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## A review of the genus *Alurnus* Fabricius, 1775 (Coleoptera: Chrysomelidae: Cassidinae)

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A review of the genus *Alurnus* Fabricius, 1775 (Coleoptera:  
Chrysomelidae: Cassidinae)

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## A review of the genus *Alurnus* Fabricius, 1775 (Coleoptera: Chrysomelidae: Cassidinae)

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**Abstract.** The species of the genus *Alurnus* Fabricius (Coleoptera: Chrysomelidae: Cassidinae) are reviewed. Twenty-three species are recognized as valid. *Alurnus bicolor* from Colombia and *A. crenatus* from Bolivia are described as **new species**. *Alurnus costalis dallieri* Pic is elevated to full species status. Lectotypes are designated for *A. humeralis* Rosenberg, *A. mutabilis* Waterhouse, and *A. salvini* Baly. The species are redescribed and illustrated, and a key to the species is presented.

**Keywords.** *Alurnus*, review, new species, key.

### Introduction

The genus *Alurnus* (Coleoptera: Chrysomelidae: Cassidinae) was erected by Fabricius (1775) for the new species *A. grossus* from “Indiis”. With the beetles’ large size and colorful markings the genus was subsequently popular with many authors leading to the description of numerous species, subspecies, and synonyms.

Jacobson (1899) made the first systematic study of the group. He erected three additional genera for species which did not belong in *Alurnus*. Fischer (1935) conducted the last revision of the group. His work is difficult to find, and the keys do not work well since he relied almost exclusively on color pattern.

*Alurnus costalis niger* Pic is a name which has made its way into the literature. The name is an error recorded in the 1926 Zoological Record which claimed it was proposed by Pic (p. 238). Pic never proposed this name and it is a *nomen nudum*.

### Materials and Methods

For this study, measurements were taken with an ocular micrometer. Pronotal length and width were taken along the midlines. Elytral width was measured at the humeri. Elytral length was measured from the base to the apex. Total length was measured from the base of the antennae to the apex of the elytra. In recording label data from type specimens, a slash (/) divides data on different labels. In specimens examined, a question mark (?) indicates an unknown locality.

Materials were studied from the following collections: American Museum of Natural History (AMNH); Utah State University (BLCU); The Natural History Museum (BMNH); Bernice P. Bishop Museum (BPBM); Brigham Young University (BYU); California Academy of Sciences (CAS); Canadian Museum of Nature (CMNC); Carnegie Museum of Natural History (CMNH); Deutsches Entomologisches Institut (DEI); D. Windsor, Panama City (DWC); Essig Museum of Entomology (EMEC); Field Museum of Natural History (FMNH); Florida State Collection of Arthropods (FSCA); Henry P. Stockwell (HPSC); Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAVH); Instituto Nacional de Biodiversidad (INBio); Institut Royal des Sciences Naturelles de Belgique (IRSNB); Los Angeles County Museum (LACM); L. Sekerka, Liberec, Czech Republic (LSC); Louisiana State University (LSUC); Museum of Comparative Zoology (MCZC); Naturhistorisches Museum in Basel (MHMB); Museum National d’Histoire Naturelle, Paris (MNHN); Museum de Zoologia da Universidade de São Paulo (MZSP); North Carolina State University (NCSU); Naturhistorisches Museum Wien (NMW); Hope Entomological Collections (OUMNH); Peabody Museum of Natural History (PMNH); Pennsylvania State University (PSUC); University of Kansas, Snow Entomological Collection (SEMC); University of Delaware (UDCC); University of Georgia (UGCA); University of Nebraska State Museum (UNSM); National



Museum of Natural History, Smithsonian Institution (USNM); University of Idaho (WFBM); Zoological Institute, Russian Academy of Sciences (ZIN); Museum für Naturkunde de Humboldt Universität (ZMHB); University of Copenhagen, Zoological Museum (ZMUC).

### ***Alurnus* Fabricius 1775**

*Alurnus* Fabricius 1775: 94. Type species: *Alurnus grossus* Fabricius, by monotypy. Fabricius 1787: 66 (noted), 1792: 51 (noted), 1801b: 25 (noted); Linnaeus 1788: 1666 (noted); Latreille 1802: 231 (description), 1807: 49 (noted) 1829: 142 (description), 1836: 127 (description); Illiger 1804: 130 (redescription); Voet 1806: 38 (illustration); Schönherr 1808: 342 (species list); Dejean 1821: 115 (catalog), 1837: 387 (catalog); Duméril 1823: 196 (noted); Voigt 1839: 323 (noted); d'Orbigny 1841: 314 (redescription); Guérin-Ménéville 1844: 266 (noted), 1855: 602 (faunal list); Blanchard 1845: 181 (noted), 1849: 508 (noted); Lacordaire 1845: XLII (larva); Chevrolat 1849: 359 (noted); Baly 1858: 24 (redescription), 1885: 5 (noted); Chenu and Desmarest 1870: 341 (noted); Crotch 1870: 45 (noted); Girard 1873: 784 (noted); Chapuis 1875: 293 (redescription); Gemminger and Harold 1876: 3605 (catalog); Chenu 1884: 335 (noted); Weise 1893: 1059 (noted), 1910: 102 (noted), 1911a: 12 (catalog), 1911b: 18 (catalog); Donckier 1899: 557 (catalog); Jacobson 1899: 247 (revision), 1899(1900): x (nomenclature); Berg 1900: 252 (noted); Gahan 1900: 438 (noted); Gestro 1901a: 435 (noted), 1903: 157 (noted); Heyne and Taschenberg 1908: 252 (noted); Bruch 1915: 375 (faunal list); Bondar 1925: 208 (noted), 1940: 44 (noted); Fischer 1935: 264 (revision); Bryant 1942: 205 (faunal list); Blackwelder 1946: 721 (faunal list), 1947: 55 (nomenclature); Guérin 1953: 99 (faunal list); Papp 1953: 30 (catalog); Lima 1955: 203 (faunal list); Uhmman 1957a: 35 (catalog), 1964: 406 (catalog); Wilcox 1975: 138 (catalog); Jolivet 1989: 298 (noted), 1997: 12, 82 (noted); Mariau 1994: 254 (noted); Suzuki 1994: 340 (hind wing venation); Jolivet and Hawkeswood 1995: 144 (host plants); Staines 1996(1997): 7 (Nicaraguan species), 1997: 412 (Uhmman species list), 2002b: 744 (key, genera), 2004: 309 (host plants); Farrell 1998: 557 (phylogeny); Staines and Staines 1999: 522 (Baly species list); Farrell and Sequeira 2004: 180 (evolution); Chaboo 2007: 21 (noted); Flowers and Chaboo 2009: 6 (noted).

*Poecilalurnus* Jacobson 1899: 247. Type species: *Hispa bipunctatus* Olivier, by monotypy. Weise 1910: 103 (synonymy), 1911a: 12 (catalog), 1911b: 18 (catalog); Fischer 1935: 264 (revision).

**Generic Description.** Large (16-38 mm); convex; oblong-elongate. Head: frons slightly concave; often with sulcus(i) or carina; setose or not. Antenna: slender, filiform, with 11-antennomeres, extending to at least humerus; antennomere 1 short, thick; 2 no more than subequal in length to 1; 3 at least as long as 4 to 5 combined; 6 to 10 decreasing in length, thinner than preceding, 11 usually longer than 10, rounded or pointed at apex. Pronotum: highly convex, more so anteriorly; wider than long, widest at base; glabrous or finely pubescent; lateral margin sinuate, bisinuate, or angulate, margined or not; basal margin bisinuate. Scutellum: cordate or cuniform. Elytron: oblong-oval, convex; lateral and apical margins smooth, margined or slightly laminate; apices individually rounded; some species with distinct costae, others with faint costae, others without costae; sparsely pubescent. Venter: usually punctate and pubescent.

**Taxonomic placement.** *Alurnus* belongs in the tribe Alurnini Chapuis, 1875 (Staines 2002b). This tribe consists of six genera distinguished by their large size (14-39 mm), the pronotum having a tuft of setae in each angle, and the elytral punctuation not forming rows.

*Alurnus* can be distinguished from the other genera of Alurnini by the following combination of characters: the pronotum is much narrower than the base of the elytra; the antennae are filiform, with antennomere 3 longer than 4 and 5 combined; the epipleuron of the elytra is setose posteriorly; and the labrum is impressed anteriorly.

**Biology.** The only work on the biology of this genus is with *Alurnus humeralis* Rosenberg from Ecuador (Morien and Vásquez 1963, Santos 1968a, b). Oviposition occurs on tender shoots. The host plant is damaged by both adults and larvae. Larvae feed on tender growth of the palm heart, which is partly to totally skeletonized. Adults, feeding on younger unfurled leaves, remove long strips of leaf tissue parallel to the leaf veins. There are 2 to 3 generations each year. Damaged plants may be attacked by secondary pests.

**Key to the species of *Alurnus***

1. Pronotum setose (at least laterally) ..... 2
- Pronotum glabrous ..... 9
  
- 2(1). Elytra distinctly costate (Fig. 4, 5, 12) ..... 3
- Elytra not distinctly costate (Fig. 1-3, 6-11, 13-22) ..... 5
  
- 3(2). Vertex of head setose; each elytron with 6 costae; head, antenna, pronotum, scutellum, legs, and venter black; elytra yellowish-brown at base, dark red apically; total length 33-28 mm; Colombia, Ecuador; Fig. 6 ..... ***A. costalis* Rosenberg**
- Vertex of head not setose; each elytron with 4 or 5 costae ..... 4
  
- 4(3). Elytral interspaces finely punctate; front of head rugose; head, pronotum, scutellum, and legs black; elytra yellow with suture, four costae, and basal margin black; total length 33 mm; Colombia; Fig. 5 ..... ***A. chapuisi* Uhmman and Jolivet**
- Elytral interspaces moderately punctate; front of head not rugose; head, antennae, pronotum, scutellum, venter, and legs black; elytra yellow with large blue-red spot on apical half; total length 24-30 mm; Ecuador; Fig. 12 ..... ***A. horni* Uhmman**
  
- 5(2). Vertex of head setose; head, antennae, pronotum, scutellum, venter (epipleuron may be pale), and legs black; elytra dark blue-black with yellowish-brown markings: basal spot from scutellum to humerus, oblique transverse band from lateral margin below humerus to suture, band on apical quarter; total length 25 mm; Bolivia, Peru; Fig. 16 ..... ***A. obliquus* Uhmman**
- Vertex of head not setose ..... 6
  
- 6(5). Sutural angle of elytra with small tooth ..... 7
- Sutural angle of elytra without small tooth; head, antennae, scutellum, legs, and venter (except abdominal sterna laterally) black; pronotum yellow with disc black from base to apex; elytra yellow with black humeral vitta, apical margin black, suture black, and black spot on disc after middle; some specimens with large black spot on apical half of elytra; total length 19-22 mm; Ecuador; Fig. 15a, 15b ..... ***A. mutabilis* Waterhouse**
  
- 7(6). Vertex of head rugose; head, antennae, scutellum, legs, and venter (except apical third of last abdominal sternite) bluish-black; pronotum reddish with apical and basal margins black; elytra yellow with black sutural vitta, black submarginal vitta, black oblique humeral vitta and black macula near end of humeral vitta; total length 20-24 mm; Brazil, Colombia, Venezuela; Fig. 14 ..... ***A. lansbergei* Sallé**
- Vertex of head punctate ..... 8
  
- 8(7). Pronotum with surface finely punctate; elytra without faint costa; head, antennae, mouthparts, pronotum (some red laterally), venter, and legs shining black; elytra yellowish with sutural vitta, lateral and apical margins black, with 8 black spots- 4 anteriorly, 2 large on the humerus and 2 small near suture; 2 spots on anterior third and 2 others as large transverse bands behind middle; total length 20 mm; Colombia, Venezuela ..... ***A. octopunctatus* Fairmaire**
- Pronotum with surface rugose-punctate; elytra with faint costa; antennae, head, pronotum, scutellum, legs, and venter black; elytra dark red; total length 28.9 mm; Ecuador; Fig. 8 ..... ***A. dallieri* Pic**
  
- 9(1). Vertex of head smooth; head, antennae, pronotum, scutellum, and legs black; elytra yellow with apical margin black and two black spots beyond middle; abdomen yellowish with brownish spots; total length 20.5-31.0 mm; Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela; Fig. 3 ..... ***A. bipunctatus* Olivier**
- Vertex of head punctate or rugose ..... 10

