominal ventrites 4–5; tubercle at apex of 6th abdominal ventrite; male abdominal ventrites 5–6 distinctly modified; and basal lobe of male genitalia symmetrical.

***Cleothera buqueti* Mulsant**

Cleothera (*Cleothera*) *buqueti* Mulsant, 1850: 543.

Hyperaspis buqueti: Crotch 1874: 213.

Hynda buqueti: Weise 1895: 127.

Hinda buqueti: Korschefsky 1931: 177; Blackwelder 1945: 446; Gordon 1987: 26; Almeida and Milléo 2000: 72; Almeida et al. 2007: 66.

Description. Male holotype. Length 5.2 mm, width 4.0 mm; body large, elongate, convex. Dorsal surface with head alutaceous, dull; pronotum and elytron shiny, lacking alutaceous sculpture. Color yellow, except pronotum, with basal margin narrowly black, black area narrowly extended anteriorly on each side of middle, single black spot on lateral 1/4 on each side, 2 irregular, median black spot at middle of disc; elytron with 6 small, black spots, one elongate spot on humerus, 3 median spots arranged in irregular, transverse row, 2 spots medially on apical declivity (Fig. 30); meso-, metaventrites dark brown. Clypeus with long, dense pubescence. Head punctures large, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures smaller than on head, separated by 1 – 3 times diameter; elytral punctures as large as on pronotum, separated by less than about 5 times diameter; metaventral punctures much larger than on pronotum, separated by diameter or more medially, becoming larger and nearly contiguous laterally. Clypeus strongly emarginate apically, lateral angle abruptly rounded. Eye canthus as long as about 6 eye facets, angled forward, abruptly rounded apically, yellow. Pronotum narrowed from base to apex, sides straight, basal and anterior angles abruptly rounded, basal margin

without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, outer margin serrate; sponda shallow, nearly absent (Fig. 31). Carinae on prosternal process widely separated, parallel, extended just beyond middle of prosternum, not joined basally. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with postcoxal line on basal abdominal ventrite straight to apical margin of ventrite medially, flattened along margin, outer 1/3 curved forward; ventrites 1–4 with dense, short pubescence, punctures fine, sparse medially, denser laterally; 5th ventrite broadly, weakly emarginate apically, not depressed medially, without tubercle on each side of middle, surface densely punctate; 6th ventrite short, narrow, not depressed in apical 1/2, apical margin deeply emarginate, densely pubescent on each side of emargination, surface with dense, fine punctures. Apical tergite small, finely punctured, pubescent. Genitalia with basal lobe as long as paramere, narrowed to asymmetrically rounded apex; paramere *Unm*, wide (Fig. 32, 33); siphon short, robust, strongly curved, without obvious lateral alae; basal capsule with inner arm short, wide, outer arm elongate, rectangular with accessory piece, basal border deeply emarginate (Fig. 34, 35).

Female. Similar to male except apices of abdominal ventrites 5–6 unmodified. Genitalia with spermathecal capsule very long, slender, bursal cap with 3 arms, apical strut short, unmodified (Fig. 36).

Variation. Length 5.0–6.0 mm, width 4.0–4.5 mm. Pronotal color pattern highly variable from that described above to having basal black border extended entirely across pronotum and median 1/3 with well-defined, black, M-shaped maculation.

Type locality. Brazil.

Type depository. BMNH (lectotype designated by Almeida and Milléo 2000).

Geographical distribution. Brazil.

Specimens examined. 7. **Brazil.** Santa Catarina; Rio Vermelho, Rio Natal. (BMNH) (DZUP) (USNM).

***Hinda* Mulsant**

Hinda Mulsant, 1850: 518; Crotch 1874: 213; Chapuis 1876: 232; Korschevsky 1931: 177; Blackwelder 1945: 446; Almeida and Milléo 2000: 68; Almeida et al. 2007: 65; Milléo and Almeida 2007: 422.
Hynda: Weise 1895: 127 (misspelling) (synonymized *Cleothera* with *Hinda*).

Type species. *Hinda designata* Mulsant 1850, by monotypy.

Description. Form oval, convex. Elytron with pale maculation on dark background (Fig. 49), humeral spot always present in female. Antenna with 11 articles, basal article 2 times as long as wide, antennal insertion exposed. Clypeus with apical margin truncate or nearly so. Labrum rectangular. Apical maxillary palpomere securiform with sides slightly diverging. Scutellum large, transverse. Elytral epipleuron narrow, deeply excavated for reception of tibiae. Prosternal process slightly convex, with two carinae. Protibia with large, arcuate, outwardly serrate flange (Fig. 50). Abdomen with small primary pores between ventrites 4–5. Male 5th and 6th abdominal ventrites without tubercle or setal tufts laterad of apical emargination; 6th ventrite with subapical median ridge (Fig. 17). Tarsal claw with subquadrate basal tooth. Male genitalia with basal lobe symmetrical (Fig. 51). Bursal cap of female genitalia with 3 large arms, outer 2 arms divergent (Fig. 54).

Remarks. All four species of *Hinda* occur in Colombia or Ecuador. All have widely flanged, serrate protibiae, visible primary abdominal gland pores, and symmetrical male genitalia. The similar *Serratitibia* is more widely distributed in South America. Most *Serratitibia* species also have primary abdominal gland pores, but nearly all have narrowly flanged, serrate protibiae, and all have asymmetrical male genitalia.

Previous authors, including Almeida and Milléo (2000), did not utilize presence or absence of primary abdominal pores to distinguish Brachiacanthini taxa, nor did they recognize symmetry of genitalic structure as a valid character. This lack of character recognition resulted in the inclusion of any species with serrate protibiae within *Hinda*, including *Cleothera buqueti*, which lacks abdominal pores and has asymmetrical male genitalia. Several species were included in *Hinda* that are now recognized as members of *Serratitibia*.

Hinda Mulsant (1850) was erected for a single species, *H. designata* Mulsant. Crotch (1874) synonymized *Hinda* with *Hyperaspis* Redtenbacher, but Chapuis (1876) recovered *Hinda* as a valid genus. Weise (1895) transferred *Cleothera buqueti* Mulsant to *Hinda*. Korschefsky (1931) and Blackwelder (1945) listed seven species in *Hinda*, including *Cleothera buqueti*. Duverger (1989) defined Hyperaspidinae as containing Hyperaspini and Brachiacanthini, with *Hinda* a member of the latter. Almeida and Milléo (2000) transferred *Cleothera decemverrucata* Mulsant, *C. humerata* Mulsant, and *C. uncinata* Mulsant to *Hinda*. The latter two species are herein moved to *Serratitibia*.

List of South American species of *Hinda*

1. *H. decas* Weise
2. *H. decemverrucata* (Mulsant)
3. *H. designata* Mulsant
 - Hinda quinquedecimmaculata* Weise
 - Helesius caseyi* (Sicard)
4. *H. ecuadorica*, n. sp.

Key to species of *Hinda*

1. Elytron with 4 large, yellow spots (Fig. 56); Ecuador **4. *H. ecuadorica*, n. sp.**
- Elytron with more than 4 spots; Colombia **2**
- 2(1). Elytron with 6 yellow spots, extra spot present between mediolateral and sutural spots (Fig. 49) **3. *H. designata* Mulsant**
- Elytron with 5 yellow spots **3**
- 3(2). Pronotum medially with 2 black or brown bands not reaching anterior pronotal margin; elytron with scutellar spot triangularly elongate, apical spot with anterior margin obliquely truncate (Fig. 37) **1. *H. decas* Weise**
- Pronotum with enclosed, median yellow spot; sutural spot on apical declivity of elytron with anterior margin rounded (Fig. 43) **2. *H. decemverrucata* (Mulsant)**

1. *Hinda decas* Weise

Hinda decas Weise, 1902: 171; Korschefsky 1931: 177; Blackwelder 1945: 446; Gordon 1987: 26; Almeida and Milléo 2000: 74.

Description. Female lectotype. Length 3.7 mm, width 2.8 mm; body elongate, convex. Dorsal surface with head feebly alutaceous, weakly shiny; pronotum and elytron not alutaceous, shiny. Color yellow except head with clypeus light brown, vertex dark brown; pronotum with basal border dark brown, dark brown area extended medially in 2 narrow bands not reaching anterior margin, small brown spot on posterolateral angle narrowly connected to basal brown macula; elytron dark brown with 5 large, yellow spots, scutellar spot irregularly triangular, widest at base, angled away from suture apically, median spot on lateral border evenly rounded, sutural spot on disc elongated along suture, apex obliquely truncate, apical spot with anterior margin obliquely oval (Fig. 37); prosternum, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures larger than head punctures, separated by less than to 2 times diameter;

elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on pronotum, separated by less than 3 times diameter medially, slightly larger and separated by about 1 diameter laterally. Clypeus apically truncate, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, dorsally ridged, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, sides slightly curved, basal and anterior angles rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate, wider than remainder of protibia; sponda not extended beyond protibial flange. Carinae on prosternal process widely separated apically, slightly convergent basally, extended to middle of prosternum, carinae not joined basally. Abdomen with primary pores laterally between ventrites 4–5 small, slightly emarginating apex of ventrite 4, not forming depression on ventrite 5; postcoxal line on basal abdominal ventrite rounded throughout, extended to apical margin of ventrite at middle, then broadly forward; ventrites 1–4 with sparse, long pubescence and dense punctures, punctures dense throughout. Genitalia with slightly elongate spermathecal capsule; bursal cap with 3 arms, outer arms widely divergent, enlarged apically, apex emarginate, apical strut large, flat, apically oval (Fig. 42).

Male. Similar to female except head yellow with clypeus and vertex dark brown. Metaventrite without setal tuft; basal abdominal ventrite without median setal tuft. Genitalia with basal lobe 3/4 as long as paramere, symmetrical, narrow, evenly narrowed to rounded apex; paramere long, with tooth on inner margin at apical 3/4, distal 1/4 curved outward (Fig. 39); siphon robust, strongly curved in basal 1/2, without lateral alae before apex, with membranous dorsal projection before apex, basal capsule with inner arm short, slender, apex rounded, outer arm short, rectangular, with large accessory piece (Fig. 40, 41).

Variation. Pronotum with dark area black or brown, narrowly connected to posterolateral spot or broadly, continuously extended onto posterolateral angle, then curved forward apically.

Type locality. Manizales, Colombia.

Type depository. ZMHB (lectotype designated by Almeida and Milléo 2000).

Geographical distribution. Colombia.

Specimens examined. 2. **Colombia.** “Colombia” (lectotype); 1 specimen lacking data. (ZMHB).

Remarks. This species is similar to *H. decemverrucata*, but the elytral spots are distinctively shaped, both sutural spot and discal spot differ in shape from those of *H. decemverrucata*. Male genitalia are definitive for both species.

The only specimens examined were the lectotype and an additional male specimen lacking locality data that may belong to this species.

2. *Hinda decemverrucata* (Mulsant)

Cleothera decem-verrucata Mulsant, 1850: 603.

Hyperaspis decem-verrucata: Crotch 1874: 213.

Hyperaspis decemverrucata: Korschefsky 1931: 187; Blackwelder 1945: 446; Gordon 1987: 27.

Hinda decemverrucata: Almeida and Milléo 2000: 85.

Description. Female lectotype. Length 3.2 mm, width 2.6 mm; body rounded, convex. Dorsal surface with head alutaceous, weakly shiny; pronotum slightly alutaceous; elytron smooth, shiny. Color yellow except head and pronotum which are brownish yellow; anterolateral angle of pronotum with large, rounded yellow macula; elongate, oval, yellow macula present medially; elytron light brown with 5 large, yellow spots arranged as in Fig. 43; ventral surface brown except mouthparts and legs which are brown-

ish yellow, abdomen brown medially, yellowish brown in lateral 1/4. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures larger than head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures 3 or 4 times as large as on pronotum, separated by diameter or more medially, becoming larger and contiguous laterally. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, dorsally ridged, angled forward, apically rounded, yellowish brown. Pronotum narrowed from base to apex, sides feebly rounded, basal and anterior angles rounded, lateral margin slightly curved, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate, wider than remainder of protibia (Fig. 44); sponda pronounced, extended beyond protibial flange. Carinae on prosternal process widely separated apically, convergent toward prosternal base, joined before base. Abdomen with primary pores laterally between ventrites 4–5 small, slightly emarginating apex of ventrite 4, not forming depression on ventrite 5; postcoxal line on basal abdominal ventrite rounded throughout, extended to apical margin of ventrite medially, then broadly forward; ventrites 1–4 with sparse, long pubescence and dense punctures, punctures dense throughout. Genitalia with slightly elongate spermathecal capsule; bursal cap with 3 arms, outer arms widely divergent, enlarged apically, apex emarginate, apical strut large, flat, apically oval.

Male. Similar to female except head entirely yellow. Fifth abdominal ventrite slightly depressed medially, without tubercle on each side of middle, without dense, long pubescence on apical margin, apical margin deeply emarginate, surface densely punctate; 6th ventrite narrow, not depressed in apical 1/2, with distinct, apically acute, median tubercle set back from truncate apex. Apical tergite smooth, impunctate, with deep median groove. Genitalia with basal lobe about as long as paramere, symmetrical, wide at base, evenly narrowed to truncate apex; paramere dorsally lobed in lateral view, with setal tuft on anterior margin of lobe (Fig. 45, 46); siphon robust, strongly curved in basal 1/2, with lateral alae before apex, basal capsule with inner arm short, wide, apex oblique, outer arm long, slender, sinuate, with large accessory piece (Fig. 47, 48).

Variation. Length 3.2–3.6 mm, width 2.6–3.0 mm. Dorsal color pattern varies from that described above in that the yellow elytral spots can appear somewhat coalesced as the brown borders become reduced or absent.

Type locality. Colombia.

Type depository. UMZC (lectotype designated by Gordon 1987).

Geographical distribution. Colombia, precise locality unknown.

Specimens examined. 11. **Colombia.** 3 without further locality data; Bogota; Cnd (Cundinamarca), El Colegio; N. de S. (Norte de Santander), 25 km S. Chinacota, 2300m. (UMZC) (USNM) (ZMHB).

Remarks. The lectotype is a female with abdomen missing. Two other male specimens of this species are with the lectotype in the Crotch collection. These specimens, labeled “Chevr.,” are here designated and labeled as paralectotypes. One of these paralectotypes consists of only a head, pronotum, proleg, abdomen, and genitalia.

3. *Hinda designata* Mulsant

Hinda designata Mulsant, 1850: 518; Korchefsky 1931: 177; Blackwelder 1945: 446; Gordon 1987: 26; Almeida and Milléo 2000: 75; Almeida et al. 2007: 66.

Hyperaspis designata: Crotch 1874: 213.

Hynda 15-maculata Weise, 1895: 127.

Hinda quinquecimmaculata: Korschefsky 1931: 177; Blackwelder 1945: 446; Almeida and Milléo 2000: 75 (synonym).

Helesius caseyi Sicard, 1912: 135. **NEW SYNONYM.**

Description. Male lectotype. Length 3.5 mm, width 2.7 mm; body elongate, convex. Dorsal surface with head feebly alutaceous, weakly shiny; pronotum and elytron not alutaceous, shiny. Color yellow except head with clypeus light brown, vertex black; pronotum with basal border black, black area extended medially in 2 narrow bands not reaching anterior pronotal margin, black area broadly, continuously extended onto posterolateral angle, curved forward apically; elytron black with 6 large yellow spots, basosutural spot irregularly triangular, widest at base, mediolateral spot projecting inward nearly onto disc, sutural spot on apical declivity rectangularly oblique, small, rectangular spot present between mediolateral and sutural spot, apical spot transversely oval (Fig. 49); prosternum, meso-, metaventrites brown, mouthparts, legs yellowish brown; abdomen with basal 2 ventrites brown, remainder yellow. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures larger than head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on pronotum, separated by less than 3 times diameter medially, slightly larger and separated by diameter laterally. Clypeus apically truncate, lateral angle abruptly rounded. Eye canthus about 8 eye facets long, dorsally ridged, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, sides straight, basal and anterior angles rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate, wider than remainder of protibia (Fig. 50); sponda pronounced, extended beyond protibial flange. Metaventricle without setal tuft. Basal abdominal ventrite without median setal tuft. Carinae on prosternal process widely separated apically, parallel, extended to middle of prosternum, carinae not joined basally. Abdomen with primary pores laterally between ventrites 4–5 small, slightly emarginating apex of ventrite 4, not forming depression on ventrite 5; postcoxal line on basal abdominal ventrite rounded throughout, extended to apical margin of ventrite medially, then broadly forward; ventrites 1–4 with sparse, long pubescence, punctures dense throughout; 5th abdominal ventrite slightly depressed medially, without tubercle on each side of middle, without dense, long pubescence on apical margin, apical margin weakly emarginate, surface densely, finely punctate; 6th ventrite narrow, not depressed in apical 1/2, with distinct, apically acute, median tubercle not set back from truncate apex (Fig. 55). Apical tergite finely, densely punctate, with median groove. Genitalia with basal lobe short, wide, apically rounded, about as long as paramere, symmetrical, sides weakly, evenly widened from base to apex; paramere with apex emarginate medially (Fig. 51); siphon robust, strongly curved in basal 1/2, with small, visible lateral alae before apex, basal capsule small, inner arm short, angled, with narrow spur on inner margin, outer arm longer than inner arm, rectangular, with small accessory piece (Fig. 52, 53).

Female. Similar to male except head black with triangular yellow spot medially. Pronotum with black median area extended to apical margin, isolating an elongate, triangular, yellow spot in middle. Genitalia with short, slightly curved spermathecal capsule; bursal cap with 3 arms, outer 2 arms externally ragged, apical strut large, flat, triangular (Fig. 54)

Variation. Length 3.0–3.8 mm, width 2.4–3.2 mm. Size and shape of pronotal maculation is variable; elytral spots are often at least partially joined.

Type locality. Of *H. designata*, “Santa-Fé de Bogota” (Bogota, Colombia); of *H. quinquecimmaculata*, Colombia; of *H. caseyi*, Colombia, Cauca.

Type depository. Of *H. designata*, UMZC (lectotype designated by Gordon 1987); of *H. quinquecimmaculata*, ZMHB (lectotype designated by Almeida et al. 2007); of *H. caseyi*, DEI (holotype).

Geographical distribution. Colombia.

Specimens examined. 18. **Colombia.** Antioquia; El Picacho, Medellin, Valle de Medellin. Caldas; Manizales, Pereira. Cauca; Silvia. Cundinamarca; Ubaté. Santander; Landazuri. Valle; Saladito. Valle del Cauca; Tenerife. (DEI) (UMZC) (USNM).

Remarks. This species differs from others in the genus by having 6 yellow elytral spots. Some of these spots are often partially joined, but those specimens remain recognizable as *H. designata*.

Helesius caseyi Sicard is a synonym of *H. designata* as indicated by examination of the holotype. Sicard described *H. caseyi* from a single DEI specimen labeled "Cauca (handwritten)/Coll. Kraatz Sicard det./Syntypus (pink label)/Helesius caseyi mihi n. sp. Type (handwritten)/Coll. DEI Müncheberg." It is apparent from Sicard's description that he saw only one specimen, the holotype.

4. *Hinda ecuadorica* Gordon and Canepari, new species

Description. **Male** holotype. Length 3.0 mm, width 2.3 mm; body oval, convex. Dorsal surface smooth, shiny. Color yellow except clypeus brown; pronotum with wide, basomedial black macula, macula extended more than 1/2 distance to apical pronotal border, apex of macula with V-shaped yellow indentation; elytron black with 4 large yellow spots, without humeral spot (Fig. 56); base of head, prosternum, meso-, metaventrites black, pro- and mesotrochanters brown, metatrochanter, basal 3/4 of femur brown; abdomen brown. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures as large as head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on pronotum, separated by less than diameter medially, slightly larger and separated by less than diameter laterally. Clypeus apically truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, dorsally ridged, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, sides straight, basal and anterior angles rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate, wider than remainder of protibia; sponda pronounced, extended beyond protibial flange. Metaventrite without setal tuft. Basal abdominal ventrite with long setae on lateral portions of median projection, projection glabrous medially. Carinae on prosternal process narrowly separated apically, feebly convergent to middle of prosternum, joined basally. Abdomen with primary pores laterally between ventrites 4–5 small, slightly emarginating apex of ventrite 4, forming shallow depression on ventrite 5; postcoxal line on basal abdominal ventrite rounded throughout, extended to apical margin of ventrite medially, then broadly forward; ventrites 1–4 with sparse, long pubescence and dense punctures, punctures dense throughout; 5th abdominal ventrite deeply depressed medially in apical 3/4, depression densely, finely punctate, without tubercle on each side of middle, without dense, long pubescence on apical margin, apical margin weakly emarginate; 6th ventrite narrow, not depressed in apical 1/2, with indistinct, apical ridge, acute, median tubercle set back from weakly emarginate apex. Apical tergite finely, densely punctate, without median groove. Genitalia with basal lobe short, less than 1/2 length of paramere, wide, apically triangular, symmetrical, sides nearly parallel; paramere wide in basal 1/2, abruptly narrowed in apical 1/2, curved (Fig. 57); siphon robust, curved in basal 1/2, with small, visible lateral alae at apex, basal capsule small, inner arm short, narrow, constricted medially, outer arm short, wide, as long as inner arm, rectangular, with small accessory piece (Fig. 58, 59).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male. Ecuador, Sucumbios, San Rafael Falls, 1100m, 0060°24'S/077°35.31'W, VIII-5/6-1988, Fred. G. Andrews (CSCA).

Remarks. This species differs from its congeners by its small size, 4 large yellow spots on each elytron, lack of humeral spot in male, and male genitalia with short basal lobe. In addition, all other known species of *Hinda* are from Colombia, whereas this species has an Ecuadorian type locality.

Etymology. *Hinda ecuadorica* is named for the country of origin.

***Serratitibia* Gordon and Canepari, new genus**

Type species: *Cleothera decemsignata* Mulsant, 1850, by present designation.

Description. Form oval, convex, occasionally elongate. Elytral color usually dark with pale maculation, or pale with dark maculation, rarely vittate. Antenna with 11 articles, basal article 2 times as long as wide, antennal insertion exposed. Clypeus with apical margin nearly truncate or distinctly emarginate. Labrum rectangular. Apical maxillary palpomere securiform with sides slightly diverging. Scutellum large, transverse. Prosternal process slightly convex, with two carinae (Fig. 6). Male mesepimeron pale; female mesepimeron dark. Protibia with narrow, slightly arcuate, outwardly serrate flange (Fig. 10, 61), except Section III, with protibia flanged or not, without serrations (Fig. 10, 493). Abdomen with visible primary pores between ventrites 4–5 present in members of Section I, pores absent in members of Section II. Tarsal claw with subquadrate basal tooth. Male 5th abdominal ventrite with tubercle on each side of median apical emargination bearing setal tuft, tubercle at least partially concealed by setal tuft (Fig. 19); 6th ventrite angulate on each side of median emargination, with or without median tubercle, angle bearing setal tuft (Fig. 21); apices of female 5th and 6th ventrites curved or truncate, unmodified. Male genitalia with basal lobe asymmetrical, paramere unmodified, usually wide, apically rounded or truncate in lateral view (Fig. 62, 283); siphon with or without visible lateral or ventral spicules in apical 1/2, spicules apparently always present but usually aligned with siphonal axis, so not visible. Female genitalia with spermathecal capsule usually long, slender (Fig. 65).

Etymology. Named for the serrate outer protibial margin present in nearly all species.

Remarks. *Serratitibia* differs from *Hinda* by the protibia narrowly flanged, flange nearly always outwardly serrate, rarely with smooth outer margin, male 5th abdominal ventrite with small tubercle on each side of the apical emargination, and male genitalia with basal lobe asymmetrical.

Almeida and Milléo (2000) included some species herein moved to *Serratitibia* in their generic review of *Hinda*: *S. joeli* (Almeida and Milléo), *S. humerata* (Mulsant), *S. modesta* (Weise), and *S. regularis* (Weise), all of which have the protibial and genitalic characteristics of *Serratitibia*.

Genitalia of both sexes are unusually uniform within *Serratitibia*, but some degree of grouping is possible based on type of male genitalia. Species arrangement in the text is based on these genitalic similarities, although “groups” are not formally defined. Examples of how these groups are defined are “paramere apically truncate,” “paramere apically rounded,” etc. Both genitalia and external color pattern are monotonously similar in parts of the genus, particularly those species with dark elytra and 4 or 5 pale spots on each elytron.

Nearly all species of *Serratitibia* have protibiae with a narrow, outwardly serrate flange, but 7 species have completely smooth protibiae, flanged or not. These species were originally thought to belong to *Dilatitibialis*, but the male 5th abdominal ventrite with a ciliate tubercle on each side of middle and unmodified parameres of male genitalia are characters found only in *Serratitibia*. The combination of a tubercle and setal tuft on each side of the apex of the male 5th abdominal ventrite, and male genitalia with paramere *Unm*, consistently unmodified, distinguish this genus.

Most *Serratitibia* have visible primary abdominal pores, but many lack them. Those with pores are placed in Section I, those without in Section II. Dissection is almost imperative to determine the presence or absence of primary pores, many species have very small pores that are detected only by examination of the abdomen from the internal surface.

List of South American species of *Serratitibia*

Section I

1. *S. regularis* (Kirsch)

2. *S. donna*, n. sp.
3. *S. lividipes* (Mulsant)
4. *S. ruth*, n. sp.
5. *S. michelle*, n. sp.
6. *S. laura*, n. sp.
7. *S. sarah*, n. sp.
8. *S. melissa*, n. sp.
9. *S. kimberly*, n. sp.
10. *S. traili* (Brèthes)
11. *S. shirley*, n. sp.
12. *S. angela*, n. sp.
13. *S. brenda*, n. sp.
14. *S. bisquatuorpustulata* (Mulsant)
15. *S. arcualis* (Mulsant)
16. *S. anna*, n. sp.
17. *S. rebecca*, n. sp.
18. *S. tortuosa* (Mulsant)
19. *S. gaillardi* (Mulsant)
20. *S. uncinata* (Mulsant)
21. *S. virginia*, n. sp.
22. *S. fraudulenta* (Kirsch)
23. *S. kathleen*, n. sp.
24. *S. rose*, n. sp.
25. *S. janice*, n. sp.
26. *S. decemsignata* (Mulsant)
27. *S. modesta* (Weise)
28. *S. pamela*, n. sp.
29. *S. stephanie*, n. sp.
30. *S. joyce*, n. sp.
31. *S. martha*, n. sp.
32. *S. debra*, n. sp.
33. *S. amanda*, n. sp.
34. *S. christine*, n. sp.
35. *S. janet*, n. sp.
36. *S. bonnie*, n. sp.
37. *S. julie*, n. sp.
38. *S. heather*, n. sp.
39. *S. paprzycki*, n. sp.
40. *S. abendrothi* (Kirsch)
41. *S. quincemil*, n. sp.
42. *S. teresa*, n. sp.
43. *S. doris*, n. sp.
44. *S. katherine*, n. sp.
45. *S. gloria*, n. sp.
46. *S. linda*, n. sp.
47. *S. evelyn*, n. sp.
48. *S. mildred*, n. sp.
49. *S. joan*, n. sp.
50. *S. ashley*, n. sp.
51. *S. judith*, n. sp.
52. *S. terminata* (Gorham)

Species known only from females

53. *S. tammy*, n. sp.
 54. *S. humerata* (Mulsant)
 55. *S. brethesi* (Korschefsky)
 56. *S. kathy*, n. sp.
 57. *S. irene*, n. sp.
 58. *S. judy*, n. sp.
 59. *S. kelly*, n. sp.
 60. *S. nicole*, n. sp.

Section II

61. *S. ambigua* (Mulsant)
 62. *S. psylloboroides* (Crotch)
 63. *S. joeli* (Almeida and Milléo)
 64. *S. mary*, n. sp.
 65. *S. patricia*, n. sp.
 66. *S. cynthia*, n. sp.
 67. *S. elizabeth*, n. sp.
 68. *S. jennifer*, n. sp.
 69. *S. barbara*, n. sp.
 70. *S. ruby*, n. sp.
 71. *S. helen*, n. sp.
 72. *S. susan*, n. sp.
 73. *S. margaret*, n. sp.
 74. *S. lisa*, n. sp.
 75. *S. nancy*, n. sp.
 76. *S. loreto*, n. sp.
 77. *S. karen*, n. sp.
 78. *S. betty*, n. sp.
 79. *S. beverly*, n. sp.
 80. *S. denise*, n. sp.
 81. *S. barclayi*, n. sp.
 82. *S. satipoensis*, n. sp.
 83. *S. frances*, n. sp.
 84. *S. jean*, n. sp.
 85. *S. cheryl*, n. sp.

Section III

86. *S. marilyn*, n. sp.
 87. *S. rachel* n. sp.
 88. *S. aliciae* (Crotch)
 89. *S. andrea*, n. sp.
 90. *S. louise*, n. sp.
 91. *S. jacqueline*, n. sp.
 92. *S. lori*, n. sp.

Key to species of *Serratitibia*

1. Protibiae with narrow, serrate flange (Fig. 61) 2
 — Protibia unarmed, smooth, with or without small flange 86

- 2(1). Elytra pale with dark spots or maculae (Fig. 286, 310) 3
 — Elytra dark with pale spots or maculae (Fig. 60, 66) 17
- 3(2). Length more than 3.5 mm; elytron vittate 4
 — Length less than 3.5 mm; elytron not vittate 5
- 4(3). Median vitta deeply recurved at apex, not connected to outer vitta at base (Fig. 357); abdomen without primary pores **62. *S. psylloroides* (Crotch)**
 — Median vitta slightly recurved at apex, connected to outer vitta at base (Fig. 149); abdomen with primary pores **18. *S. tortuosa* (Mulsant)**
- 5(3). Elytron yellow with single black spot at apex (Fig. 332); Brazil . **52. *S. terminalis* (Gorham)**
 — Elytron immaculate or with 1 or more maculae, if 1 macula present, then macula not at apex of elytron 6
- 6(5). Elytron immaculate or nearly so, 3 or fewer black maculae usually present, if only 1 or 2 maculae then macula connected to lateral margin (Fig. 315); Colombia, Ecuador .. **49. *S. joan*, n. sp.**
 — Elytron always with at least 3 spots, spots not connected to lateral margin; Colombia, Ecuador and elsewhere 7
- 7(6). Elytron with 3 large, dark spots, humeral spot narrow, elongate from base of elytron posteriorly past humeral callus, obliquely transverse discal spot connected to dark sutural border, apical spot irregularly obliquely transverse, occupying most of apical declivity (Fig. 155) **19. *S. gaillardi* (Mulsant)**
 — Elytron with or without 3 spots, if 3 spots then shape of spots not as above, or without dark sutural border 8
- 8(7). Elytron with 3 spots, including sutural macula 9
 — Elytron with 4 or more spots, including sutural macula 12
- 9(8). Elytron with anterior spot narrow, irregular, obliquely transverse (Fig. 286) **43. *S. doris*, n. sp.**
 — Elytron with anterior spot rectangular or round 10
- 10(9). Dark sutural border feebly widened on disc, anterior spot on elytron large, transverse, occupying most of anterior 1/2 of elytron (Fig. 336); length 3.0 mm; Brazil **53. *S. tammy*, n. sp.**
 — Dark sutural border abruptly widened into round spot on disc, anterior spot on elytron small, not occupying most of anterior 1/2 of elytron; length less than 2.8 mm; Brazil and elsewhere 11
- 11(10). Pronotum with large, black, basomedial macula extended to, or nearly to, anterior margin (Fig. 174); distribution mostly Andean **22. *S. fraudulenta* (Kirsch)**
 — Pronotum with short, narrow, brown, basomedial macula, dark yellow, triangular discal macula present on each side of middle (Fig. 168); Brazil **21. *S. virginia*, n. sp.**
- 12(8). Elytron with 5 dark spots plus dark suture 13
 — Elytron with 4 dark spots including suture 14
- 13(12). Elytron with 3 small spots grouped in anterior 1/2, 2 small spots in posterior 1/2 (Fig. 179), or with spots coalesced into 2 large, irregular spots; Trinidad, Venezuela **23. *S. kathleen*, n. sp.**
 — Elytron with 5 small, brown spots spread over entire elytron (Fig. 348); Peru **58. *S. judy*, n. sp.**

14(12). Spots on elytron small, widely spaced, discrete; Andean countries	15
— Spots on elytron large, narrowly spaced, with a tendency to coalesce; Argentina, Brazil	16
15(14). Sutural spot in anterior 1/2 of elytron apically hooked (Fig. 352); Bolivia	60. <i>S. nicole</i> , n. sp.
— Sutural spot in anterior 1/2 of elytron small, round or triangular (Fig. 291); Peru	44. <i>S. katherine</i> , n. sp.
16(14). Humeral spot on anterior 1/2 of elytron connected to base of elytron anterior to humerus, apical spot near suture enclosing small, yellow spot (Fig. 310)	48. <i>S. mildred</i> , n. sp.
— Humeral spot on anterior 1/2 of elytron discrete, separated from base of elytron, apical spot near suture obliquely emarginate at apex (Fig. 161)	20. <i>S. uncinata</i> (Mulsant)
17(2). Elytron with 6 or 7 pale spots	18
— Elytron with 5 or fewer pale spots	21
18(17). Elytron with 7 pale spots	19
— Elytron with 6 pale spots	20
19(18). Known from Peru	1. <i>S. regularis</i> (Kirsch)
— Known from Bolivia	56. <i>S. kathy</i> , n. sp.
20(18). Elytron dark brown with 6 small spots (Fig. 354); length 4.50 mm or more	61. <i>S. ambigua</i> (Crotch)
— Elytron black with 6 large spots (Fig. 346); length less than 4.00 mm	57. <i>S. irene</i> , n. sp.
21(17). Elytron with single, large, median yellow spot (Fig. 350); Colombia	59. <i>S. kelly</i> , n. sp.
— Elytron with 2 or more spots or maculae	22
22(21). Elytron with 2 pale spots, discal spot long, slender, apical spot transversely oval (Fig. 359)	63. <i>S. joeli</i> , n. sp.
— Elytron with more than 2 spots	23
23(22). Protibia dark brown; elytron with 4 or 5 yellow spots	24
— Protibia yellow; elytron with spot number variable	25
24(23). Length 4.1 mm; lateral spot on elytron connected to humeral spot (Fig. 338)	54. <i>S. humerata</i> (Mulsant)
— Length less than 3.5 mm; lateral spot on elytron discrete, triangular (Fig. 341)	55. <i>S. brethesi</i> (Korschefsky)
25(23). Abdomen with primary pores between ventrites 4–5	26
— Abdomen without primary pores between ventrites 4–5	65
26(25). Elytron with 5 large spots occupying most of elytral surface, bordering bands of brown narrow, often partially disintegrated (Fig.137); pronotum with basomedial macula narrow, short ..	27
— Elytron with spot number variable, but spots not as described above; pronotum with basomedial macula reduced or not	28
27(26). Length more than 3.2 mm; pronotal macula with basomedial projection (Fig.137); Ecuador	16. <i>S. anna</i> , n. sp.
— Length less than 3.0 mm; pronotal macula without basomedial projection (Fig.144); Brazil	17. <i>S. rebecca</i> , n. sp.

28(26). Male pronotum mostly yellow, basomedial macula absent, or reduced to narrow, basal band or spot (Fig. 66)	29
— Male pronotum mostly dark, basomedial macula large (Fig.264)	33
29(28). Length 3.0 mm or more	30
— Length less than 3.0 mm	31
30(29). Basomedial pronotal macula reduced to small spot on mediobasal projection); basal abdominal ventrite with median setal tuft; Surinam	30. <i>S. joyce</i> , n. sp.
— Basomedial pronotal macula forming short, narrow band along basal margin; basal abdominal ventrite with or without setal tuft; not known from Surinam	32
31(29). Basomedial pronotal macula with anterior margin sinuate (Fig. 66)	2. <i>S. donna</i> , n. sp.
— Basomedial pronotal macula with anterior margin entire (Fig. 246)	36. <i>S. bonnie</i> , n. sp.
32(30). Male pronotum with basomedial macula short, disc without markings; humeral and mediolateral spots connected along lateral margin of elytron (Fig. 73); without setal tuft on metaventrite or basal abdominal ventrite; Venezuela	3. <i>S. lividipes</i> (Mulsant)
— Male pronotum with basomedial macula narrow, apically sinuate, disc with small, triangular macula on each side of middle (Fig. 264); basal abdominal ventrite with median tuft of setae	39. <i>S. paprzycki</i> , n. sp.
33(28). Elytron black with median sutural spot missing (Fig. 108)	10. <i>S. traili</i> (Brèthes)
— Elytron black or brown, always with median sutural spot present	34
34(33). Elytron with scutellar, discal, mediolateral, and apical spots connected (Fig. 81)	5. <i>S. michelle</i> , n. sp.
— Elytron with most or all spots discrete, sometimes with 2 spots connected, but never with all 4 spots coalesced	35
35(34). Elytron with elongate, oval, mediolateral spot (Fig. 136)	36
— Elytron with mediolateral spot round, or projected inward, triangular, but never elongate oval	38
36(35). Elytron with yellow spots small (Fig. 130); paramere of male genitalia apically rounded (Fig. 130, 136)	37
— Elytron with yellow spots large (Fig. 321); paramere of male genitalia apically truncate (Fig. 323)	50. <i>S. ashley</i> , n. sp.
37(36). Male 6th abdominal ventrite with small, median tubercle	15. <i>S. arcualis</i> (Mulsant)
— Male 6th abdominal ventrite without tubercle	14. <i>S. bisquatuorpusculata</i> (Mulsant)
38(35). Elytron with mediolateral spot projected inward (Fig. 113); female head with clypeus and apex of frons brown or black	11. <i>S. shirley</i> , n. sp.
— Elytron rarely with mediolateral spot projected inward (Fig. 91); female head with clypeus and frons unicolorous with remainder of head	39
39(38). Male genitalia with apex of paramere rounded (Fig. 93)	40
— Male genitalia with apex of paramere truncate (Fig. 304), or obliquely truncate (Fig. 199) ..	48
40(39). Male 6th abdominal ventrite with median tubercle	41
— Male 6th abdominal ventrite without median tubercle	45
41(40). Known from Brazil	42

—	Known from Colombia, Peru	44
42(41).	Basal abdominal ventrite of male with median tuft of setae; paramere of male genitalia short, wide (Fig. 93); Peru	7. <i>S. sarah</i>, n. sp.
—	Basal abdominal ventrite of male without median tuft of setae; paramere of male genitalia not short, wide; known from Brazil	43
43(42).	Paramere of male genitalia ventrally lobed (Fig. 187); elytron with mediolateral spot slightly projected inward (Fig. 185)	24. <i>S. rose</i>, n. sp.
—	Paramere of male genitalia widened apically (Fig. 120); elytron with mediolateral spot small, round (Fig. 119)	12. <i>S. angela</i>, n. sp.
44(41).	Primary abdominal pores large, extended under apical 1/3 of ventrite 4; Colombia (Fig. 123)	13. <i>S. brenda</i>, n. sp.
—	Primary pores small, difficult to see, extended under apical 1/8 of ventrite 4; Peru (Fig. 97)	8. <i>S. melissa</i>, n. sp.
45(40).	Known from Brazil	46
—	Known from Peru	47
46(45).	Male genitalia with paramere ventrally lobed, ventral margin angled upward to rounded apex (Fig. 193)	25. <i>S. janice</i>, n. sp.
—	Male genitalia with paramere evenly widened from base to apex	4. <i>S. ruth</i>, n. sp.
47(45).	Primary abdominal pores large, extended under apical 1/3 of ventrite 4; length 2.5–3.0 mm	9. <i>S. kimberly</i>, n. sp.
—	Primary pores small, extended under apical 1/4 of ventrite 4; length 2.4–2.7 mm	6. <i>S. laura</i>, n. sp.
48(39).	Male genitalia with apex of paramere obliquely truncate (Fig. 199)	49
—	Male genitalia with apex of paramere truncate (Fig. 304)	52
49(48).	Length 2.0 mm (Fig. 207)	28. <i>S. pamela</i>, n. sp.
—	Length 2.3 mm of more (Fig. 196)	50
50(49).	Basal abdominal ventrite without median setal tuft	26. <i>S. decemsignata</i> (Mulsant)
—	Basal abdominal ventrite with median setal tuft	51
51(50).	Elytral spots large, narrowly separated, mediolateral spot large, oblique, irregularly oval (Fig. 211); Venezuela	29. <i>S. stephanie</i>, n. sp.
—	Elytral spots small, widely separated, mediolateral spot small, round (Fig. 202); Brazil	27. <i>S. modesta</i> (Weise)
52(48).	Male 6th abdominal ventrite with median tubercle	53
—	Male 6th abdominal ventrite without median tubercle	57
53(52).	Basal abdominal ventrite without median setal tuft	54
—	Basal abdominal ventrite with median setal tuft	55
54(53).	Punctures on elytron widely spaced, separated by 2–4 times diameter .	34. <i>S. christine</i>, n. sp.
—	Punctures on elytron dense, separated by about a puncture diameter	31. <i>S. martha</i>, n. sp.
55(53).	Elytral spots with edges blurred into background, not crisply defined, mediolateral spot small, indistinct, triangular (Fig. 301); Brazil	46. <i>S. linda</i>, n. sp.

