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Additions to the *Hyperaspis* Chevrolat (Coleoptera: Coccinellidae) fauna of South American, descriptions of nine new species, and recognition of *Hyperaspis pectoralis* Crotch as a valid species

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

F. Guillermo González
Nocedal 6455 La Reina
Santiago, CHILE

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Additions to the *Hyperaspis* Chevrolat (Coleoptera: Coccinellidae) fauna of South American, descriptions of nine new species, and recognition of *Hyperaspis pectoralis* Crotch as a valid species

Robert D. Gordon
Northern Plains Entomology
P. O. Box 65
Willow City, ND 58384, USA
rdgordon@utma.com

F. Guillermo González
Nocedal 6455 La Reina
Santiago, CHILE
willogonzalez@yahoo.com
www.coccinellidae.cl

Abstract. Nine **new species** of *Hyperaspis* from various South American localities are described, illustrated, and compared with previously described taxa. New taxa are: *Hyperaspis luciae, H. corcovado, H. divaricata, H. humboldti*, *H. mimica*, *H. praecipua, H. unimaculosa, H. drechseli*, and *H. esmeraldas*. *Hyperaspis pectoralis* Crotch is recognized as a valid species of *Hyperaspis* and integrated into the existing classification.

Key words. *Hyperaspis*, new species, South America

Introduction.

Gordon and Canepari (2008) revised the South American species of Hyperaspidini. Subsequently González and Gordon (2009) described three additional species from Argentina and Chile. In the course of revising the similar appearing members of Brachiacanthini, specimens of that tribe were borrowed from many institutions. Mixed among these were examples of nine new species of *Hyperaspis* Chevrolat not available for the 2008 revision. These new taxa are described, illustrated, and compared to previously named species in Gordon and Canepari. In addition, *Hyperaspis pectoralis* Crotch is recognized as a valid species of *Hyperaspis* and integrated into the existing classification.

Materials.

Genitalia terminology and conventions used by Gordon and Canepari (2008) are followed here. Codens for the following institutions are used:

BMNH	Natural History Museum, London, England
DZUP	Universidade Federal do Paraná, Curitiba, Brazil (Coleção de Entomologia Pe. J.S. Moure)
MZSP	Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil
ULMP	Klaus Raven Büller Museum, Universidad La Molina, Lima, Peru
USMP	Universidad Mayor de San Marcos, Lima, Peru
USNM	U. S. National Museum of Natural History, Smithsonian Institution, Washington, DC, USA
UMZC	Cambridge University, Museum, Cambridge, England
ZMHB	Zoologisches Museum, Humboldt Universität, Berlin, Germany

***Hyperaspis corcovado*, new species**
(Figure 1-10)

Description. Male holotype. Length 3.0 mm, width 2.4 mm. Body weakly elongate, convex. Dorsal surface with head alutaceous, feebly shiny, pronotum weakly alutaceous, slightly shiny, elytron smooth,

shiny. Color reddish yellow except head yellow; pronotum with narrow, basal black macula apically emarginate; elytron with sutural border narrowly black, black area slightly widened medially, median, curved vitta present from base across humeral callus to sutural margin at apical 1/6 (Fig. 1-4); base of head, prosternum, meso- and metaventrites black; abdomen dark brown medially, dark reddish brown laterally. Head punctures small, separated by a diameter or less; pronotal punctures larger than on head, separated by a diameter or less; elytral punctures slightly larger than on pronotum, separated by a diameter or less; punctures on metaventrite very large, separated by a diameter or less medially, becoming larger and nearly contiguous in lateral 1/4; punctures on basal abdominal ventrite large medially, separated by a diameter or less, becoming smaller, more scattered in lateral 1/3, punctures on sternites 2-6 fine, sparse, separated by a diameter or less. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, grooved medially, descending externally, femoral depressions deep. Antenna with 10 articles (Fig. 10). Protibia narrow, slightly flanged. Prosternum with intercoxal carinae widely separated at apex, convergent toward base, joined at basal 2/3, connected to base by single stem. Postcoxal line on basal abdominal ventrite straight in basal 1/3, flattened along posterior margin of ventrite, rounded 5/6 distance to lateral margin (Fig. 5). Fifth ventrite broadly, deeply emarginate apically; 6th ventrite with broad, shallow apical emargination. Genitalia with basal lobe 2/3 length of paramere, narrow basally, strongly widened to truncate apex, one lateral margin sinuate with small, median projection; paramere elongate, slender, slightly tapered from base to apex; trabes long, apically curved laterally (Fig. 8, 9); sipho long, curved in basal 3/4, basal capsule long, enlarged, inner arm long, narrow basally, widened apically, outer arm short, nearly absent, rectangular, abruptly bent, basal border widely emarginate (Fig. 6, 7).

Female. Not known.

Type material. Holotype male: Brasil, Corcovado, Guanabara, VIII.1966, Alvarenga & Seabra, Coleção M. Alvarenga. (DZUP).

Remarks. This species has the same basic dorsal color pattern as *H. zonula* Gordon and Canepari. However, the 10 articled antenna places it in the donzeli group, where it is immediately distinguished by the unique elytral color pattern. It resembles *H. zonula* to which it will go in the key to species, couplet 41 in Gordon and Canepari (2009) (if antenna is not examined), except that the ground color is darker, black areas more crisply defined, and male genitalia completely unlike those of *H. zonula.* In both species the curved elytral vitta is joined with the basal pronotal macula to form a circle, a pattern thus far unknown in any other South American *Hyperaspis*.

Etymology. The species name refers to the type locality, and is used as a noun in apposition.

***Hyperaspis divaricata*, new species**
(Figure 11-19)

Description. Male holotype. Length 3.3 mm, width 2.9 mm. Body rounded, convex. Dorsal surface with head strongly alutaceous, dull, pronotum weakly alutaceous, slightly shiny, elytron smooth, shiny. Color black except head yellow; anterior 1/5, lateral 1/4 of pronotum, propleuron yellow; elytron entirely black except for 5 pale spots, small scutellar spot and 3 small spots around lateral margin yellow, large, median spot on apical declivity orange (Fig. 11-14); anterior 1/3 of epipleuron yellow; mouthparts, legs reddish yellow; abdomen yellowish brown except lateral 1/6 yellow. Head punctures small, separated by 3-5 times a diameter; pronotal punctures small, larger than on head, separated by less than to 3 times a diameter; elytral punctures as large as on pronotum, separated by less than to 4 times a diameter; punctures on metaventrite as large as on elytra, widely separated, sparse medially, becoming large and nearly contiguous in lateral 1/4; punctures on basal abdominal ventrite small medially, separated by 1 to 2 times a diameter, becoming fine, more scattered in lateral 1/3, punctures on sternites 2-6 fine, sparse, separated by 1 to 6 times a diameter. Clypeal apex broadly, deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, grooved medially, strongly descending externally, femoral depressions deep. An-

tenna with 11 articles. Protibia wide, distinctly flanged. Prosternum with intercoxal carinae narrowly separated at apex, weakly convergent toward base, joined before base and connected to base by single stem. Postcoxal line on basal abdominal ventrite broadly arcuate, reaching posterior ventrite margin, rounded 7/8 distance to lateral margin (Fig. 15). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite with shallow, narrow, apical emargination. Genitalia with basal lobe short, 1/2 length of paramere, apex obliquely truncate apically, one anterior angle rounded, with strong lateral projection in basal 1/2; paramere short, basally wide, tapered to rounded apex (Fig. 18, 19); sipho long, robust, with apical membranous area, basal capsule with inner arm long, straight, wide, outer arm long, abruptly bent, basal border distinctly emarginate (Fig. 16, 17).

Female. Not known.

Type material. Holotype male: Rio Cauaburi, AM (Amazonas), Brasil, 9.XII.1962, J. Bechyné col. (DZUP).

Remarks. This is a remarkably distinctive species that goes to couplet 39 in the species key of Gordon and Canepari (2008), but has nothing in common with the two species in that couplet. Characters that set *H. divaricata* apart from all presently known *Hyperaspis* species are: large size and round, convex form; elytral color pattern with 5 spots, median spot on apical declivity orange; distinctly flanged protibia; and form of male genitalia.

The dorsal habitus is reminiscent of some North American *Hyperaspis* taxa, particularly *H. lateralis* Mulsant, which is also a large, multispotted species often with one spot red or orange in color.

Etymology. The species name is from the Latin *divaricatus* in reference to the distinctive appearance of *H. divaricata*.