- 10(9). Vertex of head with at least one sulcus or carina ..... 14  
 — Vertex of head without sulcus or carina ..... 11
- 11(10). Antennomeres 1 and 2 subequal in length; head, antennae, scutellum, venter (except paler apex of abdominal sternite 5), and legs black; pronotum red with black anterior margin; elytra yellow; total length 22-33 mm; Brazil, Ecuador, French Guiana, Peru, Suriname; Fig. 11 ..... **A. grossus Fabricius**  
 — Antennomeres 1 and 2 not subequal in length ..... 12
- 12(11). Head depressed between eyes; antennomere 1 cylindrical; anterior margin of pronotum without tooth; head, pronotum, legs, scutellum, and venter black; elytra yellow with two black spots; total length 30-33 mm; Colombia, Panama; Fig. 4 ..... **A. boucardi Rosenberg**  
 — Head not depressed between eyes ..... 13
- 13(12) Antennomere 1 transverse; anterior margin of pronotum with tooth in anterior angle; head, antennae, scutellum, and legs black; pronotum red; elytra yellow with three black spots- 1 oblong behind scutellum; 2 large, irregularly shaped postmedially on disc; 3 on humerus (absent on some specimens); total length 22-25 mm; Brazil, Ecuador, Peru; Fig. 1 ... **A. batesii Baly**  
 — Antennomere 1 subglobose; anterior margin of pronotum with tooth on each side of head; head, antennae, pronotum, scutellum, legs, and venter metallic blue-green; elytra yellowish with spot at humerus, irregular orbicular spot just behind scutellum, and apical third metallic blue-green; total length 22 mm; Bolivia; Fig. 7 ..... **A. crenatus Staines, new species**
- 14(10). Vertex of head rugose ..... 15  
 — Vertex of head punctate ..... 17
- 15(14). Vertex of head with medial sulcus only ..... 16  
 — Vertex of head with 3 sulci; head, pronotum, scutellum, venter (except apical sternite yellowish), and legs black; elytra with apical quarter and three large black spots; total length 15.7-25.0 mm; Colombia, Costa Rica, Panama, Venezuela; Fig. 19 ..... **A. salvini Baly**
- 16(15). Antennomere 1 cylindrical; lateral margin of pronotum notched; head, antennae, scutellum, legs, and venter shining black; pronotum reddish with black basal spot which varies greatly in extent; elytra pale yellow with a black central spot and narrow vitta along apical margin; total length 28-37 mm; Argentina, Bolivia, Brazil, Ecuador, Peru, Venezuela; Fig. 17 ..... **A. orbignyi Guérin-Méneville**  
 — Antennomere 1 subglobose; lateral margin of pronotum not notched; head, antennae, legs, and venter black; scutellum black with reddish spots; pronotum red; elytra yellow with black spot margined in red at humeral knob, black spot centrally just beyond middle; total length 27-37 mm; Bolivia, Colombia, Ecuador, Peru; Fig. 13 ..... **A. humeralis Rosenberg**
- 17(14). Anterior angle of pronotum rounded ..... 18  
 — Anterior angle of pronotum angulate or toothed ..... 21
- 18(17). Vertex of head with five sulci; head, antennae, scutellum, legs, and venter black; pronotum red with black apical and basal margins; elytra yellow with apical quarter, humeral callus, medial spot, and curved transverse fascia black; total length 19-27 mm; Colombia, Costa Rica, Nicaragua, Panama; Fig. 18 ..... **A. ornatus Baly**  
 — Vertex of head with medial sulcus only ..... 19
- 19(18). Sutural angle of elytra with tooth; head, pronotum, antennae, scutellum, and legs black; elytra brick-red with transverse black band from humerus to suture (absent in some specimens),

- black transverse band behind middle, lateral (after middle) and apical margins black, suture darkened or black; venter black, last abdominal sternite reddish on apical margin, others yellowish laterally; total length 19-24 mm; Brazil, Peru; Fig. 9 ..... ***A. eckardtae* Günther**
- Sutural angle of elytra without tooth ..... **20**
- 20(19). Lateral margin of pronotum evenly arcuate from base to apex; head, antennae, scutellum, tibiae, tarsi, and venter (except last 2 abdominal sterna) black; femora reddish (except apex black); pronotum yellow with large black medial spot; elytra yellow with lateral and apical margins black, suture black, with a wide basal sutural vitta which is obsolete before middle, a black oblique humeral vitta which is obsolete at middle, and a transverse black band after middle which does not extend to suture or lateral margin; total length 17-20 mm; Ecuador; Fig. 20 .  
..... ***A. secerendus* Uhmann**
- Lateral margin of pronotum sinuate and divergent for basal three-quarters, then rounded and convergent; head, pronotum, antennae, scutellum, legs, and venter black; elytra yellow with 3 black transverse bands- 1 semicircle from humerus to puncture row 1; 2 irregular just behind middle, 3 the apical quarter; total length 17-25 mm; Colombia, Panama; Fig. 22 .....  
..... ***A. undatus* Brême**
- 21(17). Anterior angle of pronotum with tooth ..... **22**
- Anterior angle of pronotum without tooth; head, antennae, pronotum, scutellum, venter, and legs dark metallic blue; elytra yellow with apical quarter dark metallic blue; total length 21.5-25.0 mm; Brazil, Guyana; Fig. 10 ..... ***A. elysianus* Thomson**
- 22(21). Vertex of head punctate, with medial sulcus and lunate depression; head, antennae, scutellum, pronotum, and venter shiny greenish-black; elytra pale yellow (may have a reddish tinge at humerus and laterally); with lateral (from just behind humeri) and apical margins black, with three small black spots as follows- 1 immediately behind humerus, 2 near suture about a third from base, 3 center of elytron behind humerus and extending to apex; total length 16 mm; Ecuador; Fig. 21 ..... ***A. sexguttatus* Rosenberg**
- Vertex of head punctate-striate, with medial carina and without lunate depression; head (except reddish front), antennae, and legs black; pronotum blood-red; scutellum black with reddish border; elytra blood-red basally, yellowish apically, with 3-5 black spots near humerus; venter with pro- and mesosterna black, metasternum black with 2 oblique red areas, abdominal sterna 1-4 diffuse black and yellow, sternite 5 yellowish; total length 37 mm; Bolivia; Fig. 2 .....  
..... ***A. bicolor* Staines, new species**

### ***Alurnus batesii* Baly 1864**

(Figure 1)

*Alurnus batesii* Baly 1864: 334 [holotype: Brazil, Ega (BMNH)]. Baly 1869: 367 (noted); Waterhouse 1881: 264 (distribution); Weise 1910: 103 (key), 1911a: 12 (catalog), 1911b: 19 (catalog); Fischer 1935: 266 (revision); Uhmann 1957a: 36 (catalog); Staines and Staines 1999: 522 (Baly species list).

*Alurnus batesi* Baly. Gemminger and Harold 1876: 3605 (*lapsus calami*, catalog); Donckier 1899: 557 (catalog); Jacobson 1899: 251 (revision); Blackwelder 1946: 721 (faunal list); Guérin 1953: 99 (faunal list); Papp 1953: 31 (catalog).

*Alurnus batesi triangularis* Jacobson 1899: 251 [type: Ecuador?, depository unknown]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 266 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 31 (catalog).

**Description.** Head, antennae, scutellum, and legs black; pronotum red; elytra yellow, usually with three black spots- 1 oblong behind scutellum; 2 large, irregularly shaped postmedially on disc; 3 on humerus (absent on some specimens). Head: vertex punctate, rounded, without sulcus; large rugose punctures present laterally behind eye; front and clypeus punctate; clypeus with fringe of setae apically.

Antenna: antennomere 1 transverse, longer than 2; 2 transverse, short, narrower than 1; 3 cylindrical, more than 2x length of 1 and 2 combined; 4 0.5x length of 3, widens apically; 5-10 decreasing in length; 11 longer than 10, pointed at apex; sparsely punctate, each puncture with pale seta. Pronotum: lateral margin arcuate from base to just beyond middle then strongly rounded to anterior angle; anterior angle with smooth obtuse tooth; posterior angle oblique; surface irregularly punctate, with punctures more dense laterally and basally; slight transverse basal impression present; glabrous; pronotal length 4.0 mm; pronotal width 5.0-6.0 mm. Scutellum: cordate; punctate. Elytron: humerus produced, slightly rounded; lateral and apical margins smooth, slightly explanate; suture angle with small tooth; apex slightly notched; with slight costa from humerus obliquely to just beyond middle; elytral width 10.0-10.5 mm; elytral length 18-19 mm. Leg: punctate, each puncture with pale seta. Venter: pro-, meso-, and metasterna punctate medially, rugose laterally; abdominal sterna punctate, each puncture with pale seta; first sternite pustulate in middle at base; all sterna slightly rugose laterally. Total length: 22-25 mm.

**Larval host plant.** Unknown.

**Distribution.** Brazil, Ecuador, Peru.

**Specimens examined. Brazil.** Amazonas: no further data (USNM, 2), x.1945 (AMNH, 1); São Paulo (USNM, 1, PSUC, 1); Ega (BMNH, 1); São Paulo de Olivença, Rio Selimões (NMW, 1). **Ecuador.** No further data (BMNH, 2). Morona Santiago: Mangoissa R., 650 m, 1940 (BMNH, 1). Pastaza: Sarayacu (BMNH, 1). **Peru.** Condorcanqui: Rio Santiago, 25.vi.1928 (AMNH, 1). Cusco: km 165 on Cosñipata Hwy., Cosñipata, 13.x-25.xi.1981 (FMNH, 3). Loreto: Iquitos (USNM, 1), 11.xi.1993 (USNM, 1). Total: 17.

### ***Alurnus bicolor* Staines, new species**

(Figure 2)

**Type Material.** Holotype: Buena Vista, Colombia/ B. C. Patchett Coll./ Holotype *Alurnus bicolor* Staines, des. C. L. Staines 2012 [red label] (USNM). Paratypes (5): Panamá, Darien Prov., Cana Station, 27.vi.2009, Boca de Cupe trail, km 0-7, 7°45'N 77°41'W, 500 m, ARE, *Chamaedorea* large sp., L. Sekerka & D. Windsor lgt. [green printed label] /Paratype *Alurnus bicolor* Staines, des. C. L. Staines 2012 [red label] (BMNH, DWC, LSC).

**Description.** Head (except reddish front), antennae, and legs black; pronotum blood-red; scutellum black with reddish border; elytra blood-red basally, yellowish apically, with 3-5 black spots near humerus; venter with pro- and mesosterna black, metasternum black with 2 oblique red areas, abdominal sterna 1-4 diffuse black and yellow, sternite 5 yellowish. Head: vertex striate-punctate, each puncture with pale seta, depressed between eyes, with tuft of setae near each eye, medial carina present; front punctate, each puncture with pale seta; clypeus densely punctate, each puncture with pale seta, with fringe of long setae on apical margin. Antenna: antennomere 1 subglobose, slightly longer than 2; 2 transverse; 3 elongate, cylindrical, more than 2x length of 1 and 2 combined; 4-10 cylindrical, decreasing in length; 11 slightly longer than 10, rounded at apex; all punctate, each puncture with pale seta. Pronotum: lateral margin bisinuate, angulate in middle, and converging to anterior angle; anterior angle with obtuse tooth; posterior angle acute, projecting; surface punctate-striate, punctures finer along anterior margin; with oblique subtuberculate area laterally; basal impression absent; glabrous; pronotal length 5.0-6.0 mm; pronotal width 6.5-7.0 mm. Scutellum: cuniform, depressed medially; punctate. Elytron: humerus produced, slightly angulate; lateral and apical margins smooth, slightly explanate; apical margin with fringe of pale setae; sutural angle acute, without tooth; slight costa present from humerus obliquely to just beyond middle; elytral length 28.0-30.0 mm; elytral width 13.0-14.0 mm. Leg: slender; punctate, each puncture with pale seta. Venter: pro-, meso- and metasterna punctate, each puncture with pale seta; abdominal sterna 1-4 impunctate basally, punctate apically, each puncture with pale seta; sternite 5 densely punctate, each puncture with pale seta; sterna 3-4 pustulate laterally. Total length: 37.0 mm.

**Etymology.** From bicolor for the bicolored elytra.

**Larval host plant.** Adults have been collected from *Chamaedorea* sp. (Arecaceae).

**Distribution.** Colombia, Panama.

***Alurnus bipunctatus* Olivier 1792**

(Figure 3)

- Hispa bipunctata* Olivier 1792: 96 [types: French Guiana, Suriname (MNHN?)]. Olivier 1808: 760 (noted). *Alurnus bipunctatus* (Olivier). Dejean 1837: 387 (checklist); Guérin-Ménéville 1840: 332 (noted); Baly 1858: 29 (redescription); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 557 (catalog); Jacobson 1899: 249 (revision); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Uhmann 1932a: 36 (museum list), 1953: 48 (faunal list), 1957a: 36 (catalog); Fischer 1935: 272 (revision); Blackwelder 1946: 721 (faunal list); Guérin 1953: 99 (faunal list); Papp 1953: 31 (catalog); Haitlinger 1989: 286 (mites); Santiago-Blay and Fain 1994: 410 (mites); Chaboo 2007: 150 (phylogeny).
- Alurnus apicalis* Guérin-Ménéville 1840: 332 [type: Cayenne, depository unknown]. Jacobson 1899: 249 (revision); Weise 1910: 103 (key), 1921: 175 (noted); Uhmann 1966: 270 (types).
- Alurnus apicalis* Blanchard (not Guérin-Ménéville) 1845: 211 [type: Bolivia, depository unknown]. Papp 1953: 30 (catalog); Haitlinger 1989: 286 (parasites).
- Alurnus bipunctatus deficiens* Jacobson 1899: 249 [type: locality not specified, depository unknown]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 272 (revision).
- Alurnus bipunctatus apicalis* Guérin-Ménéville. Baly 1858: 29 (noted); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 557 (catalog); Jacobson 1899: 249 (revision); Weise 1911a: 12 (catalog), 1911b: 19 (catalog), 1921: 175 (noted); Fischer 1935: 273 (revision); Blackwelder 1946: 721 (faunal list).
- Alurnus bipunctatus* Baly ex parte (not Olivier) 1858: 29. Jacobson 1899: 250 (revision).
- Alurnus cupido* Thomson 1856: 117 [type: Amazonas, depository unknown]. Baly 1858: 29 (synonymy), 1869: 367 (noted); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog).
- Alurnus bipunctatus olivieri* Jacobson 1899: 249 [type: locality not specified, depository unknown]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 273 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 31 (catalog); Uhmann 1957b: 305 (catalog), 1964: 407 (catalog).
- Alurnus bipunctatus* var. B. Olivier 1808: plate 1, fig. 2 (illustration); Baly 1858: 29 (noted); Uhmann 1953: 47 (faunal list).
- Alurnus apicalis* var. A. Guérin-Ménéville 1840: 332 [type: Bolivia, depository unknown]. Fischer 1935: 273 (revision); Uhmann 1966: 270 (nomenclature).
- Alurnus apicalis guerini* Jacobson 1899: 250 [type: locality not specified, depository unknown]. Weise 1911a: 12 (catalog), 1911b: 19 (catalog); Fischer 1935: 273 (revision); Papp 1953: 31 (catalog).