—	Elytral spots with edges crisply defined, mediolateral spot large, distinct	56
56(55).	Length 2.4–2.7 mm; elytral spots small, separated by a spot diameter or more (Fig. 258)	38. <i>S. heather</i> , n. sp.
—	Length 2.7–3.0 mm; elytral spots large, separated by less than a spot diameter (Fig. 270)	40. <i>S. abendrothi</i> (Kirsch)
57(52).	Length 2.0 mm; Peru	41. <i>S. quincemil</i> , n. sp.
—	Length more than 2.0 mm, if length 2.0 mm, then not known from Peru	58
58(57).	Species known from eastern Brazil	59
—	Species known from Bolivia, Colombia, and Peru	60
59(58).	Length 3.0 mm or more; elytral spots with edges blurred, not crisply defined (Fig. 295)	45. <i>S. gloria</i> , n. sp.
—	Length about 2.5 mm; elytral spots crisply defined, (Fig. 307)	47. <i>S. evelyn</i> , n. sp.
60(58).	Male basal abdominal ventrite without median setal tuft	61
—	Male basal abdominal ventrite with median setal tuft	62
61(60).	Length 2.4 mm; basal pronotal macula small, confined to median 1/3 of pronotum	32. <i>S. debra</i> , n. sp.
—	Length 2.8 mm; basal pronotal macula large, within basal 2/3 of pronotum	35. <i>S. janet</i> , n. sp.
62(60).	Length 3.0 mm; male with mediobasal pronotal macula nearly truncate apically, slightly indented medially (Fig. 281)	42. <i>S. teresa</i> , n. sp.
—	Length less than 2.7 mm; male with mediobasal pronotal macula usually with distinctly emarginate apex	63
63(62).	Elytron with mediolateral spot projected inward, apical spot with apex deeply emarginate (Fig. 231); Bolivia	33. <i>S. amanda</i> , n. sp.
—	Elytron with mediolateral spot not projected inward, more or less round, apical spot with apex rounded; Bolivia, Colombia	64
64(63).	Elytral spots small, separated by 1–2 times a spot diameter (Fig. 326); Colombia	51. <i>S. judith</i> , n. sp.
—	Elytral spots large, separated by less than a spot diameter (Fig. 252); Peru	37. <i>S. julie</i> , n. sp.
65(25).	Elytron black with large, median, reddish yellow spot (Fig. 375)	66. <i>S. cynthia</i> , n. sp.
—	Elytron black with 3 or more pale spots	66
66(65).	Pronotum entirely yellow or yellow with short, basomedial macula	67
—	Pronotum with large, basomedial macula occupying much of surface (Fig. 434)	70
67(66).	Pronotum entirely yellow, without basomedial macula (Fig. 474); Guyana	85. <i>S. cheryl</i> , n. sp.
—	Pronotum with short, basomedial macula; not known from Guyana	68
68(67).	Male head yellow with vertex and clypeus black	83. <i>S. frances</i> , n. sp.
—	Male head entirely yellow	69

- 69(68). Elytron with spots on lateral margin discrete, not connected (Fig. 469) (males of *S. barclayi* also key to this couplet, but they are distinguished by the sutural spot on elytron triangularly elongate (Fig. 453)) **84. *S. jean*, n. sp.**
 — Elytron with spots on lateral margin entirely or partially connected (Fig. 385) **68. *S. jennifer*, n. sp.**
- 70(66). Elytron with 3 or 4 pale spots, discal spot absent **71**
 — Elytron with 4 or 5 pale spots, discal spot present **72**
- 71(70). Elytral punctures coarse, dense, separated by diameter or less; Peru **76. *S. loreto*, n. sp.**
 — Elytral punctures fine, separated by 1–3 times diameter; Brazil **77. *S. karen*, n. sp.**
- 72(70). Male genitalia with paramere, short, extremely wide, basal lobe about as long as paramere (Fig. 404); metaventrite and basal abdominal ventrite each with median setal tuft; Bolivia **71. *S. helen*, n. sp.**
 — Male genitalia with paramere elongate, not extremely wide, basal lobe shorter than paramere; Bolivia and elsewhere **73**
- 73(72). Apical yellow spot on each elytron with anterior margin deeply, abruptly emarginate (Fig. 396); Bolivia **70. *S. ruby*, n. sp.**
 — Apical spot on each elytron not apically emarginate, or if so, then not from Bolivia **74**
- 74(73). Species known only from Brazil; discal spot on each elytron small, nearly invisible in some specimens **67. *S. elizabeth*, n. sp.**
 — Species not known from Brazil **75**
- 75(74). Species known only from Ecuador **76**
 — Species not known from Ecuador **77**
- 76(75). Male head with vertex black; yellow spots on elytron large, apical spot connected to discal spot or narrowly separated, with anterior border deeply emarginate (Fig. 369) **65. *S. patricia*, n. sp.**
 — Male head with vertex yellow; yellow spots on elytron large or not, if so, apical spot never with apical border deeply emarginate **78**
- 77(75). Anterior clypeal margin of male black; female head black except pale triangular area next to eye posterior to clypeus; pale spots on elytron large, occupying most of surface; female pronotum with large, dark, median macula (Fig. 417) **74. *S. lisa*, n. sp.**
 — Anterior clypeal margin of male yellow; female head brownish yellow with dark brown vertex; pale spots on elytral normal size, not occupying most of surface, female pronotal color pattern as in male (Fig. 423) **75. *S. nancy*, n. sp.**
- 78(76). Male pronotum with basomedial, nebulous brown macula (Fig. 411); Guyana **73. *S. margaret*, n. sp.**
 — Male pronotum with basomedial macula black or dark brown, borders clearly defined, not nebulous; Bolivia, Peru **79**
- 79(78). Scutellar spot on elytron elongate, narrowed posteriorly, narrowly connected to discal spot (Fig. 391) **69. *S. barbara*, n. sp.**
 — Scutellar spot on elytron not connected to discal spot **80**
- 80(79). Scutellar spot triangular, connected to large humeral spot along base of elytron in male (Fig. 453); female with humeral spot present; Bolivia **81. *S. barclayi*, n. sp.**
 — Scutellar spot not triangular, not connected to humeral spot; female usually without humeral spot; Bolivia and elsewhere **81**

- 81(80). Average length 3.0 mm or more (Fig. 363); basal lobe of male genitalia elongate, more or less parallel sided (Fig. 364) **64. *S. mary*, n. sp.**
 — Average length less than 3.0 mm; basal lobe of male genitalia short, tapered to rounded apex (Fig. 440) **82**
- 82(81). Known only from Bolivia (Fig. 439) **78. *S. betty*, n. sp.**
 — Known only from Peru **83**
- 83(82). Length 2.7 mm; elytron with discal and scutellar spots reddish yellow (Fig. 448); paramere of male genitalia with dorsal margin straight, ventral margin curved, slightly lobed, angled upward to rounded apex (Fig. 450) **80. *S. denise*, n. sp.**
 — Length less than 2.5 mm; elytron with discal and scutellar spots yellow; paramere of male genitalia unmodified **84**
- 84(83). Male genitalia with apex of paramere truncate (Fig. 461); female head yellowish brown **82. *S. satipoensis*, n. sp.**
 — Male genitalia with apex of paramere rounded; female head yellowish brown or with vertex and triangular frontal area black **85**
- 85(84). Male genitalia with paramere short, wide, apex slightly rounded (Fig. 408); female head with vertex and triangular frontal area black **72. *S. susan*, n. sp.**
 — Male genitalia with paramere slender, curved, apex rounded (Fig. 445); female head entirely brownish yellow **79. *S. beverly*, n. sp.**
- 86(1). Elytron dark with pale spots or maculae **87**
 — Elytron pale with dark spots or maculae **89**
- 87(86). Elytron with 1 or 2 pale spots **88**
 — Elytron with more than 2 pale spots **86. *S. marilyn*, n. sp.**
- 88(87). Discal spot on elytron yellow, triangular (Fig. 517); abdomen without primary pores **92. *S. lori*, n. sp.**
 — Discal spot on elytron elongate oval, reddish yellow (Fig. 486); abdomen with primary pores ...
 **87. *S. rachel*, n. sp.**
- 89(86). Elytron yellow with large, black discal spot, very small spot on humeral callus, and small spot at apex (Fig. 498) **89. *S. andrea*, n. sp.**
 — Elytron yellow with varying dark maculae, never with large discal spot **90**
- 90(89). Elytron with J-shaped macula on disc, and reverse J-shaped maculae in apical 1/2 (Fig. 504) ...
 **90. *S. louise*, n. sp.**
 — Elytron with varying dark maculae, never with J-shaped maculae **91**
- 91(90). Pronotum reddish yellow with small, dark spot on each side of middle, elytron with 6 black maculae (Fig. 492); abdomen with primary pores present **88. *S. aliciae* (Crotch)**
 — Pronotum with large, black basomedial macula; elytron with black maculae variable in size and number, but never with 6 maculae (Fig. 510); abdomen without primary pores
 **91. *S. jacqueline*, n. sp.**

SECTION I. Protibia with serrate flange on outer margin, abdomen with primary pores between ventrites 4–5

1. *Serratitibia regularis* (Erichson), new combination

Hinda regularis Erichson, 1847: 183; Mulsant 1853: 292; Weise 1899: 269; Weise 1902: 174; Korschefsky 1931: 177; Blackwelder 1945: 446; Almeida and Milléo 2000: 78; Almeida et al. 2007: 67.

Description. Male lectotype. Length 2.5 mm, width 2.1 mm; body rounded, convex. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly at middle, apex deeply emarginate with yellow; elytron black with 7 small, yellow spots (Fig 60). Head punctures small, separated by less than diameter, each puncture slightly larger than an eye facet; pronotal punctures larger than head punctures, separated by less than 3 times diameter; elytral punctures equal in size to pronotal punctures, separated by 1–3 times diameter. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron wide, nearly flat, slightly grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate in lateral 1/2 with about 8 small teeth, inner 1/2 of flange without teeth, sponda not extended beyond protibial border (Fig. 61). Carinae on prosternal process wide at apex, evenly narrowed basally, acutely joined at base with short stem extended to basal margin of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, nearly invisible; postcoxal line on basal abdominal ventrite straight in basal 1/3, arcuately extended along apical margin of ventrite medially, then broadly arcuate forward, median 1/3 of ventrite with large, sparse punctures, surface with short, sparse pubescence and dense, distinct punctures elsewhere; ventrites 2–4 sparsely pubescent, distinctly, densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of depression pronounced with small tubercle bearing tuft of dense setae, surface densely punctate; 6th ventrite short, narrow, deeply depressed in apical 3/4, apical margin deeply emarginate, angle on each side of depression pronounced, abrupt, with setal tuft. Apical tergite large, lateral margin widely rounded, pronounced, apical margin slightly emarginate, surface finely, sparsely punctured. Genitalia with basal lobe as long as paramere, weakly narrowed from base to wide apex, apex nearly truncate; paramere *Unm* type, very wide, apex rounded (Fig. 62, 63); siphon robust, strongly curved in basal 1/2, apical 1/2 lost, basal capsule large, inner arm short, slender, dorsally truncate, outer arm wide, longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 64).

Female. Similar to male except head yellowish brown, pronotum dark brown except anterolateral angle with large yellow spot extended nearly to posterolateral angle. Genitalia with spermatheca long, slender, curved, cornu slightly enlarged, inner margin posterior to cornu with short, apically rounded projection; bursal cap with 2 feebly sclerotized arms, apical strut narrow at base, abruptly widened to large, strongly obovate apex (Fig. 65).

Variation. Length 2.5–2.8 mm, width 2.1–2.3 mm.

Type locality. Peru.

Type depository. ZMHB (lectotype designated by Almeida et al. 2007).

Geographical distribution. Peru.

Specimens examined. 2. **Peru.** “Peru;” Callanga. (ZMHB).

Remarks. This species is distinguished from all congeners except *S. kathy* by the presence of 7 yellow spots on each elytron in both sexes (see remarks under *S. kathy*). Also, female genitalia with a median internal projection of the spermatheca are thus far unique. Other *Serratitibia* species have 5 or fewer spots and mostly unmodified spermathecae. Spot arrangement in *S. regularis* and *S. kathy* differs from all other recognized species because there are 3 rows of 2 spots each anterior to the apical spot (Fig. 344).

Almeida and Milléo (2000) included *S. regularis* in their review of *Hinda*, and it was again discussed by Almeida et al. (2007).

2. *Serratitibia donna* Gordon and Canepari, new species

Description. Male holotype. Length 3.3 mm, width 2.6 mm; body rounded, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, black, basomedial macula, anterior margin of macula irregular, medially projecting, extended anteriorly 1/5 distance to pronotal apex medially; elytron black with 5 large, yellow spots arranged in transverse rows of 2 each, with apical spot irregularly rounded (Fig. 66); venter of head, median 1/5 of prosternum pale brownish yellow, epipleuron between foveae, meso-, metaventrites dark reddish brown; abdomen yellow except median 1/3 of ventrites 1–3 brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by less than 2 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger and separated by less than diameter laterally. Clypeus weakly emarginate, lateral angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically acute, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin with trace of bordering line in lateral 1/2. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin arcuate, with about 10 teeth, teeth small in basal 1/2, larger in apical 1/2, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined at basal 1/5, connected to base by short stem. Metaventrite with setal tuft. Basal abdominal ventrite with median setal tuft (Fig. 71). Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite arcuate throughout, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination broadly rounded. Apical tergite short, narrow, apex feebly rounded, nearly truncate, surface densely, finely punctured. Genitalia with basal lobe 2/3 length of paramere, slightly tapered to apex, apex feebly rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 67, 68); siphon robust, curved in basal 1/2, basal capsule large, inner arm short, wide, apex rounded, outer arm wide, slightly shorter than inner arm, with accessory piece, basal border deeply emarginate (Fig. 69, 70).

Female. Similar to male except pronotum with median black area enlarged, narrow, nearly reaching anterior pronotal margin, with small, median, apical emargination, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, curved medially, widened from base to cornu; bursal cap with 3 arms, apical strut long, robust, apex spatulate in lateral view (Fig. 72).

Variation. Length 3.0–3.5 mm, width 2.5–2.7 mm. Elytron with apical spots slightly variable in size, apical spot sometimes weakly emarginate on anterior margin. Specimens not designated as type material differ only slightly in form of male genitalia from the type specimens, but have the same size and nearly all yellow male pronotum as the types, except for Brazilian specimens that are less 3.0 mm long.

Type material. Holotype male; Peru, Satipo, V-VI, 1941, Paprzycki (USNM). Paratypes; 106, same data as holotype except other dates X, XI (USNM).

Geographical distribution. Bolivia, Brazil, Peru.

Other specimens. 9. **Bolivia.** Mapiri. **Brazil.** Entre Rios, Acc. No. 2966, June; Para, Belém, IX.1964, E. Dente; Para, Acc. No. 2966, June; Santarem, Acc. No. 2966; Utinga, Belém, PA, 10.X.1962, J. Bechyné col. **Peru.** Monson Valley, Tingo Maria, XI-29-1954, E.I. Schlinger and E.S. Ross collectors. (CAS) (CMNH) (DZUP) (MZSP) (ZMHB).

Remarks. Large size and almost completely yellow male pronotum distinguish *S. donna* from other species having the same male genitalia type.

Amazingly large numbers of this species (106 specimens), *S. satipoensis* (300 specimens) and *S. paprzycki* were collected by Paprzycki at Satipo, Peru, from 1941 through 1942.

3. *Serratitibia lividipes* (Mulsant), new combination

Cleothera lividipes Mulsant, 1853: 82.

Hyperaspis lividipes: Korschefsky 1931: 191; Iablokoff-Khinzorian 1972: 171.

Description. Male lectotype. Length 2.5 mm, width 2.0 mm; body rounded, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, black, basomedial macula, anterior margin of macula indented medially, extended anteriorly 1/5 distance to pronotal apex at middle; elytron black with 5 large, yellow spots arranged in transverse rows of 2 each plus apical spot, lateral margin with humeral, mediolateral, and apical spots broadly connected, discal spot small, almost round, apical spot large, transversely oval (Fig. 73); meso-, metaventrites reddish brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as an eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by about diameter medially, larger and separated by less than diameter laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically acute, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin straight, with about 12 teeth, teeth small except median 2 teeth large, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at base of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flat along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin broadly, shallowly emarginate, angle on each side of emargination broadly rounded. Apical tergite short, narrow, apex feebly rounded, nearly truncate, surface densely, finely punctured. Genitalia with basal lobe 2/3 length of paramere, sides nearly parallel, apex rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 74, 75); siphon robust, curved in basal 1/2, basal capsule small, inner arm short, apex rounded, outer arm wide, 3 times wider than inner arm, with accessory piece, basal border weakly emarginate (Fig. 76, 77).

Female. Unknown.

Variation. Length 2.5–2.60 mm. Paratypes with humeral and mediolateral spots broadly connected, apical spot discrete.

Type locality. “Cayenne” (French Guiana).

Type depository. ZMMU (lectotype here designated).

Geographical distribution. French Guiana, Venezuela.

Specimens examined. 3. **French Guiana.** The lectotype labeled “Cayenne;” **Venezuela.** Venezuela Exp., Territ. Amazonas, Upper Cunucunuma, Taparal.; Bolivar, Carr. Sta. Elena De V. - Pau??. 11-IX-1977, B. Bechyné leg. (MIZA) (USNM) (ZMMU).

Remarks. This species has the appearance of a miniature *S. donna*. The lateral margin with humeral, mediolateral, and apical spot broadly connected, or at least the humeral and mediolateral spots broadly connected, and lack of setal tufts on either the metaventrite or basal abdominal ventrite will help to distinguish *S. lividipes*. Despite the color difference between the lectotype and the Venezuelan specimens, this is considered a single species because male genitalia are consistently the same in all specimens examined.

Mulsant described both male and female specimens, the male in the ZMMU labeled “*Cleothera lividipes* (handwritten)/*Cleothera lividipes* Muls, Cayenne (green label, hand written)/*Holotypus Hyperaspis lividipes* Muls. (red paper)”, is **here designated** the lectotype. The holotype label attached in 1972 by S. M. Khnzorian is clearly invalid.

4. *Serratitibia ruth* Gordon and Canepari, new species

Description. **Male** holotype. Length 2.4 mm, width 1.9 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with wide, long, brown basomedial macula, anterior margin of macula deeply indented with yellow medially, extended anteriorly 2/3 distance to pronotal apex; elytron black with 5 large yellow spots arranged in transverse rows of 2 each plus a transversely oval, anteriorly emarginate apical spot, mediolateral spot projected inward, discal spot irregularly rounded (Fig. 78); venter of head, prosternum yellowish brown, meso-, metaventrites reddish brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by about 2 times diameter medially, larger and separated by less than diameter laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with faint trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin straight, with about 8 small, indistinct teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined at basal 1/3 of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, indenting apical 1/6 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flat along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination broadly rounded. Apical tergite short, narrow, apex feebly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, sides nearly parallel, apex rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 79); siphon robust, curved in basal 1/2 (apical 1/2 lost), basal capsule with inner arm elongate, apex truncate, outer arm wide, slightly longer than inner arm, with accessory piece, basal border weakly emarginate (Fig. 80).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Brazil, Lambary, M Geraes (Minas Gerais), 22.IX.1963, J. Halik 22951, BRASIL, Halik Collection 1966 (USNM).

Remarks. The combination of median pronotal macula very deeply indented apically, inwardly projecting mediolateral spot on each elytron, and Brazilian type locality will help to identify *S. ruth*.

5. *Serratitibia michelle* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.0 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, median macula, anterior margin of macula triangularly indented with yellow medially, extended anteriorly 1/5 distance to pronotal apex; elytron brown with large, yellow humeral, scutellar, discal, and apical spots broadly connected, forming irregular vitta, mediolateral and apical spot narrowly joined (Fig. 81); meso-, metaventrites dark reddish brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger and separated by less than diameter laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with faint trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin arcuate, with about 8 small, distinct teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/3 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flat along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical border shallowly emarginate, angle on each side of emargination broadly rounded, bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 82, 83); siphon robust, curved in basal 1/2, basal capsule with inner arm short, wide, apex truncate, outer arm wider and longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 84, 85).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Brazil, Nhambiquara, M. Grosso, XI-1966, M. Alvarenga leg. (DZUP).

Remarks. The elytral color pattern is obviously derived from fusing of 5 elytral spots. If this is constant, then *S. michelle* is easily identified. If it is not constant and other specimens prove to have 5 discrete spots, then identification will depend entirely on comparison of male genitalia.

6. *Serratitibia laura* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, mediobasal black macula extended

slightly more than 1/2 distance to anterior pronotal margin, anterior border of macula indented with yellow; elytron black with 5 yellow spots in rows of 2 each with single apical spot, mediolateral spot round, apical spot transversely oval (Fig. 86); prosternum, meso-, metaventrites black; abdomen with basal 2 ventrites black, ventrites 3–6 reddish brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with faint trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin weakly arcuate, with about 8 small, indistinct teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/8 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with sparse, median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination broadly rounded, bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides weakly convergent, medially “pinched,” apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 87, 88); siphon robust, curved throughout, basal capsule with inner arm long, slender, widened apically, apex rounded, outer arm same width and length as inner arm, with accessory piece, basal border deeply emarginate (Fig. 89, 90).

Female. Unknown.

Variation. Length 2.4–2.7 mm, width 2.0–2.2 mm.

Type material. Holotype male; Peru, Monson Valley, Tingo Maria, IX-23-1954 (CAS). Paratypes; 2, 1, same data as holotype (CAS); 1, Peru, Vic. Sani Beni, 890 m. a.s.l., VIII-3-1935, F. Woytkowski (USNM).

Remarks. This species has the common elytral pattern of pale spots on a dark background, as do many species of *Serratitibia*. It is distinguished by a combination of rounded parameral apex, lack of median tubercle on 6th abdominal ventrite, small primary pores between abdominal ventrites 4–5, and Peruvian type locality.

7. *Serratitibia sarah* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, mediobasal black macula extended slightly more than 1/2 distance to anterior pronotal margin, anterior border of macula indented with yellow; elytron black with 5 small, yellow spots in rows of 2 each with single apical spot, mediolateral spot round, apical spot transversely triangular (Fig. 91); prosternum, meso-, metaventrites black; abdomen with basal 2 ventrites black, ventrites 3–6 reddish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than diameter; elytral punctures as large as on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by less than diameter medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about

6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin weakly arcuate, with about 8 teeth, teeth small basally, larger medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/8 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly pronounced, bearing tuft of setae. Apical tergite short, narrow, apex emarginate medially, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, very wide, dorsal margin straight, ventral margin curved, apex rounded (Fig. 92, 93); siphon robust, curved in basal 1/2, basal capsule with inner arm short, wide, apex slightly rounded, outer arm 3 times length of inner arm, narrowed from base to apex, with very large accessory piece, basal border feebly emarginate (Fig. 94, 95).

Female. Similar to male except pronotum with mediobasal macula extended to anterior pronotal margin, apex not indented with yellow medially; elytron without humeral spot. Genitalia with spermathecal capsule long, slender, curved medially, cornu slightly widened; bursal cap with 3 arms, broadly triangular, apical strut short, slender (Fig. 96).

Variation. Length 2.4–2.6 mm, width 1.8–2.1 mm. Abdominal color varies from that described above to entirely yellow.

Type material. Holotype male; Peru, Amazonas, Tabatinga, 26-VIII al 06-IX-2000, Leg. R. Westerduijn, Under story mature altered forest (DZUP). Paratypes; 5, same data as holotype (DZUP) (GGC) (JEBC) (MDC).

Remarks. This species has the common elytral pattern of pale spots on a dark background, but male genitalia are characteristic and the 6th abdominal ventrite has a median tubercle.

8. *Serratitibia melissa* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.9 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended 2/3 distance to anterior pronotal margin, anterior margin of macula feebly emarginate with yellow; elytron black with 5 small, yellow spots in rows of 2 each with single apical spot, mediolateral spot rounded, somewhat triangular, apical spot transversely oval, (Fig. 97); venter of head, prosternum yellowish brown, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin straight, with about 8

short, distinct teeth from base to apex, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined at basal prosternal margin. Metaventricle without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by diameter or less medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, bearing median tubercle, apical margin shallowly emarginate, angle on each side of emargination with small tubercle bearing tuft of setae. Apical tergite short, narrow, apex feebly emarginate, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, slender, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 98, 99); siphon robust, curved in basal 2/3, basal capsule with inner arm short, rectangular, outer arm wide, 2 times as long as inner arm, with small accessory piece, basal border shallowly emarginate (Fig. 100, 101).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Peru, Tingo Maria, I.1950, H. A. Allard (USNM).

Remarks. *Serratitibia melissa* and *S. sarah* both have a median tubercle on the 6th abdominal ventrite. *Serratitibia melissa* is further characterized by a short eye canthus only 4 eye facets in length, and very small, nearly invisible primary pores between abdominal ventrites 4–5.

9. *Serratitibia kimberly* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, mediobasal, black macula extended slightly more than 1/2 distance to anterior pronotal margin, anterior border of macula indented with yellow; elytron black with 5 large, yellow spots in rows of 2 each with single apical spot, mediolateral spot round, apical spot transversely rectangular (Fig. 102); venter of head, prosternum, meso-, metaventriles black; abdomen dark brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin weakly arcuate, with about 4 prominent teeth medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/8 of prosternum, connected to base by short stem. Metaventricle without setal tuft. Basal abdominal ventrite with tuft of setae on each side of middle. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle,

apical margin shallowly emarginate, angle on each side of emargination abruptly pronounced, bearing tuft of setae. Apical tergite short, narrow, apex barely perceptibly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe $\frac{3}{4}$ length of paramere, sides weakly convergent, apex nearly truncate; paramere *Unm* type, wide, apex rounded (Fig. 103, 104); siphon robust, curved in basal $\frac{1}{2}$, basal capsule with inner arm long, wide, apex widened, medially emarginate, outer arm slightly longer than inner arm, slightly widened at apex, with accessory piece, basal border broadly, deeply emarginate (Fig. 105, 106).

Female. Similar to male except pronotum with mediobasal macula extended almost to anterior pronotal margin, slightly indented with yellow medially; elytron with trace of humeral spot. Genitalia with spermathecal capsule long, slender, curved medially, cornu slightly widened; bursal cap with 3 arms, outer arms distinct, inner arm weakly evident, cap narrowly oval, apical strut elongate, slender, weakly spatulate at apex (Fig. 107).

Variation. Length 2.5–3.0 mm, width 2.0–2.5 mm. Abdominal color varies from the typical described above to entirely yellow.

Type material. Holotype male; Peru, Dept. of Cuzco, Paucartambo, Kosnipata Bosque Nublado Reserve, Coll. MVL Barclay, Cock-of-the-Rock Lodge, Montane Wet Forest, 1400m, iv/1999, 18°03'21"S 71°31'44"W (BMNH). Paratypes, 3, same data as holotype (BMNH).

Remarks. Although possessing the common yellow on black dorsal color pattern, this species may be distinguished by a combination of rounded parameral apex, lack of median tubercle on 6th abdominal ventrite, large primary pores between ventrites 4–5, and Peruvian type locality.

10. *Serratitibia traili* (Brèthes), new combination

Cleothera traili Brèthes, 1925b: 10.

Hyperaspis traili: Korschefsky 1931: 197; Blackwelder 1945: 448.

Description. Male holotype. Length 2.5 mm, width 2.1 mm; body rounded, slightly oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, basomedial macula extended $\frac{1}{5}$ distance to anterior pronotal margin, macula truncate on apical border, vague nebulous brown area present anterior to macula; elytron black with 4 small yellow spots, discal spot missing, scutellar, humeral, mediolateral, and apical spot present (Fig. 108); venter of head, prosternum, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin slightly curved, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin weakly arcuate, with 4 prominent teeth medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal $\frac{1}{4}$ of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical $\frac{1}{4}$ of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical $\frac{1}{2}$, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae;

6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly pronounced, bearing tuft of setae. Apical tergite short, narrow, apex barely perceptibly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe $3/4$ length of paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, apex rounded (Fig. 109, 110); siphon robust, curved in basal $1/2$, basal capsule with inner arm long, wide, apex widened, obliquely truncate, outer arm wider and longer than inner arm, with accessory piece, basal border broadly, deeply emarginate (Fig. 111, 112).

Female. Unknown.

Variation. Unknown.

Type locality. Brazil, "Amazons" (holotype).

Type depository. BMNH.

Geographical distribution. Brazil.

Specimens examined. 1. **Brazil.** The holotype male "Amazons., J. E. trail, 97-71, Cleothera traili." (BMNH).

Remarks. Very few *Serratitibia* species with yellow on black coloration lack a discal spot, thus rendering *S. traili* one of the few easily recognized species in the genus.

11. *Serratitibia shirley* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body broadly oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum feebly alutaceous. Color yellow; pronotum with large, wide, black basomedial macula extended $3/4$ distance to anterior pronotal margin, anterior margin of macula rounded, slightly indented with yellow; elytron black with 5 large, yellow spots in rows of 2 each with single apical spot, mediolateral spot projected inward, apical spot transversely rectangular, apically emarginate (Fig. 113); venter of head, prosternum, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 4 short, rounded teeth restricted to basal $1/2$, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal $1/4$, forming triangle. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical $1/4$ of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical $1/2$, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm*

type, slender, widened apically, apex rounded (Fig. 114, 115); siphon robust, curved in basal 2/3, basal capsule with inner arm short, wide, apex rounded, outer arm shorter than inner arm, outer margin sinuate, with accessory piece, basal border weakly emarginate (Fig. 116, 117).

Female. Similar to male except head with clypeus and apex of frons dark brown, pronotum with basomedial macula large, extended to anterior pronotal margin, elytron with humeral spot as in male. Genitalia with spermathecal capsule short, widened from base to apex; bursal cap triangular, with 3 distinct arms, apical strut long, slender, apex spatulate in lateral view (Fig. 118).

Variation. Length 2.3–3.0 mm, width 1.8–2.5 mm. Male pronotum with mediobasal spot often nearly reaching anterior pronotal margin, apical margin of spot weakly to very deeply indented with yellow, elytral spots somewhat variable in size, humeral and mediolateral spots occasionally connected, male specimens of from Espiritu Santo tend to have the mediobasal pronotal macula deeply incised with yellow at apex.

Type material. Holotype male; Brazil, Alto da Serra, Sao Paulo, Brazil, G. E. Bryant, 12-III-1912, *Cleothera 10-signata* Muls. (BMNH). Paratypes; 38, 1, Brazil, Est de Sao Paulo (USNM); 1, Brazil, Fry, Rio Jan (Rio de Janeiro), Fry Coll. 1905. 100 (BMNH); 2, Brazil, M. Gerais, 8.IX.1963, Halik Collection 1966 (USNM); 9, Brazil, S. Paulo, Cantareira, 26.XII.1943, 24.XII.1958, 10.XI.1959, 14.XI.1959, 8.III.1960, 17.II.1962, 28.I.1964, Halik Collection 1966 (USNM); 1 Brazil, S. Paulo, C. Jordao, 11.X.1959, Halik Collection 1966 (USNM); 1, Brazil, Santos, G. E. Bryant, 8.III.1912 (BMNH); 4, Brazil, (T.C.) S. Paulo, horto flor., 17.IX.1959, 21.I.1959, Halik Collection 1966 (USNM); 3, S. P., Pindamonhagaba, 26.X.1962, Eugenio Lefevre, Exp. Dep. Zool. (DZUP); 5, SP (Sao Paulo), Riberao Pires, VI 54, NLH Krauss (USNM); 2, Brazil, Sao Paulo, Mus. Pragense, Korschevsky Collection (USNM); 8, Brazil, S. Paulo, Sitio Bananal, Guarulhos, 6.X.1957, 23.IX.1957, 28.XI.1957, 19.IX.1957, 3.XII.1958, Halik Collection (USNM).

Other specimens. 22. **Brazil.** Espiritu Santo; Nova Teutonia; Rio de Janeiro, Nova Friburgo, XII/2004, E.J. Grossi; Sao Paulo, Salesópolis, Est. Biol. Boraceia, 1.II.1961, K. Lenko, 9.III.1961, Reichardt, 17.IV.1961, Reichardt col. (DZUP) (MZSP) (ZMHB).

Remarks. This is a remarkably distinctive species within a group of similar-appearing congeners. It is distinguished by elytron with inwardly projecting, mediolateral spot, males with basomedial pronotal macula often extended to apical pronotal margin, or nearly so, female clypeus and apex of frons dark brown, and female elytron with humeral spot present.

12. *Serratitibia angela* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.0 mm; body broadly rounded, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, black basomedial macula extended 1/2 distance to anterior pronotal margin, anterior margin of macula sinuate; elytron black with 5 small, yellow spots in rows of 2 each with single apical spot, mediolateral spot round, apical spot slightly ovate, nearly round (Fig. 119); venter of head, prosternum, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 short, indistinct teeth from base to apex, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/8, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal

ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical $3/8$ of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical $1/2$, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe $1/2$ length of paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 120); siphon robust, curved in basal $2/3$, basal capsule with inner arm long, wide, apex slightly rounded, outer arm slightly longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 121, 122).

Female. Unknown.

Variation. Length 2.4–2.7 mm, width 1.8–2.0 mm. Size of elytral spots somewhat variable.

Type material. Holotype male; Brazil, Amazons, (second line of first label and entire second illegible) (ZMHB).

Other specimens. 5. **Brazil.** Amazon, Stauding (Staudinger) (ZMHB); R. Madeira to St. Antonio, Amazons (Trail), 97-71, *Cleothera 10-signata* Muls; 19., Teffe, 19.10.74., Amazons, (Trail) 97-71, *Cleothera 2-4-pustulata* Muls.; 7., Serapa. 25.4.74, Amazons. (Trail) 97-71. (BMNH).

Remarks. Males of this species may be recognized by the small, apically sinuate, mediobasal macula on the pronotum, if the character proves to be consistent. All specimens recorded under “Other specimens” are almost certainly *S. angela*, but are not designated as paratypes because of differences in size of elytral spots.

13. *Serratitibia brenda* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.1 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, black basomedial macula extended slightly more than $1/2$ distance to anterior pronotal margin, anterior margin of macula indented with yellow medially and at anterolateral angles; elytron black with 5 small, yellow spots in rows of 2 each with single apical spot, mediolateral spot rounded, apical spot transversely oval, (Fig. 123); venter of head, prosternum light reddish brown, meso-, metaventrites dark reddish brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 4 distinct teeth in basal $1/2$ (Fig. 124), sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined slightly anterior to middle. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical $1/2$ of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by diameter or less medially, becoming smaller and dense laterally,

ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, wide, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, narrow, slightly widened apically, apex rounded (Fig. 125, 126); siphon robust, curved in basal 2/3, basal capsule with inner arm short, tapered apically, apex feebly rounded, nearly truncate, outer arm wide, slightly longer than inner arm, with accessory piece, basal border broadly, deeply emarginate (Fig. 127, 128).

Female. Similar to male except head reddish brown, pronotum with basomedial macula large, extended nearly to anterior pronotal margin, with small, median, apical emargination, elytron lacking humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu slightly enlarged; bursal cap widely triangular, with 3 arms, inner arm faint, apical strut short, wide, apex spatulate in lateral view (Fig. 129).

Variation. Length 2.4–2.7 mm, width 1.8–2.1 mm.

Type material. Holotype male; Colombia, Amazonas, 700', Leticia, July 10, 1970, H. and A. Howden (USNM). Paratypes: 2, same data as holotype except 1 paratype date July 11 (USNM).

Other specimens. 5. **Colombia.** Amazonas, 700', Feb. 19–25, 1972, July 9, 1970, July 11, 1972; 3 mi. W. Villavicencio, Meta, 920 m, III-11-1955, E.I. Schlinger and E.S. Ross collectors. (CAS) (USNM).

Remarks. This species is similar to *S. bisquatuorpustulata* and *S. arcualis*, the only other Colombian species in this group, but those species have larger elytral spots and male genitalia with apex of basal lobe obliquely rounded, paramere wide apically.

Specimens from Villavicencio listed under “Other specimens” have very similar male genitalia but the elytral spots are half as large as those of typical *S. brenda*.

14. *Serratitibia bisquatuorpustulata* (Mulsant), new combination

Cleothera bis-quatuorpustulata Mulsant, 1850: 634.

Hyperaspis bis-quatuor-pustulata: Crotch 1874: 222.

Hyperaspis jocosa ab. *bisquatuorpustulata*: Korschevsky 1931: 190; Blackwelder 1945: 447.

Hyperaspis bisquatuorpustulata: Gordon 1987: 228.

Description. Female lectotype. Length 2.4 mm, width 2.7 mm; body oval, convex. Dorsal surface with head alutaceous, feebly shiny, pronotum and elytron smooth, shiny. Color yellow; pronotum with small, triangular, basomedial brown macula, macula not extended to anterior pronotal border, apex of macula narrow, emarginate with yellow medially; elytron black with 4 yellow spots, without humeral spot (Fig. 130), mediolateral spot elongate oval; prosternum, meso-, metaventrites, and median area of abdominal ventrites 1–2 dark brown, abdominal ventrites 3–6 brownish yellow. Head punctures small, separated by diameter or less, each puncture as large as an eye facet; pronotal punctures equal in size to head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter; punctures on metaventrite large, separated by diameter or less medially, becoming larger, more dense laterally. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, lateral margin straight, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia narrowly flanged, flange rounded, outer margin with about 8 small teeth, sponda raised above protibial border. Abdomen with primary pores laterally between ventrites 4–5 small, round, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to apical

margin, flattened along margin, rounded to apex, ventrite with sparse, long pubescence and sparse, coarse punctures medially; ventrites 2–4 sparsely pubescent, distinctly, densely punctured throughout; 5th ventrite flat, apical margin very slightly emarginate; 6th ventrite short, narrow, apical margin arcuate. Genitalia with spermathecal capsule strongly, evenly rounded, cornu enlarged; bursal cap with 3 arms, inner arm weakly sclerotized, median strut long, apically flattened in lateral view (Fig. 135).

Male. Similar to female except pronotum with basomedial macula smaller, extended slightly more than 1/2 distance to anterior pronotal margin, apex distinctly emarginate with yellow medially, elytron with humeral spot. 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, wide, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, narrow, curved, weakly widened apically, apex rounded (Fig. 131, 132); siphon robust, curved in basal 2/3, basal capsule with inner arm short, slender, apex slightly rounded, outer arm longer and wider than inner arm, straight, with accessory piece, basal border broadly, weakly emarginate (Fig. 133, 134).

Variation. Length 2.0–2.4 mm, width 1.6–1.8 mm. Pronotum of female with basomedial macula apically emarginate with yellow, as in lectotype, or apex evenly rounded.

Type locality. Colombia.

Type depositary. UMZC (lectotype designated by Gordon 1987).

Geographical distribution. Colombia, Ecuador.

Specimens examined. 9. **Colombia.** The lectotype; Monterredondo, Cundinamarca, Klmb., 1400 m, leg. Schneble 1961, 20.7, 28.10.; Monterredondo, Cundinamarca, 13. 11.1965, Columb. 1400 m. **Ecuador.** Napo, Misahualli, 1°02'S 77°40' W, X-27 to X-29 2002, E. M. Fisher. (CSCA) (USNM).

Remarks. It is not often possible to place female types with males of the same species, but the lectotype of *S. bisquatuorpusculata* compares well with the Colombian specimens listed above in size, shape, elongate oval, mediolateral spot on the elytron, and Colombian locality. Therefore this specimen is considered to be *S. bisquatuorpusculata*.

A single specimen from Napo, Ecuador, is doubtfully placed here because the male genitalia compare well, but the mediolateral spot on each elytron is almost round. See remarks under *S. arcualis*.

15. *Serratitibia arcualis* Mulsant, new combination

Cleothera arcualis Mulsant, 1853: 86.

Hyperaspis arcualis: Korschefsky 1931: 184; Blackwelder 1941: 446; Iablokoff-Khnzorian 1972: 171.

Description. Male lectotype. Length 2.3 mm, width 2.7 mm; body oval, convex. Dorsal surface with head alutaceous, feebly shiny, pronotum and elytron smooth, shiny. Color yellow; pronotum with small, triangular, basomedial brown macula extended slightly more than 1/2 distance to anterior pronotal margin, apex of macula narrow, emarginate with yellow medially; elytron black with 5 yellow spots, mediolateral spot elongate oval (Fig. 136); prosternum, meso-, metaventrites, and median area of abdominal ventrites 1–2 dark brown, abdominal ventrites 3–6 brownish yellow. Head punctures small, separated by diameter or less, each puncture as large as an eye facet; pronotal punctures equal in size to head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter; punctures on metaventrite large, separated by diameter or less medially, becoming larger, denser laterally. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye

canthus short, about 4 eye facets long, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, lateral margin straight, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia narrowly flanged, flange rounded, outer margin with about 8 small teeth, sponda raised above protibial border. Abdomen with primary pores laterally between ventrites 4–5 small, round, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to apical margin, flattened along margin, rounded to apex, ventrite with sparse, long pubescence and sparse, coarse punctures medially; ventrites 2–4 sparsely pubescent, distinctly, densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, wide, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, narrow, curved, weakly widened apically, apex rounded; siphon robust, curved in basal 2/3, basal capsule with inner arm short, slender, apex slightly rounded, outer arm longer and wider than inner arm, straight, with accessory piece, basal border broadly, weakly emarginate.

Female. Unknown

Variation. Unknown.

Type locality. Colombia.

Type depository. ZMMU (lectotype designated by Iablokoff-Khnzorian 1972).

Geographical distribution. Colombia.

Specimens examined. 1. **Colombia.** The lectotype. (ZMMU).

Remarks. This species is extremely similar to *S. bisquatuorpusculata*, differing primarily by having a small, indistinct median tubercle on the male 6th abdominal ventrite. Male genitalia are so similar to those of *S. bisquatuorpusculata* that those of *S. arcualis* are not illustrated. The dorsal color pattern is also nearly identical, and both are known from Colombia. These names are possibly synonymous, but maintained as valid because of the presence of a median tubercle on the male 6th abdominal ventrite in *S. arcualis*.

The lectotype is the only specimen of this species observed.

16. *Serratitibia anna* Gordon and Canepari, new species

Description. Male holotype. Length 3.4 mm, width 2.8 mm; body broadly oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum feebly alutaceous. Color yellow; clypeus black; pronotum with short, narrow, black basomedial macula with anterior border sinuate, and 2 brown, comma shaped spots on disc; elytron black with 4 large, yellow spots occupying nearly all of elytron, humeral and mediolateral spots broadly joined (Fig. 137); venter with head, prosternum, meso-, metaventrites black; abdomen dark brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron wide, weakly grooved, deeply emarginate for reception of femoral apices.

Protibial flange wider than remainder of protibia, outer margin arcuate, with about 8 small teeth from base to apex, sponda extended beyond protibial border (Fig. 138). Carinae on prosternal process widely separated at apex, parallel, extended to basal 1/4 of prosternum, not joined basally. Metaventricle without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites small, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, narrow, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, narrow, weakly widened apically, apex rounded (Fig. 139, 140); siphon robust, curved in basal 2/3, basal capsule with inner arm large, wide, apex slightly emarginate, outer arm shorter than inner arm, wide, tapered to apex, with accessory piece, basal border broadly, weakly emarginate (Fig. 141, 142).

Female. Similar to male except head black, pronotum with apex of basomedial macula slender, medially extended over 1/2 distance to apical pronotal margin, apex narrow, apical indentation narrow, V-shaped. Genitalia with spermathecal capsule long, slender, not widened apically, curved medially, bursal cap widely rounded; with 3 arms, inner arm faint, apical strut long, widened from base to spatulate apex (143).

Variation. Length 3.4–3.5 mm, width 2.7–2.8 mm. Elytron often with dark borders of yellow spots disintegrated into scattered, irregularly elongate spot, protibial flange often with outer teeth worn down to short, dull undulations, appearing to lack teeth altogether.

Type material. Holotype male; Ecuador, Napo Prov., 2000m, 7km S. Baeza. 20-28.II.1979, H. and A. Howden (USNM). Paratypes; 6, 2, same data as holotype (USNM); 2, Ecuador, Napo Prov., 30km S. Baeza, 2000m, 20, 23.II.1979, H. and A. Howden (USNM); 1, Ecuador, Napo, Misahualli, 1°02'S 77°40'W, X-27 to X-29 2002, E. M. Fisher (CSCA); 1, (Ecuador) “archidona” (BMNH).

Remarks. *Serratitibia anna* is a large, distinctive species with large elytral spots often partially coalesced because of disintegration of the dividing lines. The protibial teeth have a tendency to wear down so that the protibial flange appears smooth, or nearly so. These specimens could easily be mistaken for a species of *Dilatitibialis*.

17. *Serratitibia rebecca* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.1 mm; body broadly oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, brown basomedial macula with anterior border broadly, deeply emarginate, and 2 pale yellow, oblique triangular spots on disc; elytron brown with 5 large yellow spots occupying nearly all of elytron, separated by narrow brown lines, forming almost a reticulate pattern (Fig. 144); venter of head, prosternum reddish yellow, meso-, metaventriles reddish brown; abdomen reddish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron wide, distinctly grooved, deeply emarginate for recep-

tion of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate, with about 10 small teeth from base to apex, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6 of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites small, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 5/6 as long as paramere, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 145, 146); siphon robust, curved in basal 2/3, basal capsule with inner arm long, slender, apex obliquely truncate, outer arm as long as inner arm, wide, straight, with accessory piece, basal border broadly, deeply emarginate (Fig. 147, 148).

Female. Unknown.

Variation. Length 2.5–2.6 mm, width 2.0–2.1 mm. Elytral spots discrete or narrowly connected.

Type material. Holotype male; (Brazil), Corumba, Matt (Matto) Grosso, Nunenmacher collection (CAS). Paratypes; 2, same data as holotype (CAS).

Remarks. *Serratitibia rebecca* is a miniature version of *S. anna* with a nearly identical elytral color pattern, but lacks the pronotal basomedial macula. *Serratitibia rebecca* is much smaller, the male has a yellow clypeus, and it has a Brazilian type locality, but the similarity in appearance is remarkable. These species are distinctive within the genus, not closely resembling any other presently known taxon.

18. *Serratitibia tortuosa* (Mulsant), new combination

Cleothera tortuosa Mulsant, 1850: 567; Crotch 1874: 218; Korschevsky 1931: 197; Blackwelder 1945: 448; Gordon 1987: 27.

Description. Male. Length 4.0 mm, width 3.4 mm; body broadly oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; head with vertex reddish brown, frons with median, apically triangular, reddish brown spot; pronotum with 5 median reddish brown spots, 1 small rectangular basomedial spot, 1 transversely rectangular spot on each side of middle, and 2 median, triangular spots in apical 1/2; elytron with 4 longitudinal, reddish brown vittae, sutural vitta slightly widened medially, 2nd vitta triangularly extended from near base to middle of elytron, 3rd vitta extended from base across humerus nearly to apex, inner margin apically hooked, outer vitta extended from humerus nearly to apex, outer margin medially indented with yellow (Fig. 149); venter of head, prosternum, meso-, metaventrites yellowish red; abdomen reddish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron wide, weakly grooved, slightly descending externally, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin straight, with about 5 small teeth in basal 1/2, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, parallel, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median

setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 150, 151); siphon robust, curved in basal 3/4, basal capsule with inner arm short, narrow, apex rounded, outer arm 3 times as long as inner arm, widened apically, with accessory piece, basal border broadly, weakly emarginate (Fig. 152, 153).