Hyperaspis humboldti, new species

(Figure 20-29)

Description. Male holotype. Length 2.3 mm, width 1.7 mm. Body slightly elongate, convex. Dorsal surface with head weakly alutaceous, shiny, pronotum and elytron shiny. Color yellow except elytron with sutural margin narrowly dark brown, basal 1/3 unevenly yellowish brown, lateral brown spot in apical 1/2 extended inward 1/2 width of elytron, inner 1/3 of spot pale, nebulous (Fig. 20-23); venter of head, prosternum, meso- and metaventrites dark brown; abdomen brown except lateral 1/3 and ventrites 5-6 yellow. Head punctures small, separated by 1 to 4 times a diameter; pronotal punctures larger than on head, separated by a diameter or less; elytral punctures larger than on pronotum, separated by less than to 3 times a diameter; punctures on basal abdominal ventrites 1-3 coarse medially, separated by less than to twice a diameter, becoming fine, separated by less than to twice a diameter in lateral 1/3, punctures on ventrites 4-6 fine, dense, separated by a diameter or less. Clypeal apex broadly, deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, weakly grooved medially, slightly descending externally, femoral depressions deep. Antenna with 11 articles (Fig. 29). Protibia narrow, slightly flanged. Prosternum with intercoxal carinae narrowly separated at apex, weakly convergent toward base, joined at middle of prosternum, connected to base by single stem. Postcoxal line on basal abdominal ventrite broadly arcuate, reaching posterior ventrite margin, rounded 1/3 distance to lateral margin (Fig. 24). Fifth ventrite broadly, shallowly emarginate apically; 6th ventrite with shallow, broad, apical emargination. Genitalia with basal lobe shorter than paramere, apex wide, obliquely truncate, one margin sinuate, with large, median projection; paramere short, broad, strongly narrowed from base to apex, apex rounded; trabes short, about as long as phallobase (Fig. 27, 28); sipho long, slender, with apical membranous area, basal capsule with inner arm short, straight, narrow, outer arm long, wide, basal border weakly emarginate (Fig. 25, 26).

Female. Not known.

Type material. Holotype male: (Colombia), 4461, Columb., Hist.-Coll. (Coleoptera), Nr. 4461, Hyperapis spec., Columb., Zool. Mus. Berlin. (ZMHB).

Remarks. The dorsal color pattern of *H. humboldti* is unique, not resembling that of any previously described species. It will key to *H. brethesi*, couplet 47, in Gordon and Canepari (2008), which has a different dorsal pattern and male genitalia.

The holotype of *H. humboldti* is in the "historical collection" portion of the Humboldt Universität holdings.

Etymology. This species is named both in honor of Alexander von Humboldt, the noted German naturalist and explorer, and the Berlin University that bears his name.

***Hyperaspis luciae*, new species**
(Figure 30-40)

Description. Male holotype. Length 2.7 mm, width 2.2 mm. Body rounded, convex. Dorsal surface with head weakly alutaceous, pronotum and elytron shiny. Color black except head yellow; anterior 1/5, lateral 1/4 of pronotum, propleuron yellow; elytron entirely black except small, yellow, irregular, obliquely transverse spot at outer apical angle (Fig. 30-33); mouthparts reddish yellow; proleg yellow except basal 1/3 of femur black, mesoleg reddish yellow except trochanter black, metaleg reddish yellow except basal 3/4 of femur black; abdomen dark brown except lateral 1/6 reddish yellow and ventrites 5-6 yellowish brown. Head punctures small, separated by a diameter or less; pronotal punctures larger than on head, separated by less than a diameter; elytral punctures as large as on pronotum, separated by less than to slightly more than a diameter; punctures on metaventrite dense, larger than on elytra, separated by a diameter or less medially, becoming contiguous in lateral 1/2; punctures on basal abdominal ventrite coarse medially, separated by less than a diameter, becoming fine, more scattered in lateral 1/3, punctures on ventrites 2-6 fine, dense, separated by a diameter or less. Clypeal apex shallowly emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, grooved medially, slightly descending externally, femoral depressions deep. Antenna with 10 articles (Fig. 35). Protibia narrow, not flanged. Prosternum with intercoxal carinae narrowly separated at apex, weakly convergent toward base, joined before base and connected to base by single stem. Postcoxal line on basal abdominal ventrite broadly arcuate, reaching posterior ventrite margin, rounded 7/8 distance to lateral margin (Fig. 34). Fifth ventrite broadly, deeply emarginate apically; 6th ventrite with shallow, narrow, apical emargination. Genitalia with basal lobe shorter than paramere, apex wide, flat, slightly obliquely angled, one margin sinuate; paramere long, slender, very slightly narrowed from base to apex, apex rounded (Fig. 38-40); sipho long, slender, with apical membranous area, basal capsule with inner arm very long, curved, wide, outer arm short, basal border deeply emarginate (Fig. 36, 37).

Female. Not known.

Type material. Holotype male: Corcovado - GB Brasil, 15-IX-1, J.S. Moure, Alvarenga e Seabra (DZUP).

Remarks. This is the fourth *Hyperaspis* species with black elytra and a single, apical yellow spot on each elytron. It differs from all others by the 10 articled antenna and differences in male genitalia, particularly in the apically wide, nearly truncate basal lobe and highly modified siphonal capsule.

Hyperaspis luciae belongs in the donzeli group because of the 10 articled antenna. It differs from all other species in that group by having black elytra with a single yellow spot on each elytron.

Etymology. This species is named for Dr. Lúcia Massutti de Almeida of the DZUP, an esteemed colleague in Coccinellidae systematics.

***Hyperaspis mimica*, new species**
(Figure 41-49)

Description. Male holotype. Length 2.4 mm, width 1.9 mm. Body rounded, convex. Dorsal surface with head densely alutaceous, dull, pronotum slightly alutaceous, weakly shiny, elytron smooth, shiny. Color black except head yellow; pronotum with median black macula extended from base to apex, macula with lateral projection in basal 1/2; elytron black with 4 yellow spots, 1 basal spot at suture, 1 oblique spot on disc, 1 median spot on lateral margin, 1 apical spot (Fig. 41-44); mouthparts, legs yellow; abdomen with median portion of ventrites 1-4 dark brown, lateral 1/4, ventrites 5-6 yellow. Head punctures invisible, hidden in alutaceous sculpture; pronotal punctures small, separated by 1 to 2 times a diameter; elytral punctures larger than on pronotum, separated by 1-3 times a diameter; punctures on metaventrite dense, larger than on elytra, separated by a diameter or less medially, becoming contiguous in lateral 1/2; punctures on median portion of abdominal ventrites 1-3 small, separated by 1 to 4 times a diameter, becoming very fine, difficult to see in lateral 1/3, ventrites 4-6 with punctures very fine, difficult to see. Clypeal apex shallowly emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, slightly grooved medially, not descending externally, femoral depresssions deep. Antenna with 11 articles (Fig. 49). Protibia narrow, not flanged. Prosternum with intercoxal carinae narrowly separated at apex, weakly convergent toward base, joined before base and connected to base by single stem. Postcoxal line on basal abdominal ventrite straight in basal 1/3, reaching and joining posterior ventrite margin, slightly recurved apically (Fig. 45). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite with shallow, narrow, apical emargination. Genitalia with basal lobe 1/2 length of paramere, sinuate, apex obliquely rounded, one margin with large, median projection; paramere short, wide, very slightly narrowed from base to apex, apex rounded (Fig. 47, 48); sipho long, slender, apical 1/2 missing, basal capsule with inner arm long, sinuate, apically beaked, outer arm long, slender, without accessory piece, basal border slightly emarginate (Fig. 46).

Female. Not known.

Type material. Holotype male: Colombia, Cld. (Caldas), Villamaria, 12.II.41, alt. 2000m, Murillo No 5461. (USNM).

Remarks. *Hyperaspis mimica* is superficially very similar in appearance to *Tenuisvalvae bisquinquepustulata* (F.), but that species has a pale yellow humeral spot, giving it a total of five spots on each elytron, and male genitalia with a long, slightly modified basal lobe.

Etymology. The name is from the Latin *mimus*, meaning to imitate, referring to the close resemblance to *T. bisquinquepustulata*.