**Description.** Head, antennae, pronotum, scutellum, and legs black; elytra yellow with apical margin black and two black spots beyond middle; abdomen yellowish with brownish spots. Head: vertex finely punctate, not depressed between eyes; front punctate; clypeus punctate, each puncture with pale seta, no fringe present apically. Antenna: antennomere 1 subglobose, thicker than 2; 2 subequal in length to 1; 3 cylindrical, more than 2x length of 1 and 2 combined; 4-5 cylindrical, subequal in length, each shorter than 1 and 2 combined; 6-10 cylindrical, decreasing in length; 11 length 1.5x length of 10, pointed at apex. Pronotum: lateral margin bisinuate; anterior angle rounded; posterior angle acute; slight transverse basal impression present; surface rugose-punctate; setae present laterally; pronotal length 4-5 mm; pronotal width 5-7 mm. Scutellum: cordate; slightly punctate. Elytron: humerus produced, rounded; lateral and apical margins smooth, slightly explanate; sutural angle rounded, without tooth; irregularly punctate; without costae; elytral width 9.5-11.0 mm; elytral length 17-25 mm. Leg: punctate, each puncture with pale seta. Venter: pro-, meso-, and metasterna punctate medially, each puncture with pale seta, rugose laterally; abdominal sterna punctate, with some setae. Total length: 20.5-31.0 mm.

**Larval host plant.** Unknown.

**Distribution.** Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela.

**Specimens examined.** No data (USNM, 3; BMNH, 5); South America (BMNH, 1). ? : Amazonas (BMNH, 1; PSUC, 1); REYES, viii.05 (BPBM). **Bolivia.** ? : Prov. Del Sara, 450 m (CMNH, 1). Potosí: Tanana (USNM, 1). Santa Cruz: Buena Vista (MHMB, 1); elev. 350 m, near Hotel Flora and Fauna, 11/15/03 (FSCA, 1); Santa Cruz, 1922 (USNM, 1), xii.1958 (USNM, 1); Portachuela, ii.1950 (USNM, 1), 18.iii.1951 (USNM, 2); Potrerillos del Guenda, 40 NW Santa Cruz, 22.xi-12.xii.2005 (FSCA). **Brazil.** Amazonas: no further data (BMNH, 2); Ega (BMNH, 1); Fontiboa (USNM, 1; BMNH, 1; ZIN, 1); 30 km W Itaquatiara, Rio Urubu, 13.i.1981 (CMNH, 1); Maues, vi.1939 (USNM, 1); Taperina-Santarum (USNM, 1); Santarum (USNM, 1; CMNH, 9); Taperina (CMNH, 1). Ceará: Rio Tapajós (BMNH, 1). Pará: no further data (USNM, 1); Obidos, x.1943 (AMNH, 1); Bragance (USNM, 1); Yurati, 9.iii.1997 (NCSU). Rondonia: 62 km SW Ariquemes, nr. Fzda. Rancho Grande, 5-17.x.1993 (FSCA, 1); 62 km S. Ariquemes Fazenda Rancho Grande, 10°53'S 62°80'W, 165 m, 19-29.ix.1996 (LACM, 1), 22-22.xi.1991 (USNM); 62 km SE Ariquemes, 7-18.xi.1995, 17-24.iii.1989 (BLCU). Santa Catarina: Nova Teutonia, 27°11'B 50°23'L, 500 m (LACM, 1). **Colombia.** No further data (MHMB, 1); Tarapacá, 23.xi.1946 (AMNH, 1). **French Guiana.** No data (USNM, 2; BMNH, 5); Cayenne (USNM, 3; PSUC, 1); St Laurent (MHMB, 1); no further data (NMW, 6). **Guyana.** Kartabo, 10.viii.1926 (PMNH). **Peru.** Junín: Satipo, vii.29.1940, vii.27.1940, vii.15.1940, vii.20.1940, viii.4.1940, viii.15.1940, vii.23.1940, viii.3.1940 (4), 10.x.1939, 26.1x.1939, 12.viii.1940, 8.viii.1940, 2.xi.1939, 8.viii.1940, no date (LACM, 20, MHMB, 2), xii.1945 (AMNH, 1), ix.1944 (AMNH, 3), xi.1944 (AMNH, 2), x.1944 (AMNH, 1), x.1946 (AMNH, 1), viii.1946 (AMNH, 1), xi.1948 (CAS, 1). Loreto: Yarinacocha, 28.vii.1972 (USNM, 1); Rio Napo, 50 km upstream of Amazon, 22.iii.2004 (USNM, 1); Pucallpa, i.28.1969 (CMNC, 1). Madre de Dios: Rio Tambopata Reserve, 30 air km SW Puerto Maldonado, 1-26.xi.1982 (CAS, 2); Rio Tambopata Res., 30 air km SW Pto. Maldonado, 290 m, 2-5.xi.1979 (FSCA). Ucayali: Middle Rio Ucayali, ii.1926 (AMNH, 1); Pucallpa, Rio Ucayali, 200 m (MZSP, 1); Pucallpa, 6.ix.1954 (CAS, 1), 12.ix.1954 (CAS, 1). **Venezuela.** Monagas: Caripito, 17.v.1942 (AMNH, 1). Total: 118.

### ***Alurnus boucardi* Rosenberg 1898**

(Figure 4)

*Alurnus boucardi* Rosenberg 1898: 94 [holotype: Colombia/ F. C. Bowditch Coll./ M.C.Z. type 25813 (red label)/ *A. boucardi* Rosenberg type (MCZC)]. Donckier 1899: 613 (catalog); Jacobson 1899(1900): x (noted); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 20 (catalog); Fischer 1935: 276 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 31 (catalog); Uhmman 1957a: 37 (catalog).

*Alurnus boucardi* Rosenberg. Haitlinger 1989: 286 (*lapsus calami*, mites); Santiago and Fain 1994: 410 (mites).

**Description.** Head, pronotum, legs, scutellum, and venter black; elytra yellow, with large irregularly shaped black spot present behind middle. Head: vertex without sulcus, slightly depressed between eyes; surface rugosely punctate in front. Antenna: antennomere 1 cylindrical, thick; 2 shorter than 1; 3 more than 2.5x length of 1 and 2 combined; 4-10 decreasing in length; 11 longer than 10, rounded at apex; punctate, each puncture with pale seta. Pronotum: lateral margin bisinuate; anterior angle obtuse; posterior angle acute; basal half slightly depressed laterally; rugosely punctate basally, punctate apically; subtuberculate laterally; glabrous; pronotal length 4 mm; pronotal width 5-6 mm. Scutellum: cordate; densely punctate. Elytra: lateral and apical margins smooth, slightly explanate; sutural angle with small tooth; humerus produced, rounded; surface coarsely punctate, becoming more finely punctate toward apex; faint costa present from humerus to just beyond middle, curving toward suture; elytral width 12-14 mm; elytral length 24-27 mm. Leg: sparsely punctate, each puncture with pale seta; base of tibia with fringe of pale setae on inner margin; tarsal setae light brown. Venter: pro-, meso-, and metasterna punctate, each puncture with pale seta; abdominal sterna 1 and 5 punctate, each puncture with pale seta; sterna 2-4 impunctate basally, with row of punctures with pale seta apically. Total length: 30-33 mm.

**Larval host plant.** Unknown.

**Distribution.** Colombia, Panama.

**Specimens examined.** no data (BMNH, 1) **Colombia.** No data (USNM, 3; FMNH, 1; AMNH, 1; BMNH, 2; MCZC, 4). Antioquia: N. Granade (USNM, 1; BMNH, 1); Rio Opón, 20.xii.1947 (AMNH, 1); Alto Rio Opón, 900 m, 16.vi.1948 (AMNH, 1). Cauca: Rio Dagua (PSUC, 1). Vaupes: Rio Mitú (PSUC, 1). Boyaca: vii.1936 (USNM, 1). **Panama.** Darien: no further data (BMNH, 1). Panama: Serro Campana, 750 m, 18.vi.1996 (HPSC, 1). Total: 21.

***Alurnus chapuisi* Uhmann and Jolivet 1952**

(Figure 5)

*Alurnus chapuisi* Uhmann and Jolivet 1952: 2 [holotype: Colombia, Al. Wallisi, N. Grenade (IRSNB)]. Uhmann 1957a: 37 (catalog); Staines 1997: 412 (Uhmann species list).

**Description.** Head, pronotum, scutellum, and legs black; elytra yellow with suture, four costae, and basal margin black. Head: vertex rugose, finely punctate, medial sulcus absent; clypeus smooth, shining; front pilose; labrum setose. Antenna: (only basal two antennomeres present in type) antennomere 1 subglobose; 2 transverse, 0.5x length of 1. Pronotum: 2x as wide as long; lateral margin sinuate, rounded just before middle; anterior angle with blunt tooth; posterior angle with large rounded tooth; surface finely punctate; coarse transverse grooves present, finer on anterior quarter; transverse basal impression present; densely covered with yellow setae laterally; pronotal length 6.0 mm; pronotal width 7.0 mm. Scutellum: cordate; rugosely punctate; rounded at apex. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle with tooth; humerus prominent, rounded; with 5 strongly convex costae; costa 1 along scutellar row, short, uniting with suture; costa 2 beginning at basal margin and is obliquely curving, uniting with suture and continues to apex; costa 3 beginning at basal margin, parallel to 1 until middle, obsolete after middle; costa 4 arising with 5 near humeral callus, extending obliquely toward and joining suture; costa 5 parallel to lateral margin, uniting with costa 2 at apex; interspaces wide, flat, finely punctate; elytral length 28.0 mm; elytral width 12.0 mm. Leg: punctate, each punctate with pale seta; tibia with row of setae on inner margin and tuft at apex. Venter: finely punctate, each puncture with golden-yellow seta; last abdominal sternite truncate apically. Total length: 33.0 mm.

**Larval host plant.** Unknown.

**Distribution.** Colombia.

**Specimens examined.** **Colombia.** Antioquia: New Grenade (IRSNB). Total: 1.

***Alurnus costalis* Rosenberg 1898**

(Figure 6)

*Alurnus costalis* Rosenberg 1898: 93 [holotype: R. Dagua, Colombia, W. Rosenberg/ F. C. Bowditch Coll./ *A. costalis* Rosenberg type/ M.C.Z. type 25814 (red label) (MCZC)]. Donckier 1899: 613 (catalog); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Campos 1921: 96 (faunal list); Fischer 1935: 268 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 31 (catalog); Uhmann 1957a: 37 (catalog).

*Alurnus costalis bipartita* Pic 1926: 9 [type: Ecuador (MNHN)]. Pic 1934b: 8 (noted); Fischer 1935: 268 (revision); Blackwelder 1946: 721 (faunal list); Uhmann 1957a: 37 (catalog); Descarpentries and Villiers 1959: 142 (types).

*Alurnus costalis niger* Pic. Zoological Record 1926: 238 [*nomen nudum*]. Blackwelder 1946: 721 (faunal list).



**Description.** Head, antenna, pronotum, scutellum, legs, and venter black; elytra ochre-yellow in basal half, reddish in apical half. Head: vertex punctate, setose, medial sulcus present, not depressed between eyes; front punctate; clypeus punctate with fringe of setae apically. Antenna: antennomere 1 elongate, expanding apically, longer than 2; 2 cylindrical, very short; 3 length 3x length of 4; 4-5 cylindrical, subequal in length, each 0.33x length of 3; 6-10 decreasing in length; 11 longer than 10; punctate, each puncture with pale seta. Pronotum: transverse; lateral margin sinuate, anterior angle acute; posterior angle with large obtuse tooth; disc slightly depressed apically; surface rugosely punctate; deeply depressed; densely covered with gray setae; pronotal length 5-6 mm; pronotal width 6-7 mm. Scutellum: cordate; coarsely punctate. Elytra: margined laterally and apically; sutural angle acute, without tooth; humerus rounded, produced; sinuate behind humerus; with six well-developed costae, tending to converge and unite apically- costa 1 on suture, entire; 2 confluent with 1 at base, then diverging for one-fifth elytral length, then joining 1 again; 3 at base confluent with 1 and 2, then diverging, then parallel to suture to apex; 4 weak from base to humerus, then prominent; 5 beginning after humerus, continuing to apical quarter; 6 along lateral margin at base; area between costae densely punctate, more coarsely at base, occasional punctures on costae; elytral width 12-14 mm; elytral length 25-31 mm. Leg: punctate, each puncture with pale seta. Venter: punctate, each puncture with pale seta; abdominal sterna 3-4 pustulate laterally. Total length: 33-38 mm.

**Larval host plant.** Unknown.

**Distribution.** Colombia, Ecuador.

**Specimens examined.** **Colombia.** Nariño: R. N. La Planada, Parcela Olga, 16.vii-2.viii.2000, 1850 m, 1°15'N 78°15'W (IAVH, 1). Valle: Colima Valley, 14.iv.1983 (CMNH). **Ecuador.** No further data (USNM, 1). Cachabí: low c., i.97 (USNM, 1); Cachabí to Paramba, ii.97 (USNM, 1). Total: 5.

### ***Alurnus crenatus* Staines, new species**

(Figure 7)

**Type Material.** Holotype: Rio Bopi, Dept LaPaz, Bolivia, May 1925, GL Harrington/ Holotype *Alurnus crenatus* Staines, des C. L. Staines 2012 [red label] (USNM).

**Description.** Head, antennae, pronotum, scutellum, legs, and venter metallic blue-green; elytra yellowish with spot at humerus, irregular orbicular spot just behind scutellum, and apical third metallic blue-green. Head: vertex finely punctate, broad medial sulcus present ending in fovea near antennal bases, not depressed between eyes; front punctate; clypeus punctate, each puncture with long seta; with tuft of setae near each eye. Antenna: antennomere 1 subglobose, longer than 2; 2 transverse; 3 more than 2x length of 1 and 2 combined, cylindrical; 4-5 cylindrical, subequal in length, each 0.33x length of 3; 6-10 cylindrical, decreasing in length; 11 missing in holotype; punctate, each puncture with pale seta. Pronotum: lateral margin notched basally then regularly rounding to anterior angle; anterior angle angulate; blunt tooth present on each side of head on anterior margin; surface densely punctate; basal impression present medially, oblique depression present from anterior angle to middle not reaching disc; glabrous; pronotal length: 4.0 mm; pronotal width: 5.0 mm. Scutellum: cordate; micropunctate. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle with small tooth; humerus prominent, slightly angulate; irregularly punctate; without costae; elytral length 17.0 mm; elytral width: 8.0 mm. Leg: slender; punctate, each puncture with pale seta. Venter: pro-, meso-, metasterna, and abdominal sterna punctate, each puncture with pale seta; abdominal sternite 2 rugose medially, 3-4 pustulate laterally. Total length: 22.0 mm.