Female. Similar to male except head with vertex, upper frons, and clypeus reddish brown, elytron in a Bolivian specimen has inner 2 vittae fused into a single large macula. Genitalia with spermathecal capsule long, slender, widened from base to apex, curved medially; bursal cap widely triangular, with 3 arms, inner arm faint, apical strut short, spatulate at apex in lateral view (Fig. 154).

Variation. Length 3.8–4.1 mm, width 3.0–3.4 mm. Female head with reddish brown macula variable in size and distribution, and elytral vittae subject to fusion.

Type locality. Brazil.

Type depository. BMNH (holotype).

Geographical distribution. Bolivia, Brazil.

Specimens examined. 5. **Bolivia.** Loma Alta. **Brazil.** “Bresil;” Guanapuaua; Parana, Cálmon; Rio de Janeiro. (BMNH) (DZUP) (USNM).

Remarks. This is a large, distinctively vittate species, somewhat similar to *S. psylloroides*, but not easily confused with any other known species of *Serratitibia*. The Bolivian specimen is tentatively placed here because the protibia and abdominal structure compare well with those of *S. tortuosa*, but the dorsal color pattern differs considerably, with the 2 internal elytral vittae coalesced into a single large macula.

Mulsant (1850) apparently had only a single specimen, this holotype in the BMNH is labeled “Type (orange bordered disc)/Bresil (green disc, handwritten)/Tortuosa. Muls Bresil. (green paper, handwritten).”

19. *Serratitibia gaillardi* (Mulsant), new combination

Cleothera gaillardi Mulsant, 1853: 73.

Hyperaspis gaillardi: Crotch 1874: 214; Korschefsky 1931: 189; Blackwelder 1945: 447.

Description. Male lectotype. Length 3.4 mm, width 2.8 mm; body oval, convex. Dorsal surface with head and pronotum weakly alutaceous, slight shiny, elytron smooth, shiny. Color yellow; except pronotum with brown to dark brown basomedial macula extended 3/4 distance to anterior pronotal margin, macula with apical border narrowly, deeply emarginate with yellow, small median spot on interior of macula yellow; sutural and apical margins of elytron with distinct brown border, basal and lateral borders with very narrow brown border, 3 dark brown spots present, humeral spot elongate from base of elytron posteriorly beyond humeral callus, discal spot in apical 1/2 obliquely oval, connected to sutural border, apical spot large, occupying most of apical declivity, obliquely transverse except anterior margin medially projected anteriorly (Fig. 155); venter of head, prosternum, meso-, metaventrites dark brown; abdomen

yellowish brown except median 1/3 of ventrites 1–3 dark brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures larger than head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin slightly curved, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, slightly descending externally, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 6 small teeth from base to apex (Fig. 156), sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventricle without setal tuft. Basal abdominal ventrite with median setal tuft (Fig. 166). Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly curved, surface densely, finely punctured. Genitalia with basal lobe about as long as paramere, sides convergent, apex obliquely truncate; paramere *Unm* type, widened from base to rounded apex (Fig. 157, 158); siphon robust, curved in basal 2/3, basal capsule with inner arm elongate, narrowed medially, apex widened, slightly rounded, outer arm longer, narrower than inner arm, with accessory piece, basal border broadly, weakly emarginate (Fig. 159, 160).

Female. Unknown.

Variation. Unknown.

Type locality. “l’Amérique méridionale” (Colombia)

Type depository. ZMMU (lectotype here designated).

Geographical distribution. Brazil.

Specimens examined. 1. **Brazil.** The lectotype.

Remarks. This species has a unique dorsal color pattern by which it may be recognized. It is not possible to determine from the original description how many type specimens Mulsant (1850) had when he described the species. Therefore, the single type from the Motschulsky collection in the ZMMU labeled “green disc male sign/*Cleothera gaillardii*(handwritten)/*Cleothera gaillardii* Muls Columb.(green paper, handwritten)/*Hyperaspis gaillardii* Muls(handwritten)ZMMU Russia” is **here designated** the lectotype.

20. *Serratitibia uncinata* (Mulsant), new combination

Cleothera uncinata Mulsant, 1853: 78.

Hyperaspis uncinata: Crotch 1874: 219; Korschefsky 1931: 198; Blackwelder 1945: 448; Gordon 1987: 27.

Hinda uncinata: Milléo et al. 1997: 392.

Description. Male. Length 2.8 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with narrow, basomedial macula deeply, broadly emarginate medially, and 2 small, triangular dark brown spots anterior to middle; elytron with 5 dark brown

maculae, suture narrowly brown, scutellar spot large, elongate, rectangular, humeral spot long, widened medially, posterolateral spot narrow, rectangular, spot on apical declivity narrowly connected to reverse, comma shaped spot on apical declivity (Fig. 161); venter of head yellowish red, prosternum, meso-, metaventrites dark brown; abdomen yellow except median 1/3 of ventrites 1–2 dark brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron wide, weakly grooved, slightly descending externally, deeply emarginate for reception of femoral apices. Protibial flange slightly narrower than remainder of protibia, outer margin arcuate, with about 8 small teeth from base to apex (Fig. 162), sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft (Fig. 167). Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, narrow, widened apically, apex rounded (Fig. 163, 164); siphon robust, curved in basal 2/3, basal capsule with inner arm short, curved, apex rounded, outer arm slightly longer than inner arm, widened apically, with accessory piece, basal border broadly, weakly emarginate (Fig. 165, 166).

Female. Similar to male except head with anterior 1/2 of frons dark brown, clypeus yellow, pronotum with large, dark brown, basomedial macula nearly reaching anterior pronotal margin. Genitalia with spermathecal capsule long, slender, not widened apically, curved at basal 1/3, bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut short, widened from base to spatulate apex.

Variation. Length 2.2–3.3 mm, width 1.8–2.5 mm. Spot color varies from brown to black, female pronotum may have the basomedial macula entire, or with apex slightly indented and small, yellow spot in middle of macula. Elytral spots vary somewhat in size, but most variation involves the 2 inner apical spots, these spots are often joined to form a single discrete spot, or completely separated into 2 spots, all intergrades between these two character states are present.

Type locality. “Ste-Catherine,” Brazil.

Type depository. UMZC (lectotype designated by Gordon 1987).

Geographical distribution. Argentina, Brazil, Paraguay.

Specimens examined. 47. **Argentina.** Misiones, El Dorado, San Antonio. **Brazil.** Nova Teutonia; Rio de Janeiro; Rio Natal, S. Catherine; Rio Vermelho; Serra Caraca, Minas Gerais; **Paraguay.** Hohenau, Alto-Parana. (BMNH) (CAS) (DZUP) (JEBC) (MZSP) (USNM) (ZMHB).

Remarks. This is a frequently collected, easily recognized species known from southern Brazil to Paraguay.

21. *Serratitibia virginia* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with narrow, brown basomedial macula with anterior border incised by 2 triangular, dull yellow maculae; elytron with suture narrowly brown, brown border abruptly widened medially, 1 large brown spot in apical 1/2 medially (Fig. 168); venter of head, prosternum reddish yellow, meso-, metaventrites reddish brown; abdomen brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron wide, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 6 small, widely spaced teeth from base to apex (Fig. 169), sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, bearing large median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 5/6 as long as paramere, narrow, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 170, 171); siphon robust, curved in basal 2/3, basal capsule with inner arm short, wide, apex rounded, outer arm longer than inner arm, wide, slightly widened apically, with accessory piece, basal border broadly, deeply emarginate (Fig. 172, 173).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Brazil, GO (Goias), Goiania, 26.I.1962, J. Bechyné col. (DZUP).

Remarks. *Serratitibia virginia* has an elytral color pattern similar to that of *S. fraudulenta*, but the spots are brown and rounded rather than black and transverse, and *S. virginia* has a male pronotal pattern composed of a basomedial, brown macula apically incised with 2 dark yellow maculae, while that of *S. fraudulenta* has simply a large, black basomedial macula. Abdominal ventrite 6 in both species has a large, median tubercle.

22. *Serratitibia fraudulenta* (Kirsch), new status, new combination

Hyperaspis ecoffeti var. *fraudulenta* Kirsch, 1876: 124.

Hyperaspis ecoffeti ab. *fraudulenta*: Korschefsky 1931: 187; Blackwelder 1945: 447.

Description. Male. Length 2.0 mm, width 1.6 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, oval, black basomedial macula having anterior border slightly indented with yellow, extended 2/3 distance to anterior pronotal border; elytron with sutural border black, border widened medially, and 2 large, black, slightly transverse spots (Fig. 174);

prosternum medially brownish yellow, meso-, metaventrites brown; abdomen reddish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange slightly narrower than remainder of protibia, outer margin arcuate, with about 6 small teeth and a single, larger median tooth, teeth present throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, joined to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with trace of median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, bearing large median tubercle, apical margin shallowly emarginate, angle on each side of emargination with tuft of setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, sides convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 175); siphon robust, curved in basal 2/3, basal capsule with inner arm short, narrow, apex rounded, outer arm 3 times longer than inner arm, wide, not widened apically, with accessory piece, basal border broadly, moderately emarginate (Fig. 176, 177).

Female. Similar to male except basomedial pronotal macula extended to anterior pronotal border. Genitalia with spermatheca long, slender, curved medially, cornu enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, narrow, apex spatulate in lateral view (Fig. 178).

Variation. Length 2.0–2.6 mm, width 1.6–2.0 mm. Male basomedial pronotal macula varies slightly in size, anterior margin may be entirely rounded or distinctly emarginate with yellow, elytral spots vary in size, both anterior and posterior margins of anterior spot may be slightly “ragged,” and spot shape varies from typically transverse to nearly round.

Type locality. Peru.

Type depository. SNSD (holotype).

Geographical distribution. Bolivia, Brazil, Ecuador, Peru, Venezuela.

Specimens examined. 53. **Bolivia.** Amboro National Park; Espia, Rio Bopi; Las Juntas; St. Helena; Santa Cruz, Buena Vista. **Brazil.** Para, Belém; Para, Braganca; Mato Grosso. **Ecuador.** Coca Pena; Napo, Limoncocha; Orellana, Payamino Research Station; **Peru.** Peru; Ayacucho, La Mar, Santa Rosa Cuzco, Cashiriari; Cuzco, Quispicanchis, Quincemil; Madre de Dios, Rio Tambopata Res.; Monson Valley, Tingo Maria; Pachitea; Parque Nacional Manu; Tingo Maria; Varias, Tingo Maria. **Venezuela.** Estado Aragua, Parque Nacional Henri Pittier. (BMNH) (CAS) (JEBC) (MZSP) (SNSD) (UNMSM) (USNM) (ZMHB).

Remarks. This is a frequently collected, mostly Andean species that has a relatively distinctive elytral color pattern.

The holotype is a male in the SNSD collection labeled “Poznzn Coll Kirsch (green paper)/ Ecoffeti Muls. var. fraudulenta (handwritten)/Hyperaspis ecoffeti v. fraudulenta (blue paper, handwritten)/Typus

(red paper)/Hyper.(Cleothera) ecoffeti var. (handwritten) det. R. Korschevsky 194/fraudulenta Kirsch (handwritten) det. R. Korschevsky 1944/ Staatl. museum für Tierkunde." From the original description it appears that Kirsch had only one specimen, therefore this is the holotype. *Hyperaspis ecoffeti* is indeed a member of *Hyperaspis* (Gordon and Canepari, 2008), *H. fraudulenta* is a member of *Serratitibia*.

23. *Serratitibia kathleen* Gordon and Canepari, new species

Description. **Male** holotype. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with narrow, brown basomedial macula widened at lateral apex, faint trace of median, brown, vertical spot present, disc with brown, "eyebrow" spot on each side of middle; elytron with 6 brown spots, sutural spot short, median, pale brown, angled posteriorly, small, dark brown spot on humeral callus, 2 spots posterior to callus, and 2 spots on apical declivity (Fig. 179); venter of head, prosternum, meso-, metaventrites brownish yellow; abdomen brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin straight, with about 6 small, dull teeth in basal 1/3, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with faint trace of median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe short, 1/2 length of paramere, narrow, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 180, 181); siphon robust, curved in basal 2/3, basal capsule with inner arm short, slender, apex rounded, outer arm 2 times as long as inner arm, wide, slightly widened apically, with accessory piece, basal border broadly, deeply emarginate (Fig. 182, 183).

Female. Similar to male except head with vertex and clypeus reddish brown, pronotal maculae large, expanded over median 1/3 of pronotum. Genitalia with spermathecal capsule slender, curved at apical 1/3, cornu enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut long, slender, not apically spatulate (Fig. 184).

Variation. Length 2.4–3.0 mm, width 1.9–2.3 mm. Pronotal maculae vary in size and color, from brown to nearly black, spots on elytron usually coalesced in Trinidad specimens, creating an elytron with apparently only 2 irregular spots.

Type material. Holotype male; Venezuela, Aragua, Rancho Grande, 1100m, Feb. 22–23, 1971, H. and A. Howden (USNM). Paratypes; 28, 2, same data as holotype (USNM); 1, Venezuela, San Esteban, nr. Puerto Cabello, Dec. 1 to 20, 1939, P.J. Anduze (USNM); 1, Trinidad, Maracas Bay, 61/2mi. Post, Aug. 13, 1969, H. and A. Howden (USNM); 16, Trinidad, B.W.I., 1903, G.E. Bryant (BMNH); 2, Trinidad, Arauca V, NLH Krauss, 1953 (USNM); 2, Trinidad, Morne Bleu, 2700', Aug. 15, 1969, H. and A. Howden (USNM); 1, Trinidad, Blanchisseuse, Aug. 19, 1969, H. and A. Howden (USNM); 1, Trinidad, Maracas Bay, 61/

2mi. Post, Aug. 27, 1969, H. and A. Howden (USNM); 1, Trinidad, St. Augustine, IV-1953, NLH Krauss (USNM); 1, Venezuela, Zulia, El Tucuco (45kmSW of Machiques), 5-6 June 1976, A.S. Menke and D. Vincent (USNM).

Remarks. This species is deceptively variable because specimens with discrete elytral spots present a very different appearance than those with coalesced spots. Only when both forms occur in the same series does it become evident that only one species is involved. It is actually an easily identified taxon once the variation is assimilated. Specimens with coalesced spots are predominant on Trinidad, those with discrete spots are predominant in Venezuela.

24. *Serratitibia rose* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.4 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, brown, basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula narrowly, weakly incised with yellow; elytron black with 5 large yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly transversely oval, projected inward, apical spot transversely oval, anterior border slightly emarginate (Fig. 185); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures as large as on head, separated by diameter or less; elytral punctures as large as on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward in basal 2/3, outer 1/3 curved laterally, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin curved, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin slightly arcuate, nearly straight, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex deeply, widely emarginate, surface densely, finely punctured. Genitalia with basal lobe about as long as paramere, sides slightly convergent, apex obliquely truncate; paramere *Unm* type, wide, ventral margin strongly rounded, dorsal margin straight, apex rounded (Fig. 186, 187); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, rectangular, reversely projected toward interior of siphonal arc, outer arm slender, longer than inner arm, with accessory piece, basal border broadly, shallowly emarginate (Fig. 188, 189).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; (Brazil), Telemaco Barba (sic), PR, 7/X/86, Peo fau Par (sic) (much of label illegible) (DZUP).

Remarks. This species is similar to *S. shirley* in dorsal appearance, primarily because of the inwardly projecting mediolateral spot on each elytron. It is distinguished from *S. shirley* and all other *Serratitibia*

species by the recurved eye canthus, males with 6th abdominal ventrite tuberculate, apical tergite deeply, broadly emarginate apically, genitalia with ventral margin of paramere strongly rounded, and inner arm of siphonal capsule angled toward inner arc of siphon.

25. *Serratitibia janice* Gordon and Canepari, new species

Description. **Male** holotype. Length 2.7 mm, width 2.3 mm; body oval, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula narrowly incised with yellow; elytron black with 5 small yellow spots arranged in rows of 2 each with apical spot, mediolateral spot slightly obliquely oval, apical spot transversely oval (Fig. 190); venter of head, median 1/3 of prosternum reddish brown, meso-, metaventrites, abdomen dark brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by about diameter; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin curved, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate, with 5–6 large teeth medially (Fig. 191), sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe slightly more than 1/2 as long as paramere, sides straight, apex truncate; paramere *Unm* type, extremely narrow at base, abruptly widened apically, ventral margin widened, dorsal margin weakly emarginate, apex rounded, projected dorsally (Fig. 192, 193); siphon robust, strongly curved in basal 1/2, basal capsule with inner arm short, slender, curved, apex rounded, outer arm longer than inner arm, slender, curved, with accessory piece, basal border broadly, shallowly emarginate (Fig. 194, 195).

Female. Unknown.

Variation. Length 2.6–2.7 mm, width 2.0–2.3 mm.

Type material. Holotype male; (Brazil), Itaituba, Amazon (ZMHB). Paratypes 2, 1 same data as holotype (ZMHB); 1 (Brazil), Amazonas (second line illegible) (ZMHB).

Remarks. This species seems to have no definitive external characters, but male genitalia with the paramere narrow at base, abruptly widened and projected dorsally toward the apex is unique within *Serratitibia*.

26. *Serratitibia decemsignata* (Mulsant), new combination

Cleothera decem-signata Mulsant, 1850: 607; Mulsant 1853: 84.

Cleothera 10-signata: Brèthes 1925a: 203

Hyperaspis decemsignata: Korschefsky 1931: 187; Blackwelder 1945: 446; Gordon 1987: 28.

Description. **Male** paralectotype. Length 2.8 mm, width 2.1 mm; body rounded, convex. Dorsal surface shiny, without alutaceous sculpture. Color yellow; pronotum with small, black, basomedial macula with apex deeply emarginate medially; elytron black with 5 large, yellow spots arranged in rows of 2 each with apical spot, mediolateral spot round, apical spot transversely rectangular (Fig. 196); venter of head, prosternum reddish brown, meso-, metaventrites black, abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures smaller than head punctures, separated by about diameter, elytral punctures larger than on pronotum, separated by 1–3 times diameter, metaventrite punctures smaller than elytral punctures medially, separated by diameter or more, becoming larger and contiguous laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal and anterior angles abrupt, lateral margin weakly rounded, basal margin without trace of bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange rounded, outer margin serrate with about 8 large teeth, sponda prominent, outer margin arcuate, extended above protibial border (Fig. 197). Carinae on prosternal process widely separated at apex, convergent basally, joined before base with short stem extended to basal margin of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite straight in basal 1/3, curved along apical margin of ventrite, then broadly arcuate forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites coarse, separated by less than 2 times diameter medially, becoming smaller, dense laterally; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of depression pronounced with small tubercle bearing tuft of dense setae, surface densely punctate except depressed area nearly glabrous; 6th ventrite short, narrow, apical margin deeply emarginate, without median tubercle, angle on each side of depression pronounced, abrupt, with setal tuft. Apical tergite nearly impunctate, grooved, apex feebly emarginate. Genitalia with basal lobe shorter than paramere, narrowed from base to rounded apex; paramere *Unm* type, wide, widened apically, apex obliquely truncate (Fig. 198, 199); siphon robust, curved in basal 1/2, basal capsule large, inner arm short, robust, dorsally truncate, outer arm wide, slightly longer than inner arm, with large accessory piece, basal border deeply emarginate (Fig. 200, 201).

Female. Unknown.

Variation. Length 2.5–2.8 mm, width 2.0–2.1 mm.

Type locality. “Cayenna, Banon” (French Guiana).

Type depository. MNHL (lectotype here designated).

Geographical distribution. French Guiana.

Specimens examined. 3. **French Guiana.** lectotype; “Cayenne,” paralectotype. **Surinam.** Paramaribo, April 1951, on citrus, Collector F. J. Simmonds. (BMNH) (MNHL) (USNM).

Remarks. *Serratitibia decemsignata* is distinguished by lack of a setal tuft on the basal abdominal ventrite, and male genitalia with apex of paramere obliquely truncate, joining *S. decemsignata* with the very similar *S. modesta* in a small group of species sharing a similar paramere (see comments under *S. modesta*).

Mulsant (1850) had specimens from the Dejean, Buquet, and Paris Museum collections. He specifically indicated the Dejean specimen as the type. This specimen (lacking an abdomen) labeled “Cayenna, Banon” is **here designated** the lectotype, and the male BMNH specimen labeled “Syntype (blue bor-

dered disc)/Cayenne (green disc)/5171 (blue disc)/Decemsignata. Dej. Muls. Cayenne D. Leprieur (green paper)/Named by Mulsant.” is designated a paralectotype.

The description above was drawn from the paralectotype.

27. *Serratitibia modesta* (Weise), new combination

Hinda modesta Weise, 1910: 59; Korschefsky 1931: 177; Blackwelder 1945: 446; Almeida and Milléo 2000: 77.

Description. Male. Length 2.6 mm, width 2.1 mm; body rounded, convex. Dorsal surface shiny, without alutaceous sculpture. Color yellow; pronotum with small, black, basomedial macula with apex deeply emarginate medially; elytron black with 5 large, yellow spots arranged in rows of 2 each with apical spot, mediolateral spot round, apical spot transversely rectangular (Fig. 202); venter of head, prosternum reddish brown, meso-, metaventrites black, abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures smaller than head punctures, separated by about diameter or less, elytral punctures larger than on pronotum, separated by 1–3 times diameter, metaventrite punctures smaller than elytral punctures medially, separated by diameter or more, becoming larger and contiguous laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal and anterior angles abrupt, lateral margin weakly rounded, basal margin without trace of bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of tibia, flange arcuate, outer margin serrate with 8–10 small teeth from base to apex, sponda prominent, outer margin arcuate, extended above protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6, with short stem extended to basal margin of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along apical margin of ventrite, then broadly, arcuately forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites coarse, separated by less than 2 times diameter medially, becoming smaller, dense laterally; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of depression pronounced with small tubercle bearing tuft of dense setae, surface densely punctate except depressed area nearly glabrous; 6th ventrite short, narrow, apical margin deeply emarginate, without median tubercle, angle on each side of depression pronounced, abrupt, with setal tuft. Apical tergite nearly impunctate, grooved, apex feebly emarginate. Genitalia with basal lobe nearly as long as paramere, wide, sides convergent from base to obliquely truncate apex; paramere *Unm* type, wide, widened apically, apex obliquely truncate (Fig. 203); siphon robust, curved in basal 1/2, basal capsule large, inner arm long, slender, apex obliquely truncate, outer arm wide, slightly longer than inner arm, with large accessory piece, basal border deeply emarginate (Fig. 204, 205).

Female. Similar to male except basomedial pronotal macula large, extended nearly to anterior pronotal margin, apex entire, elytron without humeral spot. Genitalia with spermatheca short, wide, curved medially, cornu slightly enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, apical 1/3 triangularly widened in lateral view (Fig. 206).

Variation. Length 2.3–3.0 mm, width 1.7–2.5 mm. Female pronotum with apex of basomedial macula sometimes weakly emarginate with yellow, elytral spots subject to slight change in size and shape.

Type locality. Brazil, Itapura, Sao Paulo.

Type depository. ZMHB (lectotype designated by Almeida et al. 2007).

Geographical distribution. Bolivia, Brazil, Surinam.

Specimens examined. 110. **Bolivia.** Mapiri (paralectotypes). **Brazil.** Amazonas, Manaus; Amazonas, Reserva Ducke, 27 mi. N. Manaus; Chapada; Para, Monte Alegre; Oriximina, Est do Para; Santarem; Sao Paulo, Canterieira; Sao Paulo, Pindamonhangaba; Taperina. **Surinam.** Kwakoegeon, Saramacca R. (BMNH) (CAS) (CMNH) (DZUP) (USNM) (ZMHB).

Remarks. Distinguished primarily by the male paramere having an obliquely truncate apex, this species is very similar to *S. decemsignata*, but the latter does not have a median setal tuft on the basal abdominal ventrite. Many specimens of this species were available for study, the majority of these from Santarem, Brazil, in the CMNH collection.

28. *Serratitibia pamela* Gordon and Canepari, new species

Description. Male. Length 2.0 mm, width 1.4 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with wide, dark brown basomedial macula extended slightly more than 1/2 distance to anterior pronotal margin, apex of macula deeply emarginate with yellow; elytron dark brown with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot with inner margin truncate, apical spot transversely rectangular and apical margin broadly emarginate (Fig. 207); venter of head, prosternum reddish yellow, meso-, metaventrites reddish brown; abdomen brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, median tooth larger than remainder, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe 5/6 length of paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, slender, slightly widened apically, apex obliquely truncate (Fig. 208); siphon robust, curved in basal 2/3, basal capsule with inner arm short, slender, apex irregularly obliquely truncate, outer arm slightly longer than inner arm, wide, not widened apically, with accessory piece, basal border broadly, deeply emarginate (Fig. 209, 210).

Female. Unknown.

Variation. Length 1.8–2.0 mm, width 1.3–1.4 mm.

Type material. Holotype male; Brazil, Para, Acc. No. 2366, June (CMNH). Paratypes; 2, same data as holotype (CMNH).

Other specimen. 1. Brazil, Entre Rios, Acc. No. 2966. (CMNH).

Remarks. This very small species is similar only to the Peruvian *S. quincemil* in size. However, the truncate inner margin of the mediolateral elytral spots, along with size and obliquely truncate parameral apices will distinguish *S. pamela* from that species.

29. *Serratitibia stephanie* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, black basomedial macula extended slightly more than 1/2 distance to anterior pronotal margin, apex of macula broadly, deeply emarginate with yellow; elytron black with 5 large yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot obliquely, irregularly oval, apical spot transversely rectangular and apical margin faintly, broadly emarginate (Fig. 211); venter of head, prosternum reddish brown, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus distinctly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 12 small teeth throughout, median tooth larger than remainder, sponda extended beyond protibial border (Fig. 212). Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 5/6 length of paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex obliquely truncate (Fig. 213, 214); siphon robust, curved in basal 2/3, basal capsule with inner arm long, wide, apex irregularly obliquely truncate, outer arm slightly longer than inner arm, slender, not widened apically, with accessory piece, basal border broadly, shallowly emarginate (Fig. 215, 216).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Venezuela, Bolivar, Carr? (illegible), Sta. Elena de V. - Pau??, 11-IX-1977, B. Bechyne leg. (MIZA).

Remarks. This Venezuelan species has the obliquely truncate parameral apex similar to *S. modesta*, but is distinguished within this group by the large elytral spots and Venezuelan type locality.

30. *Serratitibia joyce* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, black basomedial macula

extended 1/5 distance to anterior pronotal margin, apex of macula broadly, deeply emarginate with yellow, small, indistinct pale brown, basal spot at center of macula, 2 small, triangular, pale brown spots on disc; elytron black with 5 large yellow spots occupying most of elytron, spots arranged in rows of 2 each with apical spot, mediolateral spot round, apical spot transversely rectangular with apical margin faintly, broadly emarginate (Fig. 217); venter of head, prosternum reddish brown, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus distinctly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 10 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent in apical 1/2, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex obliquely truncate (Fig. 218); siphon robust, curved in basal 2/3, basal capsule with inner arm elongate, slender, apex obliquely truncate, outer arm longer than inner arm, slender, not widened apically, with accessory piece, basal border broadly, deeply emarginate (Fig. 219, 220).

Female. Unknown.

Variation. Paratype with pronotal maculation reduced to very short, narrow, brown basomedial macula extended about 1/6 distance to anterior pronotal margin, without pale brown spots, elytron with humeral and mediolateral spots narrowly connected.

Type material. Holotype male; BG (British Guiana) (Guyana), Chenapowu to Saveritik, Aug. 21.11, Nunenmacher Collection (CAS). Paratype; 1, Republick (sic) Surinam, April 1951, Collector F.J. Simmonds (USNM).

Remarks. This species resembles *S. donna* because of the mostly pale yellow pronotum and large size, but *S. donna* is a primarily Andean species, the male metaventrite and basal abdominal ventrite each have a setal tuft, and the male genitalia have a paramere with a rounded apex.

31. *Serratitibia martha* Gordon and Canepari, new species

Description. Male. Length 2.7 mm, width 2.3 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with wide, black basomedial macula extended 3/4 distance to anterior pronotal margin, apex of macula truncate; elytron black with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot round, apical spot short, transversely rectangular, apical margin slightly emarginate (Fig. 221); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as

large as 2 eye facets; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by about diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, bearing large median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 5/6 length of paramere, sides convergent, slightly “pinched” medially, apex truncate; paramere *Unm* type, wide, moderately widened apically, apex truncate (Fig. 222); siphon robust, curved in basal 2/3, basal capsule with inner arm short, wide, apex rounded, outer arm as long as inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 223, 224).

Female. Similar to male except head with vertex black, basomedial macula on pronotum large, extended to anterior pronotal margin, elytron without humeral spot. Genitalia with spermathecal capsule long, slender, curved medially, cornu slightly enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut long, apex spatulate in lateral view (Fig. 225).

Variation. Length 2.3–2.8 mm, width 1.8–2.3 mm. Basomedial pronotal macula with apex sometimes feebly emarginate with yellow, elytral spots vary slightly in size, apical spot as described or with apical margin straight, 1 specimen with scutellar, discal, and apical spot irregularly connected.

Type material. Holotype male; Bolivia, St. Antonio (ZMHB). Paratypes; 7, 2, same data as holotype (ZMHB); 3, Bolivia, Coroico (CAS); 1, Bolivia, La Paz, N. Yungus, Caranavi, Santa Ana Exp. Sta., IV-2-76, C. R. Ward (USNM); 1, Bolivia, Mapiri (ZMHB).

Remarks. This species is distinguished by a combination of male 6th abdominal ventrite with median tubercle, male pronotum with basomedial macula apically entire or only feebly emarginate with yellow, and paramere of genitalia moderately elongate.

32. *Serratitibia debra* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.7mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, black basomedial macula extended 1/2 distance to anterior pronotal margin, apex of macula emarginate with yellow; elytron black with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot round, apical spot transversely oval, apical margin rounded (Fig. 226); meso-, metaventrites reddish brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by less than 3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum nar-

rowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, shallowly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin sinuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 5/6 length of paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, wide, slightly widened apically, apex truncate (Fig. 227, 228); siphon robust, curved in basal 2/3, basal capsule with inner arm short, wide, tapered to truncate apex, outer arm slightly longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 229, 230).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Bolivia, Yungas de la Paz, Heyne V. (ZMHB).

Other specimen. 1. (Bolivia) “O. Bolivien,” Prov. Sara, J. Steinbach S.V. (ZMHB).

Remarks. Small size, small basomedial pronotal macula apically indented with yellow, paramere only slightly widened apically, and 6th abdominal ventrite lacking a median tubercle distinguish *S. debra* from other Bolivian species in this group.

33. *Serratitibia amanda* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.0 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum feebly shiny, alutaceous. Color yellow; pronotum with large, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula deeply emarginate with yellow; elytron black with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot irregularly rectangular, projected inward, apical spot transversely rectangular, apical border emarginate (Fig. 231); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures smaller than head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, shallowly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin slightly sinuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite

margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides convergent, apex obliquely truncate; paramere *Unm* type, wide, moderately widened apically, apex truncate (Fig. 232, 233); siphon robust, curved in basal 2/3, basal capsule with inner arm elongate, slender, widened at truncate apex, outer arm longer than inner arm, slender, with accessory piece, basal border broadly, shallowly emarginate.

Female. Similar to male except head with black vertex, basomedial black macula on pronotum large, extended to anterior pronotal margin, with elongate, narrow, median yellow vitta in apical 1/2, elytron with humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu slightly enlarged; bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut short, widened from base to spatulate apex (Fig. 234).

Variation. Length 2.5–2.7 mm, width 1.9–2.0 mm.

Type material. Holotype male; Bolivia, Chaco, Staudin (Staudinger) (ZMHB). Paratypes; 2, same data as holotype (ZMHB).

Other specimen. 1. Bolivia, Chaco, *Cleothera* 10-signata. (ZMHB).

Remarks. The inwardly projecting, irregularly rounded, mediolateral elytral spot, apical abdominal tergite with apical border rounded, 6th abdominal ventrite lacking a median tubercle, and female with humeral spot on the elytron aid in distinguishing *S. amanda* from other Bolivian species of this group.

34. *Serratitibia christine* Gordon and Canepari, new species

Description. Male holotype. Length 2.3 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended slightly more than 2/3 distance to anterior pronotal margin, apex of macula deeply emarginate with yellow; elytron black with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot round, apical spot transversely rectangular, apical border slightly emarginate (Fig. 235); venter of head, prosternum, meso-, metaventrites black; abdomen brown. Head punctures small, separated by 1–2 times diameter, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by 2–4 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin nearly straight, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate

medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe $3/4$ length of paramere, sides convergent, apex rounded; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 236, 237); siphon robust, curved in basal $2/3$, basal capsule with inner arm elongate, slender, apex truncate, outer arm longer than inner arm, slender, with accessory piece, basal border broadly, shallowly emarginate (Fig. 238, 239).

Female. Unknown.

Type material. Holotype male; Bolivia, Prov. La Paz, Cumbre Alto Beni, 7-15.iv.2004, vicinity of Caravani, 1685 m, $15^{\circ}40'19''\text{S}$, $67^{\circ}29'35''\text{W}$, malaise traps, leg. S.D. Gaimari and M. Hauser (CSCA).

Other specimens. 2. Same data as holotype with additional date "15-21.iv.2004." Female genitalia (Fig. 240). (CSCA).

Remarks. These specimens are part of a large "series" collected at the same locality in Bolivia. They are nearly identical in overall habitus, but this "series" is actually composed of 4 species, *S. janet*, *S. frances*, *S. kathy*, and *S. helen*, each having quite different male genitalia and two of them lack abdominal primary pores, placing them in Section II. It was impossible to associate females with males, so only males are described for each taxon.

Serratitibia christine is distinguished from the other species by an elytron with widely spaced punctures separated by 2–4 times the diameter of a puncture, and paramere of male genitalia comparatively slender, moderately widened at apex. A single female with similar elytral punctation, and a single male with similar but slightly different male genitalia are also doubtfully assigned to this species (see Other specimens). In spite of the doubt regarding the correct identity of the female, genitalia are described for that specimen in the hope that it is actually *S. christine*.

35. *Serratitibia janet* Gordon and Canepari, new species

Description. Male holotype. Length 2.8 mm, width 2.3 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended $2/3$ distance to anterior pronotal margin, apex of macula deeply emarginate with yellow; elytron black with 5 yellow spots arranged in rows of 2 each plus apical spot, mediolateral spot round, apical spot transversely rectangular, apical border slightly emarginate (Fig. 241); venter of head, prosternum, meso-, metaventrites black; abdomen brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin nearly straight, with about 8 small teeth throughout, teeth slightly larger medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal $1/4$ of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical $1/4$ of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical $1/2$, apical border weakly emarginate medially,

lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe wide, about as long as paramere, sides slightly convergent, apex truncate, slightly oblique; paramere *Unm* type, wide, widened apically, apex abruptly truncate, slightly emarginate (Fig. 242, 243); siphon robust, strongly curved in basal 3/4, basal capsule with inner arm short, wide, apex obliquely truncate, outer arm longer than inner arm, short, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 244, 245).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Bolivia, Prov. La Paz, Cumbre Alto Beni, 7-15.iv.2004, vicinity of Caravani, 1685 m, 15°40'19"S, 67°29'35"W, malaise traps, leg. S.D. Gaimari and M. Hauser. (CSCA).

Remarks. Male genitalia of *S. janet* are highly distinctive because of the abruptly truncate, slightly emarginate parameral apices, and long, wide, apically truncate basal lobe. This species has the 6th abdominal ventrite without a tubercle, and both pronotal and elytral punctures comparatively dense (see comments under *S. christine*).

36. *Serratitibia bonnie* Gordon and Canepari, new species

Description. **Male** holotype. Length 3.5 mm, width 2.7 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, narrow, black basomedial macula extended 1/4 distance to anterior pronotal margin, apex of macula deeply emarginate with yellow; elytron black with 5 yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly transversely rectangular, projected inward, apical spot transversely oval, apical border rounded (Fig. 246); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin strongly arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite with setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly rounded, surface densely, finely punctured. Genitalia with basal lobe slender, 3/4 as long as paramere, sides slightly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex truncate, slightly rounded (Fig. 247, 248); siphon robust, strongly curved in basal 3/4, basal capsule with inner arm long, wide at base, tapered to rounded apex, outer arm shorter than inner arm, wide, with accessory piece, basal border broadly, deeply emarginate (Fig. 249, 250).

Female. Similar to male except pronotum with basomedial macula large, extended 3/4 distance to anterior pronotal margin, apex indented with yellow, elytron with small humeral spot. Genitalia with spermathecal capsule long, curved medially, widened from base to apex; bursal cap round, with 3 arms, inner arm faint, apical strut long, triangularly widened before apex in lateral view (Fig. 251).

Variation. Length 3.4–3.6 mm. Female with or without humeral spot.

Type material. Holotype male; Peru, Loreto, Picuruyacu, 150 m., 9/13-VIII-2008, Leg. R. Westerduijn. Altered forest (MKRB). Paratypes; 4, same data as holotype (GGC) (MKRB) (UNMSM) (UNSAC).

Remarks. This species is very similar to *S. donna*, but *S. bonnie* has the basomedial pronotal macula with straight apical margin, and male genitalia with the parameral apex broad, mostly truncate. Both species have median setal tufts on both the metaventrite and basal abdominal ventrite.

37. *Serratitibia julie* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.3 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, wide, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula weakly emarginate with yellow; elytron black with 5 large yellow spots arranged in rows of 2 each with apical spot, mediolateral spot oval, apical spot transverse, apical border truncate (Fig. 252); venter of head, prosternum, meso-, metaventrites dark brown; abdomen dark brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin strongly arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe slender, 3/4 as long as paramere, sides slightly convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 253, 254); siphon robust, strongly curved in basal 1/2, basal capsule with inner arm long, slender, apex obliquely, irregularly truncate, outer arm slightly longer than inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 255, 256).

Female. Similar to male except pronotum with basomedial macula large, extended nearly to anterior pronotal margin, apex slightly indented with yellow, elytron without humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu enlarged; bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut short, widened in apical 1/2 in lateral view (Fig. 257).

Variation. Length 2.5–2.8 mm, width 2.1–2.3 mm.

Type material. Holotype male; Peru, Cuzco, San Pedro Manu 1500 m., 16/18-VI-2006, Leg. R. Westerduijn, Montane evergreen forest (UNSAC). Paratypes; 3, same data as holotype (GGC) (MKRB) (UNMSM).

Remarks. A combination of large elytral spots, male with setal tuft on the basal abdominal ventrite, and male pronotum with basomedial macula distinctly emarginate with yellow at apex will aid in distinguishing *S. julie* from other Peruvian species with apically truncate genitalic parameres.

38. *Serratitibia heather* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.0 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula very slightly emarginate with yellow; elytron black with 5 large yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly oval, apical spot transversely oval (Fig. 258); median 1/3 of prosternum, meso-, metaventrites dark brown; abdomen yellow except median area of ventrites 1–3 dark brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin weakly arcuate, with about 6 small teeth throughout, median 2 teeth slightly larger, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with indistinct, median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5 ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly rounded, surface densely, finely punctured. Genitalia with basal lobe slender, 3/4 as long as paramere, sides convergent, apex obliquely rounded; paramere *Unm* type, slender, slightly widened apically, apex truncate (Fig. 259, 260); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, apex obliquely truncate, outer arm 2 times as long as inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 261, 262).

Female. Similar to male except pronotum with basomedial macula large, extended nearly to anterior pronotal margin, apex rounded, elytron without humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, triangularly widened in apical 1/2 in lateral view (Fig. 263).

Variation. Length 2.4–2.7 mm, width 1.8–2.0 mm. Basomedial pronotal macula in male may have anterior margin distinctly indented with yellow, mediolateral spot on elytron varies from oval to irregularly, transversely oval.

Type material. Holotype male; Peru, Loreto, Puerto Almendera, 100 m, 14-IX-2006, leg. R. Westerduijn, secondary forest arboretum (MKRB). Paratypes; 4, 2, same data as holotype (GGC); 2, same data as holotype except date 15-IX-2006 (MDC) (UNSAC).

Other specimens. 4. Peru, Loreto, Padre Cocha, 150 m., 20-II-2006, Westerduijn, Woodland. (GGC).

Remarks. The sixth abdominal ventrite with a median tubercle and protibial flange narrower than remainder of protibia help to distinguish *S. heather* from similar Peruvian species such as *S. julie*.

39. *Serratitibia paprzycki* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, black basomedial macula extended about 1/5 distance to anterior pronotal margin, apex of macula broadly emarginate with yellow, with short, anteriorly projecting spur present medially, small, dark yellow, narrowly triangular macula on each side of disc medially; elytron black with 5 large yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly transverse, apical spot transversely rectangular with broadly emarginate apical border (Fig. 264); median 1/3 of prosternum, meso-, metaventrites reddish brown; abdomen yellow except median area of ventrite 1 dark brown, median area of ventrites 2–4 yellowish brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin weakly arcuate, with about 8 small teeth throughout, median 2 teeth slightly larger, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe slender, 5/6 as long as paramere, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, slender, slightly widened apically, apex truncate (Fig. 265, 266); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, wide, apex irregularly truncate, outer arm 2 times as long as inner arm, wide, with accessory piece, basal border abruptly, deeply emarginate (Fig. 267, 268).

Female. Similar to male except pronotum with basomedial macula large, extended nearly to anterior pronotal margin, apex rounded, elytron with humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, broadly spatulate in apical 3/4 in lateral view (Fig. 269).

Variation. Length 2.4–2.7 mm, width 1.8–1.9 mm. Dark yellow pronotal maculae vary in color from dark yellow to dark brown. Specimens listed as “other specimens” differ from the types by having the black elytral areas brown instead of black.

Type material. Holotype male; Peru, Satipo, XI, 1942, Paprzycki (USNM). Paratypes; 73, 2, same data as holotype (USNM); 71, same data as holotype except additional dates X-1942, 1943, VII-1944, VIII-1944, IX-1944 (USNM).

Other specimens. 3. Peru. Vilcanota, ex. coll. J. Weise, one specimen with additional label "Cleothera lividipes Muls." (ZMHB).

Remarks. This is a highly distinctive species, distinguished by the mostly pale male pronotum, tuberculate male 6th abdominal ventrite, and female with a humeral spot.

In the early 1940's a collector Paprzycki amassed a large number of species from Satipo, Peru. Among these specimens were large series of *S. donna*, *S. satipoensis*, and *S. paprzycki*. All are distinctly differentiated from each other, and all belong in different sections or groups of *Serratitibia*.

Etymology. This species is named for the collector in recognition of his efforts in obtaining hundreds of Peruvian Coccinellidae.

40. *Serratitibia abendrothi* (Kirsch), new combination

Cleothera abendrothi Kirsch, 1876: 124.

Hyperaspis abendrothi: Korschefsky 1931: 184; Blackwelder 1945: 446.

Description. Male lectotype. Length 2.7 mm, width 2.1 mm; body rounded, convex. Color yellow; pronotum with small, black, basomedial macula weakly emarginate with yellow on anterior border; elytron black with 5 large, yellow spots arranged as in Fig. 270, mediolateral spot irregularly rounded, apical spot transverse, slightly curved; ventral surface with prosternum, meso-, metaventrites dark brown, abdomen dark reddish brown medially, apical ventrites yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets, pronotal punctures smaller than head punctures, separated by diameter or less, elytral punctures slightly larger than on pronotum, separated by 1–3 times diameter; metaventrite punctures larger than elytral punctures medially, separated by diameter or more, becoming larger and contiguous laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus short, about 2 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle rounded, anterior angle abrupt, lateral margin straight, basal margin without bordering line. Epipleuron wide, grooved, deeply emarginate for reception of femoral apices. Protibia narrowly flanged, flange arcuate, with about 8 mostly small teeth, teeth larger medially, sponda with outer margin rounded, produced above tibial border. Carinae on prosternal process widely separated at apex, slightly convergent, joined at basal 1/6, connected to base with short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under posterior 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite straight in basal 1/3, arcuately extended along apical margin of ventrite at middle, then broadly curved forward. Abdominal ventrites 1–4 with sparse, long pubescence, with dense, distinct punctures throughout; ventrites 2–4 sparsely pubescent, distinctly, densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of depression pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, depressed in apical 1/2, depressed medially, depression glabrous, with median tubercle, apical margin deeply emarginate, angle on each side of depression pronounced, abrupt, bearing setal tuft. Apical tergite grooved, finely, densely punctate, apex rounded. Genitalia with basal lobe about as long as paramere, narrowed from base to apex; paramere *Unm* type, wide, apex truncate (Fig. 271); siphon robust, strongly curved, basal capsule long, slender, inner arm short, small, obliquely truncate dorsally, outer arm wide, long, inner angle projecting, with large accessory piece, basal border weakly emarginate (Fig. 272, 273).