***Hyperaspis praecipua*, new species**
(Figure 50-58)

Description. Male holotype. Length 2.9 mm, width 2.4 mm. Body rounded, convex. Dorsal surface with head alutaceous, dull, pronotum slightly alutaceous, weakly shiny, elytron smooth, shiny. Color black except head yellow; pronotum with median black macula extended 3/4 distance from base to apex, apical margin of macula sinuate, lateral margin medially indented, disc with 2 large, oblique, elongate yellow "eyespots;" elytron with 5 yellow spots arranged in transverse rows of 2 each, with apical spot, median lateral spot extended inward, narrowly connected to discal spot (Fig. 50-53); venter with epipleuron, antenna, labial palpi, inner 1/2 of apical maxillary palpus, outer border and posterior 1/5 of hypomeron, mesepimeron, proleg except basal 1/2 of femur, meso- and metalegs except basal 7/8, yellow. Head punctures small, separated by a diameter or less; pronotal punctures larger than on head, separated by less than to twice a diameter; elytral punctures as large as on pronotum, separated by 1-4 times a diameter; punctures on metaventrite dense, larger than on elytra, separated by a diameter or less medially, becoming contiguous in lateral 1/2; punctures on median portion of abdominal ventrites 1-3 large, separated by

less than to twice a diameter, becoming fine, dense in lateral 1/3, ventrites 4-6 finely, densely punctured throughout. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, slightly grooved medially, descending externally, femoral depresssions deep. Antenna with 11 articles. Protibia wide, flanged. Prosternum with intercoxal carinae narrowly separated at apex, convergent toward base, joined at 1/2 distance to prosternal base, and connected to base by single stem. Postcoxal line on basal abdominal ventrite straight in basal 1/3, curved to posterior ventrite margin, and recurved 1/4 distance to lateral margin (Fig. 54). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite with broad, deep apical emargination. Genitalia with basal lobe long, slender, 3/4 length of paramere, sinuate, apex bluntly acute, one margin with long, narrow median projection; paramere long, slender, tapered from base to apex, apex rounded (Fig. 57, 58); trabes longer than phallobase, apex bent laterally; sipho long, slender, curved in basal 2/3, apex bifid, basal capsule with inner arm long, slender, apically curved, outer arm short, wide, nearly obsolete, without accessory piece, basal border broadly, weakly emarginate (Fig. 55, 56).

Female. Not known.

Type material. Holotype male: Colombia, Valle, nr. Saladito, 6500', July 20, 1970, H. & A. Howden. (USNM).

Remarks. *Hyperaspis praecipua* is unique among known *Hyperaspis* species by the yellow, pronotal "eyespots"; male genitalia with long, slender phallobase, slender, elongate basal lobe; and extremely long sipho having a bifid apex and outer arm of basal capsule nearly obsolete. It will go to couplet 39 in the *Hyperaspis* key of Gordon and Canepari (2008), where it is separated from choices there by the median, oblique, yellow pronotal spots.

Etymology. The name is from the Latin *praecipuus*, meaning special, or peculiar, referring to the unique characteristics of this species.

***Hyperaspis unimaculosa*, new species**
(Figure 59-69)

Description. Male holotype. Length 2.6 mm, width 2.3 mm. Body rounded, convex. Dorsal surface with head strongly alutaceous, dull, pronotum slightly alutaceous, shiny, elytron smooth, shiny. Color black except head yellow; pronotum black with anterior 1/6 and lateral 1/4 yellow, lateral yellow area indenting median black spot medially; elytron black with lateral and apical margins narrowly yellow, yellow apical border widened (Fig. 59-63); propleuron, epipleuron, legs yellow; abdomen reddish yellow except median 1/3 of basal ventrite dark brown. Head punctures small, nearly invisible, separated by 4-6 times a diameter; pronotal punctures larger than on head, separated by less than to twice a diameter; elytral punctures larger than on pronotum, separated by less than to three times a diameter; punctures on metaventrite larger than on elytron, separated by about a diameter, becoming coarser laterally, separated by less than a diameter; punctures on basal abdominal ventrite small, separated by 2 to 4 times a diameter, punctures on ventrites 2-6 fine, sparse, nearly invisible, separated by less than to 4 times a diameter. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, slightly grooved medially, slightly descending externally, femoral depressions deep. Antenna with 11 articles. Protibia narrow, not flanged. Prosternum with intercoxal carinae widely separated at apex, strongly convergent toward base, joined just before base, connected to base by single stem. Postcoxal line on basal abdominal ventrite arcuate, slightly flattened in median 1/3 along posterior margin of ventrite, rounded 7/8 distance to lateral margin (Fig. 64). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite obliquely rounded. Genitalia with basal lobe short, 1/2 length of paramere, strongly sinuate, apex oblique rounded, with strong lateral projection; paramere short, wide, apex rounded (Fig. 68, 69); sipho long, slender, with apical membranous area, basal capsule with inner arm long, straight, apically knobbed, outer arm short, wide, basal border weakly emarginate (Fig. 66, 67).

Female. Similar to male except anterior pronotal margin black. Genitalia with basal unit lacking beak, sperm duct short (Fig. 65).

Variation. Length 2.6 to 3.0 mm, width 2.3 to 2.6 mm. The Corcovado paratype has the outer yellow ring present only posterior to apical declivity.

Type material. Holotype male: Barueri, Sao Paulo - Brasil, XII.1965, K. Lendo col. (MZSP). Paratypes, 4; 3, same data as holotype; 1, Brasil Rio do Janeiro, D. F. (Distrito Federal), Corcovado, X-1957, Seabra & Alvarenga. (MZSP) (USNM).

Remarks. *Hyperaspis unimaculosa* somewhat resembles *H. uninotata* Gordon and Canepari to which it goes in the key to species, couplet 45 in Gordon and Canepari (2008), but *H. unimaculosa* has the outer elytral ring of yellow only on the lateral and/or apical borders, *H. uninotata* has the anterior border also yellow; male genitalia are quite different from those of *H. uninotata*; and female genitalia have a beaked basal unit. Male genitalia of *H. unimaculosa* are most similar to those of species in the notata group

Etymology. The species name is constructed from the Latin *uno* meaning one, and *macula*, meaning spot. It also references the similar appearing *H. uninotata*.

***Hyperaspis drechseli*, new species**
(Figure 70-80)

Description. Male holotype. Length 2.1 mm, width 1.6 mm. Body rounded, convex. Dorsal surface with head alutaceous, slightly shiny, pronotum slightly alutaceous, shiny, elytron smooth, shiny. Color black except head yellow; pronotum yellow with large, basomedian black macula extended 5/6 distance to apical pronotal border, macula not reaching lateral border, anterolateral angle emarginated with yellow; elytron black with lateral and apical margins narrowly yellow, yellow apical border widened (Fig. 70-73); propleuron, epipleuron, legs yellow; abdomen dark brown with narrow lateral and apical border yellow. Head punctures small, nearly invisible, separated by less than to 3 times a diameter; pronotal punctures larger than on head, separated by less than to a diameter; elytral punctures larger than on pronotum, separated by less than to twice a diameter; punctures on metaventrite larger than on elytron, separated by about a diameter, becoming coarser laterally, contiguous or nearly so; punctures on basal abdominal ventrite small medially, separated by less than to twice a diameter, punctures on ventrites 2-6 fine, separated by about twice a diameter. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron narrow, slightly grooved medially, slightly descending externally, femoral depresssions deep. Antenna with 11 articles (Fig. 80). Protibia narrow, not flanged. Prosternum with intercoxal carinae widely separated at apex, strongly convergent toward base, joined just before base, connected to base by single stem. Postcoxal line on basal abdominal ventrite arcuate, slightly flattened in median 1/3 along posterior margin of ventrite, rounded 7/8 distance to lateral margin (Fig. 74). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite broadly emarginate apically. Genitalia with basal lobe nearly as long as paramere, weakly sinuate, apex rounded, with rounded lateral projection; paramere slender, basal 2/3 wider than apical 1/3, apex ventrally hooked (Fig. 77-79); sipho long, slender, with apical membranous area, basal capsule with inner arm long, straight, apically knobbed, outer arm short, wide, basal border weakly emarginate (Fig. 75, 76).

Female. Not known.

Type material. Holotype male: Paraguay, Paraguari, Sapucay, S25º 42' W58º 08', 22-23/X/2004 Leg. Ulf Drechsel. (BMNH).

Remarks. *Hyperaspis drechseli* has a color pattern similar to that of *H. uninotata* Gordon and Canepari to which it goes in the key to species, couplet 36 in Gordon and Canepari (2008), but *H. drechseli* has the outer elytral ring of yellow only on the lateral and/or apical borders, while *H. uninotata* has the anterior

border also yellow. Another similar species is *H. unimaculosa*, described above, but *H. drechseli* is smaller, has the male 6th ventrite distinctly emarginate apically, and very different male genitalia.