**Etymology.** From *crenata* (Latin) meaning notch, for the notched base of the pronotum.

**Larval host plant.** Unknown.

**Distribution.** Bolivia.

***Alurnus dallieri* Pic 1926 (new status)**

(Figure 8)

*Alurnus costalis dallieri* Pic 1926: 9 [holotype: Equateur (handwritten)/ sous condition ex. Clermont (handwritten)/ *Alurnus costalis* v. nov. Dallieri mihi (handwritten)/ Type (handwritten)/ Museum Paris Coll. M. Pic/ Holotype (red label)/ MNHN EC 3050 (MNHN)]. Fischer 1935: 268 (revision); Blackwelder 1946: 721 (faunal list); Uhmann 1957a: 37 (catalog); Descarpentries and Villiers 1959: 142 (types).

**Description.** Antennae, head, pronotum, scutellum, legs, and venter black; elytra dark red. Head: vertex micropunctate, medial sulcus present, depression present between antennal bases; front and clypeus punctate. Antenna: antennomere 1 subglobose, robust; 2 transverse, short, 0.5x length of 1; 3 cylindrical, longer than 1 and 2 combined; 4-10 cylindrical, decreasing in length; 11 longer than 10, bluntly pointed at apex; punctate, each puncture with pale seta. Pronotum: lateral margin shallowly rounded for basal three-quarters, then converging to apex, margined; anterior angle with large, rounded tooth; posterior angle with small tooth; surface moderately setose, densely rugose-punctate; large transverse basal impression present medially; pronotal length 4.5 mm; pronotal width 6.7 mm. Scutellum: cordate; moderately punctate, each puncture with seta. Elytron: lateral margin straight for basal two-thirds then narrowing to acute sutural angle; humerus moderately produced; slightly constricted behind humerus; faint costae present on disc; surface moderately, sparsely punctate; elytral length 23.9 mm; elytral width 9.6 mm. Leg: slender; punctate, each puncture with pale seta; tibia with tuft of setae at apex. Venter: punctate, each puncture with pale setae; punctate. Total length: 28.9 mm.

**Larval host plant.** Unknown.

**Distribution.** Ecuador.

**Specimens examined.** Ecuador. No further information (MNHN, 1). Total: 1.

***Alurnus eckardtae* Günther 1936**

(Figure 9)

*Alurnus eckardtae* Günther 1936: 273 [type: Brazil, São Paulo d'Oliveira, depository unknown]. Günther 1940: 467 (noted); Blackwelder 1946: 721 (faunal list); Papp 1953: 32 (catalog); Uhmann 1957a: 37 (catalog).

**Description.** Head, pronotum, antennae, scutellum, and legs black; elytra brick-red with transverse black band from humerus to suture (absent in some specimens), black transverse band behind middle, lateral (after middle) and apical margins black, suture darkened or black; venter black, with last abdominal sternite reddish on apical margin, others yellowish laterally. Head: vertex densely punctate, medial sulcus present, row of setae present on inner margin of each eye; front punctate, slightly rugose laterally; clypeus covered with yellowish setae. Antenna: antennomere 1 robust, longer than 2; 2 cylindrical; 3 more than 2x length of 1 and 2 combined; 4-10 cylindrical (4 length 0.33x length of 3), gradually decreasing in length; 11 subequal in length to 10, obliquely truncate at apex; 1-7 sparsely punctate, each puncture with white seta; 8-11 more densely punctate. Pronotum: lateral margin slightly sinuate then converging to anterior angle; anterior angle rounded; posterior angle acute; surface finely punctate anteriorly, strongly coarsely punctate laterally; disc at base rugose-striate; glabrous; pronotal length 4-5 mm; pronotal width 5-6 mm. Scutellum: slightly cordate; punctate. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle acute, without tooth; humerus slightly produced, rounded; surface sparsely punctate; without costae; elytral length 15-19 mm; elytral width 10-14 mm. Leg: coxa,

femur, tibia punctate, each puncture with pale seta; tibia with fringe of setae on inner apical margin. Venter: prosternum expanded behind coxae; pro- and mesosterna punctate medially, impunctate laterally; metasternum impunctate medially, slightly rugose laterally; abdominal sterna punctate; sterna 1-4 pustulate laterally; last sternite setose. Total length: 19-24 mm.

**Larval host plant.** Unknown.

**Distribution.** Brazil, Peru.

**Specimens examined. Brazil.** Amazonas: no further data (USNM, 1); São Paulo d'Oliveira (USNM, 6; CMNH, 2). **Peru.** No further data (USNM, 1). Total: 10.

### ***Alurnus elysianus* Thomson 1856**

(Figure 10)

*Alurnus elysianus* Thomson 1856: 481 [type: Amazonas, depository unknown]. Baly 1858: 30 (redescription); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog); Jacobson 1899: 249 (revision); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 273; Günther 1940: 467 (noted); Blackwelder 1946: 721 (faunal list); Guérin 1953: 99 (faunal list); Papp 1953: 32 (catalog); Uhmman 1957a: 37 (catalog), 1964: 407 (catalog); Haitlinger 1989: 284 (parasites); Santiago-Blay and Fain 1994: 409 (mites).

*Alurnus lydiae* Uhmman 1928: 289 [type: Brazil, Teffé, Amazonas (DEI)]. Uhmman 1932b: 265 (synonymy); Gaedike and Döbler 1971: 353 (types); Staines 1997: 412 (Uhmman species list).

**Description.** Head, antennae, pronotum, scutellum, venter, and legs dark metallic blue; elytra yellow with apical quarter dark metallic blue. Head: vertex densely, finely punctate, medial sulcus present, inner margin of each eye with ocular sulcus and setae; front punctate; clypeus punctate, with long pale seta in each puncture. Antenna: antennomere 1 subglobose, subequal in length to 2; 2 cylindrical; 3 length 1.5x length of 4; 4-10 cylindrical, decreasing in length; 11 longer than 10, bluntly rounded at apex; 1-10 punctate, each puncture with pale seta; 11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin evenly arcuate, slightly margined; anterior angle acute; posterior angle angulate; surface densely, finely punctate; disc with narrow longitudinal impunctate band; basal impression absent; glabrous; pronotal length 4-5 mm; pronotal width 5-6 mm. Scutellum: cordate, large; finely punctate. Elytron: lateral margin smooth, slightly explanate; apex rounded; sutural angle without tooth; humerus prominent, rounded; interspace 6 faintly costate, obliquely directed from humerus inward; surface finely punctate; elytral length 17-19 mm; elytral width 9-12 mm. Leg: punctate, each puncture with pale seta; tibia with fringe of setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate; abdominal sterna 1-4 sparsely punctate, each puncture with pale seta, postulate laterally; sternite 5 more densely punctate, each puncture with pale seta. Total length: 21.5-25.0 mm.

**Larval host plant.** Unknown.

**Distribution.** Brazil, Guyana.

**Specimens examined.** No data (BMNH, 1). **Brazil.** Amazonas: no further data (BMNH, 4; PSUC, 1); Teffé, Ega (MZSP, 1; BMNH, 5; PSUC, 1, NMW, 1), iv.1878 to 1.1879 (USNM, 4); 3.?.1878 (USNM, 1), no date (MHMB, 1), xi.1924 (AMNH, 6), xi.1928 (AMNH, 1), iii.1925 (AMNH, 1), x.1924 (AMNH, 3), i.1925 (AMNH, 2), xi.1924 (EMEC, 1), 1879 (ZIN, 1). Pará: no further data (BMNH, 1). **Guyana.** No further data (PSUC, 1). Total: 39.

### ***Alurnus grossus* Fabricius 1775**

(Figure 11)

*Alurnus grossus* Fabricius 1775: 94 [holotype: Indiis (ZMUC)]. Fabricius 1781: 115 (noted), 1787: 66 (noted), 1792: 51 (noted), 1801a: 25 (noted); Linnaeus 1788: 1666 (noted); Olivier 1792: 96 (noted), 1808: 759 (noted); Latreille 1802: 231 (noted), 1807: 49 (noted), 1810: 432 (catalog); Illiger 1804: 130 (noted); Schönherr 1808: 342 (species list); Duméril 1823: plate 20, figure 12 (illustration); Dejean 1821: 115 (collection list), 1837: 387 (checklist); Laporte 1840: 511 (noted); Guérin-Ménéville 1840: 331 (noted); Baly 1858: 27 (redescription); Chenu and Desmarest 1870: 341 (noted); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog); Jacobson 1899: 251 (revision); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 274 (revision); Blackwelder 1946: 721 (faunal list); Guérin 1953: 99 (faunal list); Papp 1953: 32 (catalog); Uhmman 1957a: 37 (catalog), 1964: 407 (catalog); Monrós 1959: 26 (illustration); Zimsen 1964: 118 (types).

*Hispa grossus* (Fabricius). Berge 1844: 87 (noted).

*Cistela curvipes* Panzer 1798: 25 [type: locality not stated, depository unknown]. Gemminger and Harold 1876: 3605 (synonymy).

*Crioceris indica* Voet 1806: 37 [type: locality not specified, depository unknown]. Baly 1858: 27 (synonymy).

*Alurnus tricolor* Olivier 1789: 127 [type: Indies orientales, depository unknown]. Jacobson 1899: 251 (synonymy); Gaedike and Döbler 1971: 361 (types).

*Alurnus grossus nigricans* Jacobson 1899: 252 [type: locality not specified, depository unknown]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 274 (revision); Papp 1953: 32 (catalog).

**Description.** Head, antennae, scutellum, venter (except paler apex of abdominal sternite 5), and legs black; pronotum red with black anterior margin; elytra yellow. Head: vertex finely punctate, medial sulcus absent, not depressed between eyes; front punctate; clypeus punctate, with fringe of setae on apical margin. Antenna: antennomere 1 subglobose, subequal in length to 2; 2 cylindrical; 3 more than 2x length of 1 and 2 combined; 4-5 subequal in length, each 0.5x length of 3; 6-10 cylindrical, decreasing in length; 11 subequal in length to 10, rounded at apex; 1-11 sparsely punctate, each puncture with pale seta. Pronotum: lateral margin sinuate and divergent for basal three-quarters, then sinuate and convergent; anterior angle acute; posterior angle with strong tooth; surface coarsely, densely punctate; broadly depressed basally; glabrous; pronotal length 4-7 mm; pronotal width 5-8 mm. Scutellum: cordate, rounded at apex; punctate. Elytron: lateral margin smooth, slightly expanding apically; lateral and apical margins slightly explanate; exterior apical angle rounded; apex slightly truncate; sutural angle without tooth; humerus prominent rounded; surface densely, finely punctate; without costae; elytral length 17-26 mm; elytral width 12-13 mm. Leg: punctate, each puncture with white seta; tibia constricted near apex, with fringe of setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate, with white seta in each puncture medially, glabrous laterally; abdominal sterna punctate, each puncture with pale seta. Total length: 22-33 mm.

**Larval host plant.** Unknown.

**Distribution.** Brazil, Ecuador, French Guiana, Peru, Suriname.

**Specimens examined.** ?: no label (USNM, 5; BMNH, 11; PSUC, 1; ZIN, 1). **Brazil.** No further data (USNM, 1); Campinas (PSUC, 1). Pará: Santarem, Oct. 1985 (LACM, 1). **Ecuador.** Pastaza: Puyo (USNM, 1); 700 ft., Rio Palenque, 47 km S. St. Domingo, 26.ii.1976 (CMNC, 1). **French Guiana.** No further data (BMNH, 10; USNM, 1; CMNH, 2; PSUC, 1; ZIN, 1; NMW, 25); Mana River (CMNH, 1); Maroni River (USNM, 1; BPBM, 1); Pied Saut, Oyapoi River (USNM, 1); St. Laurent (MHMB, 1). **Peru.** Huallaga: Upper Rio Huallaga, 9.x.1929 (AMNH, 1). Total: 68.

### *Alurnus horni* Uhmman 1935

(Figure 12)

*Alurnus tricolor* Uhmman (not Olivier) 1927: 134 [holotype: Ecuador (DEI)]. Gaedike and Döbler 1971: 361 (types); Staines 1997: 412 (Uhmman species list).

*Alurnus horni* Uhmann 1935: 90 [replacement name for *Alurnus tricolor* Uhmann]. Fischer 1935: 268 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 32 (catalog); Uhmann 1957a: 38 (catalog); Staines 1997: 412 (Uhmann species list).

**Description.** Head, antennae, pronotum, scutellum, venter, and legs black; elytra yellow with large blue-red spot on apical half. Head: vertex punctate, depressed between eyes, with two small tubercles present between eyes, with tuft of setae near each eye; front sparsely punctate; clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, longer than 2; 2 subtransverse, narrower than 1; 3 cylindrical, more than 2x length of 4; 4-5 cylindrical, subequal in length, each subequal to 1 and 2 combined; 6-10 cylindrical, decreasing in length; 11 longer than 10, pointed at apex; 1-8 sparsely punctate, each puncture with pale seta; 9-11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin sinuate; anterior angle slightly rounded; posterior angle acute; transversely rugose; punctate; basal impression absent; surface with gray setae; pronotal length 5 mm; pronotal width 6 mm. Scutellum: cordate; punctate. Elytron: lateral and apical margins slightly explanate, smooth; sutural angle with small tooth; humerus well defined; with five costae, 1 beginning at base near scutellum, then slanting obliquely to suture where it unites with first puncture row and continuing to apex; 2 slightly oblique, continues until apical quarter; 3 beginning in front of humerus then obliquely slanting to middle, then straight and becoming obsolete just past middle; 4 weak, starting at humerus then slanting obliquely toward suture, continuing to past middle; 5 beginning at humerus, parallel to lateral margin ending on apical quarter; interspaces punctate; elytral length 24-25 mm; elytral width 10-11 mm. Leg: slender; punctate, each puncture with pale seta; tibia with fringe of setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate, each puncture with white seta medially, glabrous laterally; abdominal sterna punctate, each puncture with white seta; sterna 1-4 pustulate laterally. Total length: 24-30 mm.