Female. Similar to male except pronotum with dark, median macula slightly larger, extended nearly to apical pronotal margin, apex not emarginate with yellow, elytron lacking humeral spot. Genitalia with spermathecal capsule long, slender, curved, slightly widened in apical 1/3; bursal cap with 2 distinct outer arms, median arm short, apical strut short, stout (Fig. 274).

Variation. Length 2.7–3.0 mm, width 1.5–2.6 mm. Size of yellow elytral spots slightly variable.

Type locality. Peru.

Type depository. SNSD (lectotype here designated).

Geographical distribution. Peru.

Specimens examined. 7. **Peru.** Lectotype and paralectotypes; Dept. Loreto, Explornapo Camp on Rio Sucusari, 2 mi. upstream from Rio Napo (160 km NE Iquitos), VI-14/VII-20, 1990, Menke and Awetschenko; Valle Chanchamayo, 600 m, 1.5.1939, leg. Weyrauch; V. Chanchamayo, 1400m, VIII-1941, W. Weyrauch 7055; Cuzco, Valle de Lares, 75km NW Calca, el. 2,060 m, 1 March 1979, W. E. Steiner. (SNSD) (USNM).

Remarks. *Serratitibia abendrothi* is characterized by a combination of pronotal macula nearly entire in male, apical margin only slightly indented with yellow; large size of the five elytral spots; protibia with flange narrow, and male 6th abdominal ventrite tuberculate.

The male **here designated** as lectotype is labeled “Poznzn Coll Kirsch (green paper)/Abendrothi Kirsch (handwritten)/Hyperaspis abendrothi Kirsch (handwritten, blue paper)/Typus (red paper)/Staatl. museum für Tierkunde, Dresden.” Five additional specimens in the type series bearing the same labels, excepting the handwritten name on white paper, are designated as paralectotypes.

41. *Serratitibia quincemil* Gordon and Canepari, new species

Description. Male holotype. Length 2.0 mm, width 1.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended about 2/3 distance to anterior pronotal margin, apex of macula narrowly emarginate with yellow; elytron black with 5 small, yellow spots arranged in rows of 2 each with apical spot, mediolateral spot oval, apical spot transversely oval (Fig. 275); median 1/3 of prosternum, meso-, metaventrites reddish brown; abdomen reddish yellow except median area of ventrites 1–3 dark brown. Head punctures small, separated by 1–2 times diameter, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by 1–2 times diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin weakly arcuate, with about 8 small teeth throughout, median 2 teeth slightly larger, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite with setal tuft (Fig. 280). Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex medially emarginate, surface densely, finely punctured. Genitalia with basal lobe slender, 5/6 as long as paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, slender, slightly widened apically, apex truncate (Fig. 276, 277); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, wide, tapered to apex, apex irregularly truncate, outer arm slightly longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 278, 279).

Female. Unknown.

Variation. None observed.

Type material. Holotype male; Peru, Dpt. Cuzco, Prov. Quispicanchis, Quincemil, 6-11-X-1976, Robert Gordon (USNM). Paratypes; 2, same data as holotype (USNM).

Remarks. This little species is distinguished by the small size; widely spaced head punctures, small abdominal primary pores, and lack of a median tubercle on the male 6th abdominal ventrite.

42. *Serratitibia teresa* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.6 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended about 3/4 distance to anterior pronotal margin, apex of macula very slightly emarginate with yellow; elytron black with 5 small, yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly oval, apical spot transversely oval, apical border weakly emarginate (Fig. 281); prosternum, meso-, metaventrites dark brown; abdomen reddish brown except median area of ventrites 1–3 dark brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by less than diameter; elytral punctures as large as on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, (teeth severely worn) median 2 teeth slightly larger, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex medially emarginate, surface densely, finely punctured. Genitalia with basal lobe slender, about as long as paramere, sides nearly straight, slightly pinched medially, weakly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex slightly emarginate (Fig. 282, 283); siphon robust, strongly curved in basal 1/2, basal capsule with inner arm long, narrowed medially, apex obliquely truncate, outer arm slightly longer than inner arm, wide, curved, with accessory piece, basal border deeply emarginate (Fig. 284, 285).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Peru, Dep. Huanuco, F. Sinchono, VIII–1947, Schunke (USNM).

Remarks. The large size, basomedial pronotal macula large, extended 3/4 distance to anterior pronotal margin, male 6th abdominal ventrite without median tubercle, and apically emarginate paramere of male genitalia help to distinguish this species.

43. *Serratitibia doris* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.1 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended almost 2/3 distance to anterior pronotal margin, apex of macula rounded, entire; elytron with suture narrowly dark brown, dark area widened into spot medially, 1 irregularly, obliquely transverse, brown spot extended from humeral callus onto disc, 1 irregular, transverse, brown spot on apical declivity (Fig. 286); venter of head, prosternum reddish yellow, meso-, metaventrites dark reddish brown; abdomen yellow except median 2/3 reddish brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 teeth throughout, teeth large medially, smaller in basal and apical 1/3, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/2 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex slightly rounded, surface densely, finely punctured. Genitalia with basal lobe slender, 5/6 length of paramere, sides tapered, slightly pinched medially, strongly convergent, apex rounded; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 287); siphon robust, strongly curved in basal 1/2, basal capsule with inner arm long, wide, apex obliquely truncate, outer arm shorter than inner arm, slender, with accessory piece, basal border deeply emarginate (Fig. 288, 289).

Female. Similar to male except basomedial pronotal macula extended 7/8 distance to anterior pronotal margin. Genitalia with apical 1/2 of spermathecal capsule lost; bursal cap rounded, with 3 arms, median arm faint, apical strut short, apex truncate (Fig. 290).

Variation. None observed.

Type material. Holotype male; Peru, Varias, Tingo Maria, IX-15-44, EJ Hambleton (USNM). Paratype; 1, same data as holotype (USNM).

Remarks. The dorsal color pattern is diagnostic for this species, although somewhat similar to that of *S. katherine*.

44. *Serratitibia katherine* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, pronotum and elytra with faint alutaceous sculpture. Color yellow; pronotum yellow except black basomedial macula short, outer angle with oblique anterior projection extended to apical 2/3 of pronotum, apex of projection curved inward and hooked posteriorly at apex; elytron with suture narrowly black, with 4 small, black spots, humeral spot irregularly, obliquely elongate, from base of elytron posteriorly across humeral callus, discal spot irregularly triangular, mediolateral spot on outer margin of elytron obliquely elongate, spot on apical declivity irregularly, obliquely rectangular (Fig. 291); venter of head, prosternum reddish yellow, meso-, metaventrites dark reddish brown; abdomen yellow except median 1/3 of ventrites 1–3 yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures smaller than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 teeth throughout, teeth large medially, smaller in basal and apical 1/3, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides convergent, apex obliquely truncate, paramere *Unm* type, wide, widened apically, apex truncate (Fig. 292, 293); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, narrowed to apex, apex obliquely truncate, outer arm longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 294).

Female. Unknown.

Variation. Length 2.8–3.0 mm, width 2.4–2.5 mm. Pronotal and elytral markings are reduced in paratype, pronotum has basomedial macula not connected to small, triangular, discal spots medially, spots on elytron small, discal spot barely evident. The paratype has the same basic elytral pattern as the holotype, but all dark markings are severely reduced in size, although in the same places.

Type material. Holotype male; Peru, N. Peru, 2100m, Rio Chotano, VI-23-1956, W. Weyrauch 7015 (USNM). Paratype; 1, Peru, Cusco, 80 km North of Calca, 7-Mar-1978, Univ. Maryland - SEL: SMF Expedition (USNM).

Remarks. The dorsal color pattern is diagnostic for this species, although somewhat similar to that of *S. doris*.

45. *Serratitibia gloria* Gordon and Canepari, new species

Description. **Male** holotype. Length 3.0 mm, width 2.4 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended slightly more than 1/2 distance to anterior pronotal margin, apex of macula emarginate with yellow; elytron black with 5 large, yellow spots arranged in rows of 2 each with apical spot, borders of all spots blurred, not crisply defined, mediolateral spot small, irregularly oval, set back from lateral elytral margin, apical spot transversely triangular (Fig. 295); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by less than diameter; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, strongly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 296, 297); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, wide, apex obliquely truncate, outer arm slightly longer than inner arm, slender, with accessory piece, basal border broadly, shallowly emarginate (Fig. 298, 299).

Female. Similar to male except head dark reddish brown, basomedial pronotal macula extended to anterior pronotal margin, elytron without humeral spot. Genitalia with spermathecal capsule slender, curved medially, cornu slightly enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, apex hooked (Fig. 300).

Variation. Length 3.0–3.3 mm, width 2.4–2.6 mm. Color pattern on elytron varies from typical to having the scutellar, discal, and mediolateral spots narrowly connected, or with discal, mediolateral, and apical spots narrowly connected.

Type material. Holotype male; Brazil, Corcovado, Rio de Janeiro, G. E. Bryant, 15.V.1912, G. Bryant Coll. 1919-147, *Cleothera bis-quinque-pustulata* (Fab.) Muls. (BMNH). Paratypes: 2, 1, Brazil, 17833, Fry Rio Jan., Fry Coll. 05.100 (BMNH); 1, Brazil, VIII 1901, C. Bruch, (label illegible), *Cleothera trivialis* Muls., ex. Coll. J. Weise (ZMHB).

Remarks. *Serratitibia gloria* is distinguished by an unusual elytral color pattern. The pattern is basically the same as many other species, but spot outlines are blurred, not crisply defined, blending with the surrounding surface color. The small, transversely oval, mediolateral spot is widely removed from the lateral elytral border, and there is a strong tendency for all spots to coalesce.

46. *Serratitibia linda* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex of macula weakly, widely emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot transverse, anterior margin slightly emarginate, spots not crisply defined, edges of spots blended slightly with surrounding black area (Fig. 301); prosternum, epipleuron, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures larger than head punctures, separated by less than 2 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, slightly grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin arcuate, with about 12 small teeth (Fig. 302), sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, nearly parallel, joined just before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/6 of ventrite 4; postcoxal line on basal abdominal ventrite arcuate throughout, apex curved forward. Abdominal ventrites with long, sparse, pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 3/4, apical margin deeply emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, deeply depressed medially, depression glabrous, with median tubercle, densely punctured, apical margin shallowly emarginate with tuberculate angle on each side, angle with tuft of dense setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, wide, weakly tapered to obliquely truncate apex; paramere *Unm* type, widened apically, apex obliquely truncate (Fig. 303, 304); siphon slender, curved in basal 1/2, basal capsule with inner arm short, wide, rectangular, outer arm short, wide, slightly longer than inner arm, with accessory piece, basal border weakly emarginate (Fig. 305, 306).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; 8854, Fry Rio Jan. (Brazil), Fry Coll. 1905. 100., *Cleothera gacognii* Mul. (BMNH).

Remarks. Somewhat similar to *S. gloria* because of the large size and tendency of the elytral spots to have slightly blurred edges, but distinguished by a median tubercle on the 6th abdominal sternum, and male pronotum with large, basomedial macula extended 2/3 distance to anterior pronotal margin, basomedial macula with apical border broadly, shallowly emarginate.

47. *Serratitibia evelyn* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.0 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 3/4 distance to pronotal apex at middle, apex weakly, narrowly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, mediolateral spot irregularly transverse, projected inward, apical spot rectangularly transverse (Fig. 307); prosternum, epipleuron, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures

as large as on head, separated by less than diameter; elytral punctures larger than pronotal punctures, separated by less than 2 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, slightly grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin arcuate, with 8–10 small, worn down teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, slightly convergent, joined at basal 1/6 of prosternum. Metaventricle without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along apical margin of ventrite, curved forward. Abdominal ventrites with long, sparse, pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 3/4, apical margin deeply emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, deeply depressed medially, depression glabrous, without median tubercle, densely punctured, apical margin shallowly emarginate with tuberculate angle on each side, angle with tuft of dense setae. Apical tergite short, narrow, apex slightly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe about as long as paramere, sides almost parallel, apex obliquely rounded; paramere *Unm* type, widened apically, apex obliquely truncate (Fig. 308, 309); siphon slender, curved in basal 2/3, basal capsule with inner arm long, wide, rectangular, apex curved, outer arm long, wide, curved, 2 times as long as inner arm, with accessory piece, basal border deeply emarginate.

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Brazil, Ch. Fry, S. Paulo, Santos, Fry Coll. 1905-100, *Cleothera Gacognii* Muls. (BMNH). Paratype; 1, (Brazil), Sao Paulo, Bosque da Saude, 4.IV.1943, F. Lane col. (MZSP).

Remarks. This species is distinguished by the large, basomedial pronotal macula extended 2/3 the distance to anterior pronotal margin, anterior border of macula weakly, narrowly emarginate with yellow, and the apical spot on each elytron large, transversely rectangular with anterior border deeply emarginate.

48. *Serratitibia mildred* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.4 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum yellow except basomedial macula short, outer angle with oblique anterior projection extended to apical 2/3 of pronotum, apex of projection curved inward and hooked posteriorly at apex; elytron yellow with sutural margin and 5 maculae brown, sutural vitta slightly widened medially, humeral macula long, wide, irregular, scutellar macula long, slender, triangular, narrowly connected to outer arm of apical spot at apical declivity, apical spot u-shaped, occupying most of declivity, posterolateral spot near lateral margin on apical declivity, small, oval (Fig. 310); venter of head, prosternum, meso-, metaventriles reddish brown; abdomen reddish brown except median portion of ventrites 1–3 brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apex acute, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer

margin feebly arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores small, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites small medially, separated by diameter or less, equal in size but becoming dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, wide, sides nearly straight, apex obliquely truncate; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 311, 312); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, narrowed medially, apex rounded, outer arm 3 times as long as inner arm, slender, with accessory piece, basal border deeply emarginate (Fig. 313, 314).

Female. Unknown.

Variation. Length 2.7–3.0 mm, width 2.2–2.4 mm. Elytral spots vary from that described for the holotype to having maculae broadly fused, leaving elytral surface mostly brown with yellow spots, yellow scutellar spot curved, yellow spot at apical declivity small, triangular, and humeral, mediolateral, and apical spot connected along lateral margin of elytron.

Type material. Holotype male; Argentina, Misiones, No 578.61, Montevideo So Amer Paras Lab, Date XI.25.41, Parker (USNM). Paratypes; 2, Brazil, Sao Paulo, No 666.10E Montevideo So Amer Paras Lab, Date Jan.14.42, Parker (USNM).

Remarks. The dorsal color pattern of *S. mildred* is unique within *Serratitibia*. It is most similar to that of *Cyra noticollis* (Mulsant) for which it could be mistaken if generic characters are not examined.

49. *Serratitibia joan Gordon and Canepari*, new species

Description. Male. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, without alutaceous sculpture. Color yellow; pronotum yellow except large, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula broadly, triangularly emarginate; elytron yellow, narrowly bordered with black, sutural border slightly widened on apical declivity, with 2 small, dark brown spots, humeral spot extended from base just across humeral callus, posterolateral spot at apical declivity extended inward from lateral margin 1/2 distance to suture (Fig. 315); venter of head, prosternum, meso-, metaventrites black; abdomen black except ventrites 5–6 dark reddish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by less than 2 times diameter medially, larger laterally. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, straight, apically acute, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin arcuate, with about 8 teeth throughout, teeth large medially, smaller in basal and apical 1/3, sponda extended beyond protibial border (Fig. 316). Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior

ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex rounded, surface densely, finely punctured. Genitalia with basal lobe 3/4 length of paramere, sides weakly convergent, apex obliquely rounded, paramere *Unm* type, wide, widened apically, apex truncate (Fig. 317); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, slender, narrowed medially, apex truncate, outer arm slender, as long as inner arm, curved, with accessory piece, basal border broadly, deeply emarginate (Fig. 318, 319).

Female. Similar to male except head with vertex and basal 1/2 of frons black, anterior border of black area triangular, pronotum with basomedial macula extended almost to anterior pronotal margin. Genitalia with spermathecal capsule long, slender, cornu enlarged; bursal cap broadly triangular, with 3 arms, apical strut long, bent at apical 1/3, apical 1/3 spatulate (Fig. 320).

Variation. Length 2.4–3.0 mm, width 1.8–2.4 mm. Male basomedial pronotal macula varies from apex of macula slightly emarginate with yellow to deeply emarginate, female heads vary from almost entirely yellow to dark reddish brown with vertex black, elytron highly variable from almost entirely yellow with black border, to having suture with large, black spot in basal 1/2, humeral angle with large, rectangular black spot, posterolateral spot connected to elongate spot medially at apical declivity, and posterolateral spot sometimes narrowly connected to suture (Fig.).

Type material. Holotype male; Ecuador, Napo Prov., 2000m, 7km S. Baeza, 20-28.II.1979, H. and A. Howden (USNM). Paratypes: 18, 12, same data as holotype (USNM); 1, Ecuador, Napo, 13 km N Baeza, 1400m, III.3.1976, J. M. Campbell (CNC); 1, Columbién (Ant.), Amaga, 1100m, leg. Schneble 1964 (CAS); 4, Colombia, Huila, San Augustin, 1 September 1969, D. H. Messersmith (USNM).

Remarks. Distinguished by the dorsal color pattern, which, although variable, is not likely to be confused with other *Serratitibia* species of Section I having similar patterns. From some of those it is immediately separated by lack of a median tubercle on the 6th abdominal ventrite. *Serratitibia joan* and *S. jacqueline* have essentially identical color patterns and some specimens were collected together on the same date. However, *S. jacqueline* lacks primary abdominal pores, thus placing it in Section II, whereas *S. joan* has primary abdominal pores, thus placing it in Section I.

50. *Serratitibia ashley* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.0 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended slightly more than 1/2 distance to anterior pronotal margin, apex of macula deeply, triangularly incised with yellow; elytron black with 5 large yellow spots arranged in rows of 2 each with apical spot, mediolateral spot elongately oval, apical spot transversely oval except anterior border straight (Fig. 321); venter of head, prosternum, meso-, metaventrites dark brown; abdomen dark brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process

narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 large, extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex very slightly extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe slender, as long as paramere, sides parallel, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 322, 323); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm elongate, slender, apex truncate, outer arm slightly longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 324, 325).

Female. Similar to male except pronotum with basomedial macula large, extended nearly to anterior pronotal margin, elytron without humeral spot. Genitalia with spermathecal capsule long, curved medially, cornu slightly enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, apically spatulate in lateral view.

Variation. Length 2.3–2.5 mm, width 1.8–2.0 mm. The specimen from Peru is not designated a paratype because the basal lobe of the male genitalia is slightly wider than that of the holotype.

Type material. Holotype male; Colombia, Fusagasugá, Cnd (Cundinamarca), 12.V.40, Murillo No 93 (USNM). Paratypes; 3, Arbaláez, Cnd, 31.I.40, Murillo No 75 (USNM).

Other specimen. 1. Peru, 13-guttata Muls. (ZMHB).

Remarks. This species is distinguished from many similar appearing taxa by a combination of Colombian type locality, large elytral spots, mediolateral spot distinctly elongate oval, and lack of a median tubercle on the male 6th abdominal ventrite.

51. *Serratitibia judith* Gordon and Canepari, new species

Description. Male holotype. Length 2.2 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula broadly, weakly triangularly incised with yellow; elytron black with 5 small yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly triangular, apical spot transversely triangular (Fig. 326); ventral surface entirely pale yellowish brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures larger than head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened

along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly emarginate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, sides slightly convergent, apex obliquely rounded; paramere *Unm* type, extremely wide, wider than posterior 1/3 of phallobase, nearly rectangular, apex truncate (Fig. 327, 328); siphon robust, strongly curved in basal 1/2, basal capsule with inner arm short, wide, tapered to truncate apex, outer arm slightly longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 329, 330).

Female. Similar to male except pronotum with basomedial macula large, extended nearly to anterior pronotal margin, elytron without humeral spot. Genitalia with spermathecal capsule long, abruptly curved at basal 1/3, weakly curved in apical 2/3, cornu slightly enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut long, apex slightly widened in lateral view (Fig. 331).

Variation. Length 2.0–2.2 mm, width 1.7–1.8 mm.

Type material. Holotype male; Colombia, Leticia, Via Los Lagos, 50 m, 2-IX-2008, Leg. (R. Westerduijn), flood plain forest (ICN). Paratypes; 9, same data as holotype (GGC) (ICN) (JEBC) (MDC).

Remarks. This little species is characterized by a combination of small size, mediolateral and apical spots on elytra irregularly triangular, venter entirely pale yellowish brown, and male genitalia with an extremely large, rectangular paramere.

52. *Serratitibia terminata* Gorham, new combination

Hyperaspis terminata Gorham, 1894: 202; Korschevsky 1931: 197; Blackwelder 1945: 448.

Hinda terminata: Almeida and Milléo 2000: 81.

Description. Male lectotype. Length 2.4 mm, width 1.9 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula having anterior border indented with yellow, extended nearly 3/4 distance to anterior pronotal border; elytron with apical 1/5 dark brown, apex of apical spot ragged (Fig. 332); ventral surface with median 1/3 of meso-, metaventrites brown; abdomen entirely yellow. Head punctures small, separated by less than diameter, each puncture about as large as an eye facet; pronotal punctures equal in size to head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange slightly narrower than remainder of protibia, outer margin arcuate in basal 1/2, straight in apical 1/2, with several small teeth in basal 1/2 and a single, large median tooth at apex of flange, sponda large, extended far beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined at basal 1/4 of prosternum, joined to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite rounded to posterior ventrite margin, slightly flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 2 ventrites large, separated by less than 2 times diameter, becoming smaller and dense laterally, ventrites 3–5 densely

punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination with tuft of setae. Apical tergite short, narrow, apex feebly rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, sides convergent, apex rounded; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 333); siphon robust, curved in basal 2/3, basal capsule with inner arm short, apex irregularly rounded, outer arm 3 times longer than inner arm, not widened apically, with accessory piece, basal border broadly, moderately emarginate (Fig. 334).

Female. Similar to male except head entirely black with anterolateral angle yellow, black pronotal area extended to anterior margin medially. Genitalia with spermatheca long, slender, curved medially, cornu enlarged; bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut short, narrow, apex weakly spatulate in lateral view (Fig. 335).

Variation. Length 2.4–2.7 mm, width 1.9–2.0 mm.

Type locality. Volcan de Chiriqui, Panama.

Type depository. BMNH (lectotype validated by Almeida and Milléo 2000).

Geographical distribution. Brazil, Panama.

Specimens examined. 3. **Brazil.** Minas Gerais; Camanducaia (Vila Monte Verde); Santa Bárbara (Serra do Caraca). **Panama.** V. de Chiriqui, 2-3000 ft. (type series). (MZNSP) (BMNH).

Remarks. This species was described from Panama, but was also found to occur in Brazil (Almeida and Milléo 2000). It has a dorsal color pattern thus far unique among known species of *Serratitibia*. It was placed in *Hinda* by Almeida and Milléo (2000), but is a typical example of *Serratitibia*.

The type series consists of 6 specimens that actually represent examples of two different species having nearly identical color patterns. The first 3 specimens are considered *D. terminata*, the second 3 specimens represent another *Serratitibia* species with radically different male genitalia. The second species is not known to occur in South America. Almeida and Milléo (2000) validated a lectotype first labeled as that by Gordon in 1970, but not published. All remaining specimens bearing labels identical to the lectotype (except for blue bordered “syntype” labels) are here designated as paralectotypes.

Species known only from females.

Female specimens unassociated with males may be placed in a group based on group characters such as presence or absence of primary abdominal pores and protibia serrate or not. Male genitalia are the primary criteria for association with a group, therefore species represented by unassociated females are placed at the end of the respective groups. Only females having distinctive characters transcending sex are described in this section.

53. *Serratitibia tammy* Gordon and Canepari, new species

Description. Female holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, dark brown, basomedial macula extended 3/4 distance to anterior pronotal margin, apex weakly, indistinctly emarginate with yellow; elytron with sutural and apical margins with narrow brown border and 2 dark brown spots, anterior spot large, irregularly transverse, posterior spot smaller, irregularly triangular (Fig. 336); venter of head, prosternum, mesoventrite pale reddish brown, metaventrite dark brown; abdomen reddish yellow. Head punctures

small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward; primary pores between ventrites 4–5 large, extended under apical 1/2 of ventrite 4. Abdominal ventrites 1–6 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–6 more densely, finely punctured throughout. Genitalia with spermathecal capsule long, wide, curved medially, cornu enlarged; bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut short, wide, apex spatulate in lateral view (Fig. 337).

Male. Unknown.

Variation. The specimen listed as “other specimen” is much smaller than the types, and the spermathecal capsule is slightly different in thickness, but it matches the types well in color pattern and protibial structure.

Type material. Holotype female; (Brazil) Porto Velho, Bras. Xii.54 (USNM). Paratype; 1, same data as holotype (USNM).

Other specimen. 1. Brazil, Amazonas, Tefe, XII–1961, F. M. Oliveira. (MZSP).

Remarks. *Serratitibia tammy* has an elytral pattern slightly resembling specimens of *S. kathleen* from Trinidad, but the latter species has both elytral spots highly irregular, the result of coalescing of normally discrete spots.

54. *Serratitibia humerata* (Mulsant), new combination

Cleothera humerata Mulsant, 1850: 605.

Hinda humerata: Weise 1910: 59.

Hyperaspis humerata: Korschefsky 1931: 190; Blackwelder 1945: 447.

Description. Female holotype. Length 4.1 mm, width 3.0 mm; body rounded, convex. Color yellow; pronotum with elongate, median black macula wide basally, narrowed apically, apex weakly emarginate with yellow; elytron black with 5 large, yellow spots arranged as in Fig. 338, humeral and mediolateral spots broadly connected; protibia reddish brown with flange brownish black. Head punctures small, separated by diameter or less, each puncture slightly larger than an eye facet; pronotal punctures equal in size to head punctures, separated by 1–3 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, nearly flat, weakly grooved, deeply emarginate for reception of femoral apices. Protibia narrowly flanged, flange rounded, outer margin with about 10 teeth, 3 large teeth medially, about 6 small teeth in basal and apical 1/3, sponda raised above protibial border (Fig. 339). Abdomen with primary pores laterally between ventrites 4–5 small, round, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite rounded throughout, extended to apical mar-

gin of ventrite at middle, then abruptly forward, ventrite with sparse, long pubescence and dense, distinct punctures throughout; ventrites 2–4 sparsely pubescent, distinctly, densely punctured throughout; 5th ventrite flat, apical margin truncate; 6th ventrite short, narrow, apical margin rounded. Genitalia with spermathecal capsule, long, slender, narrowed to apex, bursal cap with 3 arms, median strut pronounced, long (Fig. 340).

Male. Unknown.

Variation. Unknown.

Type locality. Cayenne (French Guiana).

Type depository. BMNH (holotype).

Geographical distribution. French Guiana.

Type material. Female holotype; Holotype (orange bordered disc)/Type (orange bordered disc)/5171 (blue disc)/Humerata. Muls. Cayenne. D. Leprieur (green paper)/Named by Mulsant/Holotype *Cleothera humerata* Mulsant, 1850, det. R. G. Booth 1997/Hinda humerata (Muls.), Det. Ali A. El-Ali. (BMNH).

Remarks. A combination of large size, narrow black pronotal macula; humeral and mediolateral spots broadly connected, and dark protibial flange with 3 large, median teeth characterize *S. humerata*. Mulsant (1850) had material only from the Buquet collection (BMNH), and his description indicates that he had a single specimen, therefore a holotype.

55. *Serratitibia brethesi* (Korschefsky), new combination

Brachyacantha lengi Brèthes, 1925a: 202 (not *B. lengi* Nunenmacher 1912: 149).

Brachyacantha brethesi Korschefsky, 1931: 202 (replacement name for *B. lengi* Brèthes); Blackwelder 1945: 449.

Description. Female holotype. Length 3.3 mm, width 2.7 mm; body oval, convex. Dorsal surface smooth, shiny, except head slightly alutaceous. Color black; pronotum with lateral 1/4 yellow; elytron black with 4 yellow spots, sutural spot round, discal spot irregularly oval, lateral spot irregularly triangular, narrowest toward lateral border, apical spot transversely oval (Fig. 341); ventral surface with legs dark reddish brown, abdomen paler reddish brown except median area of basal 3 ventrites dark brown. Head punctures large, separated by diameter or less, each puncture as large as 3 eye facets; pronotal punctures much smaller than head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by less than 2 times diameter; punctures on metaventrite large, separated by diameter or less medially, becoming larger laterally. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, lateral margin slightly rounded in apical 1/2, basal angle abruptly rounded, anterior angle evenly rounded, basal margin with trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia with flange narrower than remainder of tibia, arcuate, outer margin with about 8 small teeth in basal 3/4, median tooth large, sponda raised above protibial border (Fig. 342). Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite rounded throughout, extended anteriorly; ventrites with sparse, long pubescence, basal 3 ventrites with coarse punctures separated by diameter or less, ventrites 3–4 with fine, dense punctures. Genitalia with spermathecal capsule elongate, slender, curved medially, cornu enlarged; bursal cap rounded, with 2 arms, apical strut long, slender, apex flattened, hooked (Fig. 343).

Male. Unknown.

Variation. Unknown.

Type locality. Corcovado, Rio de Janeiro, Brazil.

Type depository. BMNH (holotype).

Geographical distribution. Brazil.

Type Material. Female holotype; Type (orange bordered disc/type (handwritten))/Corcovado, Rio de Janeiro, G. E. Bryant. 10.V.1912/G. Bryant Coll. 1919–147/Brachyacantha Lengi Brethes (handwritten)/HOLOTYPE Brachyacantha lengi Brethes, 1921, det. R.G. Booth, 1995 (BMNH).

Remarks. This species is similar to *S. humerata*, although smaller. They share the unusual character of a dark protibia, something rarely observed in this genus. In addition, *S. brethesi* has large head punctures, each puncture about the size of 3 eye facets, very small pronotal and elytral punctures, and the lateral spot on each elytron triangular. Brèthes (1925a) specifically stated that he had one type specimen.

56. *Serratitibia kathy* Gordon and Canepari, new species

Description. Female holotype. Length 2.6 mm, width 2.1 mm; body rounded, convex. Dorsal surface slightly alutaceous, feebly shiny. Color black; head with vertex and clypeus dark brown; pronotum with lateral 1/4 yellow in apical 1/2; elytron black with 7 small, yellow spots arranged in 3 rows of 2 spots each, plus apical spot (Fig. 344); ventral surface reddish brown except legs yellow; abdomen paler reddish brown. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by diameter or less; punctures on metaventrite large, separated by diameter or less medially, becoming larger laterally. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, lateral margin straight, basal angle broadly rounded, anterior angle abruptly rounded, basal margin with trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia with flange as wide as remainder of tibia, arcuate, outer margin with about 8 small teeth in basal 1/2, sponda raised above protibial border. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to apical margin, rounded along margin, extended anteriorly; ventrites with sparse, long pubescence, basal 3 ventrites with coarse punctures separated by diameter or less, ventrites 4–6 with fine, dense punctures. Genitalia with spermathecal capsule long, slender, weakly curved medially, cornu enlarged; bursal cap somewhat triangular, with 2 arms, apical strut short, apical 1/2 strongly widened, spatulate in lateral view (Fig. 345).

Male. Unknown.

Variation. Unknown.

Type material. Female holotype; Bolivia, Prov. La Paz, Cumbre Alto Beni, 7–15.iv.2004, vicinity of Caranavi, 1685 m, 14°40'19"S, 67°29'35"W, malaise traps, leg. S.D. Gaimari 7 M. Hauser (CSCA). Paratype; 1, same data as holotype (CSCA).

Remarks. *Serratitibia kathy* is unusual in having each elytron with 7 yellow spots. That number of spots is shared only with *S. regularis*, and these species are very similar. It is possible they may be conspecific, but are maintained as separate species because *S. regularis* has the elytral spots slightly larger, female genitalia have a cornu with a short, apically rounded projection, and a Peruvian type locality. If more specimens become available for examination it may become necessary to synonymize these 2 names.

57. *Serratitibia irene* Gordon and Canepari, new species

Description. Female holotype. Length 3.6 mm, width 2.7 mm; body rounded, convex. Dorsal surface with trace of alutaceous sculpture, shiny. Color yellow; pronotum with large, black, basomedial macula extended 7/8 distance to anterior pronotal margin, apical margin of macula triangularly indented with yellow medially; elytron black with 6 large, yellow spots arranged in 2 rows of 2 spots each, plus apical spot, with additional spot present between anterior and posterior rows (Fig. 346); venter of head, prosternum reddish brown, meso-, metaventrites black; abdomen yellow. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures as large as on pronotum, separated by less than 2 times diameter; punctures on metaventrite large, separated by about diameter medially, becoming larger laterally. Clypeus weakly emarginate apically, nearly truncate, lateral angle rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, brown. Pronotum narrowed from base to apex, lateral margin straight, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia with flange as wide as remainder of tibia, arcuate, outer margin with about 12 teeth throughout, teeth larger medially, sponda raised above protibial border. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to apical margin, flattened along margin, extended anteriorly; ventrites with sparse, long pubescence, basal 3 ventrites with coarse punctures medially separated by diameter or less, ventrites 4–6 with fine, dense punctures. Genitalia with spermathecal capsule long, slender, curved medially, cornu slightly enlarged; bursal cap broadly triangular, with 3 arms, apical strut long, slender, not apically widened (Fig. 347).

Male. Unknown.

Variation. Unknown.

Type material. Female holotype; Ecuador, Napo, vic. Misahualli, ca 1°02'S, 77°40'W, X-27 to X-31-2002 (CSCA).

Remarks. *Serratitibia irene*, like *S. kathy* and *S. regularis*, is unusual because the female has more than 5 yellow spots on each elytron. These species are diagnosed by the number of elytral spots, although spot numbers and size differ considerably between the three.

58. *Serratitibia judy* Gordon and Canepari, new species

Description. Female holotype. Length 2.6 mm, width 2.1 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with 5 brown spots, 3 along base feebly connected, 2 triangular spots medially on disc; sutural margin of elytron with narrow brown border slightly widened on disc, 5 brown spots on each elytron, 1 narrow, elongate, oval spot on disc near suture, 1 long, irregularly oval spot on disc between humerus and suture, 1 irregularly, obliquely oval spot on humerus, 1 small, elongate oval spot on apical declivity near suture, 1 irregularly obliquely transverse spot near lateral margin on apical declivity (Fig. 348); venter of head, prosternum, meso-, metaventrites dark reddish brown; abdomen yellow. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures as large as head punctures, separated by less than diameter; elytral punctures as large as on pronotum, separated by diameter or less; metaventral punctures larger than on elytra, separated by diameter or less medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 small teeth throughout, median teeth slightly

larger, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward; primary pores between ventrites 4–5 small, extended under apical 1/4 of ventrite 4. Abdominal ventrites 1–6 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–6 more densely, finely punctured throughout. Genitalia with spermathecal capsule short, wide, curved medially, cornu enlarged; bursal cap broadly rectangular, with 3 arms, inner arm faint, apical strut long, slender, apex spatulate in lateral view (Fig. 349).

Male. Unknown.

Variation. Unknown.

Type material. Holotype female; Peru, Quiroz, Rio Paucartambo, 1932 (USNM).

Remarks. The elytral color pattern resembles that of *S. nicole*, but *S. judy* has 5 small spots on each elytron instead of 4, and the spots are differently shaped.

59. *Serratitibia kelly* Gordon and Canepari, new species

Description. Female holotype. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color black; head narrowly reddish brown above antennal base; pronotum with lateral 1/3 yellow, inner margin of yellow area arcuate; elytron with 1 large, yellow, irregularly oval median spot occupying most of apical 2/3 (Fig. 350); mouthparts, prothoracic hypomerion, legs yellow; abdomen brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by less than diameter; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures much larger than on elytra, separated by less than diameter medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, reddish brown. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate, with about 8 teeth throughout, teeth larger medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6 of prosternum, connected to base by short stem. Postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward; primary pores between ventrites 4–5 large, extended under apical 1/2 of ventrite 4. Abdominal ventrites 1–6 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and denser laterally, ventrites 3–6 densely, finely punctured throughout. Genitalia with spermathecal capsule long, slender, curved in apical 1/2, cornu slightly enlarged; bursal cap broadly triangular, with 3 arms, apical strut long, slender, apex slightly widened in lateral view (Fig. 351).

Male. Unknown.

Variation. Unknown.

Type material. Holotype female; Colombia, 1200', Anchicaya Dam, 70km E. Buenaventura, Valle, VII.22.1970, H. and A. Howden (USNM).

Remarks. The dorsal color pattern of this species is not repeated elsewhere in the genus.

60. *Serratitibia nicole* Gordon and Canepari, new species

Description. Female holotype. Length 2.4 mm, width 1.9 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with 5 brown spots, 3 along base feebly connected, 2 triangular spots medially on disc; elytron with sutural, apical, and lateral margins with narrow brown border, sutural border widened on disc, 4 brown spots on each elytron, 1 irregularly elongate, oval, apically curved spot on disc near suture, 1 large, elongate spot on humerus, 1 small, elongate, oval spot on apical declivity near suture, 1 irregularly oval spot near lateral margin on apical declivity (Fig. 352); venter of head, prosternum pale reddish brown, meso-, metaventrites dark reddish brown; abdomen yellow. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures as large as head punctures, separated by less than diameter; elytral punctures as large as on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin slightly arcuate, sinuate, with about 8 small teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward; primary pores between ventrites 4–5 large, extended under apical 1/3 of ventrite 4. Abdominal ventrites 1–6 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–6 more densely, finely punctured throughout. Genitalia with spermathecal capsule short, wide, curved medially, cornu enlarged; bursal cap broadly rectangular, with 3 arms, inner arm faint, apical strut long, slender, apex spatulate in lateral view (Fig. 353).

Male. Unknown.

Variation. Unknown.

Type material. Holotype female; Bolivia, Huachi, Rio Beni, IX, WMMann, Mulford BioExpl 1921–2 (USNM).

Remarks. The elytral color pattern is distinctive for *S. nicole*. The pattern of 4 small brown spots with inner apical spot curved, or hooked at apex is not found elsewhere in *Serratitibia*, although somewhat similar to that of *S. judy*.

SECTION II. Protibia with serrate flange on outer margin, abdomen without primary pores between ventrites 4–5.**61. *Serratitibia ambigua* (Mulsant), new combination**

Cleothera ambigua Mulsant, 1850: 596.

Hyperaspis ambigua: Crotch 1874: 213; Korschefsky 1931: 184; Blackwelder 1945: 446; Gordon 1987: 27.

Description. Female. Length 4.9 mm, width 3.7 mm; body elongate, oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color reddish brown; head yellowish brown; pronotum with lateral 1/4 yellow; elytron with 6 small, mostly round yellow spots, scutellar, humeral, median in apical 1/2, sutural at apical declivity, lateral margin at apical declivity, apical (Fig. 354). Head punctures large, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures smaller than head punctures, separated by about diameter; elytral punctures smaller than on pronotum, separated by 1–2 times diameter; metaventral punctures slightly larger than on elytra, separated by 1–2 times diameter

medially, slightly larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, reddish brown. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, outer margin descending, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate, with 10–12 teeth throughout, teeth large medially, small laterally, sponda extended beyond protibial border (Fig. 355). Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward; without primary pores between ventrites 4–5. Abdominal ventrites 1–6 with short, sparse, indistinct pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–6 more densely, finely punctured throughout. Genitalia with spermathecal capsule long, slender, curved in basal 1/2, cornu not enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut short, wide, apical 1/2 spatulate (Fig. 356).

Male. Similar to male except abdominal ventrite 5 depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex feebly emarginate, surface densely, finely punctured. Genitalia with basal lobe as long as paramere, sides parallel, apex curved; paramere *Unm* type, widened apically, apex slightly rounded, nearly truncate; siphon robust, curved in basal 1/2, basal capsule small, inner arm short, wide, rectangular; outer arm wide, longer than inner arm, with accessory piece, basal border deeply emarginate.

Variation. Length 4.8–5.0 mm, width 3.6–3.7 mm.

Type locality. Cayenne (French Guiana).

Type depository. MNHL (lectotype here designated).

Geographical distribution. French Guiana, Guyana.

Specimens examined. 4. **French Guiana** (lectotype); “Cayenne;” **Guyana**, road to Coralie, Pk 9. (CMNH) (MNHL).

Remarks. *Serratitibia ambigua* is one of the most distinctive species in the genus because of the large size, elytron with 6 yellow spots, and background color of the entire body reddish brown.

Mulsant (1850) stated that the type was in the Dejean collection (MNHL). A single female specimen in that collection labeled “Cayenne, Lacordaire” is **here designated** as the lectotype. A single specimen in the Crotch collection (UMZC) is designated a paralectotype.

62. *Serratitibia psylloboroides* (Crotch), new combination

Hyperaspis psylloboroides Crotch, 1874: 218; Korschefsky 1931: 194; Gordon 1987: 27.

Description. Female holotype. Length 4.5 mm, width 3.6 mm; body elongate, oval, convex. Color yellow; pronotum with 7 dark brown spots, small, comma shaped spot laterally on each side, 5 closely separated spots forming M-shape basomedially; elytron with 4 irregular, long brown vittae, sutural and second vitta interrupted by yellow intrusion medially, outer vitta laterally indented with yellow medially (Fig. 357); prosternum, meso-, metaventrites light brown, median 2/3 of abdominal ventrites 1–3 light brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by 1–3 times diameter. Clypeus deeply emarginate apically,

lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron wide, deeply grooved, deeply emarginate for reception of femoral apices. Protibia widely flanged, flange as wide as remainder of tibia, rounded, outer margin entirely serrate with small teeth, sponda extended slightly beyond protibial border. Carinae on prosternal process wide at apex, abruptly narrowed basally, joined 1/2 distance to prosternal base. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, straight along apical margin of ventrite at middle, then broadly arcuate forward; ventrites 1–3 sparsely pubescent, distinctly, sparsely punctured throughout; ventrites 1–6 densely punctured throughout. Genitalia with spermatheca long, slender, curved, ramus bulbous; bursal cap with 2 arms widened at apices, with trace of median arm, apical strut short, based in rounded “funnel” (Fig. 358).

Male. Unknown. This species is known only from the female but is placed in Section II because it lacks abdominal pores and has a highly distinctive color pattern.

Variation. Unknown.

Type locality. Brazil, “N. Fribourg.”

Type depository. UMZC (holotype).

Geographical distribution. Brazil.

Specimens examined. 2. **Brazil.** “N. Fribourg” (the holotype); “Sud-Brasil.” (UMZC) (USNM).

Remarks. This species has an unusual dorsal color rarely seen in *Serratitibia*, similar only to that of *S. tortuosa*. Nearly all members of the genus have a basic black on yellow or yellow on black spot pattern, not the strongly vittate pattern seen in these two species (see remarks under *S. tortuosa*).

63. *Serratitibia joeli* (Almeida and Milléo), new combination

Hinda joeli Almeida and Milléo, 2000: 84.

Description. Female. Length 2.6 mm, width 1.9 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; head brown except clypeus and area above antennal insertion brownish yellow; pronotum black except lateral 1/3 yellow; elytron brown with 2 yellow spots, elongate oval spot on disc, and transversely oval spot at apex (Fig. 359); venter of head, prosternum, mesoventrite reddish yellow, metaventrite reddish brown; abdomen with ventrites 1–3 yellowish brown, ventrites 4–6 yellow. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by diameter or less; elytral punctures equal in size to pronotal punctures, separated by less than 2 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin arcuate with about 8 small teeth medially and on basal 1/2, sponda slightly extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at prosternal base. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, curved along apical margin of ventrite, apex extended forward. Abdominal ventrites with long, sparse pubescence, punctures on ventrites 1–3 large, separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–6 densely punctured throughout. Genitalia with spermatheca short, stout, curved medially, cornu

enlarged; bursal cap oval, with distinct arms, apical strut elongate, apical 1/2 curved, spatulate in lateral view (Fig. 362).