Etymology. The species is named for the collector of the holotype

***Hyperaspis esmeraldas*, new species**
(Figure 81-93)

Description. Male. Length 2.5 mm, width 2.3 mm. Body rounded, convex. Dorsal surface with head alutaceous, dull, pronotum slightly alutaceous, weakly shiny, elytron smooth, shiny. Color black except head yellow; pronotum with median black macula extended 4/5 distance from base to apex, apical margin of macula curved; elytron with large, yellow macula in basal 3/4 (Fig. 81-84); venter with hypomeron, antenna, mouthparts, mesepimeron, legs yellow; abdomen yellow except basal 4 ventrites dark brown medially. Head punctures small, separated by a diameter or less; pronotal punctures larger than on head, separated by less than to a diameter; elytral punctures as large as on pronotum, separated by less than to twice a diameter; punctures on metaventrite larger than on elytra, sparse medially, separated by a diameter or less in lateral 1/2; punctures on median portion of abdominal ventrites 1-3 large, separated by a diameter or less medially, becoming fine, dense in lateral 1/3, ventrites 4-6 finely, densely punctured throughout. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, nearly flat, femoral depressions deep. Antenna with 11 articles. Protibia narrow, not flanged. Prosternum with intercoxal carinae widely separated at apex, convergent toward base, joined just before prosternal base, connected to base by single stem. Postcoxal line on basal abdominal ventrite straight in basal 1/3, curved to posterior ventrite margin, and recurved nearly to lateral margin (Fig. 86). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite with broad, shallow, apical emargination. Genitalia with basal lobe short, wide, 1/2 length of paramere, sinuate, apex bluntly acute, one margin with large, wide, median projection; paramere short, wide, widest at middle, apex rounded (Fig. 89-91); trabes shorter than phallobase, apex not bent laterally; sipho slender, curved in basal 2/3, apex bifid, basal capsule with inner arm nearly absent outer arm short, wide, without accessory piece, basal border broadly, weakly emarginate (Fig. 87, 88).

Female. Similar to male except anterior pronotal margin and head black. Genitalia with genital plates strongly transverse (Fig. 92), beak on basal unit short, nearly as wide as basal unit (Fig. 93).

Variation. Length 2.5 to 2.6 mm. There are two color forms of *H. esmeraldas*, the typical as in Fig. 81-84, and another with elytral spots reduced as in Fig. 85.

Type material. Holotype male: Ecuador, Esmeraldas Prov., La Independencia, S of Quinindé, 12.ii.2005, E. Tapia (JMH 8172), J.H. Martin BMNH(E) 2005-47. on Annona sp. (BMNH). Paratypes, 5; Peru, Tumbes, Laterral B-Corrales, 25.V.2010, Jathropa auma: Pseudococcidae, Tetranychidae 004-01. (BMNH) (ULMP) (USMP).

Remarks. *Hyperaspis esmeraldas* has a dorsal color pattern similar to that of *H howdeni* Gordon and Canepari, *H. chocoi* Gordon and Canepari, and *H. istmina* Gordon and Canepari, couplet 19 in Gordon and Canepari (2008). Genitalia distinguish it from the former two species, both of which have nearly straight basal lobes with reduced lateral projections. It is distinguished from *H. istmina* by smaller size, reduced macula on each elytron, and intercoxal carinae widely separated at apex.

Etymology. The species is named for Esmeraldas Province, Ecuador, where the holotype was collected. The name is used as a noun in apposition.

***Hyperaspis pectoralis* Crotch**
(Figure 94-103)

Hyperaspis pectoralis Crotch, 1874: 225; Korschefsky, 1931: 193; Blackwelder, 1945: 448.

Description. Male. Length 3.0 mm, width 2.6 mm. Body rounded, convex. Dorsal surface with head strongly alutaceous, pronotum slightly alutaceous, weakly shiny, elytron smooth, shiny. Color yellow except pronotum with small, faintly defined, brown basal macula on each side of middle, pronotum and elytron appearing "dirty" yellow because dorsal punctures are brown; elytron with faint darker "cloud" occupying discal area onto apical declivity (Fig. 94-97); prosternum, meso- and metaventrites black; abdomen brownish yellow. Head punctures small, separated by 2-4 times a diameter; pronotal punctures larger than on head, separated by less than to twice a diameter; elytral punctures larger than on pronotum, separated by less than to twice a diameter; punctures on metaventrite small, widely scattered medially, becoming very large, separated by less than a diameter in lateral 1/2; punctures on basal abdominal ventrite small, separated by 2 to 4 times a diameter, punctures on ventrites 2-6 fine, sparse, separated by less than to 4 times a diameter. Clypeal apex deeply emarginate, clypeus and frons joined at abrupt angle. Epipleuron wide, grooved medially, slightly descending externally, femoral depressions deep. Antenna with 11 articles. Protibia narrow, not flanged. Prosternum with intercoxal carinae narrowly separated at apex, weakly convergent toward base, joined before base and connected to base by single stem. Postcoxal line on basal abdominal ventrite broadly arcuate, reaching posterior ventrite margin, rounded 7/8 distance to lateral margin (Fig. 98). Fifth ventrite broadly, weakly emarginate apically; 6th ventrite with shallow, narrow, apical emargination nearly truncate. Genitalia with basal lobe short, 1/2 length of paramere, apex narrowed, triangular, with strong lateral projection; paramere short, basally wide, apex rounded (Fig. 101-103); sipho long, robust, with apical membranous area, basal capsule with inner arm long, straight, apically knobbed, outer arm short, wide, basal border deeply emarginate (Fig. 99, 100).

Female. Not known.

Type locality. Brazil.

Type depository. UMZC (holotype).

Specimens examined. 2. **Brazil**. The holotype; Sao Paulo, Cantareira. (MZSP).

Remarks. An unusually colored species, *H. pectoralis* will not go beyond couplet 2 in the species key (Gordon and Canepari 2008) because it has no dorsal color pattern. It is described as being dorsally yellow, but this is a "dirty" yellow because the bottom of the punctures are distinctly or faintly brown. Male genitalia place it in the onerata group, but the round, convex body form differs from other species in that group.

The type specimen is a holotype male in the Crotch collection (UMZC). This species was omitted from the *Hyperaspis* revision (Gordon and Canepari 2008) because it was mistakenly identified as a member of the Brachiacanthini genus *Cyra* Mulsant.

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Figure 1-10. *Hyperaspis corcovado*. **1-4)** Habitus views. **5)** Abdomen. **6-9)** Male genitalia. **6)** Sipho. **7)** Enlarged siphonal apex. **8-9)** Lateral and ventral views of phallobase. **10)** Antenna.