**Larval host plant.** Unknown.

**Distribution.** Ecuador.

**Specimens examined. Ecuador.** No further data (DEI, 2). Bolivar: Balzapampa, Route de Quito, 7.?.1893 (USNM, 1), iii-iv.1894 (USNM, 1). Total: 4.

### ***Alurnus humeralis* Rosenberg 1898**

(Figure 13)

*Alurnus humeralis* Rosenberg 1898: 94 [lectotype (here designated): Cachabe, low c., XII-96 (Rosenberg)/ F. C. Bowditch Coll./ *A. humeralis* Rosenberg type (handwritten)/ M.C.Z. type 25816 (MCZC). Paralectotype (here designated): CO-TYPE, Rosenberg, Nov. Zool. Vol. V, p. 94, Coll. Hope Oxon. (white label with red border)/ N. W. Ecuador, Low Country, River Cachabe, Cachabe, Coll. Dec. 1896 & pres. 1903 by W. F. Rosenberg/ bachabi Dec. 96/ *Alurnus humeralis* Rosenberg Cotype/ 1903, 2911/ N. W. Ecuador, Low Country, River Cochabe, Cachabe, Coll. Dec. 1896 & pres. 1903 by W. F. Rosenberg/ bachabi Dec. 96/ *Alurnus humeralis* Rosenb. = *maximus*, Jacoby/ TYPE COL: 1975, *Alurnus humeralis* Rosenberg, Hope Dep. Oxford (white label with black border) (OUMNH).]. Donckier 1899: 613 (catalog); Jacobson 1899(1900): xi (noted); Gestro 1900: 468 (noted); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 20 (catalog); Campos 1921: 96 (faunal list); Fischer 1935: 276 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 32 (catalog); Uhmann 1957a: 38 (catalog); Merino and Vásquez 1963: 6 (biology); Hartley 1965: 363 (noted); Anonymous 1968: 111 (host plants); Santos 1968a: 115 (biology), 1968b: 159 (biology); Genty et al. 1978: 330 (biology); Mariau 1988: 459 (host plants), 1999: 233 (host plants), 2001: 132 (noted); Angel 1989: 81 (museum list); Couturier and Kahn 1992: 720 (host plants); Howard and Abad 2001: 100 (host plants); Staines 2002a: 12 (types); Chávez and Rivadeneira 2003: 62 (biology); Chaboo 2007: 49 (noted); Verheye 2010: 15 (noted); Palma et al. 2011: 1 (pathogen).

*Alurnus forticornis* Weise 1910: 104 [type: Ecuador, Llanos (DEI)]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 276 (synonymy); Papp 1953: 32 (catalog); Gaedike and Döbler 1971: 348 (types).

*Alurnus maximus* Jacobson 1899: 255 [type: Ecuador, Cachabi, depository unknown]. Jacobson 1899(1900): xi (synonymy); Gestro 1900: 552 (synonymy), 1901a: 439 (noted), 1901b: 468 (synonymy).

*Alurnus d'orbigny humeralis* Rosenberg. Weise 1911a: 14 (catalog), 1911b: 20 (catalog); Fischer 1935: 276 (synonymy).

*Alurnus saundersii humeralis* Jacobson 1899: 247 [type: Ecuador, depository unknown]. Weise 1910: 105 (noted); Fischer 1935: 276 (synonymy).

*Alurnus orbigny humeralis* (Guérin). Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

*Alurnus umeralis* Rosenberg. Silva et al. 1985: 36 (*lapsus calami*, faunal list).

**Description.** Head, antennae, legs, and venter black; scutellum black with reddish spots; pronotum red; elytra yellow with black spot margined in red on humeral callus and black spot centrally just beyond middle. Head: vertex slightly rugose, medial sulcus present; front smooth with few scattered punctures; clypeus with fringe of yellowish setae near apex; yellowish setae on inner margin of each eye. Antenna: antennomeres 1-2 subequal in length, cylindrical, short, 1 wider than 2; 3 elongate, cylindrical, 2x length of 1 and 2 combined; 4-10 cylindrical, decreasing in length; 11 longer than 10, pointed at apex; 1-11 punctate, each puncture with pale seta. Pronotum: lateral margin bisinuate and convergent; anterior angle with small rounded tooth; posterior angle with large acute tooth; surface irregularly, coarsely punctate; disc slightly flattened, with punctures confluent; broad transverse basal impression present medially; glabrous; pronotal length 5-6 mm; pronotal width 6-9 mm. Scutellum: cordate; punctate. Elytron: lateral and apical margins smooth, slightly explanate; apical margin slightly elongate; sutural angle without tooth; humerus angulate, slightly produced; without costae; finely punctate; elytral length 20-28 mm; elytral width 13-15 mm. Leg: punctate, each puncture with pale seta; tibiae and tarsi fringed with golden setae. Venter: prosternum punctate, with wide medial sulcus and white seta in each puncture medially, glabrous laterally; mesosternum with four long sulci, alutaceous laterally; metasternum punctate, medially each puncture with white seta, glabrous laterally; abdominal sterna 1-4 impunctate; sternite 5 with fringe of long golden setae on apical margin. Total length: 27-37 mm.

**Larval host plant.** *Cocos nucifera* L., *Elaeis guineensis* Jacq. (Merino and Vásquez 1963); *Astrocaryum chonta* Martius (Couturier and Kahn 1992) (Arecaceae).

**Biology** [summarized from Merino and Vásquez (1963), Santos (1968a, b)]. Adults are diurnal and are easily observed on foliage. Oviposition occurs near the main shoot. The oval flattened, eggs are laid in chains of 2 to 10 in the youngest unfurled leaves of the host palm. Chains are united by a mucilaginous substance, and the eggs hatch in 29 to 43 days (average 32). Larvae are flattened and are 7-8 mm long when they hatch and are 40 mm long when mature. Larvae mature in 221 to 254 days (average 239) and undergo seven molts before entering a 12-day prepupal stage. Pupation occurs on the host plant and lasts from 26 to 37 days (average 32). Adults are active for 55 to 181 days (average 113). Female beetles lay from 94 to 181 eggs (average 109).

**Natural enemies.** *Tetrastichus* sp. and *Horismenus* sp. (Hymenoptera: Eulophidae) (Merino and Vásquez 1963).

**Distribution.** Bolivia, Colombia, Ecuador, Peru.

**Specimens examined.** No data (USNM, 3; BMNH, 2). ?: Amazonas (BMNH, 1). **Bolivia.** No further data (BMNH, 1). **Colombia.** Putumayo: Mocoa, 530 m, ii.1921 (USNM, 1). **Ecuador.** No further data (BMNH, 1). ?: NW, 3000 ft., 1901 (BMNH, 1); Llanos (?) (MHMB, 1). Bolivar: Balzapambam 630 m (USNM, 1). El Oro: La Chilca, i.ix.1893 (USNM, 1; ZIN, 2). Cañar: Bucay, i.1918 (USNM, 2). Esmeraldas: Cachabí (BMNH, 4; MCZC, 2; OUMNH, 1; ZIN, 1; BPBM, 1), xii.1896 (USNM, 1), low country, I.1897 (BMNH, 1); Cachabé to Paramba (MCZC, 1); Paramba (MCZC, 2); Playa de Montalvo, 8.iv.1938 (AMNH, 1). Guayas: La Puntilla, iv.1964 (FMNH, 1). Imbabura: Paramba (USNM, 1, BMNH, 2), 3500 ft., i.1897

(USNM, 1). Loja: Los Lanos (MHMB, 2). Manabi: Cajimies, 15.vii.1949 (AMNH, 2), 26.ii.1949 (AMNH, 1), v.1956 (USNM, 4); Manabi, x.1949 (USNM, 2), 9.iv.1949 (USNM, 1). Pichincha: 12 km SW Santo Domingo de los Colorados, 3-8.iv.1971 (FMNH, 1); INIAP, nr. Concordia, 8.v.1986 (FSCA); Quito, 10.v.1954 (USNM, 2); Hotel Timalandia, 12 km E of Santo Domingo de los Colorados, 23.v.1985 (USNM, 2); Santo Domingo de los Colorados, 37 km from Quito, 29.x.1960 (USNM, 2); Santo Domingo, 10.xii.1964 (USNM, 10); nr Sto. Domingo, 7-14.iii.2000 (BLCU); Santiago de los Tsáchilas, km 11, near Villa Aidita, 27.x.2007 (BYU, 8). **Peru.** No further data (BMNH, 3). ? : Perú-Brazil Frontier, 30.i.1928 (AMNH, 1). Huánuco: Tingo Maria, V.1938 (MHMB, 1). Madre de Dios: nr. Puerto Maldonado, 10.x.2004 (UDCC). Total: 82.

### ***Alurnus lansbergei* Sallé 1849**

(Figure 14)

*Alurnus lansbergei* Sallé 1849: 432 [holotype: Venezuela, Caracas (MNHN)]. Fairmaire 1851: 349 (noted); Baly 1858: 28 (redescription); Chenu and Desmarest 1870: 341 (noted); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog); Jacobson 1899: 251 (revision); Heyne and Taschenberg 1908: 252 (noted); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 266 (revision); Bryant 1942: 205 (faunal list); Blackwelder 1946: 721 (faunal list); Uhmann 1957a: 38 (catalog); Descarpentries and Villiers 1959: 142 (types).

*Alurnus landsbergei* Sallé. Papp 1953: 32 (*lapsus calami*, catalog).

*Alurnus lansbergei juncta* Pic 1934a: 155 [type: Venezuela, Caracas (MNHN)]. Fischer 1935: 267 (revision); Blackwelder 1946: 721 (faunal list); Descarpentries and Villiers 1959: 142 (types).

*Alurnus lansbergei junctus* Pic. Blackwelder 1946: 721 (faunal list).

**Description.** Head, antennae, scutellum, legs, and venter (except apical third of last abdominal sternite) bluish-black; pronotum reddish with apical and basal margins black; elytra yellow with black sutural vitta, black submarginal vitta, black oblique humeral vitta and black macula near end of humeral vitta. Head: transverse; rugose; vertex punctate, with deep medial sulcus, depressed behind eyes and antennae, with row of white setae on inner margin of each eye; front and clypeus punctate. Antenna: antennomere 1 subglobose; 2 transverse, 0.5x length of 1; 3-10 cylindrical; 3 length 2x length of 1 and 2 combined; 4-5 subequal in length, combined subequal to 3; 6-10 decreasing in length; 11 longer than 10, rounded at apex; 1-11 punctate with a white seta in each puncture. Pronotum: lateral margin evenly arcuate from base to apex; anterior angle rounded; posterior angle acute; surface strongly, roughly punctate, transversely rugose basally; strong basal impression present medially; disc glabrous, with scattered setae present laterally; pronotal length 4-5 mm; pronotal width 5-6 mm. Scutellum: cordate; punctate, transversely rugose. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle with small tooth; humerus produced, obtuse; regularly, finely punctate; with two weakly produced costae - costa 1 beginning at base and sinuate on apical quarter, costa 2 beginning at humerus and obsolete after middle; elytral length 16-19 mm; elytral width 9-10 mm. Leg: trochanter, femur, and tibia punctate, each puncture with white seta; tibia with fringe of setae on inner apical margin, slightly constricted at apex. Venter: pro-, meso-, and metasterna punctate, each puncture with seta medially, punctures glabrous laterally; abdominal sterna punctate, each puncture with pale seta. Total length: 20-24 mm.

**Larval host plant.** Unknown.

**Distribution.** Brazil, Colombia, Venezuela.

**Specimens examined.** No data (USNM, 3; PSUC 1; NMW, 1; ZIN, 1). **Brazil.** No further data (MHMB, 1). **Colombia.** No further data (USNM, 1; NMW, 2; PSUC, 1). **Venezuela.** No further data (BMNH, 9; PSUC, 2); 1858 (NMW, 1). Aragua: Rancho Grande nr. Maracay, 1.vii.1946 (AMNH, 1), 9.vii.1946 (AMNH, 1). Total: 25.

***Alurnus mutabilis* Waterhouse 1881**

(Figure 15a, b)

*Alurnus mutabilis* Waterhouse 1881: 265 [lectotype (here designated): Ecuador, Sarayacu, C. Buckley, 91-97 (BMNH)]. Donckier 1899: 558 (catalog); Jacobson 1899: 248 (revision); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 267 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog); Uhmann 1957a: 39 (catalog).

*Alurnus mutabilis confluens* Jacobson 1899: 248 [type: Ecuador?, depository unknown]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 268 (revision).

**Description.** Head, antennae, scutellum, legs, and venter (except abdominal sterna paler laterally) black; pronotum yellow with disc black from base to apex; elytra yellow with black humeral vitta, apical margin black, suture black, and black spot on disc after middle; some specimens with large black spot on apical half of elytra. Head: vertex punctate, medial sulcus present, depressed between eyes; row of setae present in ocular sulcus; front punctate; clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, large; 2 small, transverse, 0.5x length of 1; 3 cylindrical, 2x length of 1 and 2 combined; 4-7 cylindrical, subequal in length, each 0.33x length of 3; 8-10 cylindrical, subequal in length, each 0.5x length of 7; 11 subequal in length to 10, bluntly rounded at apex; 1-10 punctate, with setae; 11 more densely punctate, each puncture with pale seta. Pronotum: slightly narrower anteriorly; lateral margin arcuate; anterior angle acute; posterior angle with small tooth; surface moderately, densely, irregularly punctate; slight transverse basal impression present medially; glabrous; pronotal length 4-5 mm; pronotal width 4-5 mm. Scutellum: large, cordate, rounded at apex; impunctate. Elytron: lateral and apical margins smooth, laminate; sutural angle acute; humerus prominent, rounded; surface densely but finely punctate; weak costa present, beginning at humerus, curving toward suture, ending after middle; elytral length 14-18 mm; elytral width 8-9 mm. Leg: femur and tibia punctate, with seta in each puncture; tibia with fringe of setae apically. Venter: pro-, meso-, and metasterna impunctate medially, punctate laterally; abdominal sterna sparsely punctate, each puncture with pale seta. Total length: 19-22 mm.