Male. Similar to female except head yellow, pronotum with median black area apically emarginate, not reaching anterior pronotal margin. Genitalia (after Almeida and Milléo 2000) with basal lobe slightly shorter than paramere, sides convergent, apex obliquely truncate; paramere *Unm* type, widened apically, apex rounded (Fig. 360); siphon robust, wide, curved in basal 2/3, basal capsule large, inner arm short, wide, apex obliquely truncate, outer arm wide, as long as inner arm, with accessory piece, basal border deeply emarginate (Fig. 361).

Variation. Length 2.7–2.8 mm, width 2.0–2.2 mm.

Type locality. Brazil, Amazonas, Rio Cauaburi.

Type depository. MZSP (holotype).

Geographical distribution: Brazil.

Specimens examined. 2. Brazil, Tapuruquara, Rio Negro. (DZUP).

Remarks. This species has a diagnostic color pattern that immediately separates it from any other taxon in Section II.

64. *Serratitibia mary* Gordon and Canepari, new species

Description. Male. Length 3.3 mm, width 2.7 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot transverse, anterior margin slightly emarginate (Fig. 363); prosternum, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by less than 3 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 4 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, nearly flat, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin straight with about 8 large teeth, sponda not extended beyond protibial border. Carinae on prosternal process widely separated at apex, nearly parallel, joined just before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flat along apical margin of ventrite, apex slightly extended forward. Abdominal ventrites with long, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, sides parallel, apex obliquely truncate; paramere *Unm*, widened apically, apex rounded (Fig. 364, 365); siphon robust, wide, curved in basal 1/2, basal capsule large, inner arm short, wide, rectangular, outer arm wide, as long as inner arm, with accessory piece, basal border deeply emarginate (Fig. 366, 367).

Female. Similar to male except head black with clypeus and anterolateral area of frons yellow, pronotum with median black area apically truncate, not reaching anterior pronotal margin, elytron lacking yellow humeral spot, mesepimeron dark brown. Genitalia with spermatheca long, slender, weakly curved, cornu slightly enlarged; bursal cap with 2 outer arms, apical strut narrow (Fig. 368).

Variation. Length 3.0–3.3 mm, width 2.3–2.7 mm. Specimens listed above under “Other specimens” from Marcapata and San Pedro Manu have male genitalia with a somewhat elongate basal lobe, and specimens from Kosnipata Bosque Nublado have a basal lobe similar to that of the holotype, but slightly more slender

Type material. Holotype male; Peru, Dep. Huanuco, F. Sinchono, VIII-5-1947, Schunke, G.H. Dieke Coll'n. 1965 (USNM).

Other specimens. 11. **Peru.** Cuzco, San Pedro Manu, 1500 m, 16/18-VI-2006, Leg. R. Westerduijn, Montane evergreen forest; Dept. of Cuzco, Paucartambo, Kosnipata Bosque Nublado reserve, Coll. MVL Barclay, Cock-of-the-Rock Lodge, Montane Wet Forest, 1400m. iv/1999, 13° 03'21 S 71° 31' 44 W, M.V.L. Barclay, BMNH (E) 2001-121; Marcapata, Staudinger, Korschefsky Collection 1952. (BMNH) (GGC) (JIBC) (MDC) (MKRB) (UNMSM) (UNSA) (USNM).

Remarks. Genitalia are the only criteria for certain recognition of this species, as is typical for much of the genus. Among species lacking primary abdominal pores, this is the largest on average, and the apical elytral spot is distinctly rectangular.

Type designation is restricted to the holotype because of variability observed in male genitalia. Entries under “Female” and “Other specimens” were obviously taken from nontype material. The series from Kosnipata, bearing identical labels, was composed of two species, *S. mary* and *S. kimberly*.

65. *Serratitibia patricia* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.1 mm; body elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture except head with faint sculpture. Color yellow; vertex of head black; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 large, yellow spots, basal 2 spots on humeral angle and disc at base, middle 2 spots in oblique row, both narrowly connected to apical spot, apical spot transverse, anterior margin deeply emarginate (Fig. 369); venter of head, apical 3/4 of epipleuron, prosternum, meso-, metaventrites black; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures as large as head punctures, separated by less than 3 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin with trace of bordering line in lateral 1/2. Epipleuron narrow, nearly flat, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of tibia, outer margin arcuate, with teeth nearly absent, faint indication of teeth at tibial base, sponda not extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined just before prosternal base, connected to base by blunt ridge. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially on apical border, apical border emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination broadly rounded. Apical tergite short, narrow, apex rounded, surface densely,

finely punctured. Genitalia with basal lobe shorter than paramere, slightly tapered to apex, apex feebly rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 370, 371); siphon robust, curved in basal 1/2, basal capsule large, inner arm short, narrow, rectangular, outer arm wide, longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 372, 373).

Female. Similar to male except head dark brown with faint, triangular yellow spot at middle of frons, pronotum with median black area enlarged, nearly reaching anterior pronotal margin, with small, median, apical emargination, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, curved at both ends, cornu not enlarged; bursal cap with 2 outer arms, apical strut short, apex spatulate in lateral view (Fig. 374).

Variation. Length 2.5–2.7 mm, width 1.8–2.1 mm. Elytron with discal spot on suture broadly joined to apical spot, forming a single large, comma shaped spot.

Type material. Holotype male; Ecuador, Napo Prov. 2000m, 7km S. Baeza, 20-28.11.1979, H. and A. Howden (USNM). Paratype; 1, same data as holotype (USNM).

Remarks. The Colombian type locality, large elytral spots, and black vertex of male head separate *S. patricia* from other members of Section II. Protibial teeth are nearly absent, but visible in basal 1/3 of tibia. Male and female genitalia are typical of *Serratitibia*, not of *Cyrea*, the only other genus where this species might be placed if the protibial teeth are overlooked.

66. *Serratitibia cynthia* Gordon and Canepari, new species

Description. Male holotype. Length 2.0 mm, width 1.6 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color black; head yellow; pronotum yellow with large, mediobasal black macula extended 2/3 distance to anterior pronotal margin, anterior border of macula broadly, weakly indented with yellow; elytron with small, yellow humeral spot, and elongate oval, reddish yellow spot medially on apical declivity (Fig. 375); venter of head, prosternum, mesoventrite brownish yellow, metaventrite black; abdomen yellowish brown. Head punctures small, separated by diameter, each puncture as large as 1 eye facet; pronotal punctures equal in size to head punctures, separated by less than 2 times diameter; elytral punctures larger than on pronotum, separated by less than 2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin slightly rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin weakly arcuate, with about 4 small, indistinct teeth medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, convergent, joined at prosternal base, forming triangle. Metaventrite without setal tuft. Basal abdominal ventrite without setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex slightly extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large separated by less than 2 times diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with small median tubercle, apical margin shallowly emarginate, angle on each side of emargination rounded, bearing tuft of setae. Apical tergite short, narrow, apex barely perceptibly emarginate medially, surface densely, finely punctured. Genitalia with basal lobe slightly more than 1/2 length of paramere, sides weakly convergent, medially “pinched,” apex obliquely rounded; paramere *Unm* type, wide, apex rounded (Fig. 376, 377); siphon robust, curved in basal 2/3, basal capsule with inner arm long, slender,

apically truncate, outer arm wider than and same length as inner arm, with accessory piece, basal border, deeply emarginate (Fig. 378, 379).

Female. Similar to male except pronotum with mediobasal macula extended almost to anterior pronotal margin, not indented with yellow medially, elytron without humeral spot. Genitalia with spermathecal capsule long, slender, curved medially, cornu not widened; bursal cap with 3 arms, outer arms distinct, inner arm weakly evident, cap broadly oval, apical strut elongate, slender, strongly spatulate at apex (Fig. 380).

Variation. Length 2.0–2.6 mm, width 1.6–2.0 mm. Spot on elytron varies slightly with almost every specimen, from nearly round to distinctly elongate oval.

Type material. Holotype male; Brazil, Manaus, AM (Amazonas), INPA/Smithsonian fst, 2°25'S 5°50'W, R.K.Didham, 11.1994, Canopy Fog, Fs Edge transect, 210 metres/51, BMNH(E) 2003-84 (BMNH). Paratypes; 9, 1, same data as holotype (BMNH); 2, Brazil, Am., reserva Ducke, 16km NE Manaus, Hurtado, J.C.G., *Coryphophora alta*, 01.iv.1966, Tree No 108a, Tray No.7, BMNH(E) 2003-84 (BMNH); 5, Brazil, Am., Reserva Ducke, 26km NE Manaus, Barbosa, M.G.V., Plot C, Malaise 2, March, October, November 1995, BMNH(E) 2003-84 (BMNH); 1, Rio Cauaburi, 9.XII.1962, J. Bechyné col. (DZUP).

Remarks. One of the few immediately recognizable species of this genus, *S. cynthia* is distinct among *Serratitibia* without primary abdominal pores by the single reddish yellow spot on each elytron.

67. *Serratitibia elizabeth* Gordon and Canepari, new species

Description. Male holotype. Length 2.1 mm, width 1.6 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, dark brown, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex shallowly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, discal spot small, located just anterior to apical declivity, apical spot transversely oval (Fig. 381); prosternum, meso-, metaventrites light brown to dark brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures larger than on head, separated by diameter or less; elytral punctures equal in size to pronotal punctures, separated by less than 2 times diameter. Clypeus apically truncate, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 6 large teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined just before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flat along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex; paramere *Unm* type, widened apically, apex slightly rounded; siphon robust, wide, curved in basal 1/2, basal capsule with inner arm elongate, slender, outer arm as long as inner arm, with accessory piece, basal border deeply emarginate (Fig. 382, 383).

Female. Similar to male except pronotum with median black area apically truncate, nearly reaching anterior pronotal margin, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, weakly curved, cornu slightly enlarged; bursal cap with 3 arms, apical strut narrow (Fig. 384).

Variation. Length 1.9–2.0 mm, width 1.4–1.7 mm. Elytron with discal spot very small, yellow or red, distinct or nearly completely absent.

Type material. Holotype male; Brazil, AM (Amazonas), Rio Cauaburi, 7-8.XII.1962, J. Bechyné col., Convenio DZSP-Goeldi (MZSP). Paratypes, 5; 4, same data as holotype (MZSP); 1, Brazil, Barueri, Sao Paulo-Brasil, XII.965, K. Lenko col (MZSP).

Remarks. This species resembles *S. jennifer*, another Brazilian taxon (See remarks under *S. jennifer*). However, *S. elizabeth* is distinguished by its small size, discrete elytral spots, discal spot on elytron very small or nearly absent, and Brazilian type locality.

68. *Serratitibia jennifer* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.9 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, narrow, black basomedial macula extended anteriorly 1/4 distance to pronotal apex, anterior border of macula arcuately emarginate; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, humeral spot extended along lateral elytral margin, broadly connected to mediolateral spot, mediolateral spot barely perceptibly connected to apical spot, discal spot round, located just anterior to apical declivity, apical spot transversely oval (Fig. 385); meso-, metaventrites brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 4 eye facets; pronotal punctures smaller than on head, separated by less than 2 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 3 times diameter. Clypeus apically truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 5 large teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, gradually joined just before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite rounded throughout, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination with tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, with median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex; paramere *Unm* type, widened apically, apex slightly rounded (Fig. 386, 387); siphon robust, wide, curved in basal 3/4, basal capsule with inner arm short, apex obliquely truncate, outer arm 3 times as long as inner arm, with accessory piece, basal border weakly emarginate (Fig. 388, 389).

Female. Similar to male except pronotum with median black area large, nearly reaching anterior pronotal margin, apically truncate, elytron lacking yellow humeral spot, mesepimeron brown. Genitalia with spermatheca long, slender, weakly curved, cornu slightly enlarged; bursal cap with 3 arms, apical strut short, narrow, slightly widened apically (Fig. 390).

Variation. Length 2.2–2.5 mm, width 1.7–2.0 mm. Elytron with humeral spot broadly or narrowly connected to median spot along elytral border, or briefly extended along lateral border, not connected to median spot.

Type material. Holotype male; Brazil, PA (Para), Utinga, Belém, 10.X.1962, J. Bechyné col., Convenio DZSP-Goeldi (MZSP). Paratypes; 11, 6, same data as holotype (MZSP); 2, Brazil, PA, Marituba, Sta. Isabel do Pará, 17.VIII.1962, J. Bechyné col., Convenio DZSA-Goeldi (MZSP); 3, Brazil, Rio de Jan, June, Jan., without date, Acc. No. 2066, Oct. (CMNH).

Remarks. *Serratitibia jennifer* resembles *S. elizabeth* (see remarks under *S. elizabeth*). *Serratitibia jennifer* is distinguished from that species by male pronota with a short, wide, basal macula, a tendency for the lateral spots to form a continuous, yellow lateral border, and presence of a setal tuft on the male basal abdominal ventrite.

69. *Serratitibia barbara* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.3 mm; body elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 large, yellow spots, scutellar spot elongated posteriorly, narrowly connected to discal spot, apical spot transverse (Fig. 391); prosternum, mesoventrite reddish yellow, metaventrite reddish brown medially, nearly black laterally; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures larger than head punctures, separated by less than 2 times diameter; elytral punctures equal in size to pronotal punctures, separated by less than 3 times diameter. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange less than 1/2 width of remainder of protibia, outer margin arcuate, with about 4 large basal teeth and 8 minute teeth in apical 1/2, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, nearly parallel, joined just before prosternal base, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, apex extended forward. Abdominal ventrites with long, sparse, pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed in apical 1/4, apical border weakly emarginate medially, lateral angle of emargination weakly pronounced with faint tubercle bearing tuft of dense setae; 6th ventrite short, narrow, deeply depressed medially, depression glabrous, with median tubercle, apical margin broadly, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing tuft of dense setae. Apical tergite short, narrow, grooved, apex rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, tapered to narrow, obliquely rounded apex; paramere *Unm* type, wide apically, apex slightly rounded (Fig. 392, 393); siph slender, curved in basal 1/2, basal capsule with inner arm short, wide, rectangular, outer arm wide, as long as inner arm, with accessory piece, basal border weakly emarginate (Fig. 394, 395).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Peru, Dpto. Ayacucho, La Mar, Santa Rosa, 640m, 8-15-IX-1976, Robert Gordon (USNM).

Remarks. If the elytral color pattern remains consistent, the apically elongate scutellar spot readily identifies this species.

70. *Serratitibia ruby* Gordon and Canepari, new species

Description. Male holotype. Length 2.5 mm, width 2.0 mm; body rounded, convex. Dorsal surface with head faintly alutaceous, shiny, pronotum and elytron without alutaceous sculpture, shiny. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex shallowly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot wide, transverse, comma shaped, anterior margin deeply emarginate (Fig. 396); prosternum, meso-, metaventrites brown; abdomen yellow except median area of basal ventrite yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures equal in size to pronotal punctures, separated by less than about diameter. Clypeus weakly emarginate apically, nearly truncate, lateral margin rounded, angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin curved, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange narrower than remainder of protibia, outer margin straight with about 4 minute teeth, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, nearly parallel, joined before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex; paramere *Unm* type, widened apically, apex slightly rounded (Fig. 397, 398); siphon robust, curved in basal 1/2, basal capsule with inner arm elongate, apex truncate, outer arm 2 times as long as inner arm, with accessory piece, basal border weakly emarginate (Fig. 399, 400).

Female. Similar to male except head brownish yellow, pronotum with median black area large, truncate, reaching anterior pronotal margin, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, weakly curved, cornu slightly enlarged; bursal cap with 2 outer arms, apical strut narrow, flat in lateral view (Fig. 401).

Variation. Length 2.2–2.6 mm, width 1.8–2.0 mm. The protibiae have small teeth on the outer margin, some paratypes have these teeth worn enough so they are not readily visible.

Type material. Holotype male; Bolivia, Mapiri (ZMHB). Paratypes; 5, 3, same data as holotype (ZMHB); 1, Bolivia, St. Antonio (ZMHB); 1, Bolivia, Coroico (CAS).

Remarks. *Serratitibia ruby* has the common five spotted color pattern characteristic of many *Serratitibia* species, but the comma shaped apical spot is unique among species lacking primary abdominal pores, and elytral punctures are noticeably more dense than in other species.

71. *Serratitibia helen* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 2.0 mm; body rounded, convex. Dorsal surface with head faintly alutaceous, shiny, pronotum and elytron without alutaceous sculpture, shiny. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex shallowly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot small, transversely oval (Fig. 402); prosternum, meso-, metaventrites dark brown; abdomen brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by less than 2 times diameter, elytral punctures larger than pronotal punctures, separated by less than 3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral margin rounded, angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange slightly narrower than remainder of protibia, outer margin arcuate with about 8 teeth of varying sizes, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, gradually tapered apically, joined before prosternal base, connected to base by short stem. Metaventrite with setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along apical ventral border, rounded forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin deeply emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, with median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to narrowly rounded apex; paramere *Unm* type, extremely wide, short, apex rounded (Fig. 403, 404); siphon robust, curved in basal 1/2, with visible lateral alae posterior to apex, basal capsule with inner arm short, wide, rectangular, apex truncate, outer arm 2 times as long as inner arm, with accessory piece, basal border weakly emarginate (Fig. 405, 406).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; “BOLIVIA” (no further data), Colección J.E. Barriga, Stgo.(Santiago), Chile, 8329. (JEBC). Paratypes; 2, Bolivia, Prov. La Paz, Cumbre Alto Beni, 7-15-iv.2004, vicinity of Caranavi, 1685 m, 15° 40'19"S, 67° 29'35"W. malaise traps, leg. S.D. Gaimari and M. Hauser (CSCA).

Remarks. Known from 3 male specimens, *S. helen* has the typical dorsal color pattern of most *Serratitibia* species. Male specimens are distinguished by a short, very wide, paddle shaped paramere, and presence of median setal tufts on both the metaventrite and basal abdominal ventrite.

72. *Serratitibia susan* Gordon and Canepari, new species

Description. Male holotype. Length 2.0 mm, width 1.5 mm; body slightly elongate, convex. Dorsal surface with head and pronotum faintly alutaceous, shiny, elytron lacking alutaceous sculpture, shiny. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex weakly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot slightly oval, nearly round (Fig. 407); prosternum, mesoventrite yellow, metaventrite dark brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures smaller

than head punctures, separated by less than 3 times diameter; elytral punctures larger than pronotal punctures, separated by less than 4 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without bordering line. Epipleuron narrow, nearly flat, slightly grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 6 distinct teeth, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, nearly parallel, joined before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flat along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, with median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex; paramere *Unm* type, short, strongly widened apically, apex slightly rounded, ventral and lateral views Fig. 408; siphon robust, curved in basal 1/2, basal capsule with inner arm elongate, slender, apex rounded, outer arm slightly longer than inner arm, with accessory piece, basal border weakly emarginate, enlarged apex and entire siphon (Fig. 409).

Female. Similar to male except head with vertex and triangular, median frontal area black, pronotum with median black area apically truncate, reaching anterior pronotal margin, elytron lacking yellow humeral spot. Genitalia with spermatheca short, slender, strongly curved, cornu slightly enlarged; bursal cap with 2 outer arms, apical strut narrow, laterally flattened (Fig. 410).

Variation. Length 2.0–2.5 mm, width 1.5–2.0 mm. Specimens not designated as paratypes differ in having a black ventral surface and male genitalia with basal capsule of siphon slightly differently shaped.

Type material. Holotype male; Peru, Cuzco, San Pedro Manu, 1500 m., 16/18-VI-2006, Leg. R. Westerduijn, Montane evergreen forest (GGC). Paratypes; 2, same data as holotype (GGC).

Other specimens. Peru. 4. Same data as holotype; San Martin, 24-25-VI-2006, leg. R. Westerduijn, vicinity of Calzada, woodlands. (GGC).

Remarks. Dorsally this species resembles *S. satipoensis*, but male genitalia have apically rounded parameres and the basal lobe is more constricted in the apical 1/2. It is most easily recognized by the pale ventral color, triangular black area of female head, and short, strongly curved spermathecal capsule of female genitalia.

73. *Serratitibia margaret*, Gordon and Canepari, new species

Description. **Male** holotype. Length 2.3 mm, width 1.7 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with light brown, nebulous, mediobasal macula extended slightly more than 1/2 distance to apical pronotal margin, apex weakly emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot transversely oval (Fig. 411); prosternum brownish yellow, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets; pronotal punctures as large as head punctures, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, separated by less than 4 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus 6 eye facets long,

angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin arcuate with several small teeth and large subbasal tooth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined just before prosternal base. Metaventricle without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flat along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, evenly tapered from base to apex, apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded, nearly truncate (Fig. 412, 413); siphon robust, wide, curved in basal 1/2, basal capsule with inner arm short, wide, rectangular, apically truncate, outer arm slender, longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 414, 415).

Female. Similar to male except head with vertex and most of frons dark brown, clypeus and anterior portion of frons yellow, pronotum with median black area apically truncate, extended nearly to anterior pronotal margin, elytron lacking yellow humeral spot. Genitalia with spermatheca elongate, wide, weakly curved, cornu slightly enlarged; bursal cap with 2 outer arms spaced to form wide triangle, inner arm weakly indicated, apical strut slightly widened apically (Fig. 416).

Variation. Length 2.1–2.4 mm, width 1.6–1.7 mm. Size of elytral spot slightly variable, teeth on outer protibial margin vary from that described above to lacking large subbasal tooth, with small, even teeth throughout.

Type material. Holotype male; Guyana, Yarowkabra Forest Reserve, 6.v.2001, general beating along forest trail, R.G. Booth, BMNH(E) 2005-147 (BMNH). Paratypes; 7, 3, same data as holotype (BMNH); 4, Guyana ix-ix.1992, Kurupukari, 4°40'N: 58°40'W, Malaise/ FIT, BMNH (E) 2006-132 (BMNH).

Remarks. Similar to other species with a similar elytral color pattern, *S. margaret* is distinguished by the light brown, nebulous pronotal macula, and by female genitalia having a triangular bursal cap with 2 widely spaced lateral arms.

74. *Serratitibia lisa* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.0 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; clypeal apex black; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 large, yellow spots occupying most of surface, spots arranged in transverse rows of two each plus one at apex, humeral spot small, elongate, sutural and discal spots narrowly connected, apical spot wide (Fig. 417); prosternum, meso-, metaventriles black; abdomen dark brown; trochanters and base of femora brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures smaller than head punctures, separated by 1–3 times diameter, elytral punctures larger than pronotal punctures, separated by 1–4 times diameter. Clypeus weakly emarginate apically, lateral margin rounded, angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices.

Protibial flange as wide as remainder of protibia, outer margin straight with about 10 small teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along posterior ventrite margin, angled forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex, sides “pinched” medially; paramere *Unm* type, widened apically, apex slightly rounded (Fig. 418, 419); siphon robust, curved in basal 1/2, basal capsule with inner arm elongate, apically rounded, outer arm as long as inner arm, with small accessory piece, basal border deeply emarginate (Fig. 420, 421).

Female. Similar to male except head black with small, triangular, yellow macula on lateral margin posterior to clypeus, pronotum with median black area narrowly extended medially to apical pronotal margin, elytron lacking yellow humeral spot, basal 2/3 of femur brown. Genitalia with spermatheca long, slender, strongly curved, cornu slightly enlarged; bursal cap with 3 arms, apical strut long, narrow, only slightly flattened in lateral view (Fig. 422).

Variation. Length 2.4–2.6 mm, width 1.8–2.0 mm. Humeral and median lateral spots may be narrowly connected, scutellar spot narrowly connected to discal spot or distinctly separate.

Type material. Holotype male; Ecuador, Napo, 6.5 km NW Cuyuja, 2300m, 00°26.38'S - 076°36.25'W, VIII-16-1998, A.J. Gilbert (CSCA). Paratypes; 6, same data as holotype (CSCA).

Remarks. *Serratitibia lisa* is most similar to *S. nancy*, except male with black clypeal apex, black elytral surface with small, elongate humeral spot on male elytron, remainder of spots large, occupying most of elytral surface, trochanters brown, female head black except triangular yellow area next to eye posterior to clypeus, male genitalia with basal lobe not medially “pinched,” inner arm of siphonal capsule short, rectangular, apically truncate; and female genitalia with apical strut long, narrow, not widened apically.

75. *Serratitibia nancy* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.9 mm; body slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 yellow spots, spots arranged in transverse rows of two each plus one at apex, humeral spot large, triangular, apical spot transversely elongate, apex emarginate (Fig. 423); prosternum, meso-, metaventrites dark brown; abdomen brown. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures as large as head punctures, separated by 1–2 times diameter, elytral punctures larger than pronotal punctures, separated by 1–3 times diameter. Clypeus weakly truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin slightly curved, basal margin without bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin straight with about 4 small teeth in basal 1/3, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined before prosternal base, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally

between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, curved along posterior ventrite margin, curved forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/4, apical margin almost truncate, lateral angle of emargination feeble, with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex, sides not “pinched;” paramere *Unm*, widened apically, apex slightly rounded (Fig. 424, 425); siphon robust, curved in basal 1/2, basal capsule with inner arm short, rectangular, apex truncate, outer arm slightly longer than inner arm, with small accessory piece, basal border weakly emarginate (Fig. 426, 427).

Female. Similar to male except head brownish yellow with dark brown vertex, pronotum with basomedial black area indistinguishable from that of male, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, strongly curved, feebly widened from base to apex of cornu; bursal cap with 2 arms, apical strut short, apically wide in lateral view (Fig. 428).

Variation. Length 2.3–2.4 mm, width 1.8–2.0 mm. Pronotal basomedial spot varies in size, and may approach the anterior pronotal margin in some specimens.

Type material. Holotype male; Ecuador, Sucumbios, San Rafael Falls, 1100m, 00°06.24'S / 07°35.31'W, VIII-5/6-1998, Fred G. Andrews (CSCA). Paratypes; 15; 12, same data as holotype; 2, Ecuador, Napo, San Rafael, trail to falls, 7-vii-1997, F.G. Andrews; 1, same data as holotype except collector A.J. Gilbert (CSCA).

Other specimens. 2. **Ecuador.** Past. (Pastaza), Puyo (21 Km. SW), 14 July 1976, Sweeping, Jeffrey Cohen. **Colombia.** Cund. (Cundinamarca), Alban, 10 Sept 1965, J.A. Ramos Collector. (USNM).

Remarks. This species resembles *S. lisa*, also an Ecuadorian species (see remarks under *S. lisa*). In addition, *S. nancy* is one of a few species with female pronotal color pattern indistinguishable from that of males.

76. *Serratitibia loreto* Gordon and Canepari, new species

Description. Male holotype. Length 1.6 mm, width 1.3 mm; body round, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, mediobasal macula extended slightly more than 1/2 distance to apical pronotal margin, apex weakly emarginate with yellow; elytron black with 4 small, yellow spots, without discal spot (Fig. 429); prosternum brownish yellow, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures smaller than on head, separated by less than 3 times diameter; elytral punctures larger than pronotal punctures, dense, separated by diameter or less. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 3 small, median teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined at base of process. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 2 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially

in apical 1/2, apical margin nearly truncate, with small tubercle bearing tuft of setae posterior to apical border on each side of median depression ; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly arcuate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, wide at base, evenly tapered from base to apex, apex obliquely rounded; paramere *Unm* type, slightly widened apically, apex rounded (Fig. 430, 431); siphon robust, wide, curved in basal 1/2, basal capsule with inner arm long, slender, rectangular, apically truncate, outer arm slender, slightly longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 432, 433).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Peru, Loreto, Puerto Almendra, 100m, 14-IX-2006, leg. R. Westerduijn, secondary forest Arboretum (MKRB).

Other specimens. 2. **Ecuador.** "Ecuador"; Orellana, Payamino Research Station, 300m Tropical Rainforest, 30-vii-12.viii.2007, coll. CDPT Gillett, BMNH(E) 2007-65 (BMNH).

Remarks. Lack of a discal spot on each elytron and small size distinguish this species from all others except the Brazilian species *S. karen* (see remarks under that species). Additionally the elytral punctation is extremely dense, punctures separated by no more than a puncture diameter.

Etymology. Named for the Department of Loreto in which the type was found, name used as a noun in apposition.

77. *Serratitibia karen* Gordon and Canepari, new species

Description. Male holotype. Length 2.2 mm, width 1.7 mm; body round, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with dark brown, mediobasal macula extended slightly more than 1/2 distance to apical pronotal margin, apex weakly emarginate with yellow; elytron dark brown with 4 small, yellow spots, without discal spot (Fig. 434); prosternum brownish yellow, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures smaller than on head, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, dense, separated by 1–3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 8 small teeth in basal 1/2, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, weakly convergent, joined before prosternal base, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, apex slightly extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate, with small tubercle bearing tuft of setae on each side of median depression ; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, with small median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, evenly tapered from base to apex, apex

obliquely rounded; paramere *Unm* type, slightly widened apically, apex rounded (Fig. 435, 436); siphon robust, wide, curved in basal 1/2, basal capsule with inner arm, wide, rectangular, apically truncate, outer arm wide, slightly longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 437, 438).

Female. Unknown.

Variation. Length 2.2–2.5 mm, width 1.7–1.8 mm.

Type material. Holotype male; Brazil, Para, Acc.No.1966, June. (CMNH). Paratypes; 4; 2, same data as holotype (CMNH); 1, Brazil (illegible, handwritten locality), II-28-20, H. Parish Collector. (CAS); 1, (Brazil), Marituba, Belem, PA (Para), VIII.1964, E. Dente col. (DZUP).

Remarks. Most similar to *S. loreto* because of the small size and missing discal spot on each elytron, *S. karen* is distinguished by having elytral punctures widely spaced, separated by 1–3 times diameter.

78. *Serratitibia betty* Gordon and Canepari, new species

Description. Male holotype. Length 2.2 mm, width 1.7 mm; body round, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with dark brown, mediobasal macula extended 2/3 distance to apical pronotal margin, apex weakly emarginate with yellow; elytron dark brown with 5 small, yellow spots, spots arranged in transverse rows of two each plus one at apex, apical spot transversely oval (Fig. 439); prosternum brownish yellow, meso-, metaventrites brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures larger than on head, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, dense, separated by 1–3 times diameter. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin arcuate with about 8 small teeth in basal 3/4, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite arcuate throughout, slightly separated from apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate, with small tubercle bearing tuft of setae on each side of median depression; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered from base to apex, slightly “pinched” in apical 1/2, apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 440, 441); siphon robust, wide, curved in basal 1/2, basal capsule with inner arm slender, inwardly sinuate, apically truncate, outer arm slightly wider than inner arm, slightly longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 442).

Female. Unknown.

Variation. The specimen listed under “Other specimen” has coarse, dense elytral punctures and is very small, 1.6 mm long, so it is not designated as a paratype.

Type material. Holotype male; Bolivia, Mapiri (ZMHB).

Other specimen. 1, same data as holotype. (ZMHB).

Remarks. The specimen listed under “Other specimen” has an identical color pattern and nearly identical male genitalia, and may be this species.

79. *Serratitibia beverly Gordon and Canepari, new species*

Description. Male holotype. Length 2.4 mm, width 1.8 mm; body round, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, mediobasal macula extended 1/2 distance to apical pronotal margin, apex of macula triangularly emarginate with yellow, weak emargination present on each side of middle; elytron black with 5 small, yellow spots, spots arranged in transverse rows of two each plus one at apex, apical spot transversely oval (Fig. 443); mesoventrite pale reddish brown, metaventrite dark reddish brown; abdomen yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets; pronotal punctures as large as on head, separated by diameter or less; elytral punctures as large as pronotal punctures, separated by less than 2 times diameter. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate with about 8 small teeth throughout, teeth large medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, slightly convergent, joined at basal 1/3 of prosternum, not connected to base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate, with small tubercle bearing tuft of setae on each side of median depression; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex slightly rounded, surface densely, finely punctured. Genitalia with basal lobe 2/3 as long as paramere, sides slightly convergent, apex obliquely rounded; paramere *Unm* type, widened apically, apex rounded (Fig. 444, 445); siphon curved in basal 2/3, basal capsule with inner arm slender, narrowed medially, apex truncate, outer arm slightly wider than inner arm, longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 446).

Female. Similar to male except head reddish yellow, basomedial macula on pronotum large, extended nearly to anterior pronotal margin, apex barely perceptibly emarginate with yellow, elytron without humeral spot. Genitalia with spermathecal capsule long, slender, curved medially, cornu enlarged; bursal cap rounded, with 3 arms, inner arm faint, apical strut long, apex spatulate in lateral view (Fig. 447).

Variation. Length 2.2–2.4 mm, width 1.7–1.8 mm.

Type material. Holotype male; Peru, Puerto Almendra, 100 m, 14-IX-2006, leg. R. Westerduijn, *secondary forest Arboretum* (MKRB). Paratypes; 3, 1, same data as holotype (GGC); 1, same data as holotype except 15-IV-2006, *understory of altered forest, arboretum “El Huayo.”* (UNSAC); 1, Peru, Padre Cocha, 150 m, 20-II-2006, Leg. R. Westerduijn, Woodland (GGC).

Remarks. This little species is similar to several others having the same basic color pattern, but the males with bright yellow prosternum and legs, and doubly indented pronotal macula are reasonably distinctive.

80. *Serratitibia denise* Gordon and Canepari, new species

Description. **Male** holotype. Length 2.7 mm, width 2.2 mm; body oval, slightly elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, mediobasal macula extended 2/3 distance to apical pronotal margin, apex of macula broadly, triangularly emarginate with yellow; elytron black with 5 small, pale spots, spots arranged in transverse rows of two each plus one at apex, scutellar and discal spots reddish yellow, remaining spots yellow, mediolateral spot transversely rectangular, projected inward, apical spot transversely oval (Fig. 448); prosternum brownish yellow, meso-, metaventrites dark reddish brown; abdomen yellowish brown. Head punctures small, separated by less than diameter, each puncture as large as 1 eye facet; pronotal punctures as large as on head, separated by diameter or less; elytral punctures as large as pronotal punctures, separated by diameter or less. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle slightly rounded, anterior angle abruptly rounded, lateral margin weakly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin arcuate with about 8 small teeth throughout, teeth large medially, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites coarse, separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate, with small tubercle bearing tuft of setae on each side of median depression; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex emarginate medially, surface densely, finely punctured. Genitalia with basal lobe about as long as paramere, wide, sides convergent, apex obliquely rounded; paramere *Unm* type, slender, slightly widened apically, dorsal margin straight, ventral margin rounded, apex oblique (Fig. 449, 450); siphon curved in basal 2/3, basal capsule with inner arm short, wide, apex obliquely truncate, outer arm 2 times as long as inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 451, 452).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Peru, Loreto, Picuruyacu, 150 m., 9/13-VIII-2008, Leg. R. Westerduijn, Altered forest (MKRB).

Remarks. The male genitalia have a distinctively shaped paramere distinguishing this species from all other *Serratitibia*. In addition, the reddish yellow scutellar and discal spots are diagnostic, most other species have all elytral spots uniform in color, usually entirely yellow.

81. *Serratitibia barclayi* Gordon and Canepari, new species

Description. **Male** holotype. Length 3.0 mm, width 2.3 mm; body elongate oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with short, narrow, black basomedial macula broadly, deeply emarginate apically, macula extended 1/5 distance to apical pronotal border; elytron black with 5 yellow spots, spots arranged in transverse rows of two each plus one at apex, scutellar spot large, triangular, extended posteriorly, narrowly connected to humeral spot along base of elytron, apical spot large, transverse (Fig. 453); meso-, metaventrites dark brown; abdomen brown medially, yellow laterally. Head punctures small, separated by less than diameter, each puncture as large as 3 eye facets;

pronotal punctures as large as head punctures, separated by less than 2 times diameter, elytral punctures larger than pronotal punctures, separated by 1–3 times diameter. Clypeus truncate apically, lateral margin rounded, angle abruptly rounded. Eye canthus short, about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin slightly curved, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin curved, with about 8 large teeth, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at 1/8 distance to prosternal base, not connected to base. Metaventricle without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, slightly flattened along posterior ventrite margin, curved forward. Abdominal ventrites with short, sparse pubescence, punctures large on basal 3 ventrites, separated by diameter or less medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/4, apical margin broadly, weakly emarginate, lateral angle of emargination feeble, with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, weakly depressed in apical 1/2, depression glabrous, without median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered to rounded apex; paramere *Unm* type, widened apically, apex truncate (Fig. 454, 455); siphon curved in basal 1/2, basal capsule with inner arm short, rectangular, apex truncate, outer arm 3 times as long as inner arm, with small accessory piece, basal border weakly emarginate (Fig. 456, 457).

Female. Similar to male except pronotum with basomedial black area extended nearly to anterior pronotal border, elytron with yellow spots slightly smaller, sutural and humeral spots not connected along base of elytron, humeral spot small, narrow, elongate. Genitalia with spermatheca long, slender, strongly curved in apical 2/3, cornu enlarged; bursal cap with 3 arms, apical strut short, narrow (Fig. 458).

Variation. Length 2.5–3.2 mm, width 1.8–2.4 mm. Female specimens have the vertex narrowly black or entirely yellow; the humeral spot variable from nearly completely absent to extended posteriorly along lateral margin and connected to mediolateral spot.

Type material. Holotype male; Bolivia, Santa Cruz, Amboro National Park, Los Volcanes, c.1000m, S18°06' : W63°36', 20/xi-12/xii/2004, General collecting, Mendel, H. and Barclay, M. V.L., BMNH(E)2004-280 (BMNH). Paratypes; 90, same data as holotype (BMNH).

Remarks. Males of *S. barclayi* are distinguished by the large, triangular scutellar spot on the elytron connected to the humeral spot along the elytral base, and presence of short, narrow, basomedial pronotal macula. Females are similar to males but differ because the dark pronotal spot extends nearly to the anterior margin. Females have a humeral spot which is somewhat unusual in *Serratitibia*, and the body form is somewhat elongate.

Etymology. This species is named for Max Barclay of the BMNH, one of the collectors of this large series.

82. *Serratitibia satipoensis* Gordon and Canepari, new species

Description. Male holotype. Length 2.3 mm, width 1.8 mm; body elongate, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with black, basomedial macula wide basally, extended anteriorly 2/3 distance to pronotal apex at middle, apex deeply emarginate with yellow; elytron black with 5 small, yellow spots arranged in transverse rows of two each plus one at apex, apical spot transversely oval (Fig. 459); prosternum, meso-, metaventriles light to dark brown; abdomen brownish yellow. Head punctures small, separated by less than diameter, each puncture as large as 1–2 eye facets;

pronotal punctures as large as head punctures, separated by less than 2 times diameter; elytral punctures larger than pronotal punctures, separated by 1 to 3 times diameter; metaventrite with median punctures as large as on elytron, separated by about diameter medially, becoming coarser, separated by less than diameter in lateral 1/2. Clypeus weakly emarginate apically, nearly truncate, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibial flange about as wide as remainder of protibia, outer margin straight with about 4 large teeth in basal 1/2, several minute teeth in apical 1/2, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, nearly parallel, joined just before prosternal base. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores laterally between ventrites 4–5; postcoxal line on basal abdominal ventrite straight in basal 1/3, flat along apical margin of ventrite, apex extended forward. Abdominal ventrites with short, sparse pubescence, punctures on basal 3 ventrites separated by about diameter medially, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical margin weakly emarginate medially, lateral angle of emargination pronounced with small tubercle bearing tuft of dense setae; 6th ventrite short, narrow, depressed in apical 1/2, depression glabrous, with small median tubercle, apical margin widely, shallowly emarginate, angle on each side of emargination abruptly rounded, bearing small tuft of dense setae. Apical tergite short, narrow, apex weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe shorter than paramere, tapered from base to apex, apex rounded; paramere *Unm* type, wide in apical 1/2, apex truncate (Fig. 460, 461); siphon slender, curved in basal 1/2, basal capsule large, inner arm short, wide, rectangular, outer arm wide, longer than inner arm, with accessory piece, basal border deeply emarginate (Fig. 462, 463).

Female. Similar to male except head brown, pronotum with median black area extended nearly to pronotal apex, apex slightly emarginate, elytron lacking yellow humeral spot. Genitalia with spermatheca long, slender, weakly curved, cornu enlarged; bursal cap with 3 arms, apical strut narrow, sinuate (Fig. 464).

Variation. Length 2.0–2.5 mm, width 1.6–2.0 mm.

Type material. Holotype male; Peru, Satipo, VII–VIII 1942, Paprzycki (USNM). Paratypes; 300, same data as holotype except some dates II, X, XI (USNM).

Other specimens. Peru. Approximately 500, same data as holotype; Dept. Ayacucho, La Mar, Santa Rosa, 640m, 8-15-IX-1976, Robert Gordon; Tingo Maria, Dec-Feb 1949-50, H. A. Allard; 1, Upper R. Pachitea, July 21, '20; Vic. Sani Beni, 840m., a.s.l., 12-1-1935, F. Woytkowski. (CAS) (USNM).

Remarks. A huge series of this species from Satipo, Peru, exists in the USNM collection. The number under "Other specimens" is listed as approximate because, in addition to mounted material, there are two large gelatin capsules of unmounted, uncounted specimens.

Etymology. The specific epithet refers to the type locality.

83. *Serratitibia frances* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.1 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; head with vertex and clypeus black; pronotum with short, narrow, black basomedial macula extended 1/4 distance to anterior pronotal margin, apex of macula deeply, broadly indented with yellow; elytron black with 5 yellow spots arranged in rows of 2 each, mediolateral spot irregularly rectangular, apical spot transversely rectangular (Fig. 465); venter of head, prosternum, meso-, metaventrites black; abdomen brown. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by less than 2 times diameter;

metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin nearly straight, with about 10 small, indistinct teeth throughout, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, slightly convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite with setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe wide, about as long as paramere, sides slightly convergent, apex truncate, slightly oblique; paramere *Unm* type, wide, widened apically, apex rounded (Fig. 466); siphon robust, strongly curved in basal 3/4, basal capsule with inner arm short, wide, apex obliquely truncate with outer angle projecting, outer arm 3 times longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 467, 468).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Bolivia, Prov. La Paz, Cumbre Alto Beni, 7-15.iv.2004, vicinity of Caravani, 1685 m, 15°40'19"S, 67°29'35"W, malaise traps, leg. S.D. Gaimari and M. Hauser (CSCA).

Remarks. Among many similar appearing species, *S. frances* is distinct by a combination of yellow head with black vertex and clypeus, mostly yellow pronotum, metaventrite and basal abdominal ventrite each with a setal tuft (see comments under *S. christine*).

84. *Serratitibia jean Gordon and Canepari*, new species

Description. Male holotype. Length 2.3 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with small, brown basomedial macula extended about 1/4 distance to anterior pronotal margin, apex of macula broadly emarginate with yellow; elytron black with 5 small, yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly round, apical spot transversely oval (Fig. 469); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellow except median area of ventrites 1–4 brownish yellow. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by about diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange as wide as remainder of protibia, outer margin abruptly arcuate, with 3 large teeth at median apex of flange, several small teeth on both sides of middle, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores; postcoxal line on basal abdomi-

nal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex medially emarginate, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, sides weakly convergent, apex obliquely truncate; paramere *Unm* type, wide, widened toward truncate apex, apex slightly emarginate (Fig. 470, 471); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, wide, apex truncate, outer arm about as long as inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 472, 473).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; Brazil, Para, Acc.No.2966, June (CMNH).

Remarks. Small size, male pronotum mostly yellow, eye canthus short, and paramere of male genitalia abruptly truncate apically with truncation slightly emarginate distinguish this species.

85. *Serratitibia cheryl* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum yellow except a faint, narrow, pale brown line on each side of disc medially; elytron black with 5 large, yellow spots arranged in rows of 2 each with apical spot, scutellar, humeral and mediolateral spots broadly connected, mediolateral spot oval, apical spot transversely oval (Fig. 474); venter of head, prosternum pale reddish yellow, meso-, metaventrites reddish brown; abdomen yellow. Head punctures small, separated by diameter or less, each puncture as large as 1 eye facet; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by 1–3 times diameter; metaventral punctures larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, straight, angled forward, apex acute, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibial flange wider than remainder of protibia, outer margin straight, with 7 large teeth medially, sponda extended beyond protibial border. Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/6 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen without primary pores; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites small medially, separated by diameter or less, equal in size but becoming dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe slightly more than 1/2 length of paramere, sides convergent, apex obliquely truncate; paramere *Unm* type, wide, slightly widened apically, apex truncate (Fig. 475, 476); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, slender, narrowed medially, apex wide, obliquely truncate, outer arm slightly longer than inner arm, slender, curved, with accessory piece, basal border broadly, deeply emarginate (Fig. 477, 478).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male; British Guiana (Surinam), Orinoque and New River Heads, 1938, H. Beddington, B.M. 1938-346 (BMNH).