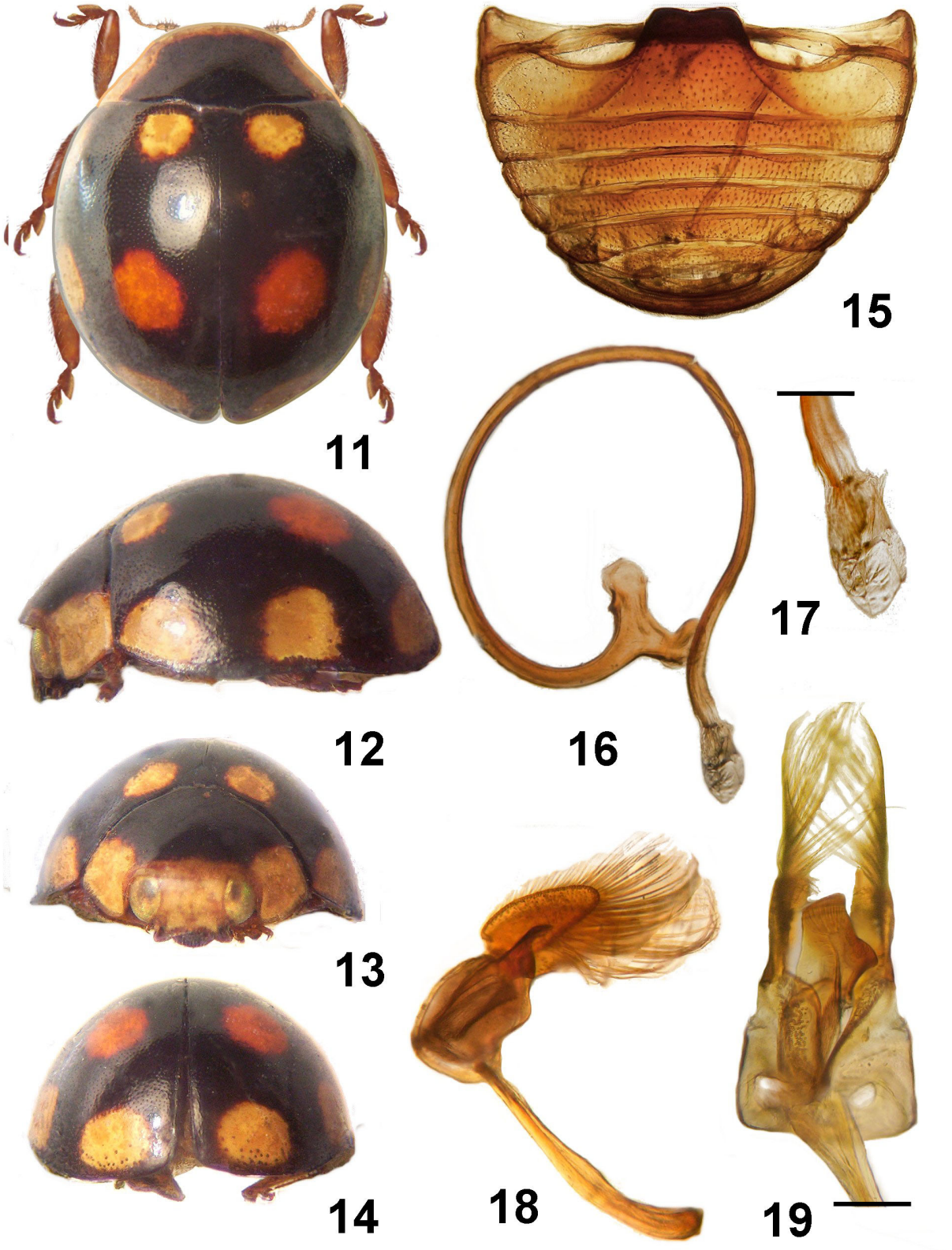

Figure 11-19. *Hyperaspis divaricata*. **11-14)** Habitus views. **15)** Abdomen. **16-19)** Male genitalia. **16)** Sipho. **17)** Enlarged siphonal apex. **18-19)** Lateral and ventral views of phallobase.

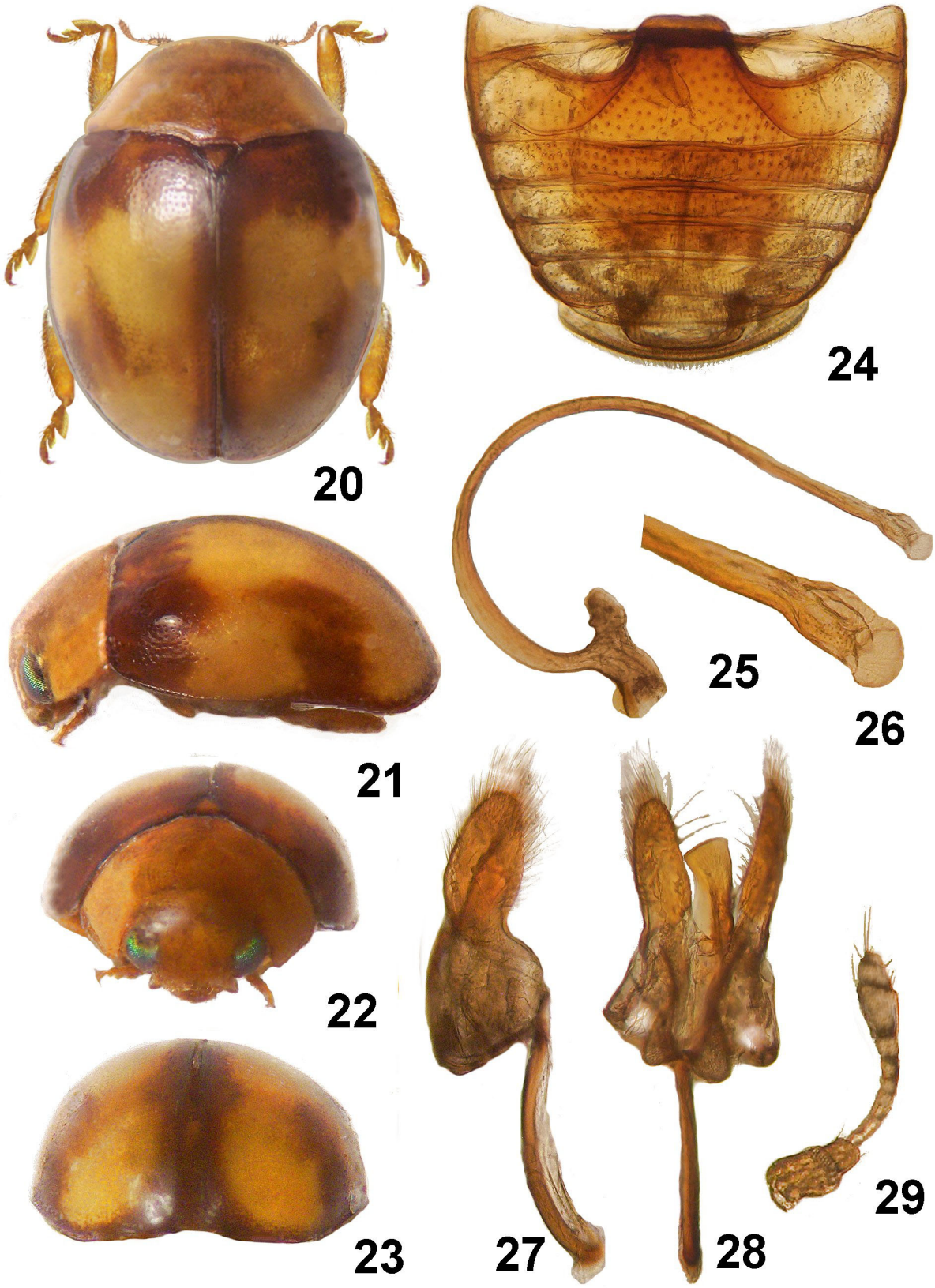

Figure 20-29. *Hyperaspis humboldti*. **20-23)** Habitus views. **24)** Abdomen. **25-28)** Male genitalia. **25)** Sipho. **26)** Enlarged siphonal apex. **27-28)** Lateral and ventral views of phallobase. **29)** Antenna.

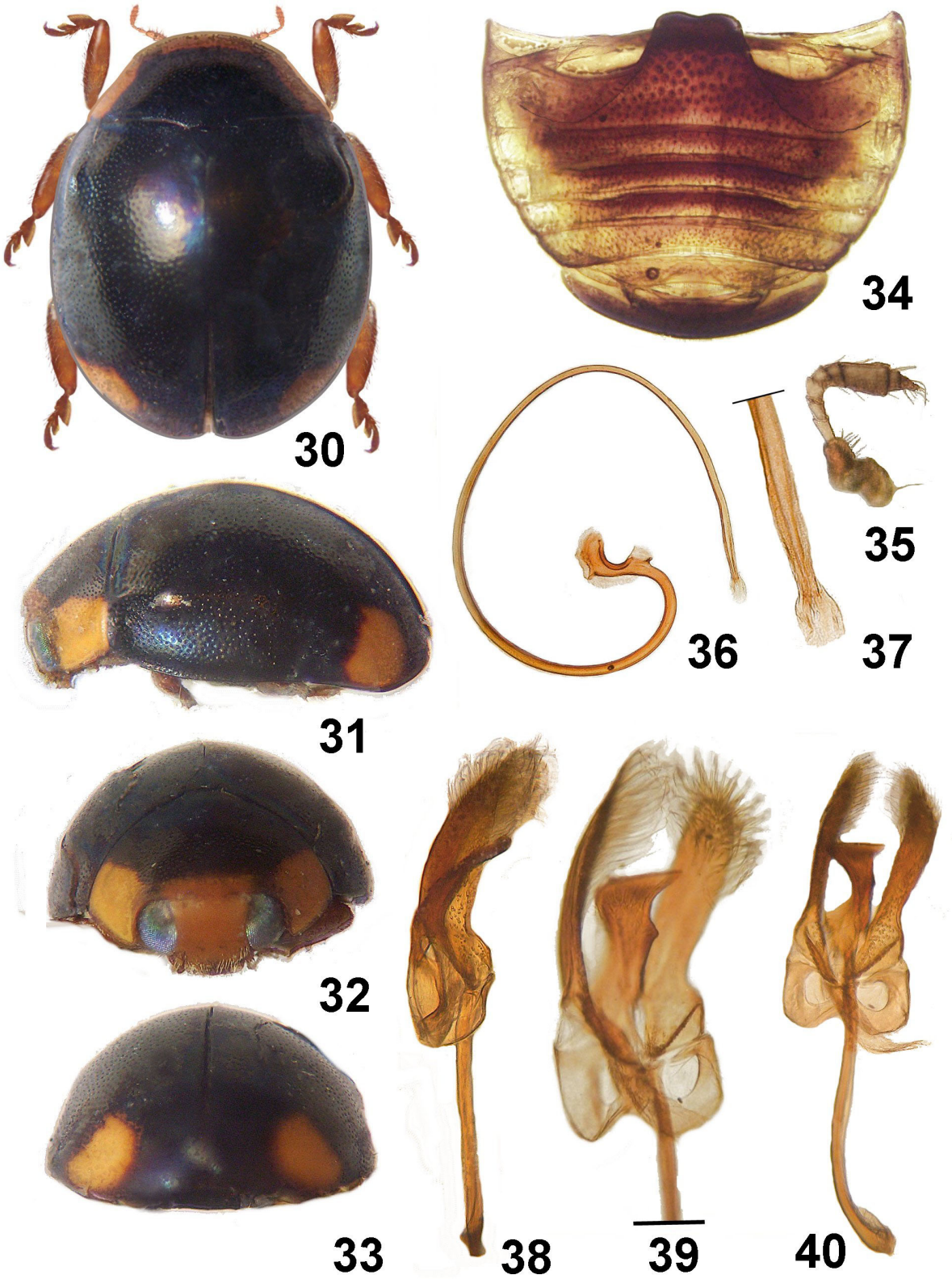

Figure 30-40. *Hyperaspis luciae*. **30-33)** Habitus views. **34)** Abdomen. **36-40)** Male genitalia. **36)** Sipho. **37)** Enlarged siphonal apex. **38)** Lateral view of phallobase. **39)** Oblique view of phallobase. **40)** Ventral view of phallobase.