**Larval host plant.** Unknown.

**Distribution.** Ecuador.

**Specimens examined.** No data (USNM, 4). **Ecuador.** No further data (BMNH, 3; NMW, 1); 1880 (USNM, 2), ix.x.1894 (USNM, 1). Morona Santiago: Chiguenda (PSUC, 3). Pastaza: Sarayacu (BMNH, 5). Total: 19.

***Alurnus obliquus* Uhmann 1961**

(Figure 16)

*Alurnus obliquus* Uhmann 1961: 6 [holotype: Bolivia, Yugas de la Paz (DEI)]. Uhmann 1964: 407; Gaedike and Döbler 1971: 356 (types); Staines 1997: 412 (Uhmann species list).

*Alurnus obliquus epipleuralis* Uhmann 1961: 8 [holotype: Peru, La Marée de Chanchamayo (DEI?)]. Uhmann 1964: 407 (catalog); Staines 1997: 412 (Uhmann species list).

**Description.** Head, antennae, pronotum, scutellum, venter (epipleuron may be pale), and legs black; elytra dark blue-black with yellowish-brown markings: basal spot from scutellum to humerus, oblique transverse band from lateral margin below humerus to suture, band on apical quarter. Head: vertex punctate, with some punctures rugose, each puncture with pale seta, medial sulcus absent, depressed between eyes; front punctate; clypeus punctate, each puncture with long yellow seta. Antenna: antennomere 1 subglobose, 2x length 2; 2 small, transverse; 3 cylindrical, 3x length of 1 and 2 combined; 4-10 cylindrical; 4-5 subequal in length, each 0.5x length of 3; 6 slightly shorter than 5; 7 longer than 6; 8-10 subequal in length, each 0.75x length 7; 11 longer than 10, rounded at apex; 1-7 punctate, each puncture with pale seta; 8-11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin rounded,



widest in middle; anterior angle acute; posterior angle with tooth; surface punctate, each puncture with yellow seta; base with transverse impression present; rounded depression present on each side near middle; pronotal length 5.0 mm; pronotal width 6.0 mm. Scutellum: cordate, rounded at apex; punctate. Elytron: lateral margin straight for basal two-thirds then rounding to apex; sutural angle with small tooth; humerus rounded, slightly produced; without costae; surface with scattered punctures, somewhat rugose basally; elytral length 21.0 mm; elytral width 9.0 mm. Leg: punctate, each puncture with yellow seta. Venter: punctate, each puncture with long yellow seta. Total length: 25 mm.

**Larval host plant.** Unknown.

**Distribution.** Bolivia, Peru.

**Specimens examined.** **Bolivia.** La Paz: Yugas de la Paz (DEI, 1). **Peru.** Cusco: Consuela km 165 on Cosnipata Hwy., 13.x-25.xi.1981 (FMNH, 1). Total: 2.

### ***Alurnus octopunctatus* Fairmaire 1851**

*Alurnus octopunctatus* Fairmaire 1851: 349 [type: Venezuela (MNHN?)]. Baly 1858: 164 (redescription); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog); Jacobson 1899: 248 (revision), 1899(1900: xi (noted); Weise 1910: 103 (key), 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 269 (revision); Bryant 1942: 205 (faunal list); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog); Uhmann 1957a: 39 (catalog).

*Alurnus dryas* Thomson 1857: 127 [type: 4 (blue label)/ *A. dryas* Thoms., ined. Col. (dark blue disc, folded)/ E. Coll. Thomson/ Type (handwritten, gray disc)/ 67-56/ *Alurnus dryas* Thompson, B. W. Mo(unreadable), Columbia (BMNH)]. Baly 1858: 30 (synonymy).

*Alurnus octopunctatus fairmairei* Jacobson 1899: 248 [type: locality not specified (MNHN?)]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 269 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

*Alurnus octopunctatus marginicollis* Jacobson 1899: 249 [type: locality not specified (MNHN?)]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 269 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

**Description.** Head, antennae, mouthparts, pronotum (some specimens red laterally), venter, and legs shining black; elytra yellowish with sutural vitta, lateral, and apical margins black, with 8 black spots- 2 large on humerus, 2 small near suture, 2 on anterior third, and 2 forming large transverse bands behind middle. Head: vertex finely punctate, medial sulcus present, row of punctures present behind each eye; front and clypeus punctate. Antenna: antennomere 1 subglobose; 2 transverse, nearly as long as 1; 3 length 2.5x length of 1 and 2 combined; 4-10 cylindrical; 4-5 subequal in length; 6-10 decreasing in length; 11 subequal in length to 10, obliquely pointed at apex; 1-7 finely punctate, each puncture with yellow seta; 8-11 more densely punctate, each puncture with yellow seta. Pronotum: subcylindrical; lateral margin curved and divergent for basal two-thirds then rounding and converging to anterior angle; anterior and posterior angles acute; disc finely sparsely punctate; basal impression absent; with setae laterally; pronotal length 4.0 mm; pronotal width 5.0 mm. Scutellum: cordate; sparsely punctate; rounded and slightly depressed at apex. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle with small tooth; humerus rounded, not produced; surface sparsely punctate; without costae; elytral length 18.0 mm; elytral width 10 mm. Leg: finely punctate, each puncture with pale setae; tibia with fringe of setae on inner apical margin. Venter: finely punctate, each puncture with pale seta. Total length: 20 mm.

**Larval host plant.** Unknown.

**Distribution.** Colombia, Venezuela.

**Specimens examined. Colombia.** No further data (BMNH, 1). Total: 1.

***Alurnus orbignyi* Guérin-Ménéville 1840**

(Figure 17)

*Alurnus d'orbignyi* Guérin-Ménéville 1840: 331 [type: Bolivia, Santa Cruz, depository unknown]. Blanchard 1843a: plate 23, figure 6 (illustration); Guérin-Ménéville 1855: 602 (faunal list); Thomson 1856: 118 (comparative note); Baly 1858: 28 (redescription); Berg 1900: 252 (faunal list); Weise 1910: 103 (key); Campos 1921: 96 (faunal list); Fischer 1935: 274 (revision); Günther 1940: 467 (noted); Blackwelder 1946: 721 (faunal list); Monrós and Viana 1947: 174 (Argentina species); Uhmann 1964: 407 (catalog), 1966: 270 (nomenclature).

*Alurnus orbignyi* Guérin-Ménéville. Blanchard 1843b: 211 (noted); Gemminger and Harold 1876: 3605 (catalog); Donckier 1899: 558 (catalog); Jacobson 1899: 248 (revision); Weise 1905: 336 (noted), 1911a: 13 (catalog), 1911b: 19 (catalog); Bruch 1915: 375 (faunal list), 1928: 202 (faunal list); Papp 1953: 33 (catalog); Uhmann 1964: 407 (catalog).

*Alurnus iheringi* var. A Weise 1910: 103 [type: Bolivia, St. Cruz de la Sierra (ZMHB?)]. Fischer 1935: 275 (revision); Papp 1953: 32 (catalog).

*Alurnus orbignyi balyi* Jacobson 1899: 247 [type: locality not specified (BMNH?)]. Weise 1911a: 14 (catalog), 1911b: 20 (catalog); Fischer 1935: 276 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

*Alurnus saundersii* Baly 1858: 28 [holotype: Peru (BMNH)]. Baly 1869: 367 (noted); Gemminger and Harold 1876: 3605 (catalog); Waterhouse 1881: 265 (distribution); Jacobson 1899: 247 (revision), 1899(1900): x (noted); Staines and Staines 1999: 522 (Baly species list).

*Alurnus saundersi* Baly. Donckier 1899: 559 (*lapsus calami*, catalog); Weise 1905: 336 (synonymy).

*Alurnus orbignyi saundersii* Baly. Waterhouse 1881: 265 (noted); Jacobson 1899: 247 (revision); Weise 1905: 336 (noted), 1911a: 13 (catalog), 1911b: 20 (catalog); Fischer 1935: 275 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

*Alurnus iheringi* Weise 1910: 103 [type: Brazil, Amazonas, Rio Jurua, 1901 (ZMHB?)]. Weise 1911a: 13 (catalog), 1911b: 19 (catalog); Fischer 1935: 275 (synonymy); Blackwelder 1946: 721 (faunal list).

*Alurnus (Poecilalurnus) orbignyi* Guérin-Ménéville. Jacobson 1899: 248 (revision); Berg 1900: 252 (noted).

**Description.** Head, antennae, scutellum, legs, and venter shining black; pronotum reddish with black basal spot which varies greatly in extent; elytra pale yellow with a black central spot and narrow vitta along apical margin. Head: vertex irregularly sculptured, slightly rugose, densely punctate, medial sulcus present; front punctate; clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, longer than 2; 2 cylindrical, short; 3 cylindrical, more than 2x length of 1 and 2 combined; 4 cylindrical, 0.66x length of 3; 5 cylindrical, shorter than 4; 6-10 cylindrical, decreasing in length; 11 longer than 10, acutely pointed at apex; 1-10 punctate, each puncture with pale seta; 11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin deeply sinuate at base then suddenly narrowed and notched just behind anterior angle, slightly margined; anterior angle obtuse; posterior angle with acute tooth; posterior half transversely depressed; central longitudinal sulcus extending from base to near apex; surface coarsely, densely punctate, less so on disc, variolose laterally, rugose basally; glabrous; pronotal length 5-7 mm; pronotal width 6-9 mm. Scutellum: cordate, 2x as long as wide; punctate. Elytron: lateral and apical margins smooth, narrowly margined; apex regularly rounded; sutural angle with small tooth; humerus prominent, slightly angulate; surface densely punctate; without costae; elytral length 21-30 mm; elytral width 10-14 mm. Leg: trochanter with tuft of setae on inner margin; femur and tibia punctate, each puncture with pale setae; tibia with fringe of golden setae at apex. Venter: prosternum depressed medially, punctate medially, each puncture with pale seta, impunctate laterally; meso- and metasterna slightly punctate medially and basally, each puncture with pale seta, impunctate laterally; abdominal sterna punctate, each puncture with white seta. Total length: 28-37 mm.

**Larval host plant.** *Aroides* sp. (Araceae) (Campos 1921).

**Distribution.** Argentina, Bolivia, Brazil, Ecuador, Peru, Venezuela.

**Specimens examined.** No data (USNM, 1). **Bolivia.** No further data (PSUC, 1); Prov. Del Sara (CMNH, 1). Beni: Salinas, Beni River, ii.95 (USNM, 1); Huachi, Rio Beni, ix.1922 (USNM, 1); Rurrenabaque, Rio Beni, i.1922 (USNM, 1). Santa Cruz: Buena Vista, XI-1948 (MHMB, 1); 5 km SSE Buena Vista, Hotel Flora and Fauna, 440 m, W63°39.128', S17°29.925', 10-22.x.2004 (FSCA, 1); 5 km SSE Buena Vista, Hotel Flora and Fauna, 440 m, forest FIT, W63°39.128', S17°29.925', 6-15.xii.03 (FSCA, 1); 5 km SSE Buena Vista, Hotel Flora and Fauna, 440 m, forest FIT, W63°39.128', S17°29.925', 21-31.xii.03 (FSCA, 1); 3.7 km SSE Buena Vista, Hotel Flora and Fauna, 17°29'S, 63°31'W, 405 m, 1-18.iii.2003 (FSCA, 2). **Brazil.** Amazonas: São Paulo d'Olivencia, v.1883 (USNM, 1). **Ecuador.** Guayas: Guayaqui (LACM, 1). Napo: Limoncocha, 8.i.1972 (USNM, 1); Oriente, 00°24'S 76°36'W, Limoncocha 198, 27.vii.1970 (FSCA, 1). Pará: AM Benj. Constant, Rio Javari, xii.1961 (MZSP, 1). Sucumbios: Sacha Lodge, ix.1984, 0.5°S 76.5°W, 290 m (LACM, 1). **Peru.** No further data (NMW, 1). Huánuco: Tingo María, V-1938 (MHMB, 1). Junín: Satipo (MHMB, 1), ix.1945 (AMNH, 1), iv.1945 (AMNH, 1). Moquegua: Chanchamagro, La Merced, xi.1904 (USNM, 1). Quiros Rio, Paucatanbo (PMNH, 1). Ucayali: Loreto, R. Yarina Cocha, 9.iv.1955 (FMNH, 1); Middle Rio Ucayali, 12.ii.1928 (AMNH, 1). **Venezuela.** Apure: Caura River, 16.vii.1900 (USNM, 1), 31.vii.1900 (USNM, 1). Total: 29.

### ***Alurnus ornatus* Baly 1869**

(Figure 18)

*Alurnus ornatus* Baly 1869: 87 [holotype: Nicaragua (BMNH)]. Gemminger and Harold 1876: 3605 (catalog); Baly 1885: 5 (Central America species); Donckier 1899: 558 (catalog); Jacobson 1899: 247 (revision); Weise 1910: 103 (key), 1911a: 14 (catalog), 1911b: 19 (catalog); Uhmann 1930: 237 (faunal list), 1957a: 40 (catalog), 1964: 407 (catalog); Fischer 1935: 269 (revision); Blackwelder 1946: 721 (faunal list); Jeannel 1949: 965 (noted); Papp 1953: 33 (catalog); Wilcox 1975: 138 (catalog); Maes and Staines 1991: 35 (faunal list); Staines 1996(1997): 7 (Nicaragua species), 2011: 48 (faunal list); Maes 1998: 1015 (faunal list); Staines and Staines 1999: 522 (Baly species list); McKenna and Farrell 2005: 121 (phylogeny).