Remarks. This species is distinguished by the large size, almost entirely yellow pronotum, and large, partially fused elytral spots. It is somewhat similar to *S. joyce* (Section I), another species known from Surinam, but *S. joyce* has a basal pronotal macula and discrete elytral spots.

SECTION III. Protibia with outer margin smooth, lacking serrate flange, abdomen with or without primary pores between ventrites 4–5

86. *Serratitibia marilyn* Gordon and Canepari, new species

Description. Male holotype. Length 2.4 mm, width 1.8 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum feebly alutaceous, weakly shiny. Color yellow; pronotum with large, black basomedial macula extended 3/4 or more distance to anterior pronotal margin, apex of macula nearly truncate with small, yellow median indentation; elytron black with 5 small yellow spots arranged in rows of 2 each with apical spot, mediolateral spot irregularly rectangular, projected inward, apical spot transversely rectangular, anterior margin deeply emarginate (Fig. 479); venter of head, prosternum, meso-, metaventrites dark brown; abdomen yellowish brown. Head punctures small, separated by diameter or less, each puncture as large as 1–2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures 2 times as large as on pronotum, separated by diameter of less; metaventral punctures as large as on elytra, separated by about diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibia narrow, straight, outer margin smooth, without trace of flange, sponda slightly extended beyond protibial border (Fig. 480). Carinae on prosternal process widely separated at apex, parallel, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with faint trace of primary pores; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex medially emarginate, surface densely, finely punctured. Genitalia with basal lobe as long as paramere, wide, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, short, wide, widened apically, apex truncate (Fig. 481, 482); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, narrowed medially, apex rounded, outer arm 2 times as long as inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 483, 484).

Female. Similar to male except head black with median area of frons yellow, humeral spot present. Genitalia with spermathecal capsule weakly bent medially, ramus thickened medially, cornu not enlarged; bursal cap narrow, oval, apical strut slender, feebly widened in apical 3/4 (Fig. 485).

Variation. Length 2.4–2.8 mm, width 2.2 mm.

Type material. Holotype male; (Brazil), Est. Biol. Boracela, Salesópolis - S.P, Brasil - 13 - 18.IV.1961, Reichardt col. (DZUP). Paratypes; 2, Ilha dos Buzios, S. Paulo - Brasil, 16.X-4.XI.963, Exp. Dep. Zool. (DZUP).

Remarks. Elytral color pattern, straight protibia without trace of flange, female head black with median yellow spot, and short, wide paramere of male genitalia distinguish *S. marilyn* from other species of Section III.

87. *Serratitibia rachel* Gordon and Canepari, new species

Description. Male holotype. Length 2.7 mm, width 2.2 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum very slightly alutaceous, shiny. Color yellow; pronotum with large, black basomedial macula extended nearly 3/4 distance to anterior pronotal margin, apex of macula slightly curved, nearly truncate; elytron black with 2 spots, humeral spot small, yellow, discal spot large, elongate, oval, anterior margin emarginate on outer angle (Fig. 486); prosternum, meso-, metaventrites dark brown; abdomen dark brown. Head punctures small, separated by 1–2 times diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures much larger than on elytra, separated by less than diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibia with outer margin weakly flanged, flange smooth, without serrations, 1/3 as wide as remainder of protibia, sponda extended beyond protibial border (Fig. 487). Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with large primary pores extended under apical 1/3 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with trace of median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex broadly, weakly emarginate, surface densely, finely punctured. Genitalia with basal lobe as long as paramere, wide, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, short, wide, widened apically, apex truncate (Fig. 488, 489); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, narrowed medially, apex rounded, outer arm 2 times as long as inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 490).

Female. Similar to male except head dark brown, clypeus reddish yellow on each side of middle, basomedial macula on pronotum extended to anterior pronotal margin, elytron without humeral spot. Genitalia with spermathecal capsule curved medially, cornu slightly enlarged; bursal cap widely oval, apical strut slender, widened and hooked at apex (Fig. 491).

Variation. Length 2.5–2.7 mm, width 1.9–2.2 mm. Anterior margin of discal spot on elytron may be rounded.

Type material. Holotype male; (Brazil), 1, ingrata, Fry. Coll. 1905.100. (BMNH). Paratypes; 4, Reed, Bahia, Fry Coll. 1905.100. (BMNH).

Remarks. The single pale spot on each elytron distinguishes this species from other *Serratitibia* with smooth protibiae.

88. *Serratitibia aliciae* (Crotch), new combination

Hyperaspis aliciae Crotch, 1874: 215; Korschefsky 1931: 184; Blackwelder 1945: 446; Gordon 1987: 27.

Description. **Male** holotype. Length 3.6 mm, width 3.3 mm; body rounded, convex. Color yellow except clypeus narrowly brownish black; pronotum with small, irregular brown macula on each side of middle at base, small round, brown spot laterad of basal macula in basal 1/4, and faint brownish yellow maculae medially; elytron with 5 black maculae arranged as in Fig. 492, sutural border narrowly black except black area widened medially and before apex; ventral surface with head, prosternum, meso-, metaventrites dark reddish yellow; flanged outer margin of protibia and apical 1/2 of profemur black; abdomen dark yellowish brown. Head punctures small, separated by less than diameter, as large as 1–2 times an eye facet; pronotal punctures same size as head punctures, elytral punctures much larger than on pronotum, separated by 1–2 times diameter; metaventral punctures 3 or 4 times as large as on pronotum separated by diameter or more medially, becoming larger and contiguous laterally. Clypeus apically emarginate, lateral angle rounded, surface with sparse, long pubescence. Eye canthus about 6 eye facets long, straight, apically rounded, yellow. Pronotum narrowed from base to apex, basal and anterior angles abrupt, basal margin without bordering line. Epipleuron narrow, grooved, deeply emarginate for reception of femoral apices. Protibia narrowly flanged, flange angled and widened from base to sponda, outer margin smooth, sponda represented by diagonal ridge across flange (Fig. 493). Carinae on prosternal process wide at apex, narrowed basally, slightly pinched medially, acutely joined at base with single carina extended to basal margin of prosternum. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen with primary pores laterally between ventrites 4–5 small, extended under apical 1/8 of ventrite 4; postcoxal line on basal abdominal ventrite rounded, extended to apical margin of ventrite at middle, then broadly forward. Ventrites 2–4 sparsely pubescent throughout, punctures small, sparse medially, becoming dense laterally; 5th ventrite depressed medially, with small, distinct tubercle on each side of middle, dense patch of long pubescence on each side of median depression, apical margin deeply emarginate, surface densely punctate; 6th ventrite short, narrow, depressed in apical 1/2, apical margin deeply emarginate, densely pubescent on each side of median depression, without median tubercle, surface densely punctured. Apical tergite coarsely, densely punctured, pubescent, apex slightly rounded. Genitalia with basal lobe slightly shorter than paramere, slender, narrowed from base to rounded apex; paramere *Unm* type, wide, apex feebly widened (Fig. 494, 495); siphon robust, strongly curved, basal capsule large, inner arm long, narrow, outer arm wide, slightly shorter than inner arm, with large accessory piece, basal border deeply emarginate (Fig. 496, 497).

Female. Unknown.

Variation. Unknown.

Type locality. Brazil, “N. Frib” (Nova Friburgo) (southern Brazil).

Type depository. UMZC (holotype).

Geographical distribution. Known only from the Brazilian type locality.

Specimens examined. 1. **Brazil.** The holotype, N. Frib. (Nova Friburgo). (UMZC).

Remarks. The dorsal color pattern is diagnostic, although similar to several other species of Brachiacanthini. In addition, the black, obliquely flanged protibia is unique to this species, resembling only the protibia of the much different *S. humerata*.

89. *Serratitibia andrea* Gordon and Canepari, new species

Description. Male holotype. Length 3.0 mm, width 2.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture except pronotum very slightly alutaceous, shiny. Color yellow; pronotum with large, black basomedial macula extended about 4/5 distance to anterior pronotal margin, apex of macula curved; elytron yellow with 3 black spots, spot on humeral callus very small, discal spot large, broadly oval, apical spot small, transversely oval (Fig. 498); venter of head, prosternum, meso-, metaventrites reddish brown; abdomen reddish yellow. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures much larger than on elytra, separated by 1–3 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin with trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibia with outer margin weakly flanged, flange smooth, without serrations, 1/3 as wide as remainder of protibia, sponda extended beyond protibial border. Carinae on prosternal process indistinct, widely separated at apex, convergent, not joined apically, ended at about basal 1/3 of prosternum, not connected to base. Metaventrite without median setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with small primary pores extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, with short, wide, apically truncate, median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex broadly, weakly rounded, surface densely, finely punctured. Genitalia with basal lobe as long as paramere, wide, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, wide, slightly widened apically, apex rounded (Fig. 499, 500); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm short, slender, apex obliquely truncate, outer arm longer than inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 501, 502).

Female. Similar to male except head reddish yellow. Genitalia with spermathecal capsule slender, curved medially, cornu slightly enlarged; bursal cap broadly rounded, apical strut slender, straight, extended from round, sclerotized base (Fig. 503).

Variation. Length 3.0–3.3 mm, width 2.5–2.7 mm. Frons of head may have dark brown, median spot, humeral spot on elytron may be light brown, indistinct.

Type material. Holotype male; (Brazil), Pae Mathias, S. Paulo, 2.I.1960, Halik 15489, BRASIL Halik 1966 Collection (USNM). Paratypes; 6, 2, Brasilien, Nova Teutonia, 27°11'B. 52°23'L, Fritz Plaumann, 11.8.1939 (DZUP); 1, Brasilien, Nova Teutonia, 27°11'B. 52°23'L, Fritz Plaumann, Korschevsky collection 2952 (USNM); 2. (Brazil), Nova Teutonia, SC, Brasil, X.1961, XII.1966, F. Plaumann col. (DZUP); 1, (Brazil), Chap. do Guimares, MT, Brasil, XI.1963, Alvarenga col. (DZUP).

Remarks. This large species with a unique elytral color pattern is immediately recognizable. It is surprising that a species with this outstanding appearance was not noted by early authors such as Mulsant and Crotch.

90. *Serratitibia louise* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.0 mm; body oval, convex. Dorsal surface slightly alutaceous, shiny. Color yellow; pronotum with narrow, black basomedial band, apical margin of band broadly emarginate with short, median projection, band narrowly connected at outer angles with triangular black spots on disc; elytron narrowly bordered with black on basal, sutural, and apical margins, with 4 black maculae, humeral macula connected to base of elytron, irregularly extended posteriorly and connected to apical macula, discal macula elongate oval, curved apically to join suture, forming J-shaped macula, apical macula J-shaped, connected to humeral macula, lateral macula on apical declivity short, irregularly rectangular (Fig. 504); venter of head, prosternum, meso-, metaventrites black; abdomen reddish yellow except basal 3 ventrites medially brown. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–3 times diameter; metaventral punctures much larger than on elytra, separated by 1–2 times diameter medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 5 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibia with outer margin slightly flanged, flange smooth, without serrations, 1/6 as wide as remainder of protibia, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 1/4 of prosternum, connected to base by short stem. Metaventrite without median setal tuft. Basal abdominal ventrite with median setal tuft. Abdomen with small primary pores extended under apical 1/4 of ventrite 4; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, rounded along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex broadly rounded, surface densely, finely punctured. Genitalia with basal lobe nearly as long as paramere, wide, sides weakly convergent, apex obliquely rounded; paramere *Unm* type, wide, widened apically, apex truncate (Fig. 505, 506); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, slender, narrowed medially, apex truncate, outer arm longer than inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 507, 508).

Female. Similar to male except head with clypeus, apex of frons, and frons along inner margin of eye black. Genitalia with spermathecal capsule wide, abruptly bent medially, cornu slightly enlarged; bursal cap broadly triangular, with 3 arms, inner arm faint, apical strut wide, strongly spatulate in apical 1/2, straight, extended from round, sclerotized base (Fig. 509).

Variation. Length 2.4–2.6 mm, width 1.8–2.6 mm. Humeral maculae on elytron may be strongly connected, or nearly discrete.

Type material. Holotype male; (Brazil), V. Monteverde, M. Gerais (Minas Gerais), 8.IX.1963, Halik, 22768., BRASIL Halik 1966 Collection (USNM). Paratypes; 4, 2, same data as holotype (USNM); 1, Campos Jordao, Sao Paulo, 10.IX.1964, Halik, 25157, BRASIL, Halik 1966 Collection (USNM); 1, Sa. Bocaina-1500m, S.J. Barreiro-SP Brasil, 4.XI.1965, F.M. Oliveira leg. (MZSP).

Remarks. This distinctively marked species is superficially similar in appearance to a few other species of Brachiacanthini, particularly *Cyra noticollis* (Mulsant). The only somewhat similar appearing species of *Serratitibia* is *S. uncinata*, which has a macula on the apical declivity of the elytron that is slightly “J-shaped.”

91. *Serratitibia jacqueline* Gordon and Canepari, new species

Description. Male holotype. Length 2.6 mm, width 2.0 mm; body oval, convex. Dorsal surface shiny, without alutaceous sculpture except pronotum faintly alutaceous. Color yellow; pronotum yellow except large, black basomedial macula extended 2/3 distance to anterior pronotal margin, apex of macula broadly, triangularly emarginate; elytron yellow, narrowly bordered with black, sutural border slightly widened in anterior 1/2, with 1 small, dark brown spot on humerus extended from base just across humeral callus, and very small spot on lateral margin at apical declivity (Fig. 510); venter of head, prosternum, meso-, metaventrites dark reddish brown; abdomen reddish brown. Head punctures small, separated by less than diameter, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures as large as on pronotum, separated by 1–2 times diameter; metaventral punctures larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus truncate apically, lateral angle abruptly rounded. Eye canthus about 6 eye facets long, straight, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin straight, basal margin without trace of bordering line. Epipleuron narrow, weakly grooved, deeply emarginate for reception of femoral apices. Protibia with narrow flange, flange less than 1/2 as wide as remainder of protibia, outer margin smooth, straight, sponda extended beyond protibial border (Fig. 511). Carinae on prosternal process narrowly separated at apex, parallel, joined at basal 1/8 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores between ventrites 4–5; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, slightly flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 2 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex truncate, surface densely, finely punctured. Genitalia with basal lobe 1/2 length of paramere, sides weakly convergent, apex rounded, paramere *Unm* type, slender, slightly widened apically, apex rounded (Fig. 512, 513); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, slender, narrowed medially, apex rounded, outer arm short, slightly longer than inner arm, wide, with accessory piece, basal border broadly, shallowly emarginate (Fig. 514, 515).

Female. Similar to male except head with frons irregularly reddish brown, triangular yellow spot present at middle of frons, pronotum with basomedial macula extended almost to anterior pronotal margin. Genitalia with spermathecal capsule long, slender, cornu slightly enlarged; bursal cap broadly rounded, with 2 arms, apical strut short, widened in apical 3/4 (Fig. 516).

Variation. Length 2.6–2.7 mm. Elytron variable from almost entirely yellow with black border, to having suture with large, black spot in basal 1/2, or with large, transverse black macula in basal 1/2 extended across entire elytron, isolating a large, yellow, scutellar spot.

Type material. Holotype male; Ecuador, Napo Prov., 2000m, 7km S. Baeza, 20-28.II.1979, H. and A. Howden (USNM). Paratypes; 6, 5, same data as holotype (USNM); 1, Ecuador, Napo, Baeza, 2000m, 5.III.1979, S. Marshall (USNM).

Remarks. This species is nearly identical to *S. joan*, a species that has a serrate protibia and primary abdominal pores. The type locality for both species is identical, and both holotypes and many of the paratypes were collected together on the same date by the same collectors.

92. *Serratitibia lori* Gordon and Canepari, new species

Description. **Male** holotype. Length 2.0 mm, width 1.5 mm; body oval, convex. Dorsal surface shiny, lacking alutaceous sculpture. Color yellow; pronotum with large, black basomedial macula extended nearly 3/4 distance to anterior pronotal margin, apex of macula weakly, broadly indented with yellow; elytron black with 2 yellow spots, humeral spot small, discal spot small, obliquely triangular (Fig. 517); venter of head, prosternum reddish yellow, meso-, metaventrites dark brown; abdomen brownish yellow. Head punctures small, separated by diameter or less, each puncture as large as 2 eye facets; pronotal punctures as large as head punctures, separated by diameter or less; elytral punctures larger than on pronotum, separated by 1–2 times diameter; metaventral punctures much larger than on elytra, separated by diameter or less medially, larger laterally. Clypeus weakly emarginate apically, lateral angle abruptly rounded. Eye canthus about 4 eye facets long, slightly angled forward, apically rounded, yellow. Pronotum narrowed from base to apex, basal angle broadly rounded, anterior angle abruptly rounded, lateral margin rounded, basal margin without trace of bordering line. Epipleuron narrow, deeply grooved, deeply emarginate for reception of femoral apices. Protibia with outer margin weakly flanged, flange smooth, without serrations, 1/3 as wide as remainder of protibia, sponda extended beyond protibial border. Carinae on prosternal process widely separated at apex, convergent, joined at basal 7/8 of prosternum, connected to base by short stem. Metaventrite without setal tuft. Basal abdominal ventrite without median setal tuft. Abdomen without primary pores; postcoxal line on basal abdominal ventrite angled to posterior ventrite margin, flattened along margin, apex extended forward. Abdominal ventrites 1–4 with short, sparse pubescence, punctures on basal 3 ventrites large medially, separated by diameter or less, becoming smaller and dense laterally, ventrites 3–5 densely punctured throughout; 5th ventrite depressed medially in apical 1/2, apical border weakly emarginate medially, lateral angle of emargination with small tubercle bearing tuft of dense setae; 6th ventrite narrow, deeply depressed medially, depression glabrous, without median tubercle, apical margin shallowly emarginate, angle on each side of emargination bearing tuft of setae. Apical tergite short, narrow, apex broadly, weakly rounded, surface densely, finely punctured. Genitalia with basal lobe 3/4 as long as paramere, slender, sides weakly convergent, apex obliquely rounded; paramere *Unm*, short, slender, slightly widened apically, apex rounded (Fig. 518, 519); siphon robust, strongly curved in basal 2/3, basal capsule with inner arm long, slender, narrowed medially, apex rounded, outer arm slightly longer than inner arm, slender, with accessory piece, basal border broadly, deeply emarginate (Fig. 520, 521).

Female. Unknown.

Variation. Unknown.

Type material. Holotype male. Brazil, Am. Reserva Ducke, 26km NE Manaus, Hurtado, J.C.G., *Eschweilera wachenheirii*, 01.iv.1966, Tree No. 108, Tray No. 9, C97.35, BMNH(B) 2003-84 (BMNH).

Remarks. *Serratitibia lori* is similar to *S. rachel* in dorsal color pattern, but is smaller and does not have abdominal primary pores. The discal elytral spot is small, yellow, triangular, and the male paramere has a basal lobe 3/4 as long as the paramere.

***Cyrea* Gordon and Canepari, new genus**

Type species. *Cleothera (Cyra) quinquenotata* Mulsant, 1850, by present designation.

Description. Form variable, rounded, elongate oval, or long, nearly parallel-sided. Elytron usually dark with pale maculae, or pale with dark maculae, rarely vittate. Head usually yellow in male, partially brown or black in female. Antenna with 11 articles, basal article longer than wide, antennal insertion exposed. Clypeus with apical margin weakly to deeply emarginate. Labrum rectangular. Apical maxillary palpomere securiform with sides slightly diverging. Scutellum large, transverse. Elytral epipleuron narrow or wide, deeply excavated for reception of tibiae. Prosternal process slightly convex, with two cari-

nae. Protibia narrow, without distinct flange, usually with oblique angle of varying degrees; lacking primary pores between ventrites 4–5. Tarsal claw with subquadrate basal tooth. Male abdominal ventrites 5–6 rarely modified other than typical male apical emarginations; 5th ventrite of male abdomen nearly always without visible tubercle on each side of apical emargination. Male genitalia with basal lobe usually asymmetrical, occasionally symmetrical.

Remarks. Most species have protibia that are least somewhat angled on the anterior margin. This angle is referred to here as the “oblique angle” rather than “flange” because it is not a true flange. Lack of primary abdominal pores between ventrites 4–5, lack of protibial armature, and male 5th abdominal ventrite smooth on each side of median emargination, nearly always without tubercle, are distinguishing characteristics of *Cyrea*.

Cyrea and *Brachiacantha* are very similar and are only distinguished by the protibial tooth possessed by members of the latter genus. One of the characteristics of *Brachiacantha* is the *Psc* form of the male parameres. However, the *erica* group of *Cyrea* also possesses *Psc* parameres. In addition, one species, *Cyrea alma*, has distinct cusps present on the 5th abdominal ventrite, which is a character normally restricted to certain species of *Brachiacantha*.

The new genus *Cyrea* is erected for a group of species, some formerly in *Cyra* Mulsant. *Cyra loricata* was designated as the type species of *Cyra* by Duverger (2001), but *Cyra loricata* is actually a member of the older genus *Brachiacantha*, which renders *Cyra* a junior subjective synonym of *Brachiacantha*. *Cyrea* is an arbitrarily formed name very similar to *Cyra*, and we thank Roger Booth for suggesting it. Among species of the former genus *Cyra* are *C. cognata* Mulsant, *C. triacantha* Mulsant, *C. castelnaudi* Mulsant, and *C. oseryi* Mulsant.

Cyrea will be the subject of a future revision but is dealt with here because this publication contains a key to all Brachiacanthini genera. *Dilatitibialis* Duverger and *Brachiacantha* will also be dealt with in detail in future publications but are not further treated here.

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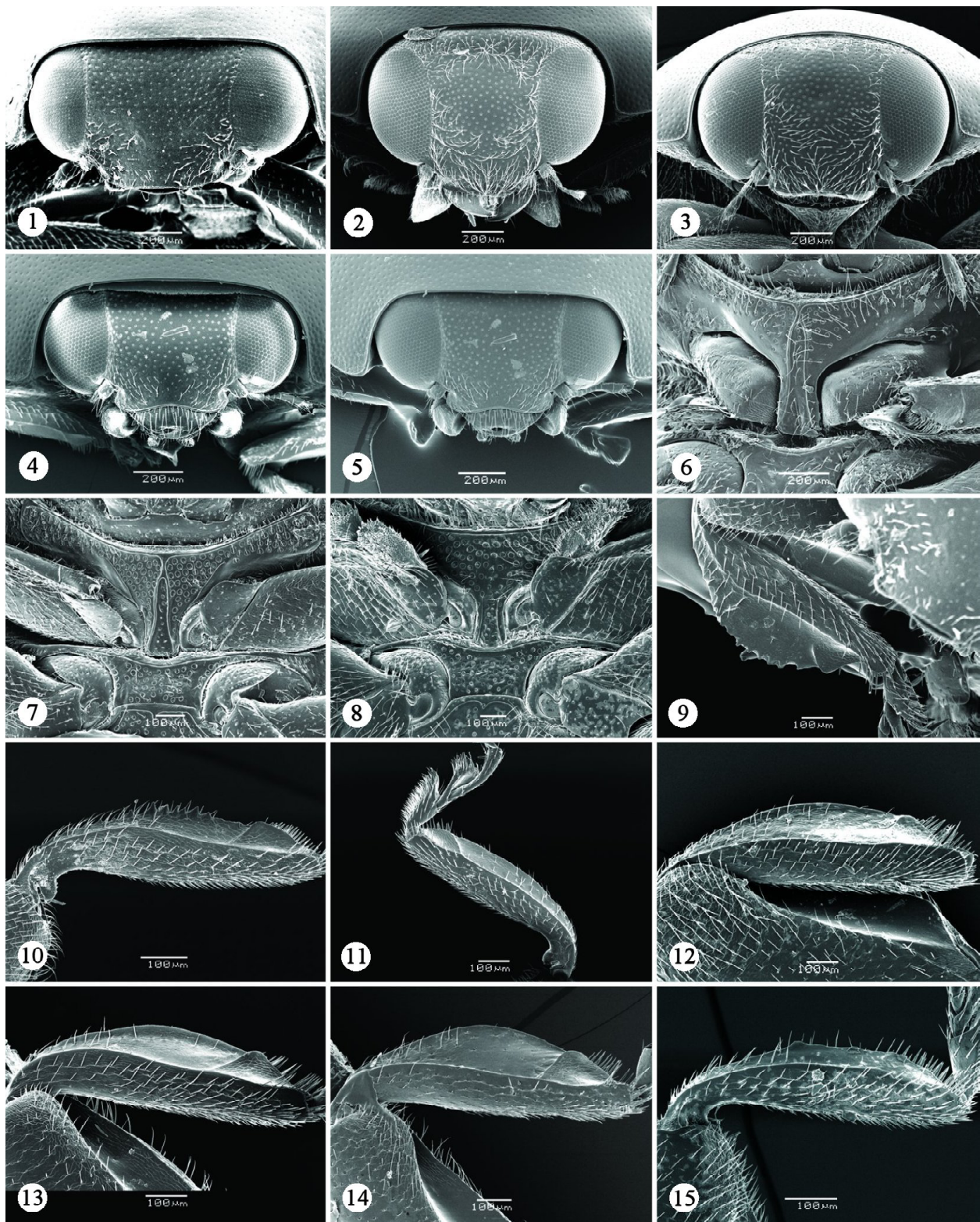
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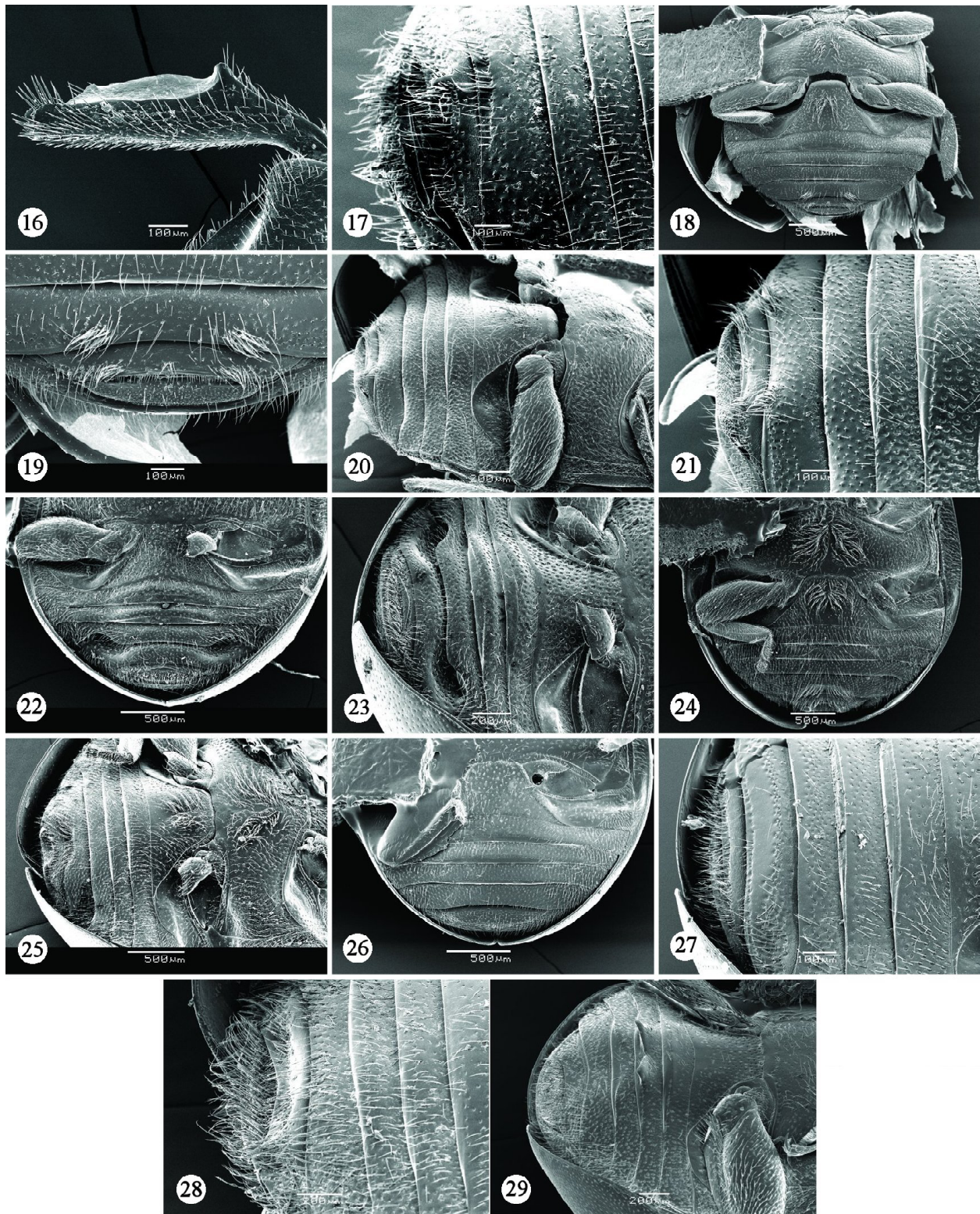
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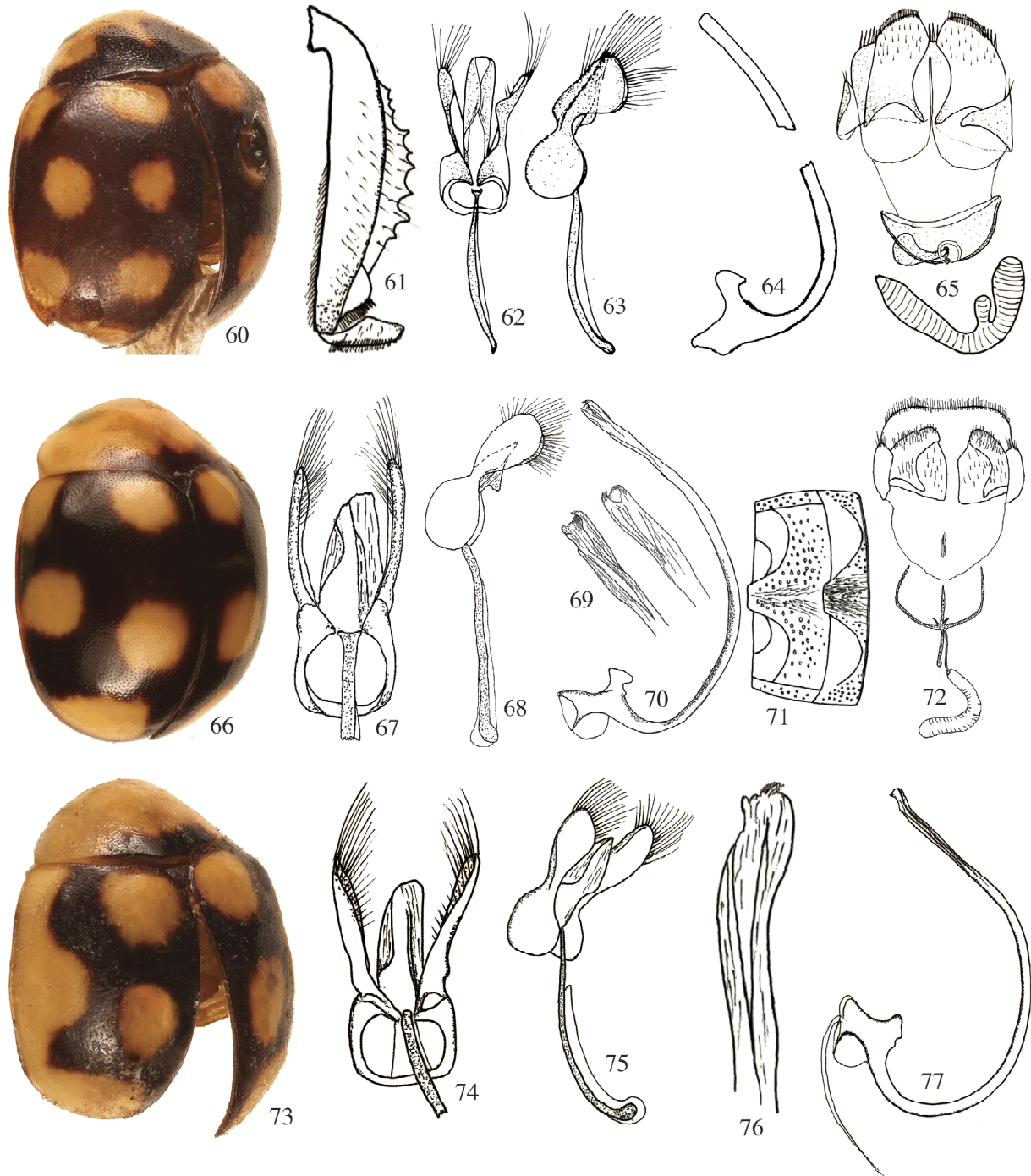
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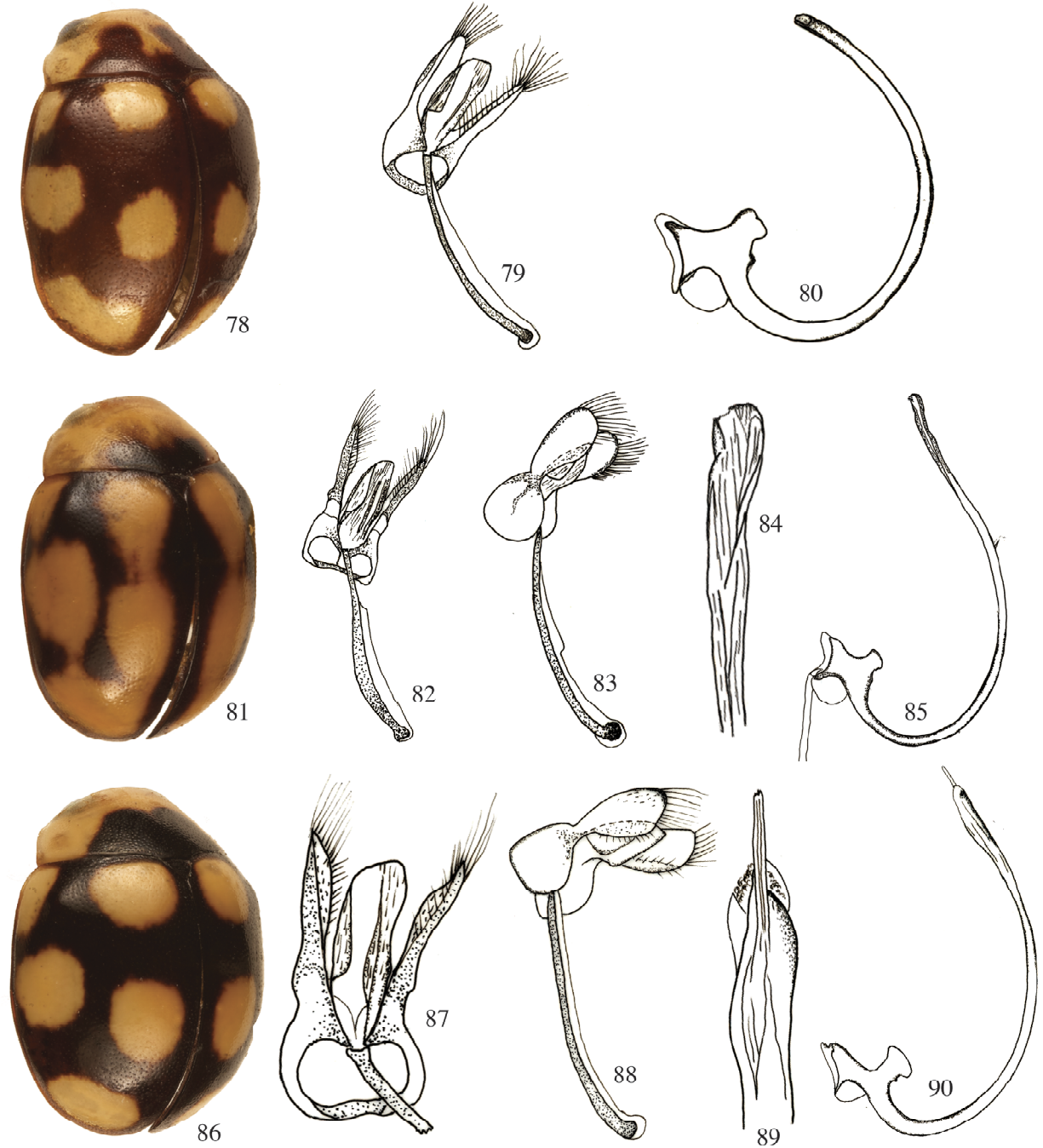
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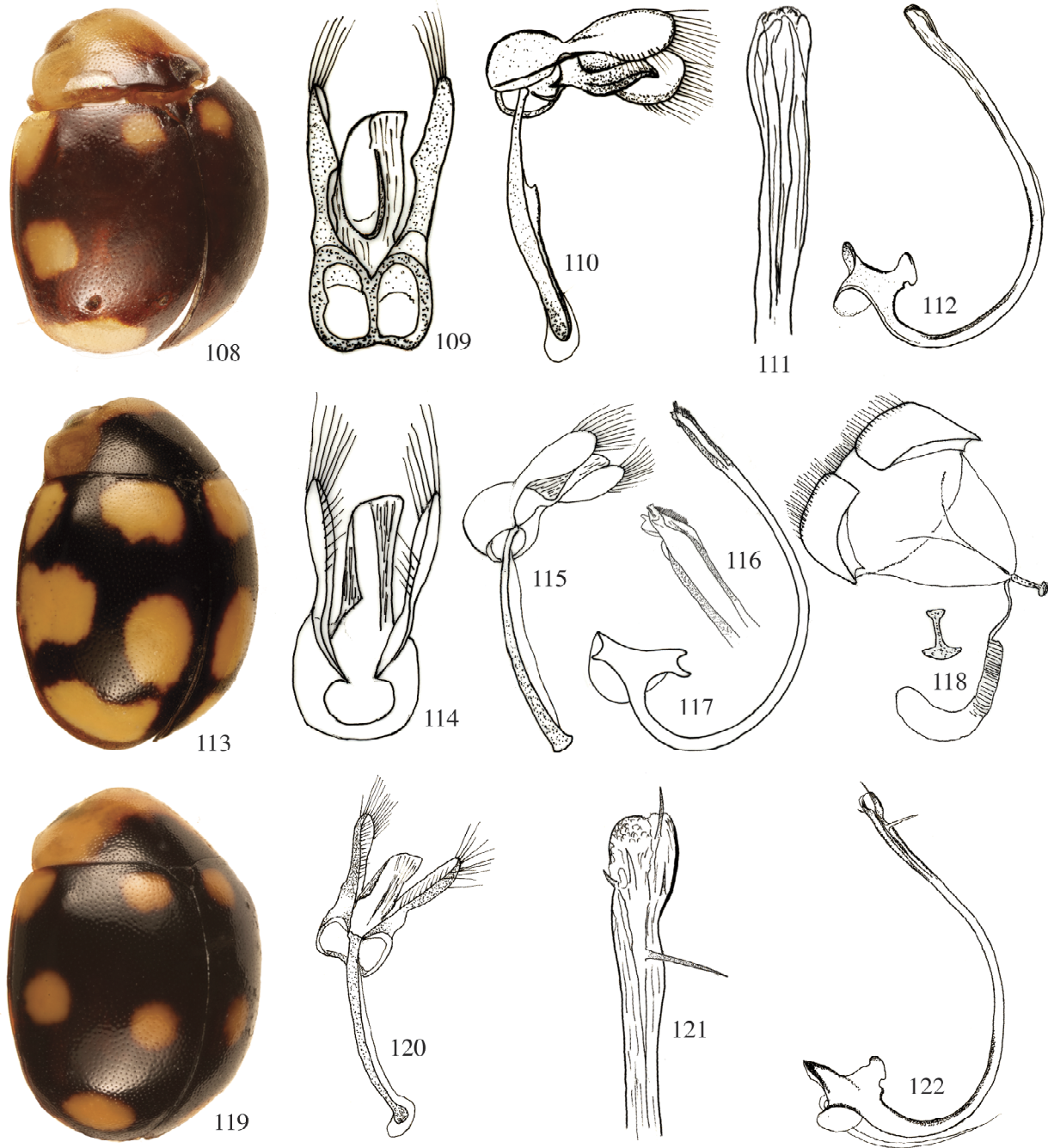
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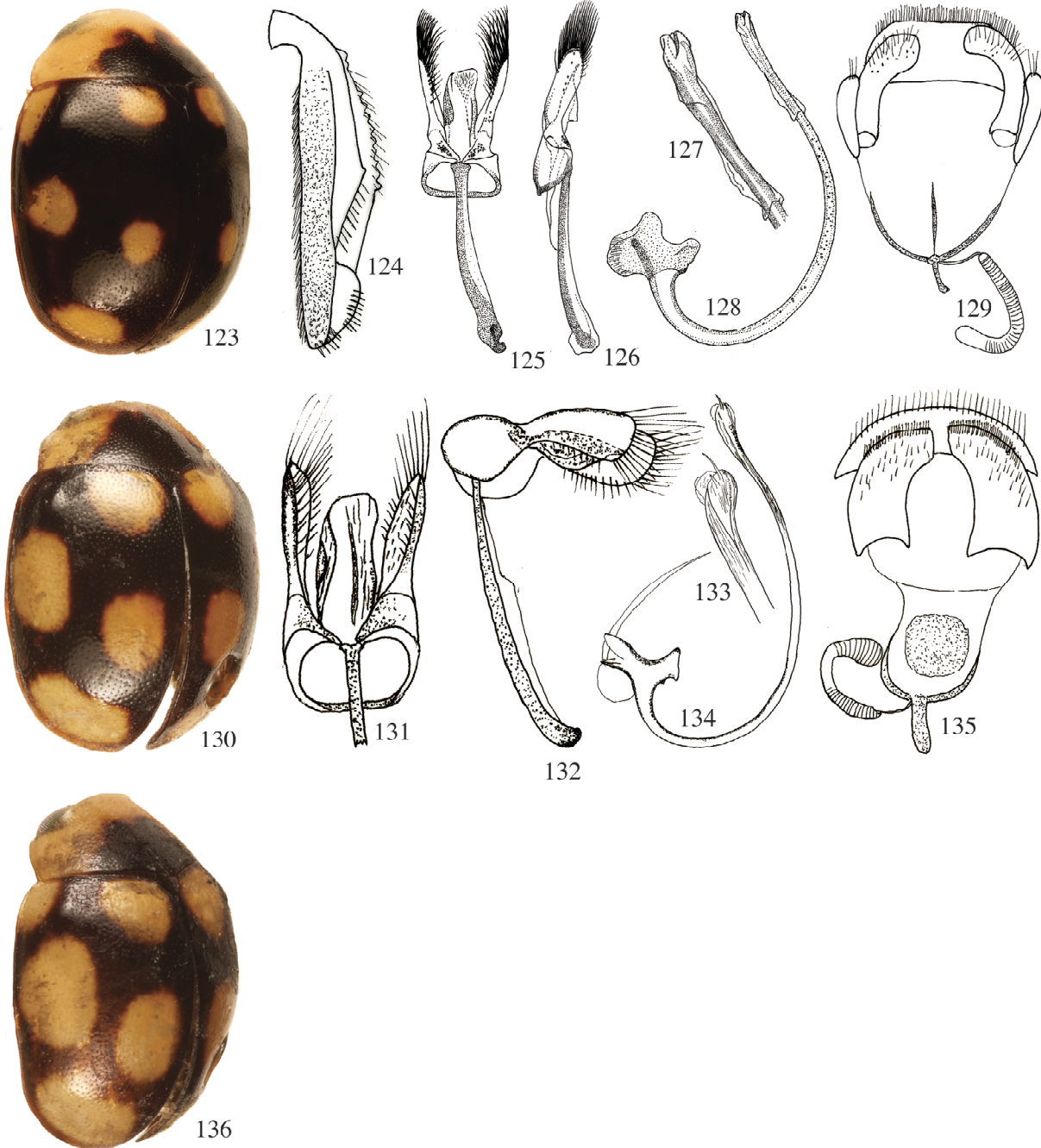
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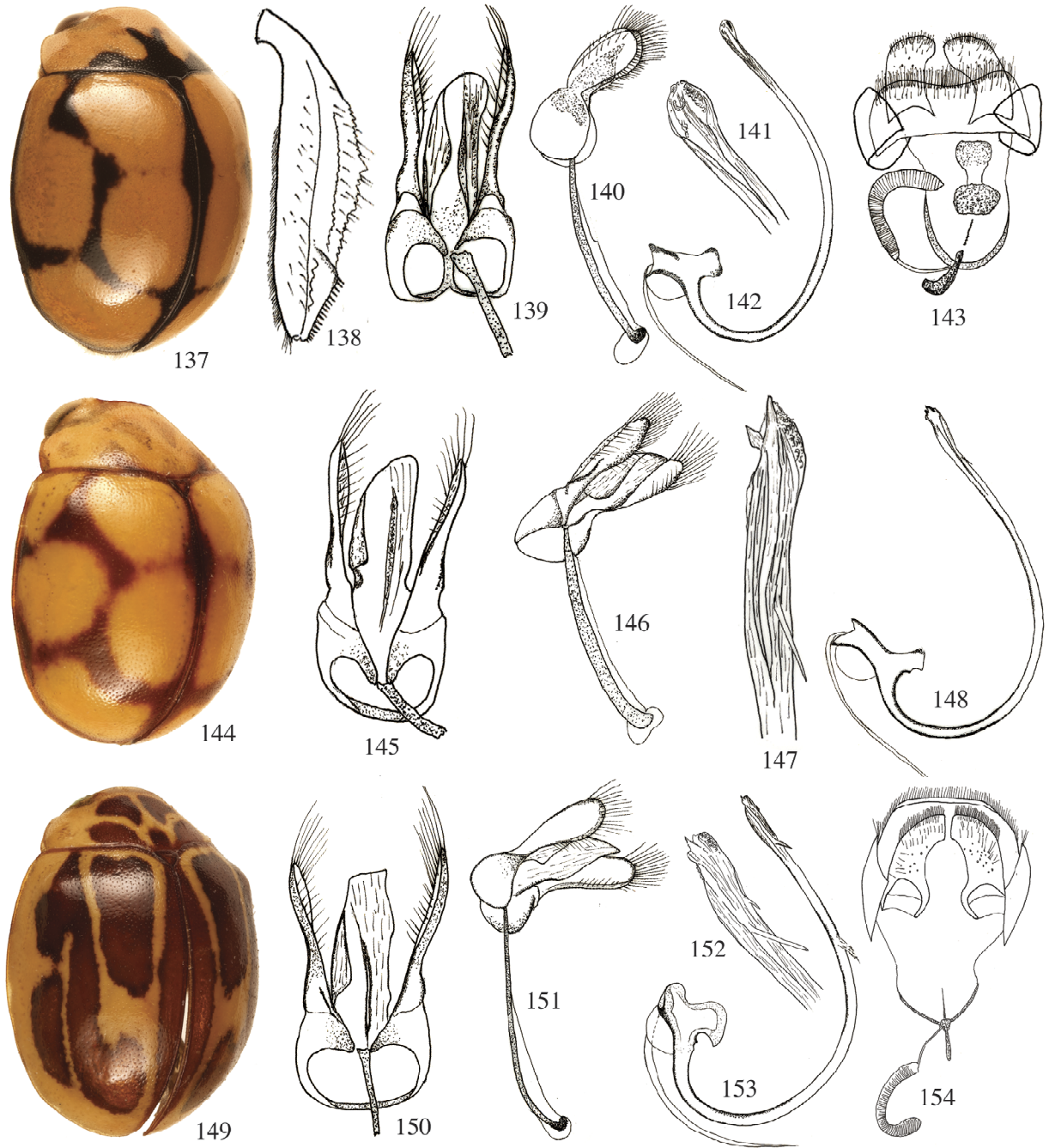
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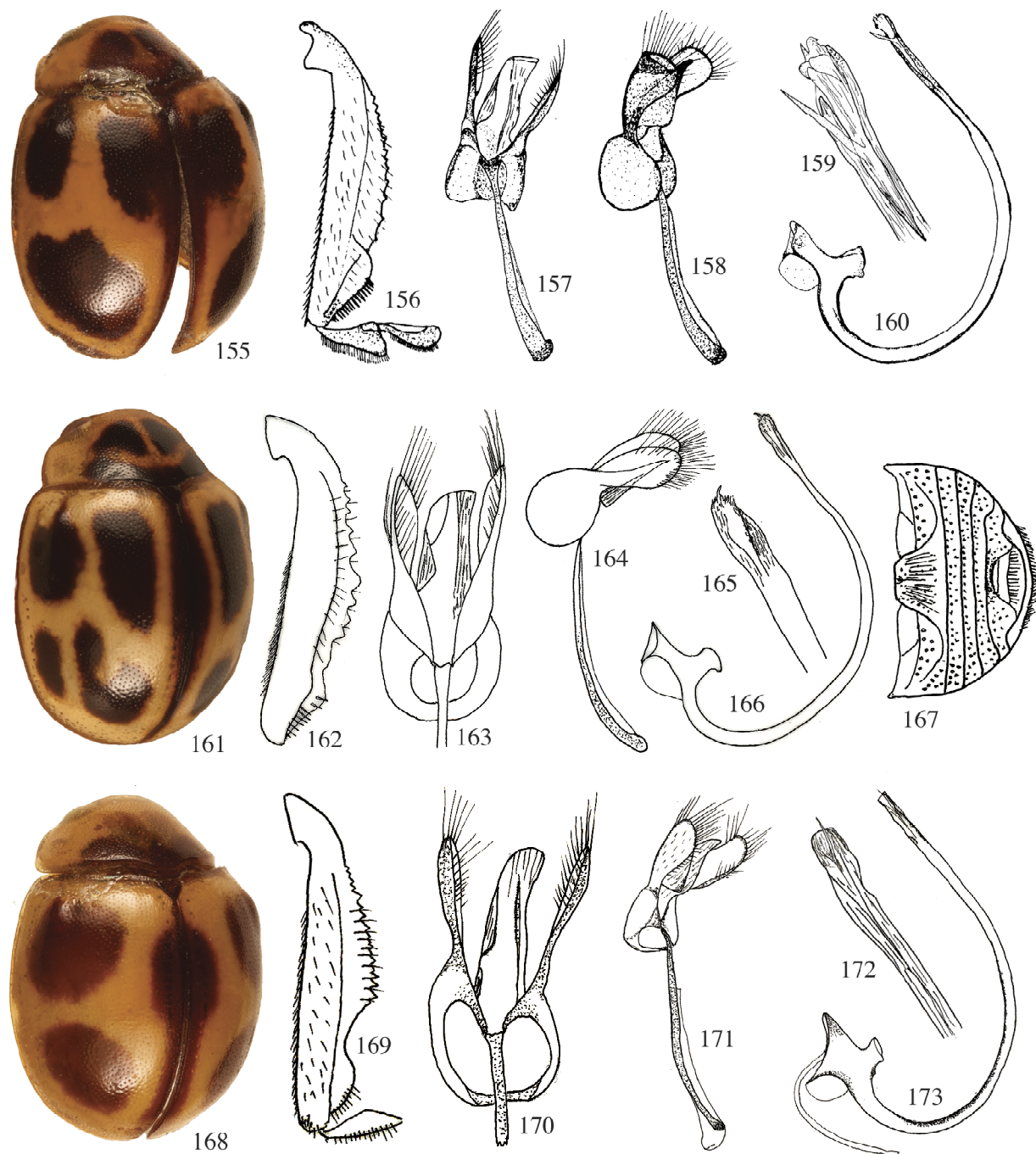
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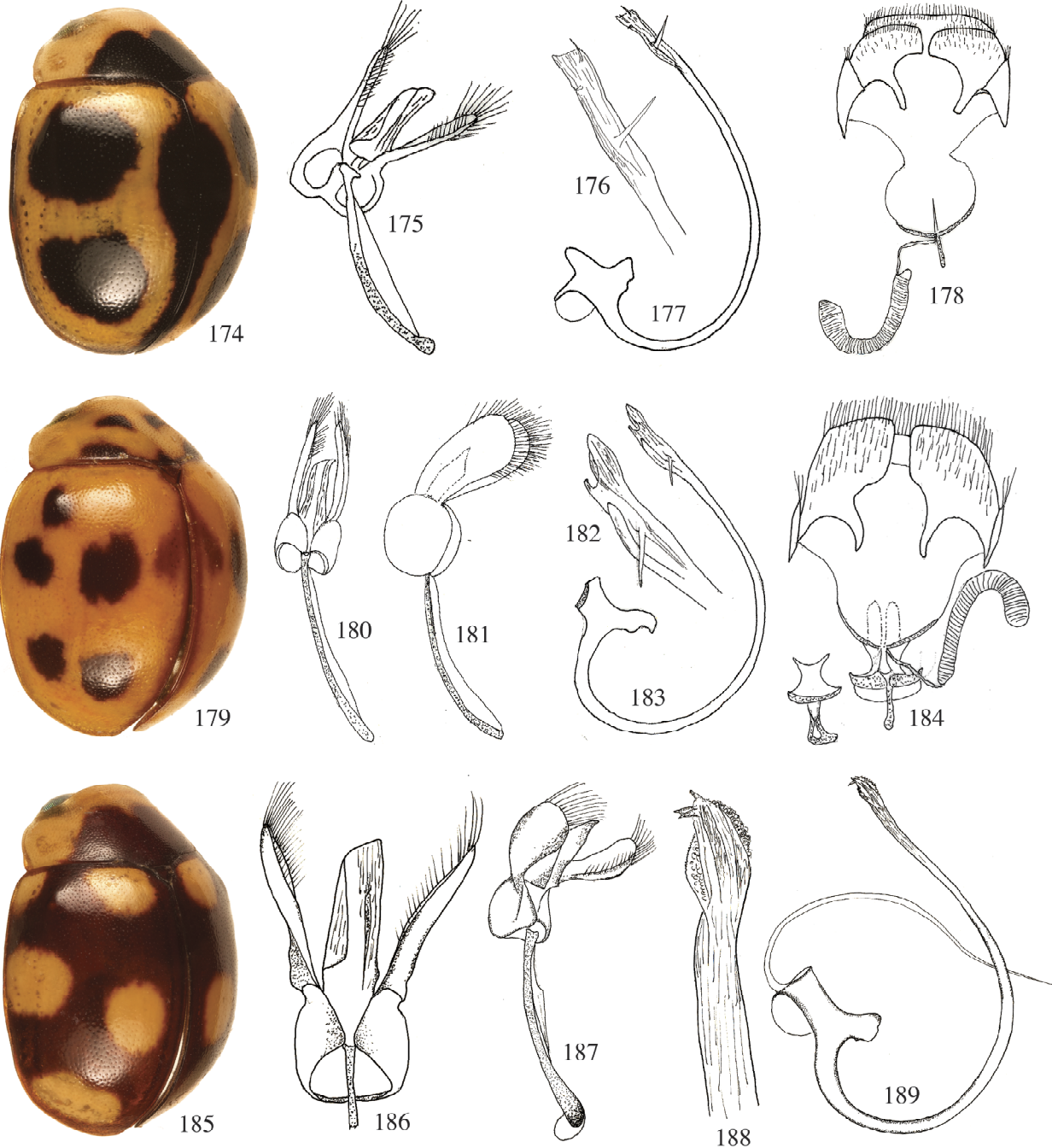
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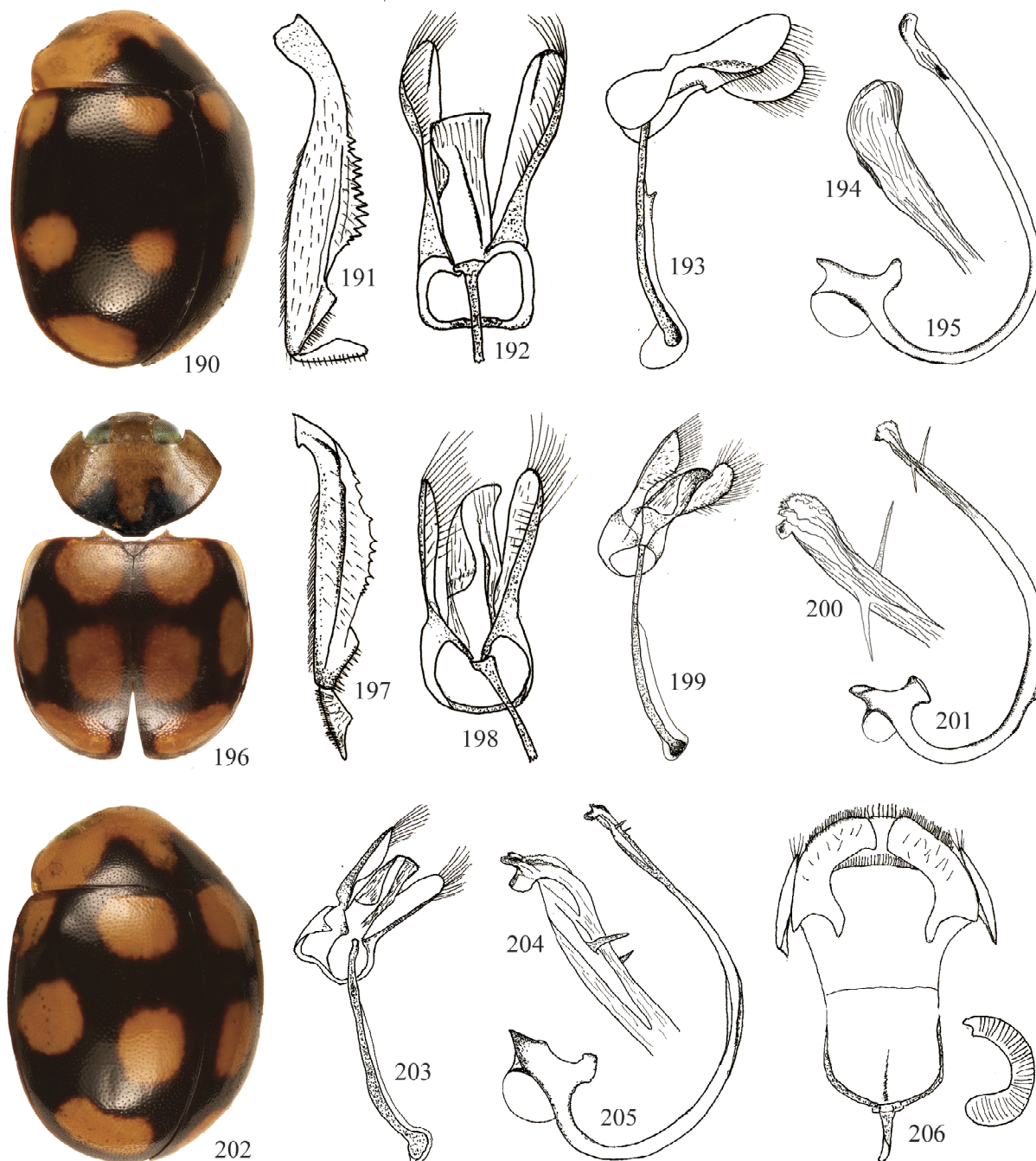
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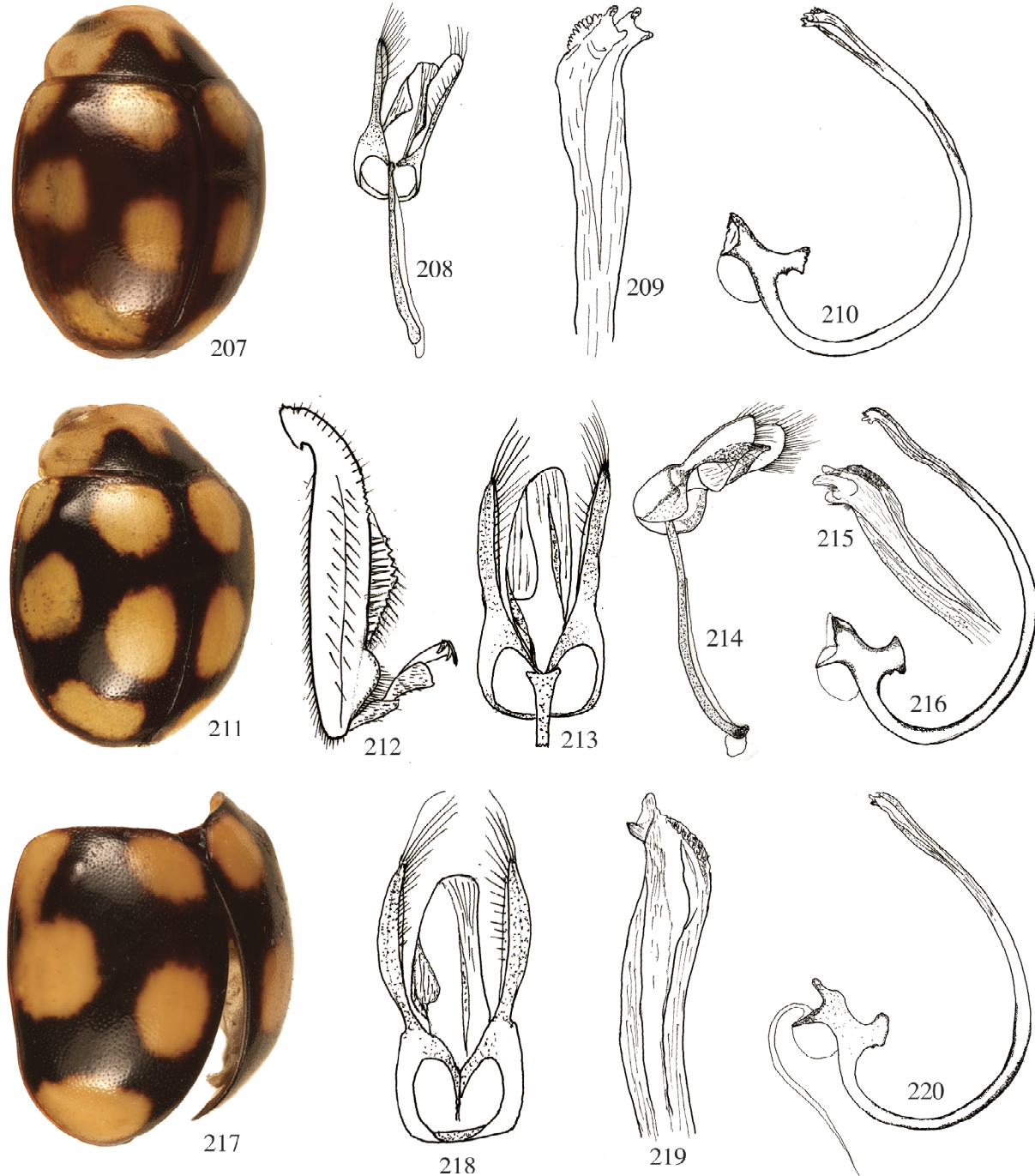
Figures 155–173. 155–160) *Serratitibia gaillardii*. 155) Habitus. 156) Protibia. 157) Phallobase ventral. 158) Phallobase lateral. 159) Enlarged siphonal apex. 160) Siphon. 161–167) *Serratitibia uncinata*. 161) Habitus. 162) Protibia. 163) Phallobase ventral. 164) Phallobase lateral. 165) Enlarged siphonal apex. 166) Siphon. 167) Male abdomen. 168–173) *Serratitibia virginia*. 168) habitus. 169) Protibia. 170) Phallobase ventral. 171) Phallobase lateral. 172) Enlarged siphonal apex. 173) Siphon.