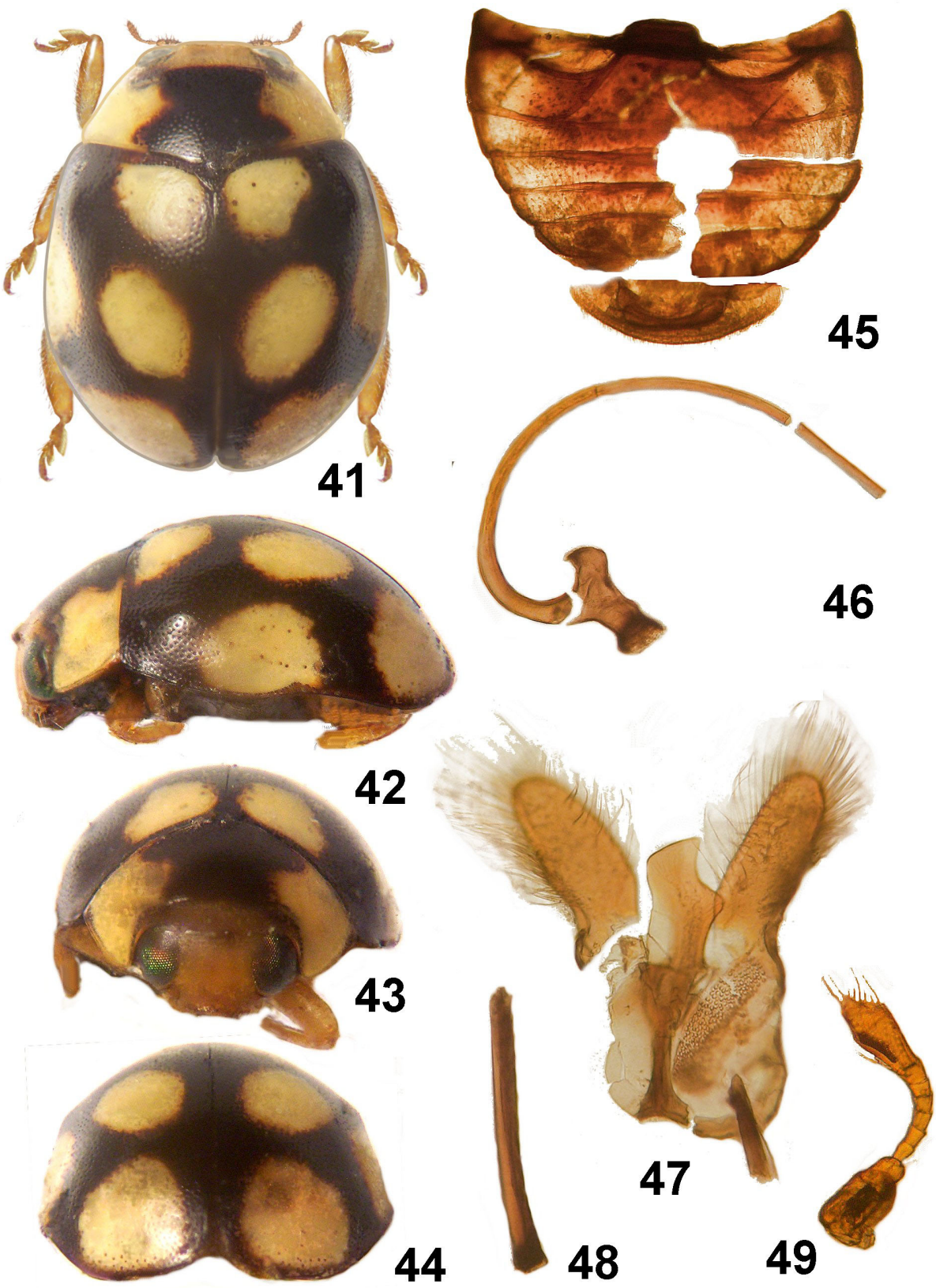

Figure 41-49. *Hyperaspis mimica*. **41-44)** Habitus views. **45)** Abdomen. **46-48)** Male genitalia. **46)** Sipho (apex lost). **47)** Ventral view of phallobase. **48)** Trabes. **49)** Antenna.

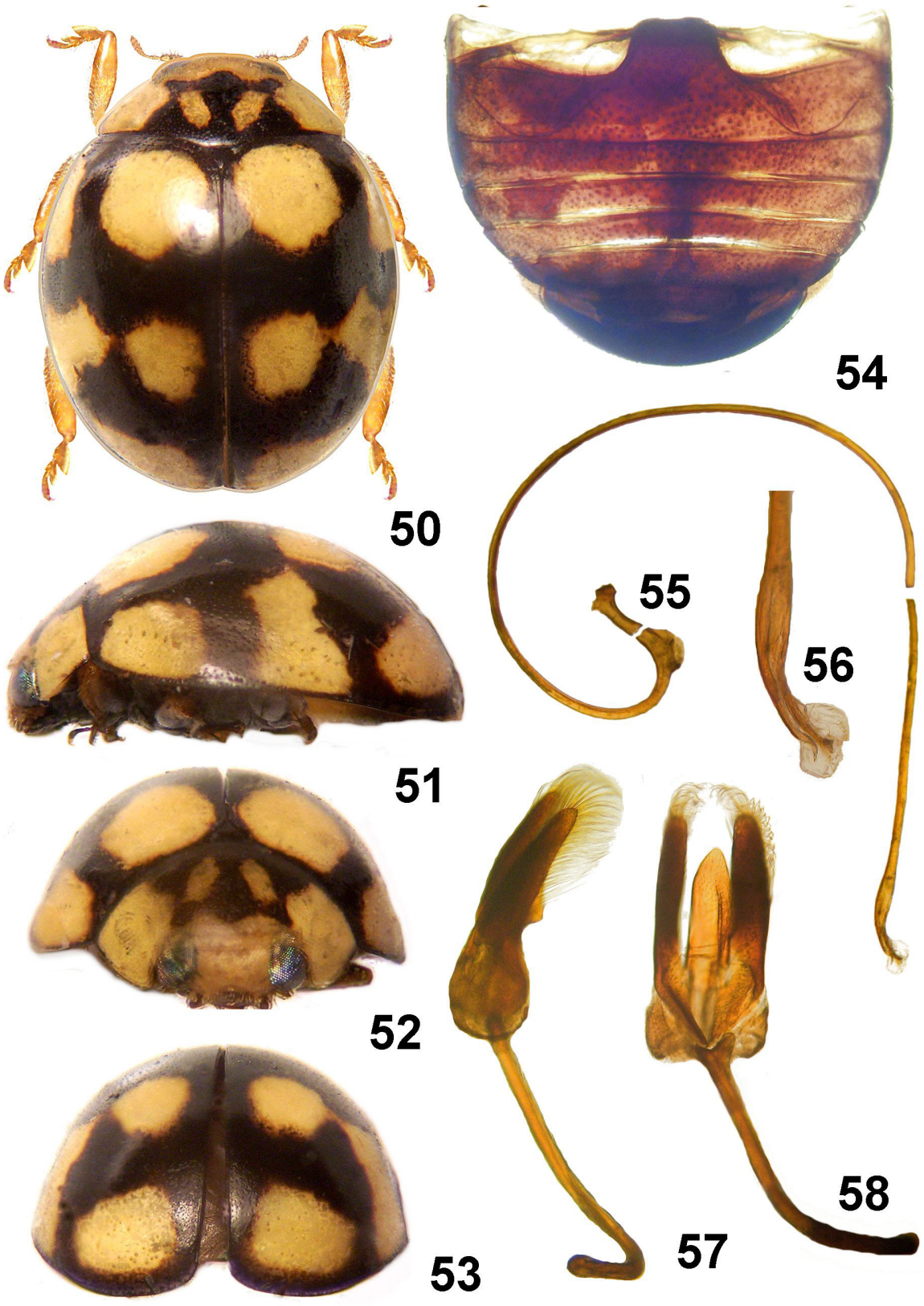

Figure 50-58. *Hyperaspis praecipua*. **50-53)** Habitus views. **54)** Abdomen. **55-58)** Male genitalia. **55)** Sipho. **56)** Enlarged siphonal apex. **57-58)** Lateral and ventral views of phallobase.