**Description.** Head, antennae, scutellum, legs, and venter black; pronotum red with black apical and basal margins; elytra yellow with apical quarter, humeral callus, medial spot, and curved transverse fascia black. Head: vertex punctate, depressed between eyes, depression punctate, medial sulcus and four lateral sulci present; front and clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, larger than 2; 2 transverse, 0.5x length of 1; 3-10 cylindrical; 3 more than 3x length of 1 and 2 combined; 4-5 subequal in length, each 0.33x length of 3; 6-10 subequal in length, shorter than 4 or 5; 11 longer than 10, bluntly pointed at apex; 1-9 punctate, each puncture with pale seta; 10-11 more densely punctate, each puncture with pale seta. Pronotum: subcylindrical; narrowed anteriorly; transversely convex at base; lateral margin sinuate basally, arcuate from just beyond base; anterior angle rounded; posterior angle acute; basal half and lateral area coarsely, almost rugosely punctate; basal impression absent; glabrous; pronotal length 4-5 mm; pronotal width 5-6 mm. Scutellum: cordate; impunctate. Elytron: lateral and apical margins smooth, slightly explanate; sutural angle with small tooth; humerus prominent, rounded; surface sparsely, irregularly punctate; without costae; elytral length 15-20 mm; elytral width 9-11 mm. Leg: femur and tibia punctate, each puncture with pale seta; tibia with row of setae on inner margin and tuft of golden setae at apex. Venter: pro-, meso-, and metasterna punctate medially, each puncture with pale seta, rugose laterally; abdominal sterna punctate, each puncture with pale seta, last three with punctures more dense. Total length: 19-27 mm.

**Larval host plant.** Adults have been collected on *Chamaedorea* sp. (Arecaceae) (Staines 2011).

**Distribution:** Colombia, Costa Rica, Nicaragua, Panama.

**Specimens examined.** No data (FSCA, 2). **Colombia.** No further data (BMNH, 1). **Costa Rica.** No further data (BMNH, 1). ? Estveiz Valley, 24.viii.1963 (USNM, 1); La Florida, 500 ft. (USNM, 1); La Iberia, iv.1925 (USNM, 1), 22.v.1922 (USNM, 1). Alajuela: Bijagua, Albergue de Heliconias, 10°42.48'N

85°02.27'W, 1000-1100 m, 18.vi.2000 (USNM, 6; BPBM, 1); 2 km S. Pital, 5-28.xi.1988 (BLCU); San Carlos (USNM, 3); San Ramón, Angeles, 900-1000 m, R. B. Alberto Manuel Brenes (INBio, 2); Upala, Dos Rios (Colonia Mayorga), 600-700 m, P. N. Guanacaste (INBio, 3); 20 km NE Turrialba, 23.vii.1975 (CAS, 1); CATIE, Turrialba, 27.vi-5.vii.1984 (FSCA); Upala, Dos Rios (Colonia Mayorga), 500-600 m, C. B. Guanacaste-Rincón de la Vieja (INBio, 1); Zapote de Upala, 19.v.1972 (EMEC, 1), 8.xii.1972 (EMEC, 2), 18.viii.1971 (EMEC, 1). Cartago: Turrialba, 5.v.1964 (LACM, 3), 5.vi.1951 (USNM, 1); Turrialba, Santa Teresita, 1100-1200, M. N. Guayabo (INBio, 1); CATIE nr. Turrialba, 1800 ft., 30.iii.1982 (BMNH, 1); La Suiza de Turrialba, 1923 (CMNH, 1). Guanacaste: La Cruz, Santa Cecilia, 600-700 m, P. N. Guanacaste (INBio, 72); Tilarán, Tierras Morenas, 900-1000 m, Z. P. Tenorio (INBio, 84). Heredia: Sarapiquí, La Virgen, 100-200 m, P. N. Braulio Carrillo (INBio, 6); La Selva Station, 15.viii.1977 (FSCA, 1), 21.vii.1978 (USNM, 1), 24-30.viii.1988 (USNM, 1), 11-17.vi.1986 (USNM, 1), 9.viii.1996 (USNM, 2), 4.ix.1970 (USNM, 1), 6.viii.1969 (USNM, 2), xii.1966 (USNM, 1), 7.viii.1969 (USNM, 1), 8.viii.1969 (USNM, 1), 24-27.vii.1969 (USNM, 1), 11-17.vi.1986 (WFBM, 1), no date (USNM, 4), 24-30.viii.1988 (BLCU), 11-17.vi.1986 (BLCU), 18-23.viii.1988 (BLCU), 10-12.vi.1986 (USNM), 18.ii.1980 (CMNC, 1), 31.viii.1998 (FSCA), 13.iii.2005 (BYU, 2), 7.iv.2003 (BYU, 2), 20.viii.1994 (NCSU, 2); Puerto Viejo, 27.vii-7.viii.1965 (LACM, 1), 26-28.vii.1975 (CAS, 1), 28.ii.1967 (PMNH, 1), 26.vii.1989 (PMNH, 2); Sarapiquí, Chilamate, La Maritima Farm, 26.ii.1992 (BYU, 1). Limón: Pococí, Colorado, R.V.S. Barra del Colorado, 100-200 m (INBio, 15); Pococí, Colorado, 0-100 m, R.V.S. Barra del Colorado, 0-100 m (INBio, 12); Pococí, Colorado, Tortuguero, 0 m (INBio, 13); Pococí, Rita, 0-100 m, Tortuguero (INBio, 2); Limón, Valle La Estrella, 0-100 m, La Armistad Caribe, R. B. Hitoy Cerere (INBio, 3); Hdas. La Suerta/Tapezco, 29 air km W Tortuguero, 10 m, 13-31.viii.1970, 10°27'-30°N 83°47'W (LACM, 3); Hamburg Farm, Reventazon (BMNH, 3; NMW, 2), 8.viii.1924 (USNM, 1), 20.vii.1931 (USNM, 2), 15.xi.1921 (USNM, 1), 3.vii.1933 (USNM, 1), 4.vii.1933 (USNM, 1), 31.viii.1937 (USNM, 1), 27.viii.1931 (USNM, 1), 26.iii.1926 (USNM, 1), 29.ix.1935 (USNM, 2), 25.v.1930 (USNM, 1), 25.vii.1935 (USNM, 1), 20.vii.1931 (USNM, 1), 4.i.1936 (USNM, 1), 27.iv.1937 (USNM, 1), 22.v.1922 (USNM, 1), 21.viii.1936 (USNM, 1), no date (USNM, 3), 27.iv.1937 (FMNH, 1). **Nicaragua.** No further data (USNM, 3; BMNH, 13; NMW, 1; ZIN, 1). Chontales: no further data (BMNH, 6; PSUC, 3). Río San Juan: 60 km SE San Carlos, Refugia Bartole, 25.v.2002 (SEMC, 2). **Panama.** No further data (BMNH, 1). Total: 341.

### *Alurnus salvini* Baly 1885

(Figure 19)

*Alurnus salvini* Baly 1885: 5 [lectotype (here designated): Costa Rica (BMNH). Paralectotypes (here designated): Chiriquí (BMNH, 1); Bugabá, Panamá, Champion (BMNH, 2); Bugabá, 800-1500 ft., Champion (BMNH, 2)]. Donckier 1899: 558 (catalog); Jacobson 1899: 250 (revision); Weise 1910: 103 (key), 1911a: 14 (catalog), 1911b: 19 (catalog); Uhmann 1930: 237 (faunal list), 1957a: 40 (catalog); Fischer 1935: 270 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog); Wilcox 1975: 138 (catalog); Hsiao and Windsor 1999: 43 (phylogeny); Staines and Staines 1999: 522 (Baly species list); Staines 2011: 48 (faunal list).

*Alurnus salvini fallax* Jacobson 1899: 249 [type: locality not specified (BMNH?)]. Weise 1911a: 14 (catalog), 1911b: 19 (catalog); Fischer 1935: 270 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 33 (catalog).

*Alurnus salvini panamensis* Pic 1922: 27 [holotype: Panama, (MNHN)]. Fischer 1935: 270 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 34 (catalog); Descarpentries and Villiers 1959: 142.

**Description.** Head, pronotum, scutellum, venter (except apical sternite yellowish), and legs black; elytra yellowish with apical quarter and three large spots black. Head: vertex and front rugose-punctate, medial sulcus and two lateral sulci present, ocular sulcus present, with row of setae in each sulcus; front rugose; clypeus punctate. Antenna: antennomere 1 subglobose, 2x length of 2; 2 transverse, narrower than 1; 3-10 cylindrical; 3 length 2.5x as long as 1 and 2 combined; 4-5 subequal in length, combined 0.75x length of 3; 6-10 subequal in length, each 0.75x length of 5; 11 sharply pointed at apex; 1-6 sparsely punctate, each puncture with pale seta; 7-11 more densely punctate, each puncture with pale seta. Pronotum: wider at base than long; lateral margin converging from base to apex, obtusely angulate just

beyond middle; anterior angle rounded; posterior angle with small tooth; surface finely punctured, more densely laterally; slightly depressed basally; glabrous; pronotal length 4-5 mm; pronotal width 4-5 mm. Scutellum: cordate; alutaceous. Elytron: oblong; lateral and apical margins smooth, slightly explanate, rounded at apex; sutural angle with small tooth; humerus prominent, rounded; surface distinctly punctate; without costae; elytral length 13-19 mm; elytral width 7-11 mm. Leg: femur and tibia sparsely punctate, each puncture with pale seta; tibiae with fringe of golden setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate medially, each puncture with pale setae, rugose laterally; abdominal sterna punctate, each puncture with white seta, slightly rugose laterally. Total length: 15.7-24.0 mm.

**Larval host plant.** Unknown. Adults have been collected on *Chamaedorea* sp. (Staines 2011) and *Bactris gasaeipes* H.B.K. (Arecaceae).

**Distribution.** Colombia, Costa Rica, Panama, Venezuela.

**Specimens examined.** No data (FSCA, 1; USNM, 1). **Colombia.** New Grenada (ZIN, 1). **Costa Rica.** No further data (USNM, 1; BMNH, 5). Guanacaste: El Coco, 25 ft., 18.x.1963 (BYU, 1); Pozo Azul (PSUC, 1); Tilarán, Tierras Morenas, 900-1000 m, Z. P. Tenorio (INBio, 4). Heredia: La Selva Biological Station, 14.vi.1997 (LSUC, 3), 23.vii.1978 (USNM, 1); Sarapiquí, La Virgen, 100-200 m, P. N. Braulio Carrillo (INBio, 3); Sarapiquí (PSUC, 2). Limón: Limón, Valle La Estrella, 0-100 m, La Armistad Caribe, R. B. Hitoy Cerere (INBio, 21); Talamanca, Sixaola, 0-100 m, R. V. S. Gandoca-Manzanillo (INBio, 1). Puntarenas: Buenos Aries, Potrero Grande, 1400-1500 m, P. N. La Armistad (INBio, 7); Coto Brus, Sablito, 1400-1500 m, La Amistad Pacifico (INBio, 25); Golfito, 1.viii.1957a (LACM, 1); Golfito, Jiménez, 500-600 m, P. N. Corcovado (INBio, 1); La Cruz, Santa Cecilia, 600-700 m, P. N. Guanacaste (INBio, 1); Osa, Sierpe, 200-300 m, R. F. Golfo Dulce (INBio, 3); 6 km S. San Vito, 08°42'N 83°00'W, 13-18.iii.1967 (USNM, 2); nr. San Vito, 20.iii.1969 (BLCU). San José: Pérez Zeledón, San Pedro, 1500-1600 m, P. N. Chirripó (INBio, 2); Tarrazú, San Lorenzo, 700-800 m, Z. P. Cerro Nara (INBio, 1). **Panama.** No further data (USNM, 1; BMNH, 2). Bocas del Toro: no further data (USNM, 1). Chiriquí: no further data (NMW, 1; ZIN, 1); Bugabá (BMNH, 3); Chiriquí (BMNH, 5; PSUC, 1); Cont'l Divide Trail, 2-4.vii.1997 (UGCA); Reserva La Fortuna, Cont. Divide Trail, 27.vi.1996 (HPSC, 1); north of Santa Clara, 6.v.1995 (HPSC, 3). Darien: Estación Ambiental Cana, 650 m, 4.vi.1996 (CMNC, 1). Panama: Cerro Campana, 850 m, 8.iv.1972 (BMNH, 1), 15.vii.1960 (BLCU); 7-10 km NE Llano, 21-30.iv.1995 (FSCA, 1). Veragras: Alto de piedra above Santa Fe, 800 m; 22.vii.1999 (HPSC, 1). **Venezuela.** Zulia: Las Trojas, vii.1933 (BMNH, 1). Total: 115.

### *Alurnus secernendus* Uhmann 1932b

(Figure 20)

*Alurnus secernendus* Uhmann 1932b: 264 [holotype: Ecuador, Macas (DEI)]. Fischer 1935: 271 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 34 (catalog); Uhmann 1957a: 40 (catalog); Gaedike and Döbler 1971: 359 (types); Staines 1997: 412 (Uhmann species list).

**Description.** Head, antennae, scutellum, tibiae, tarsi, and venter (except last 2 abdominal sterna paler) black; femora reddish (except apex black); pronotum yellow with large black medial spot; elytra yellow with lateral and apical margins black, with suture black, with wide basal sutural vitta which is obsolete before middle, with a black oblique humeral vitta which is obsolete at middle, with transverse black band after middle which does not extend to suture or lateral margin. Head: vertex punctate, not depressed between eyes, narrow medial sulcus present, row of setae present on inner margin of each eye; front and clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, slightly longer than 2; 2 transverse; 3-10 cylindrical; 3 more than 2x length of 1 and 2 combined; 4 length 0.75x length of 3; 5 slightly shorter than 4; 6 length 0.75x length of 5; 7 subequal in length to 6; 8 length 0.5x length of 7; 9-10 decreasing in length; 11 subequal in length to 10, acutely pointed at apex; 1-10 punctate, each puncture with pale seta; 11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin evenly arcuate base to apex; anterior angle rounded; posterior angle acute; small tooth on apical margin on each side of head; disc sparsely irregularly punctate; punctures more dense laterally, surface

irregular; basal impression absent; glabrous; pronotal length 3 mm; pronotal width 4 mm. Scutellum: cordate; impunctate. Elytron: lateral and apical margins smooth, slightly explanate; apical margin with fringe of setae; sutural angle with small tooth; humerus prominent, rounded; without costae; elytral length 14 mm; elytral width 7 mm. Leg: femur and tibia punctate, glabrous; tibia with fringe of golden setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate medially, each puncture with pale seta, rugose laterally; abdominal sterna punctate, each puncture with pale seta. Total length: 17-20 mm.