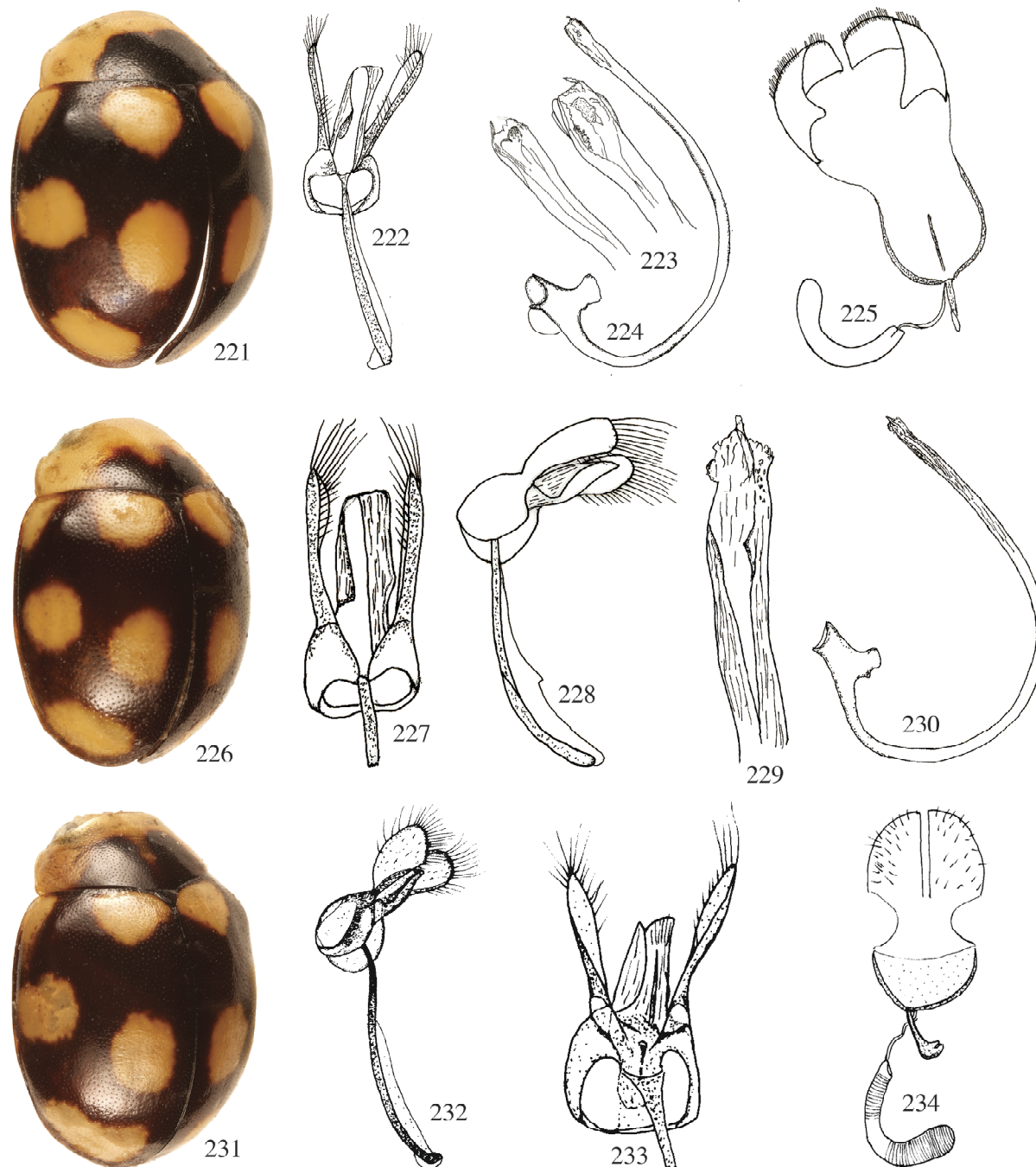
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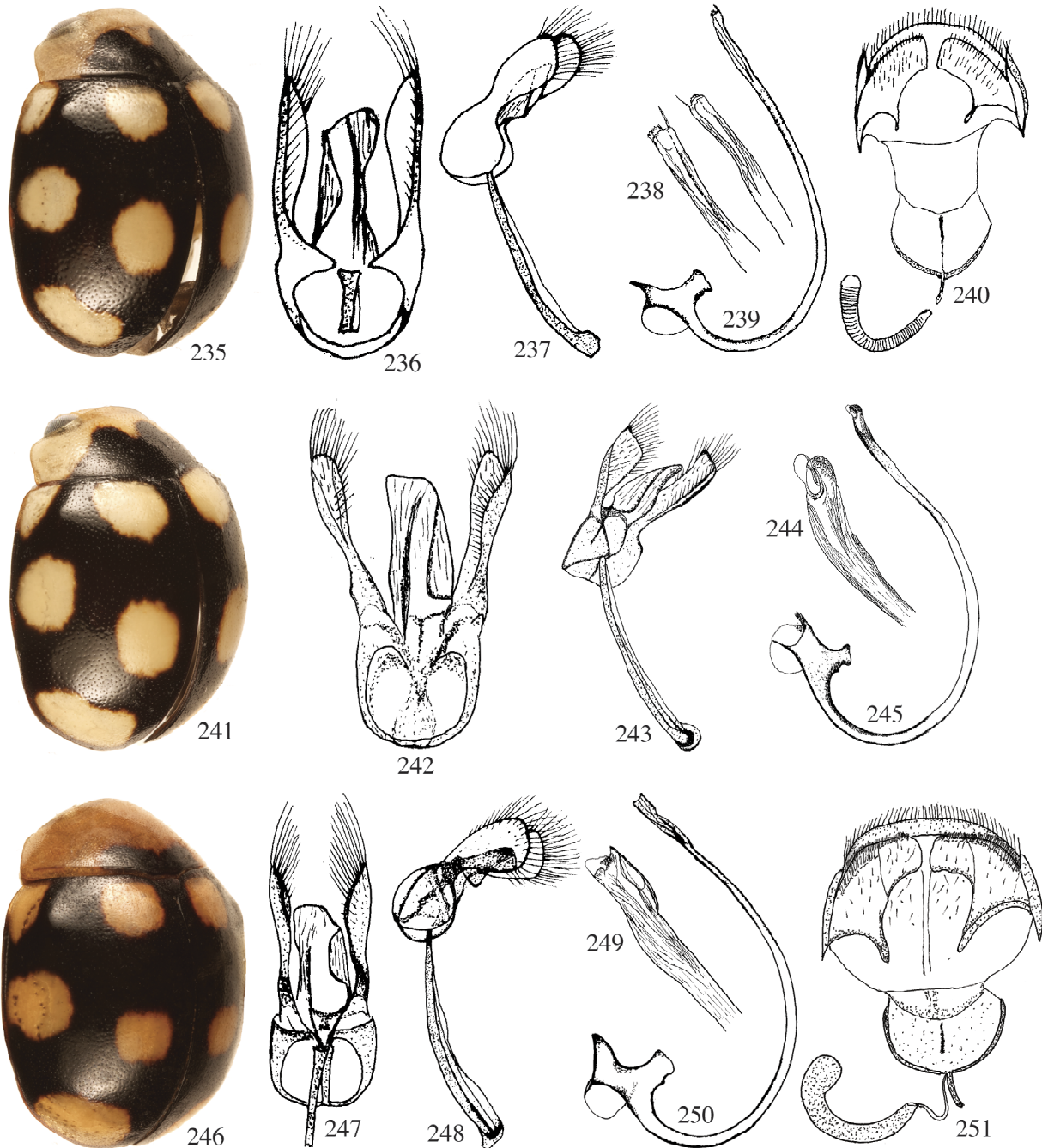
Figures 190–206. 190–195) *Seratitibia janice*. 190) Habitus. 191) Protibia. 192) Phallobase ventral. 193) Phallobase lateral. 194) Enlarged siphonal apex. 195) Siphon. 196–201) *Serratitibia decemsignata*. 196) Habitus. 197) Protibia. 198) Phallobase ventral. 199) Phallobase lateral. 200) Enlarged siphonal apex. 201) Siphon. 202–206) *Serratitibia modesta*. 202) Habitus. 203) Phallobase ventral. 204) Enlarged siphonal apex. 205) Enlarged siphonal apex. 206) Female genitalia.



Figures 207–220. 207–210) *Serratitibia pamela*. 207) Habitus. 208) Phallobase ventral. 209) Enlarged siphonal apex. 210) Siphon. 211–216) *Serratitibia stephanie*. 211) Habitus. 212) Protibia. 213) Phallobase ventral. 214) Phallobase lateral. 215) Enlarged siphonal apex. 216) Siphon. 217–220) *Serratitibia joyce*. 217) Habitus. 218) Phallobase ventral. 219) Enlarged siphonal apex. 220) Siphon.



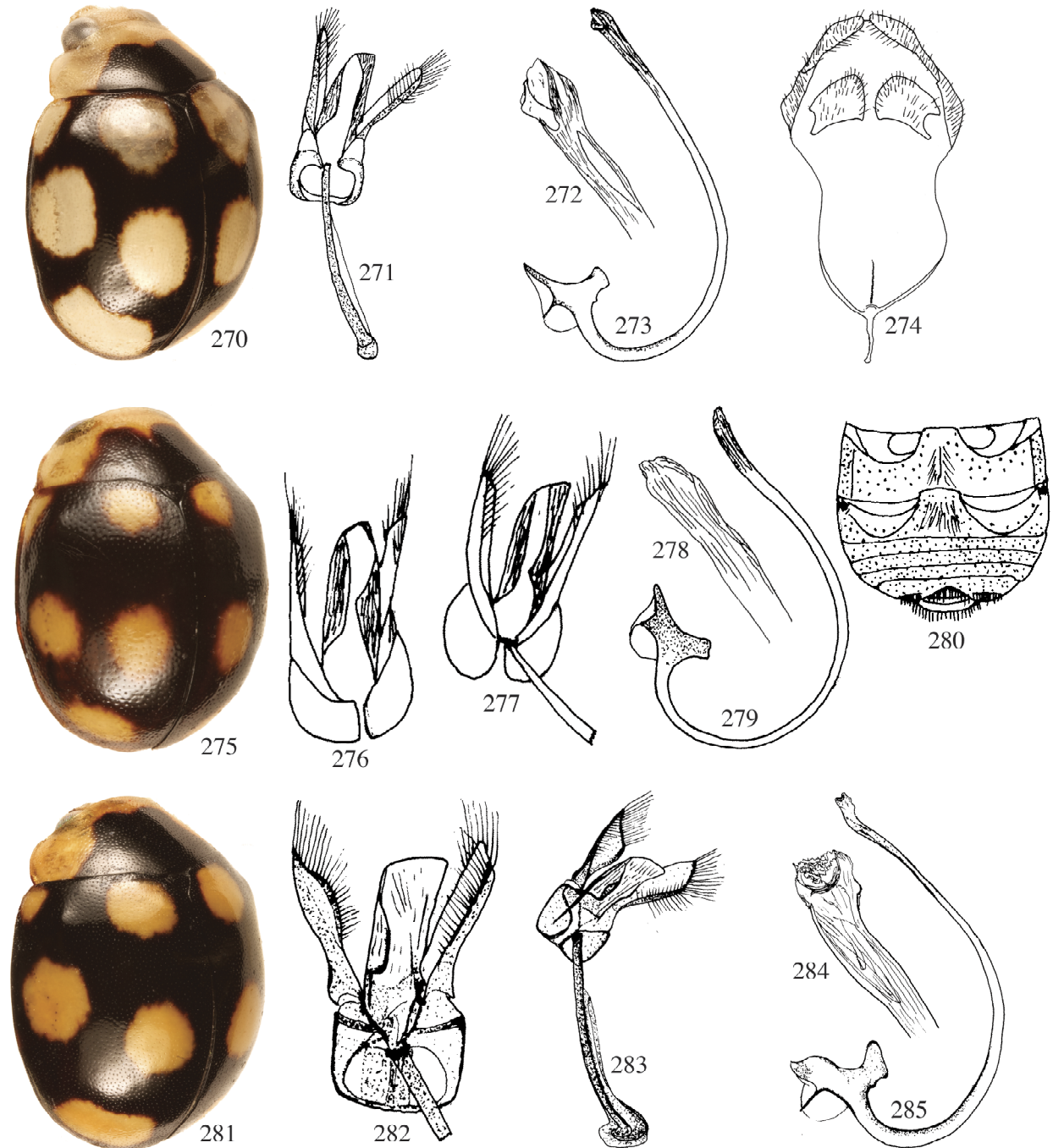
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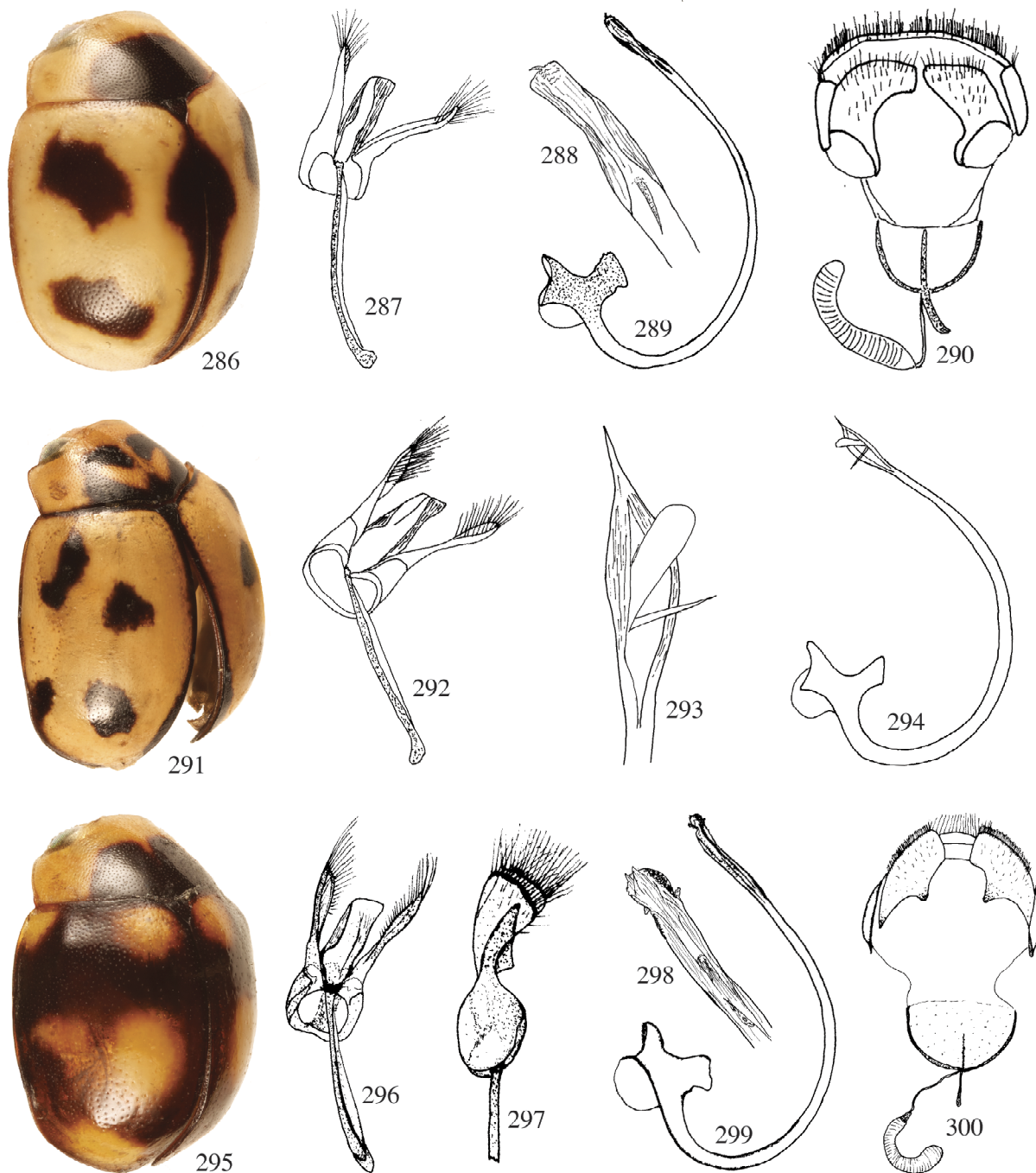
Figures 235–251. 235–240) *Serratitibia christine*. 235) Habitus. 236) Phallobase ventral. 237) Phallobase lateral. 238) Enlarged siphonal apex. 239) Siphon. 240) Female genitalia. 241–245) *Serratitibia janet*. 241) Habitus. 242) Phallobase ventral. 243) Phallobase lateral. 244) Enlarged siphonal apex. 245) Siphon. 246–251) *Serratitibia bonnie*. 246) Habitus. 247) Phallobase ventral. 248) Phallobase lateral. 249) Enlarged siphonal apex. 250) Siphon. 251) Female genitalia.



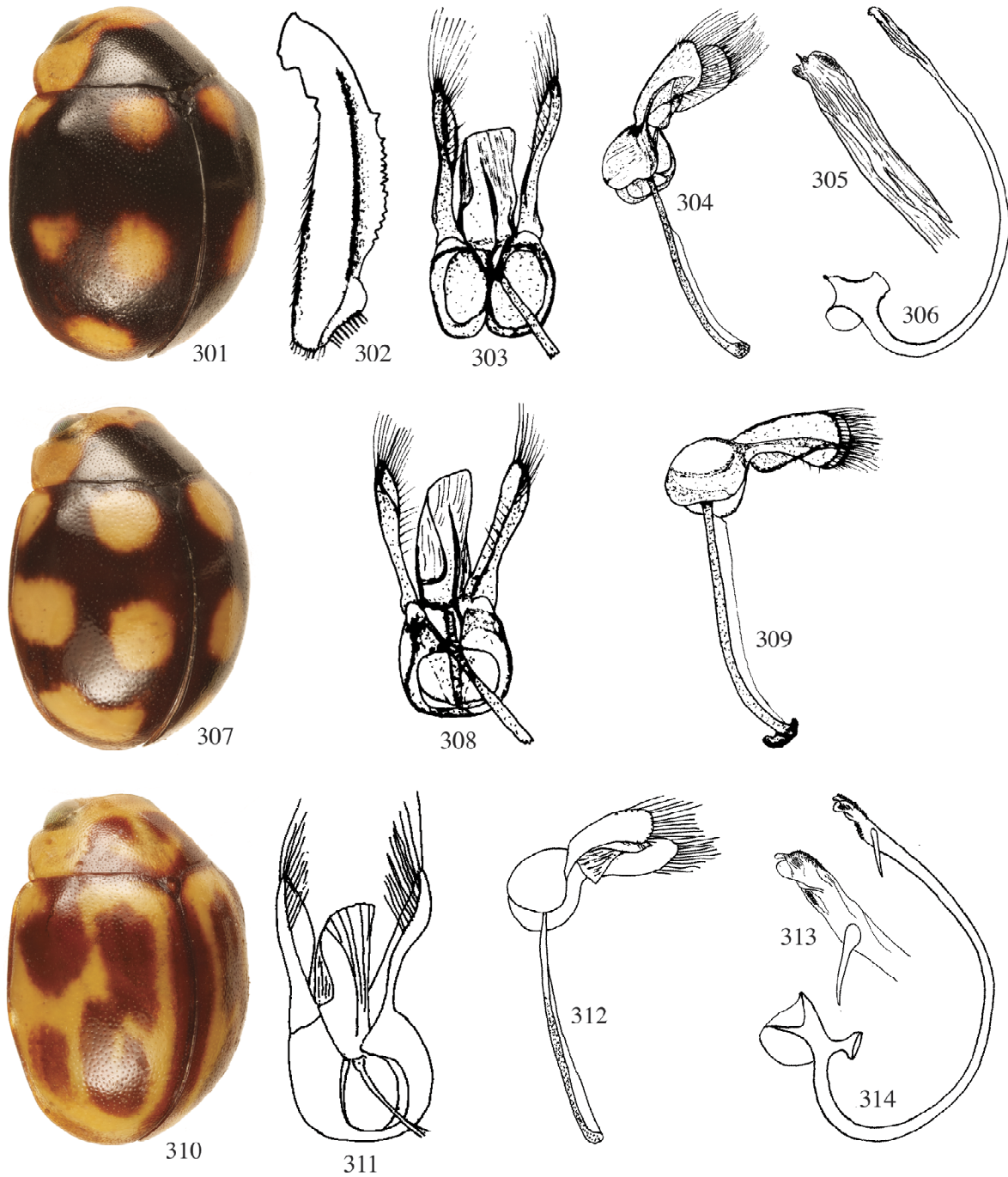
Figures 252–269. 252–258) *Serratitibia julie*. 252) Habitus. 253) Phallobase, ventral. 254) Phallobase, lateral. 255) Enlarged siphonal apex. 256) siphon. 257) Female genitalia. 258) 259–263) *Serratitibia heather*. Habitus. 259) Phallobase ventral. 260) Phallobase lateral. 261) Enlarged siphonal apex. 262) Siphon. 263) Female genitalia. 264–269) *Serratitibia paprzycki*. 264) Habitus. 265) Phallobase ventral. 266) Phallobase lateral. 267) Enlarged siphonal apex. 268) Siphon. 269) Female genitalia.



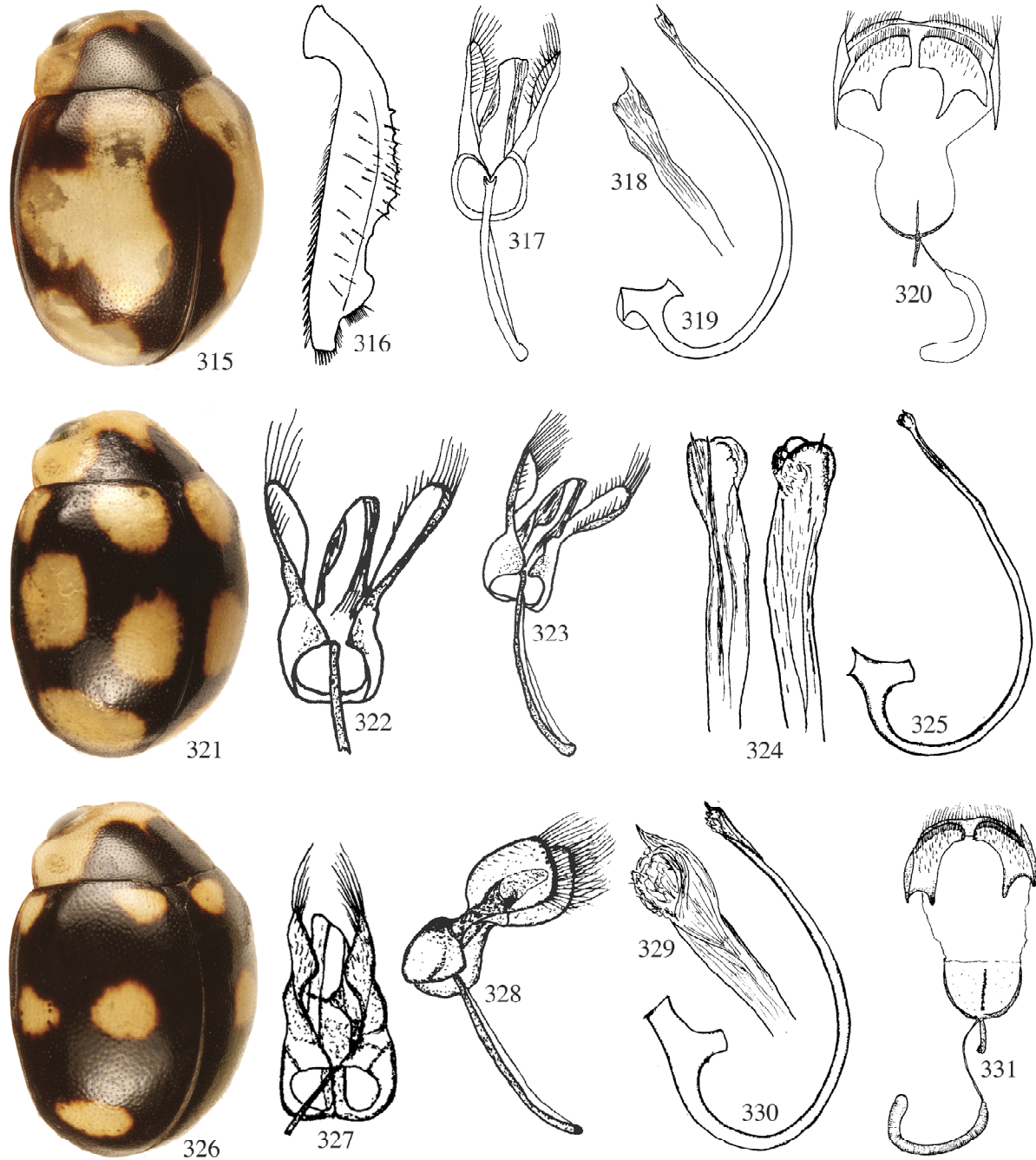
Figures 270–285. 270–274) *Serratitibia abendrothi*. 270) Habitus. 271) Phallobase ventral. 272) Enlarged siphonal apex. 273) Sipho. 274) Female genitalia. 275–280) *Serratitibia quincemil*. 275) Habitus. 276) Phallobase ventral. 277) Phallobase lateral. 278) Enlarged siphonal apex. 279) Sipho. 280) Male abdomen. 281–285) *Serratitibia teresa*. 281) Habitus. 282) Phallobase ventral. 283) Phallobase lateral. 284) Enlarged siphonal apex. 285) Sipho.