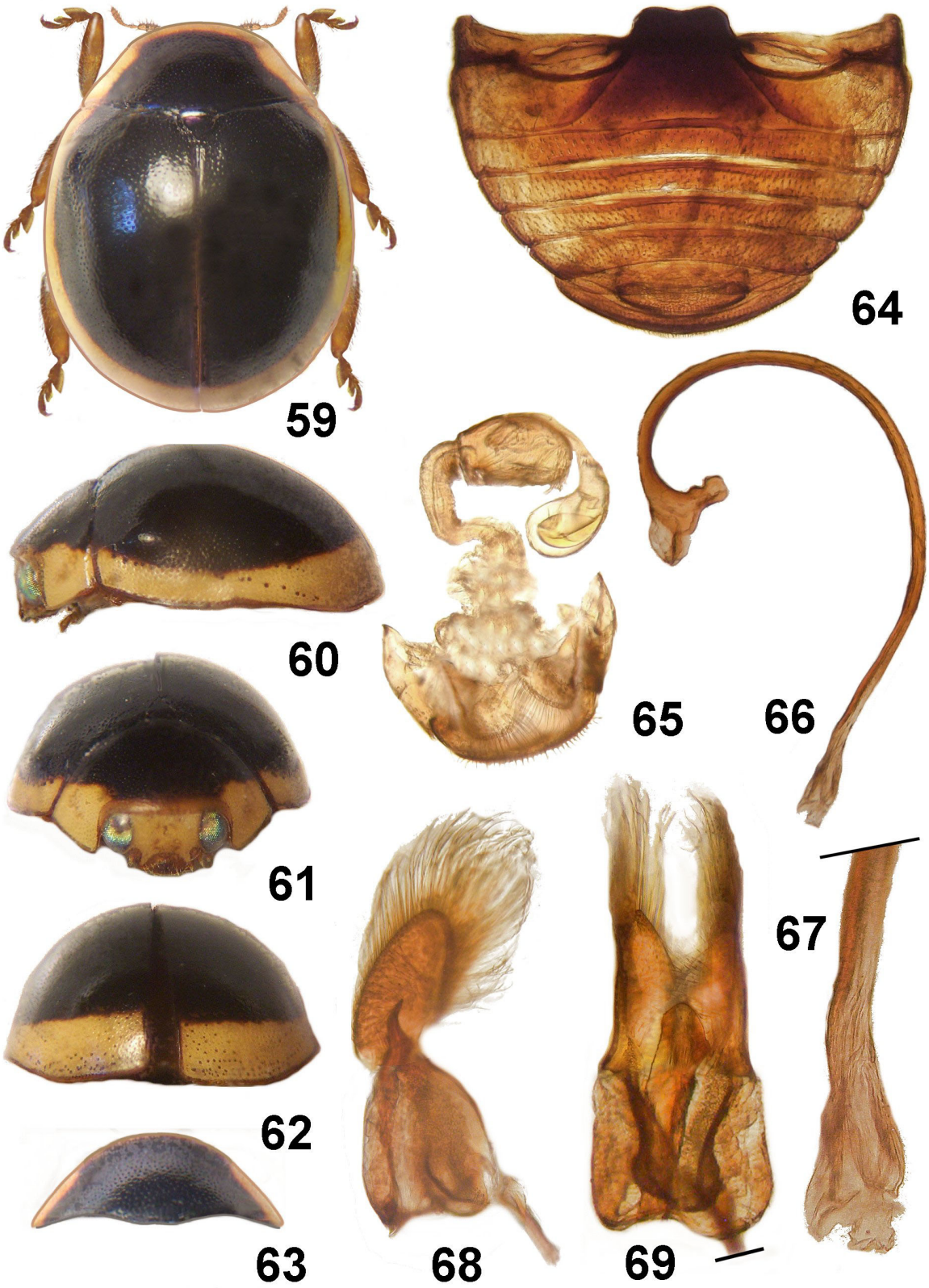

Figure 59-69. *Hyperaspis unimaculosa*. **59-62)** Habitus views. **63)** Female pronotum. **64)** Abdomen. **65)** Female genitalia. **66-69)** Male genitalia. **66)** Sipho. **67)** Enlarged siphonal apex. **68-69)** Lateral and ventral views of phallobase.

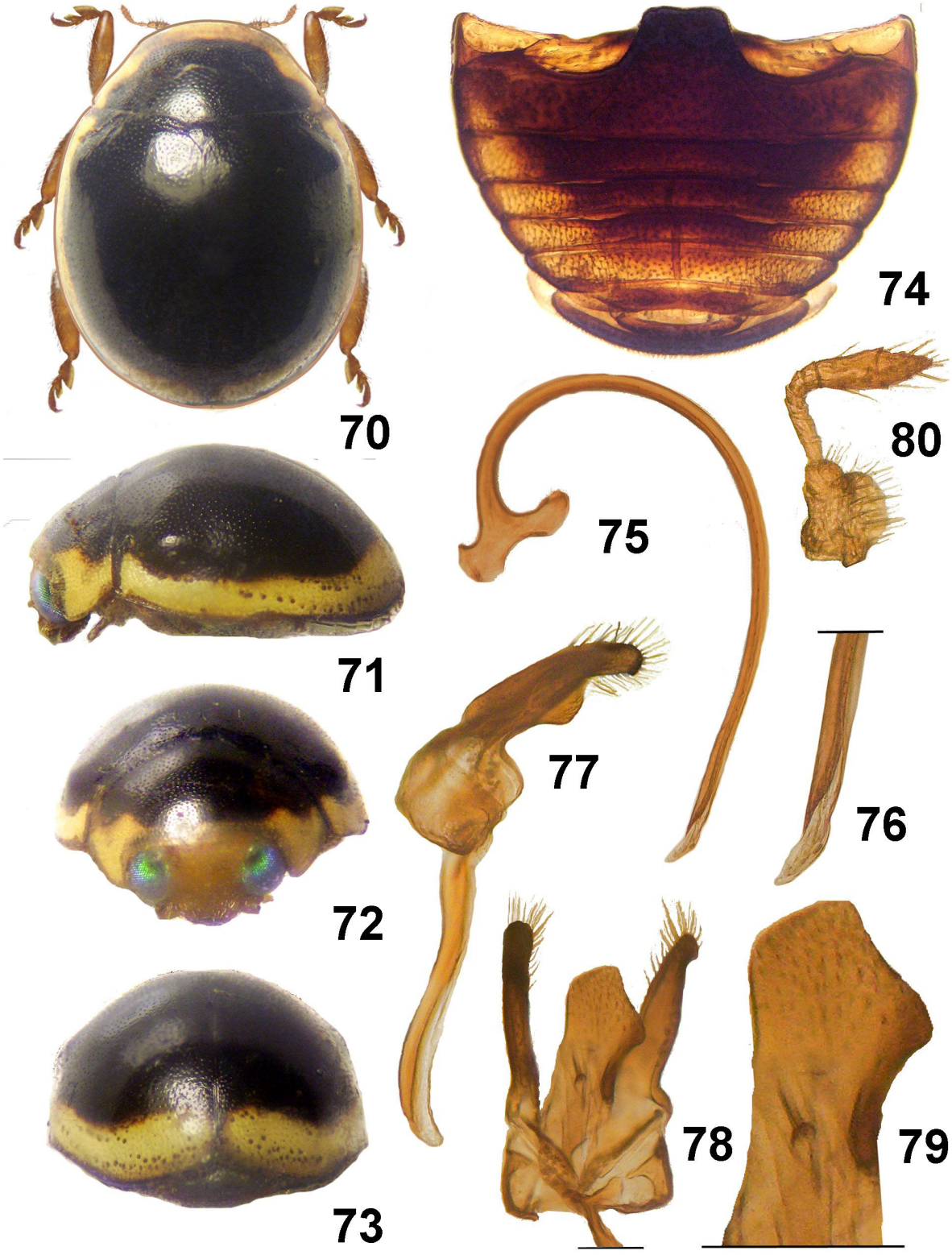

Figure 70-80. *Hyperaspis drechseli*. **70-73)** Habitus views. **74)** Abdomen. **75-79)** Male genitalia. **75)** Sipho. **75)** Enlarged siphonal apex. **77-78)** Lateral and ventral views of phallobase. **79)** Enlarged view of basal lobe. **80)** Antenna.

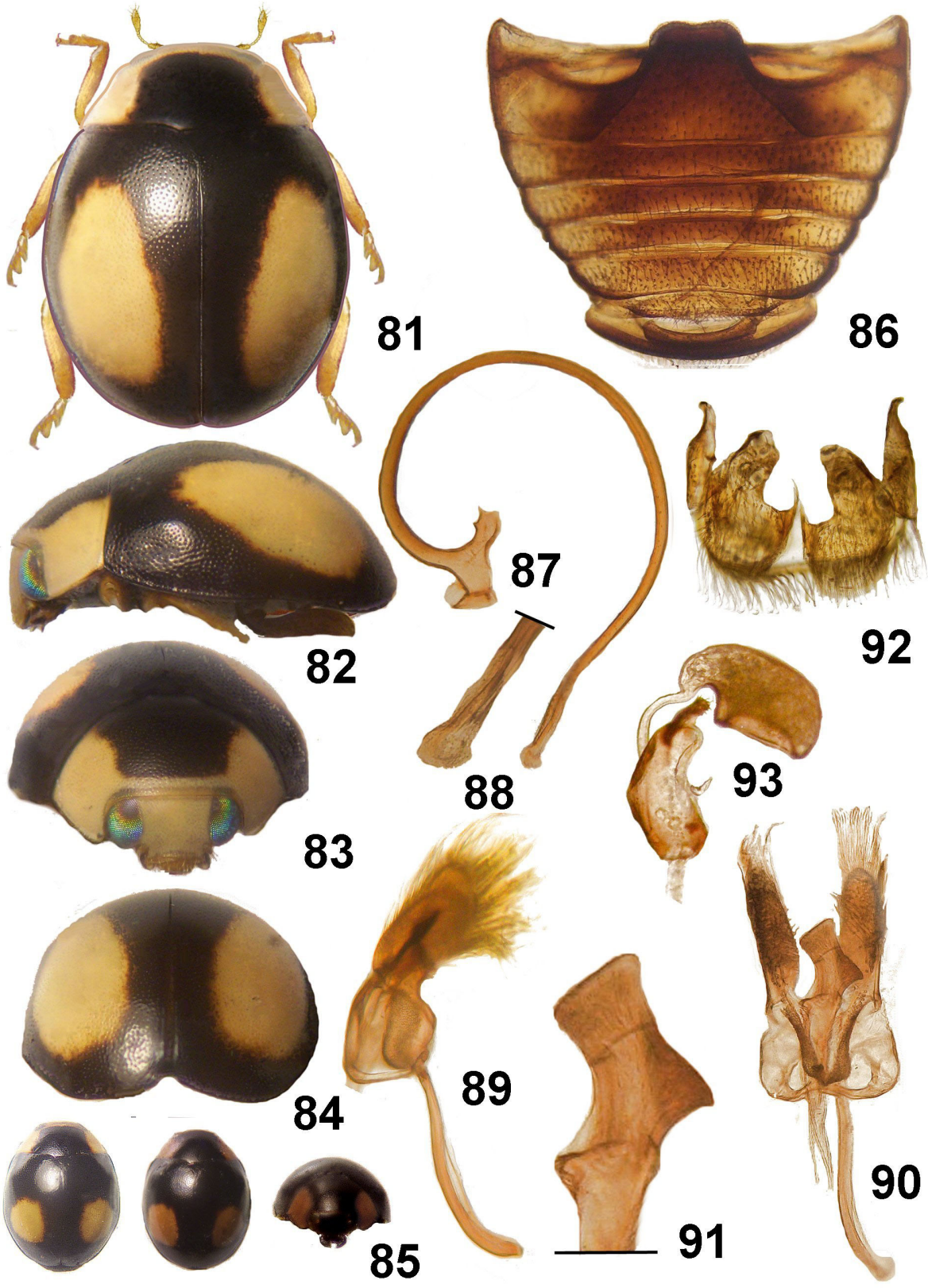

Figure 81-93. *Hyperaspis esmeraldas*. **81-84)** Habitus views. **85)** Habitus views variations. **86)** Abdomen. **87-91)** Male genitalia. **87)** Sipho. **88)** Enlarged siphonal apex. **89-90)** Lateral and ventral views of phallobase. **91)** Enlarged view of basal lobe. **92-93)** Female genitalia. **92)** Genital plates. **93)** Espermatheca.

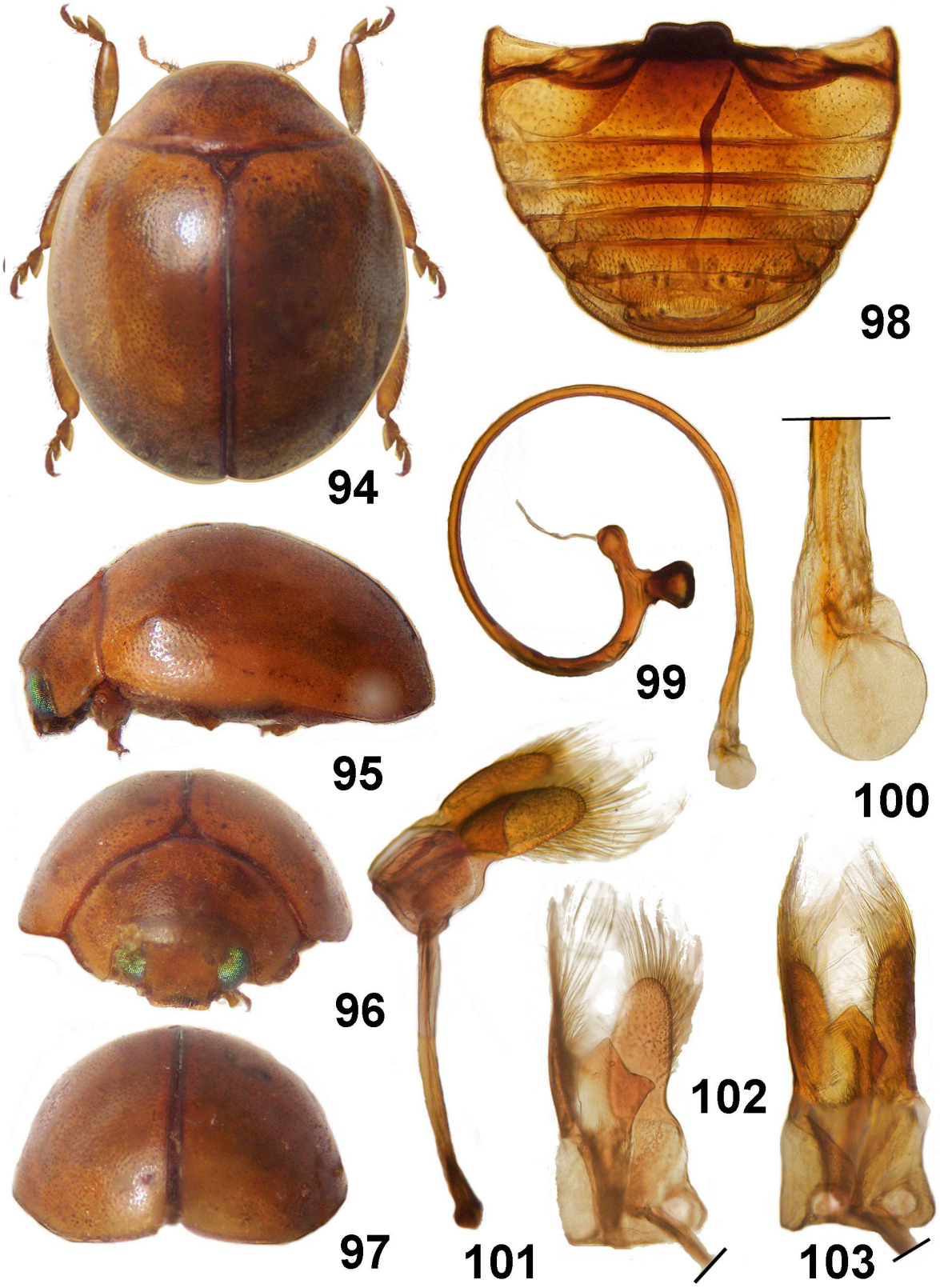

Figure 94-103. *Hyperaspis pectoralis*. **94-97)** Habitus views. **98)** Aabdomen. **99-103)** Male genitalia. **99)** Sipho. **100)** Enlarged siphonal apex. **101)** Lateral view of phallobase. **102)** Oblique view of phallobase. **103)** Ventral view of phallobase.