Figures 286–300. 286–290) *Serratitibia doris*. 286) Habitus. 287) Phallobase ventral. 288) Enlarged siphonal apex. 289) Siphon. 290) Female genitalia. 291–294) *Serratitibia katherine*. 291) Habitus. 292) Phallobase ventral. 293) Enlarged siphonal apex. 294) Siphon. 295–300) *Serratitibia gloria*. 295) Habitus. 296) Phallobase ventral. 297) Phallobase lateral. 298) Enlarged siphonal apex. 299) Siphon. 300) Female genitalia.



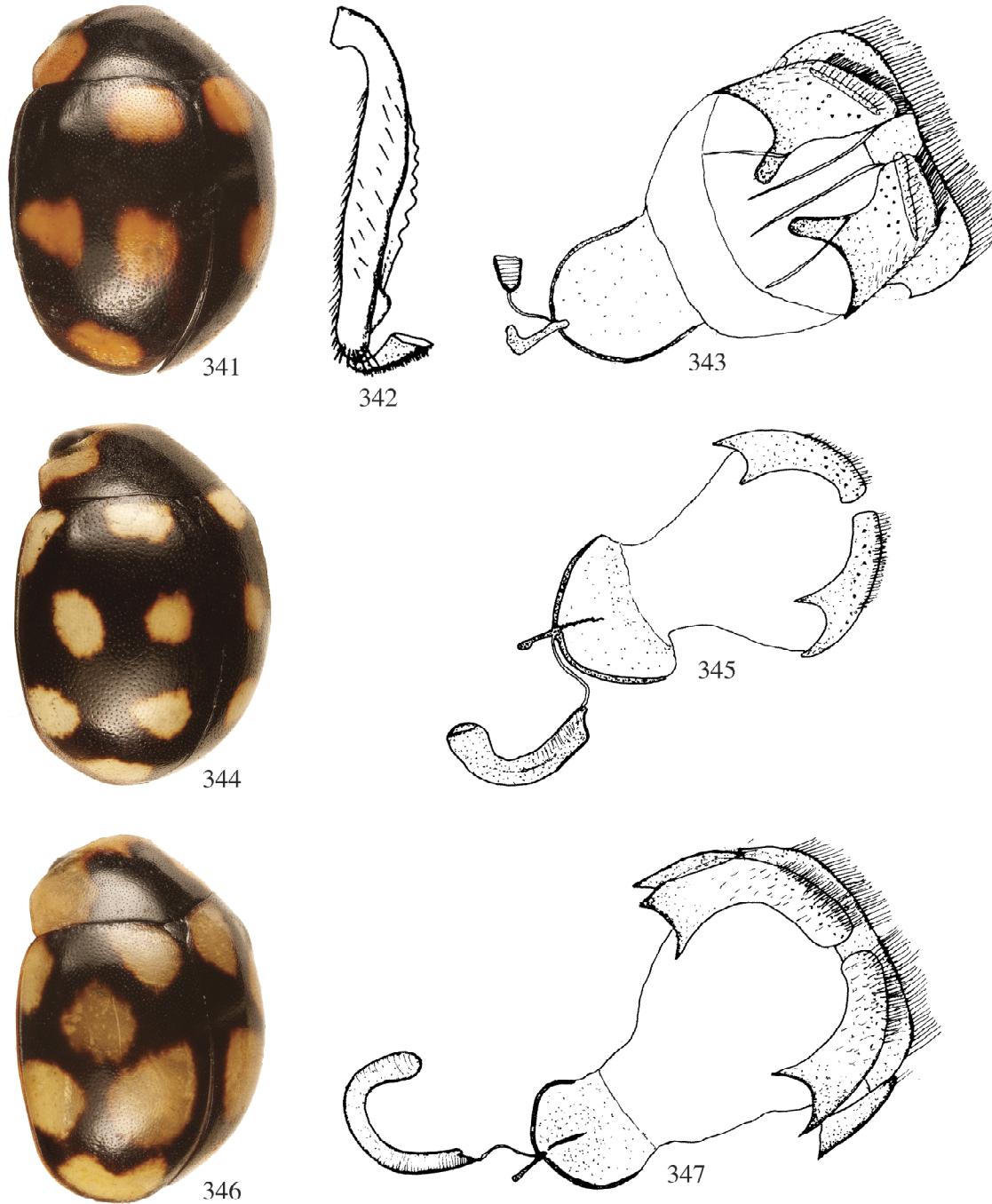
Figures 301–314. 301–306) *Serratitibia linda*. 301) Habitus. 302) Proleg. 303) Phallobase ventral. 304) Phallobase lateral. 305) Enlarged siphonal apex. 306) Siphon. 307–309) *Serratitibia evelyn*. 307) Habitus. 308) Phallobase ventral. 309) Phallobase lateral. 310–314) *Serratitibia mildred*. 310) Habitus. 311) Phallobase ventral. 312) Phallobase lateral. 313) Enlarged siphonal apex. 314) Siphon.



Figures 315–331. 315–320) *Serratitibia joan*. 315) Habitus. 316) Proleg. 317) Phallobase ventral. 318) Enlarged siphonal apex. 319) Siphon. 320) Female genitalia. 321–325) *Serratitibia ashley*. 321) Habitus. 322) Phallobase ventral. 323) Phallobase lateral. 324) Enlarged siphonal apex. 325) Siphon. 326–331) *Serratitibia judith*. 326) Habitus. 327) Phallobase ventral. 328) Phallobase lateral. 329) Enlarged siphonal apex. 330) Siphon. 331) Female genitalia.



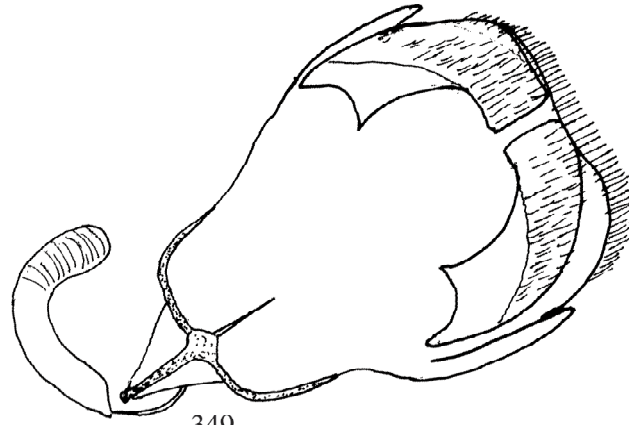
Figures 332–340. 332–335) *Serratitibia terminata*. 332) Habitus. 333) Phallobase ventral. 334) Basal portion of siphon. 335) Female genitalia. 336–337) *Serratitibia tammy*. 336) Habitus. 337) Female genitalia. 338–340) *Serratitibia humerata*. 338) Habitus. 339) Proleg. 340) Female genitalia.



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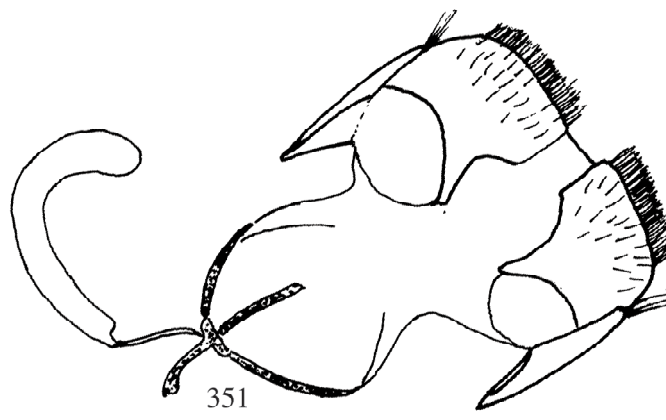
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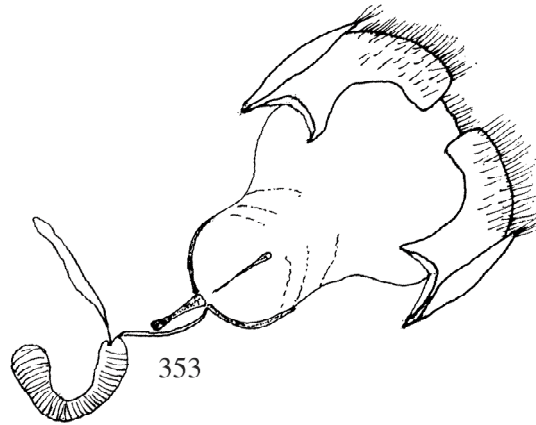
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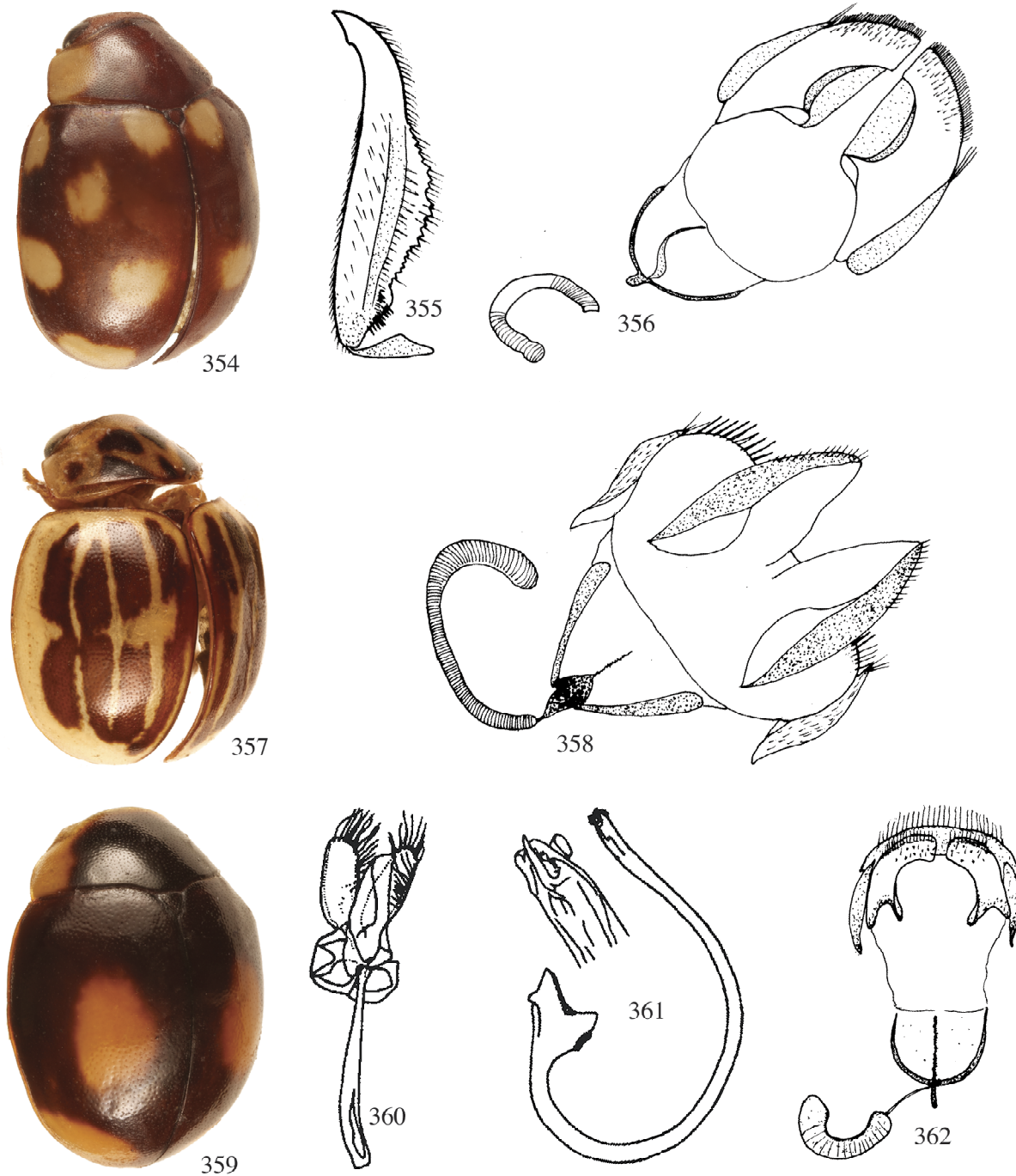


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Figures 348–353. 348–349) *Serratitibia judy*. 348) Habitus. 349) Female genitalia. 350–351) *Serratitibia kelly*. 350) Habitus. 351) Female genitalia. 352–353) *Serratitibia nicole*. 352) Habitus. 353) Female genitalia.



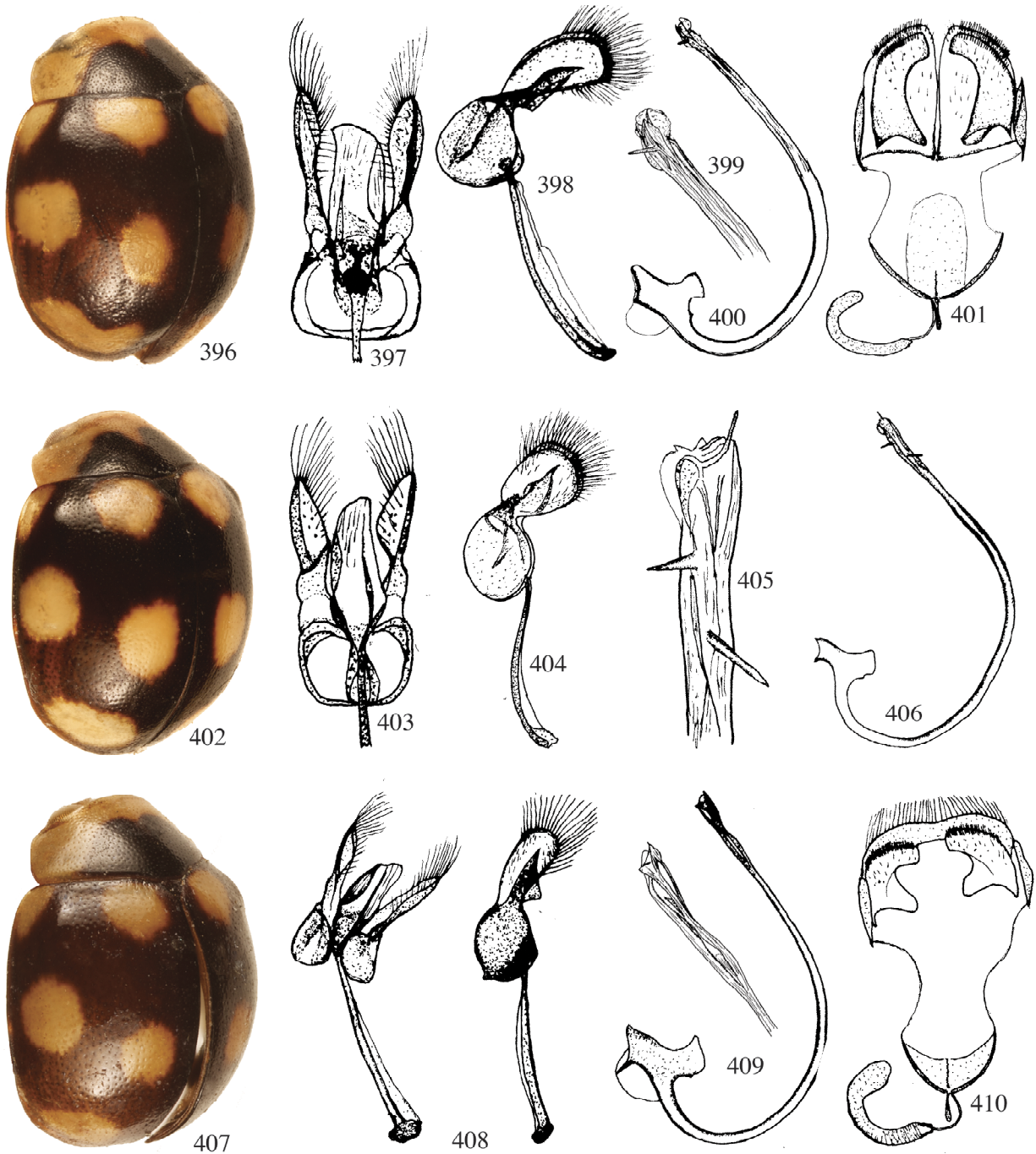
Figures 354–362. 354–356) *Serratitibia ambigua*. 354) Habitus. 355) Proleg. 356) Female genitalia. 357–358) *Serratitibia psylloroides*. 357) Habitus. 358) Female genitalia. 359–362) *Serratitibia joeli*. 359) Habitus. 360) Phallobase, ventral. 361) Enlarged siphonal apex and complete siphon. 362) Female genitalia.



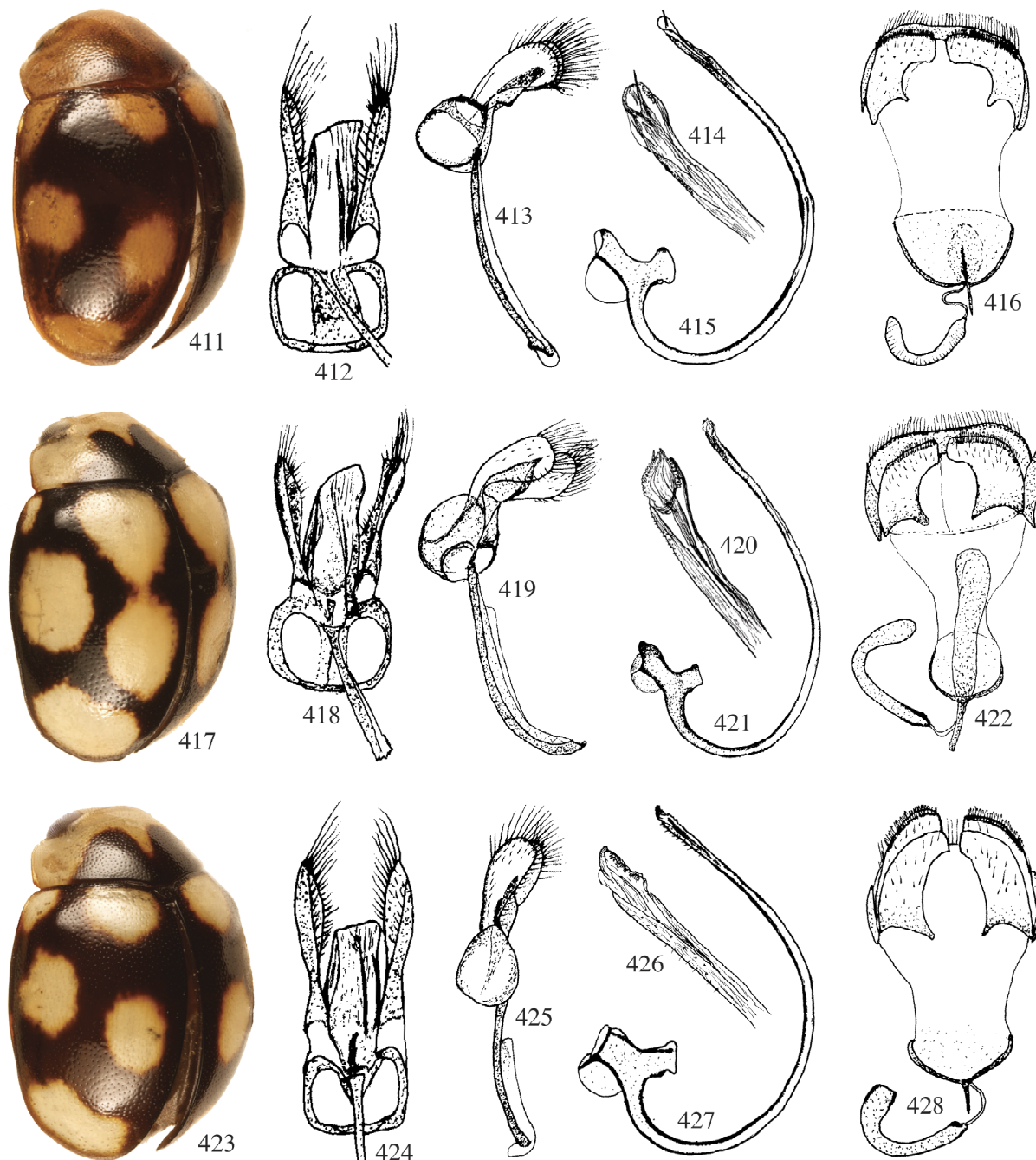
Figures 363–380. 363–368) *Serratitibia mary*. 363) Habitus. 364) Phallobase ventral. 365) Phallobase lateral. 366) Enlarged siphonal apex. 367) Siphon. 368) Female genitalia. 369–374) *Serratitibia patricia*. 369) Habitus. 370) Phallobase ventral. 371) Phallobase lateral. 372) Enlarged siphonal apex. 373) Siphon. 374) Female genitalia. 375–380) *Serratitibia cynthia*. 375) Habitus. 376) Phallobase ventral. 377) Phallobase lateral. 378) Enlarged siphonal apex. 379) Siphon. 380) Female genitalia.



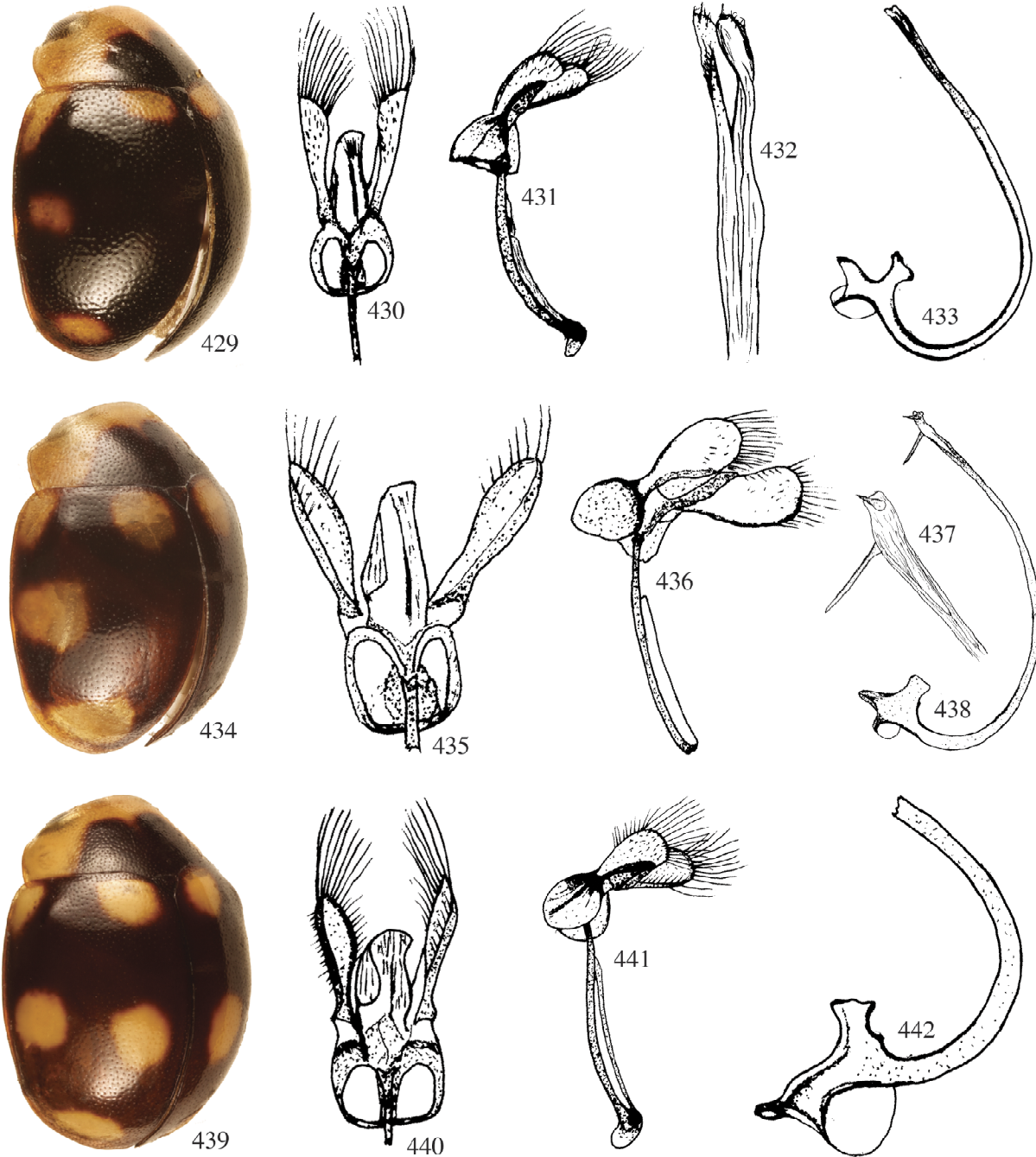
Figures 381–395. 381–384) *Serratitibia elizabeth*. 381) Habitus. 382) Enlarged siphonal apex. 383) Siphon. 384) Female genitalia. 385–390) *Serratitibia jennifer*. 385) Habitus. 386) Phallobase ventral. 387) phallobase lateral. 388) Enlarged siphonal apex. 389) Siphon. 390) Female genitalia. 391–395) *Serratitibia barbara*. 391) Habitus. 392) Phallobase ventral. 393) Phallobase lateral. 394) Enlarged siphonal apex. 395) Siphon.



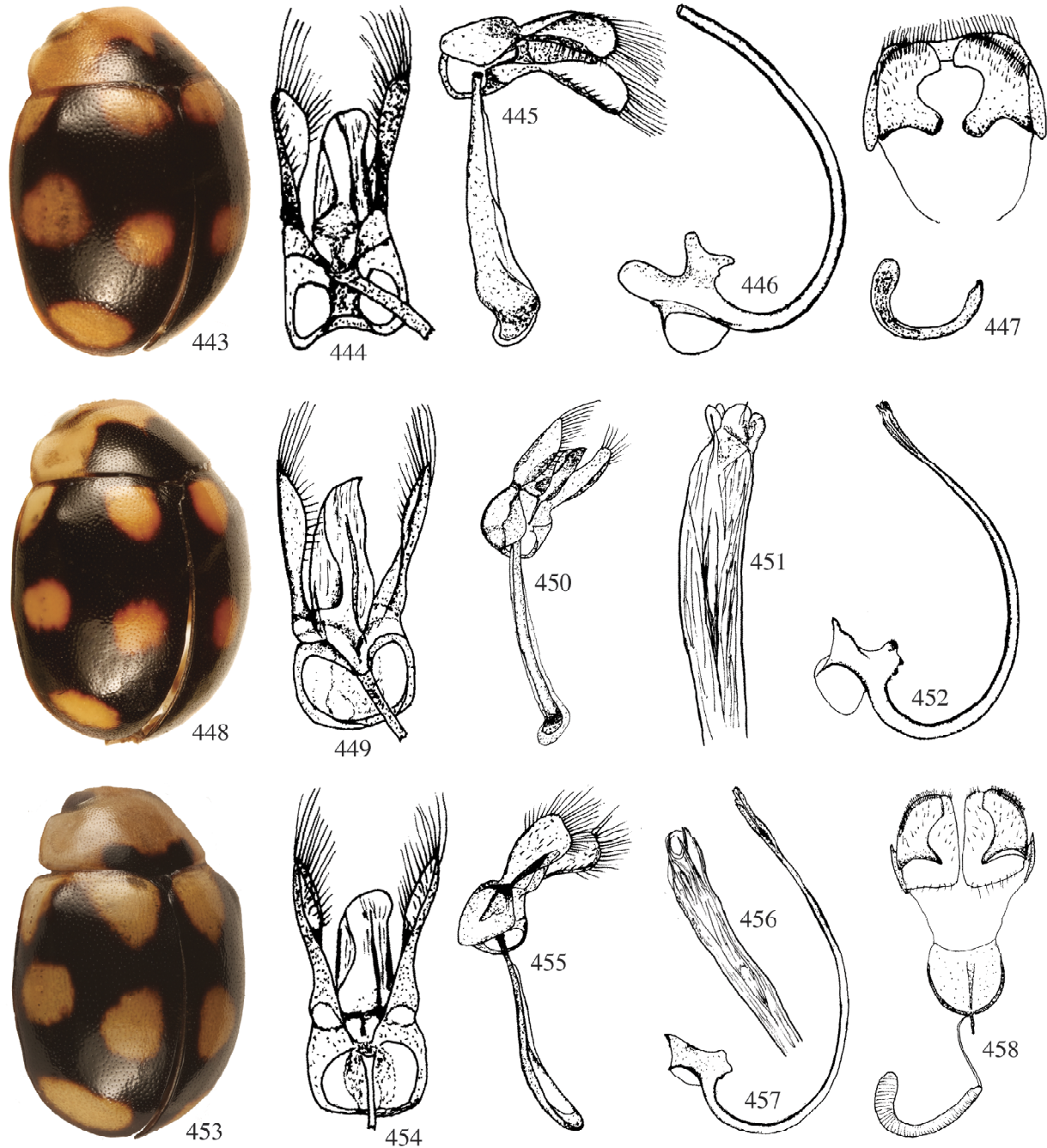
Figures 396–410. 396–401) *Serratitibia ruby*. 396) Habitus. 397) Phallobase ventral. 398) Phallobase lateral. 399) Enlarged siphonal apex. 400) Siphon. 401) Female genitalia. 402–406) *Serratitibia helen*. 402) Habitus. 403) Phallobase ventral. 404) Phallobase lateral. 405) Enlarged siphonal apex. 406) Siphon. 407–410) *Serratitibia susan*. 407) Habitus. 408) Phallobase ventral and lateral. 409) Siphon and enlarged siphonal apex. 410) Female genitalia.



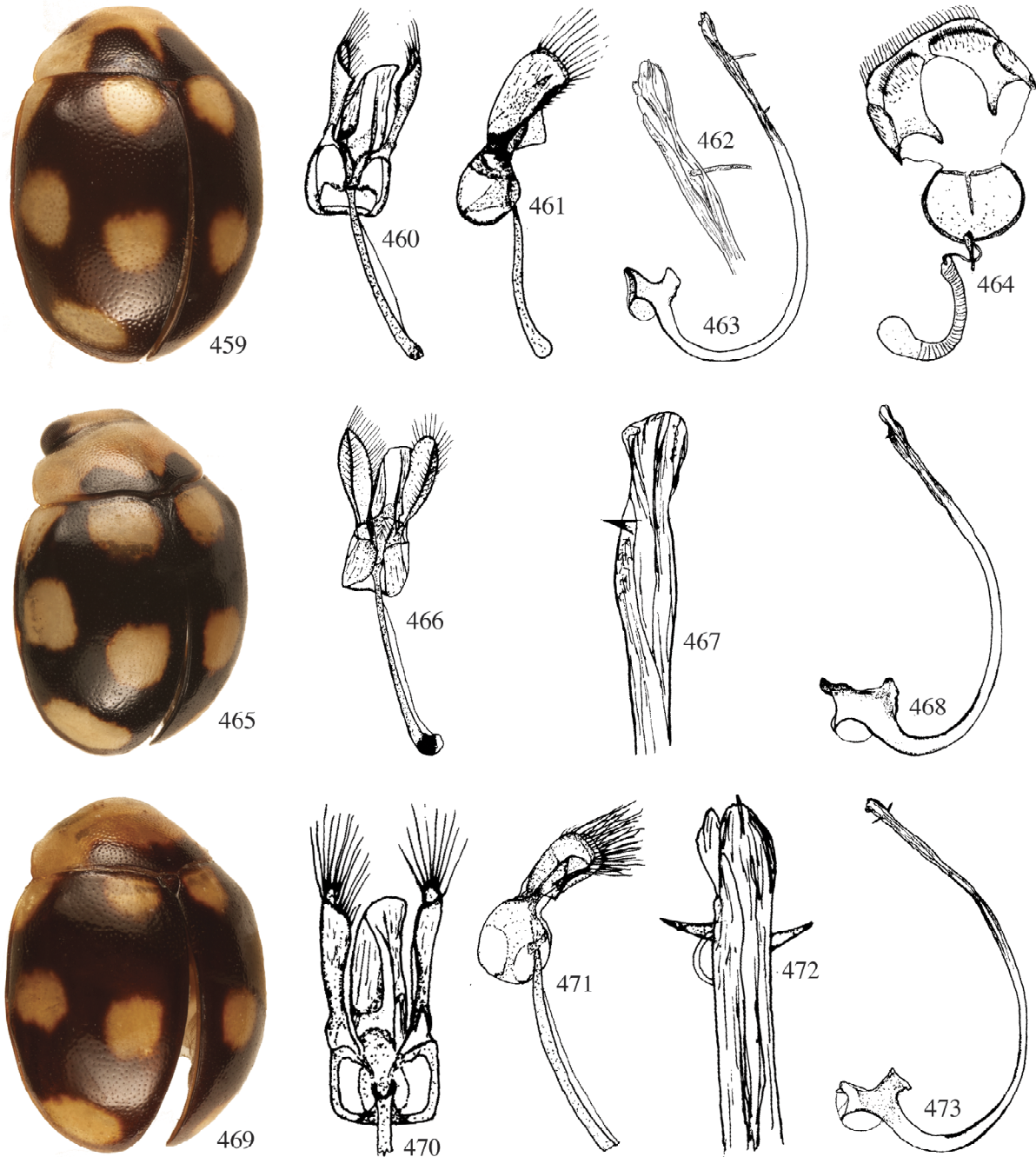
Figures 411–428. 411–416) *Serratitibia margaret*. 411) Habitus. 412) Phallobase ventral. 413) Phallobase lateral. 414) Enlarged siphonal apex. 415) Siphon. 416) Female genitalia. 417–422) *Serratitibia lisa*. 417) Habitus. 418) Phallobase ventral. 419) Phallobase lateral. 420) Enlarged siphonal apex. 421) Siphon. 422) Female genitalia. 423–428) *Serratitibia nancy*. 423) Habitus. 424) Phallobase ventral. 425) Phallobase lateral. 426) Enlarged siphonal apex. 427) Siphon. 428) Female genitalia.



Figures 429–442. 429–433) *Serratitibia loreto*. 429) Habitus. 430) Phallobase ventral. 431) Phallobase lateral. 432) Enlarged siphonal apex. 433) Siphon. 434–438) *Serratitibia karen*. 434) Habitus. 435) Phallobase ventral. 436) Phallobase lateral. 437) Enlarged siphonal apex. 438) Siphon. 439–442) *Serratitibia betty*. 439) Habitus. 440) Phallobase ventral. 441) Phallobase lateral. 442) Siphon (lacking apex).



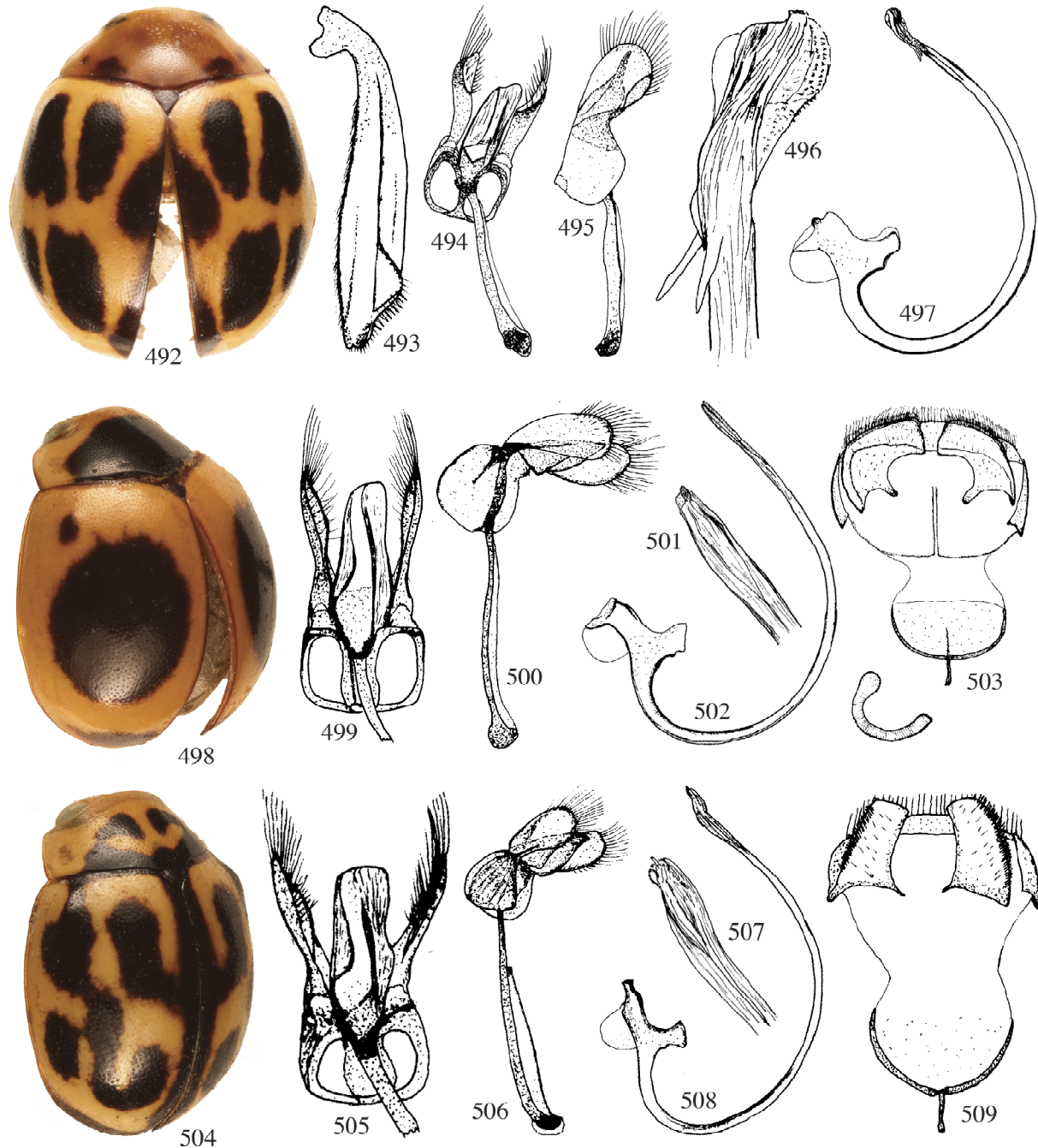
Figures 443–458. 443–447) *Serratitibia beverly*. 443) Habitus. 444) Phallobase ventral. 445) Phallobase lateral. 446) Siphon (lacking apex). 447) Female genitalia. 448–452) *Serratitibia denise*. 448) Habitus. 449) Phallobase ventral. 450) Phallobase lateral. 451) Enlarged siphonal apex. 452) Siphon. 453–458) *Serratitibia barclayi*. 453) Habitus. 454) Phallobase ventral. 455) Phallobase lateral. 456) Enlarged siphonal apex. 457) Siphon. 458) Female genitalia.



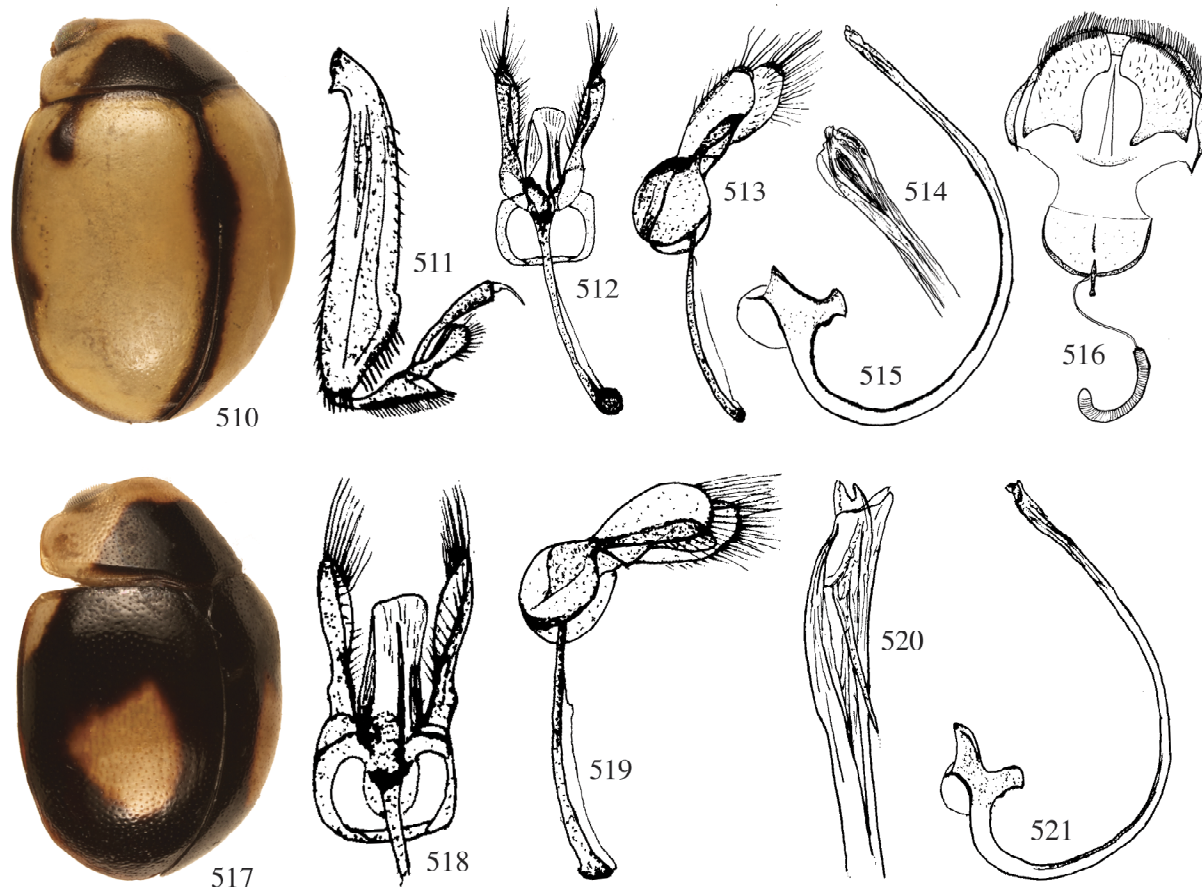
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Figures 474–491. 474–478) *Serratitibia cheryl*. 474) Habitus. 475) Phallobase ventral. 476) Phallobase lateral. 477) Enlarged siphonal apex. 478) Siphon. 479–485) *Serratitibia marilyn*. 479) Habitus. 480) Protibia. 481) Phallobase ventral. 482) Phallobase lateral. 483) Enlarged siphonal apex. 484) Siphon. 485) Female genitalia. 486–491) *Serratitibia rachel*. 486) Habitus. 487) Proleg. 488) Phallobase ventral. 489) Enlarged siphonal apex. 490) Siphon. 491) Female genitalia.



Figures 492–509. 492–497) *Serratitibia aliciae*. 492) Habitus. 493) Proleg. 494) Phallobase ventral. 495) Phallobase lateral. 496) Enlarged siphonal apex. 497) Siphon. 498–503) *Serratitibia andrea*. 498) Habitus. 499) Phallobase ventral. 500) Phallobase lateral. 501) Enlarged siphonal apex. 502) Siphon. 503) Female genitalia. 504–509) *Serratitibia louise*. 504) Habitus. 505) Phallobase ventral. 506) Phallobase lateral. 507) Enlarged siphonal apex. 508) Siphon. 509) Female genitalia.



Figures 510–521. 510–516) *Serratitibia jacqueline*. 510) Habitus. 511) Protibia. 512) Phallobase, ventral. 513) Phallobase, lateral. 514) Enlarged siphonal apex. 515) Siphon. 516) Female genitalia. 517–521) *Serratitibia lori*. 517) Habitus. 518) Phallobase, ventral. 519) Phallobase, lateral. 520) Enlarged siphonal apex. 521) Siphon.