**Larval host plant.** Unknown.

**Distribution.** Ecuador.

**Specimens examined. Ecuador.** No further data, ix-x.1894 (USNM, 2); Santo Domingo, VI-82 (PMNH, 1), III-83 (PMNH, 1). Total: 4.

***Alurnus sexguttatus* Rosenberg 1898**  
(Figure 21)

*Alurnus sexguttatus* Rosenberg 1898: 95 [holotype: [Ecuador] Cachabé to Paramba, II. 97, Rosenberg/ F. C. Bowditch Coll./ M.C.Z. type 25815 (red label)/ *A. sexpunctatus* Rosenberg type (MCZC)]. Donckier 1899: 613 (catalog); Jacobson 1899(1900): xi (noted); Weise 1910: 103 (key), 1911a: 14 (catalog), 1911b: 19 (catalog); Campos 1921: 96 (faunal list); Fischer 1935: 271 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 34 (catalog); Uhmann 1957a: 40 (catalog).

**Description.** Head, antennae, scutellum, pronotum, and venter shiny greenish-black; elytra pale yellow (some specimens with reddish tinge at humerus and laterally), with lateral (from just behind humeri) and apical margins black, with three small black spots - immediately behind humerus, near suture about a third from base, and at center of elytron behind humerus and extending to apex. Head: vertex coarsely punctate, medial sulcus present, with lunate depression; ocular sulcus present on inner margin of each eye; front and clypeus punctate. Antenna: antennomere 1 transverse, short; 2 transverse, longer than 1; 3 nearly 2x length of 1 and 2 combined; 4-10 cylindrical, decreasing in length, 4 0.33x length of 3; 11 longer than 10, pointed at apex; 1-7 punctate, each puncture with pale seta; 8-11 more densely punctate, each puncture with pale seta. Pronotum: subcylindrical; lateral margin sinuate, slightly angulate beyond middle then strongly converging to anterior angle; anterior angle rounded, with blunt tooth; posterior angle without tooth; disc convex apically, sparsely punctate; transversely depressed basally; depression and lateral margin rugosely punctate; glabrous; pronotal length 2.6 mm; pronotal width 4.1 mm. Scutellum: cordate; punctate. Elytron: lateral and apical margins smooth, strongly margined; apex evenly rounded; sutural angle without tooth; humerus moderately produced; punctation dense, finer near apex; without costae; elytral length 12.8 mm; elytral width 7 mm. Leg: punctate, each puncture with pale seta; tibia with fringe of golden setae on inner apical margin. Venter: sparsely punctate, each puncture with pale seta; abdominal sterna 4-5 with fringe of setae on apical margin. Total length: 16 mm.

**Larval host plant.** Unknown.

**Distribution.** Ecuador.

**Specimens examined. Ecuador.** Esmeraldas: Cachabé to Paramba (MCZC, 1). Total: 1.

***Alurnus undatus* Brême 1844**  
(Figure 22)

*Alurnus undatus* Brême 1844: 311 [type: Colombia, depository unknown]. Donckier 1899: 559 (catalog); Jacobson 1899: 250 (revision); Weise 1910: 103 (key), 1911a: 14 (catalog), 1911b: 20 (catalog); Fischer

1935: 270 (revision); Blackwelder 1946: 721 (faunal list); Papp 1953: 34 (catalog); Uhmann 1957a: 40 (catalog).

**Description.** Head, pronotum, antennae, scutellum, legs, and venter black; elytra yellow with 3 black transverse bands- semicircular extending from humerus to puncture row 1, irregular just behind middle, and on apical quarter. Head: vertex punctate, medial sulcus present; ocular sulcus present on inner margin of each eye, with row of setae in each sulcus; front sparsely punctate, glabrous; clypeus punctate, each puncture with pale seta. Antenna: antennomere 1 subglobose, longer than 2; 2 transverse; 3-10 cylindrical; 3 length 3.5x length of 1 and 2 combined; 4-5 subequal in length, each 0.33x length of 3; 6-10 subequal in length, each shorter than 5; 11 longer than 10, bluntly pointed at apex; 1-8 sparsely punctate, each puncture with pale seta; 9-11 more densely punctate, each puncture with pale seta. Pronotum: lateral margin sinuate and diverging in basal three-quarters then rounded and converging; anterior angle rounded; posterior angle acute; tufts of setae present on anterior margin on each side of head; disc sparsely irregularly punctate, slightly rugose, more densely rugose laterally, with faint longitudinal line; base with slight transverse impression; glabrous; pronotal length 4-5 mm; pronotal width 4-5 mm. Scutellum: cordate; sparsely punctate. Elytron: expanding apically; lateral and apical margins smooth, slightly explanate; small acute tooth in sutural angle; humerus prominent, rounded; surface irregularly punctate; without costae; elytral length 13-18 mm; elytral width 8-12 mm. Leg: femur and tibia punctate, each puncture with white seta; tibia with fringe of golden setae on inner apical margin. Venter: pro-, meso-, and metasterna punctate medially, each puncture with white seta, slightly rugose laterally; abdominal sterna punctate, each puncture with white seta; sterna 1-4 pustulate laterally. Total length: 17-25 mm.

**Larval host plant.** Unknown.

**Distribution.** Colombia, Panama.

**Specimens examined. Colombia.** No further data (BMNH, 1; PSUC, 2); Marzo (MHMB, 1); Honda (PSUC, 4). Antioquia: Nouvelle Grenade (BMNH, 1; NMW, 1). Caqueta: Morelia, Rio Bodoquero, 430 m, 19-20.i.1969 (USNM, 1). Choco: Cano Docordo between Cucurupi and Noanama on Rio San Juan, 24-30.xii.1968 (FMNH, 1). Cundinamarca: Canenche, 1.ix.1900 (USNM, 6). **Panama.** Panama: 2 mi N Cerro Campana, 11.v.1972 (BYU, 1); Cerro Campana, 29.iv.1970 (CAS, 1), 29.viii.1970 (NCSU, 1). Total: 21.

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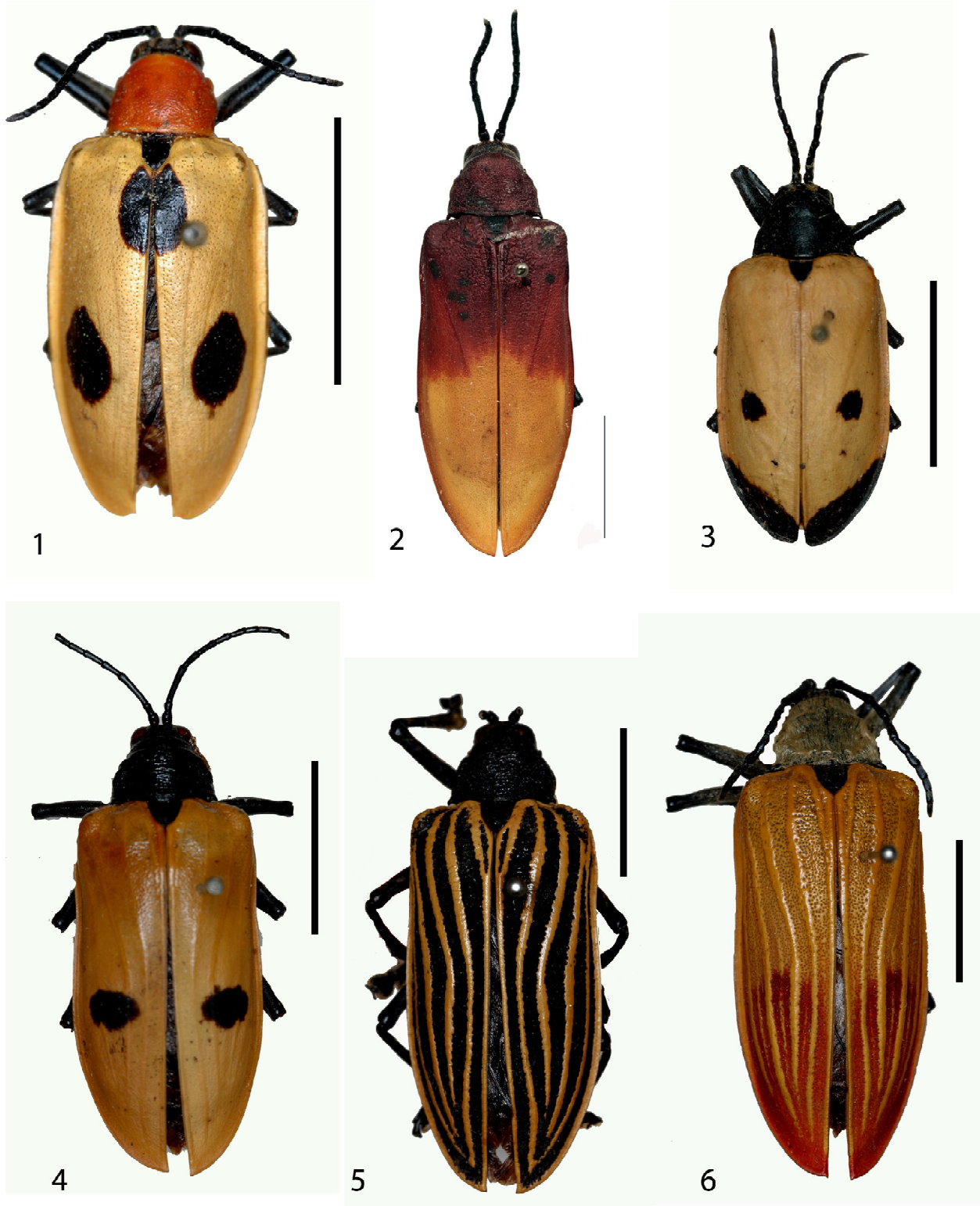
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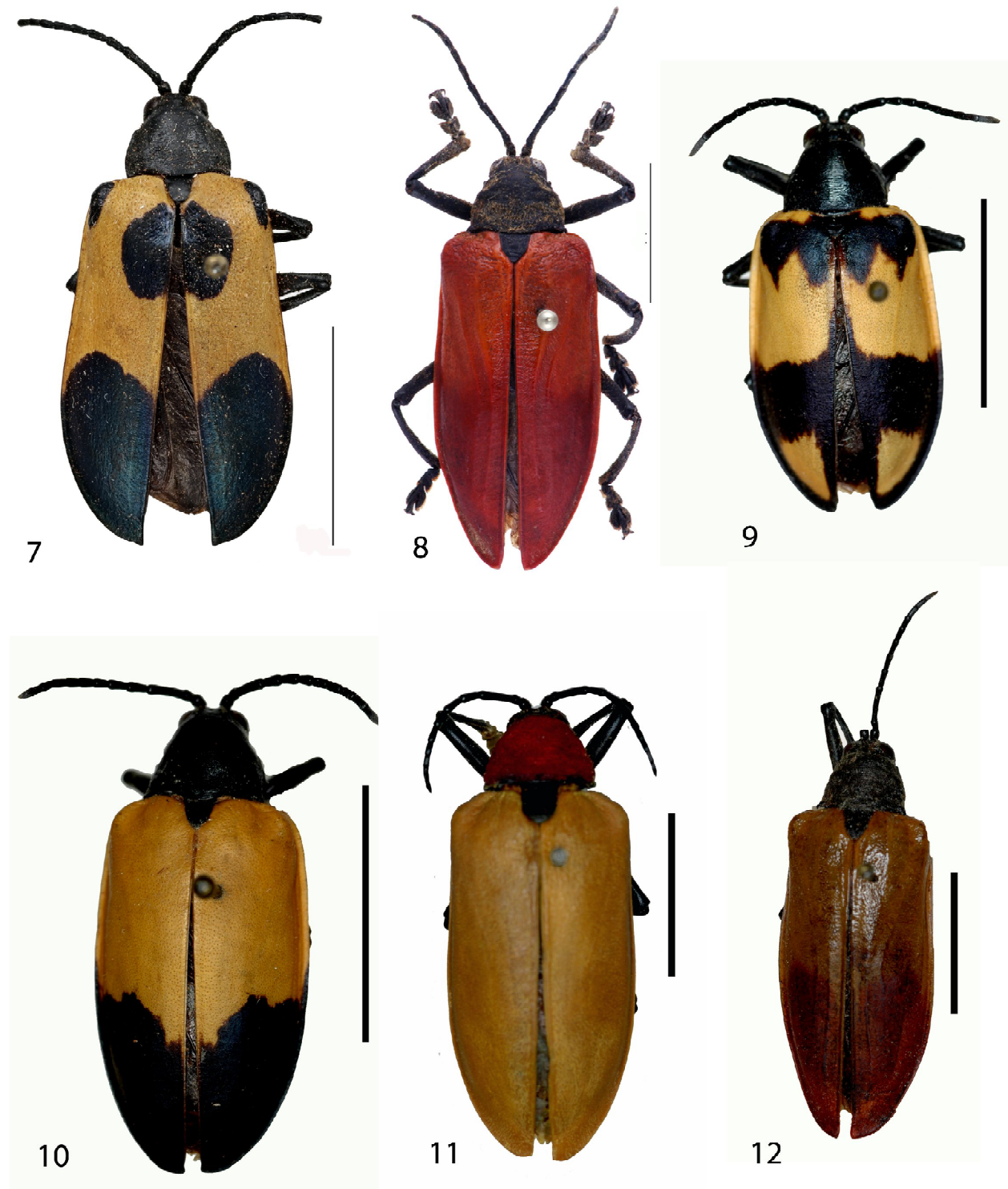
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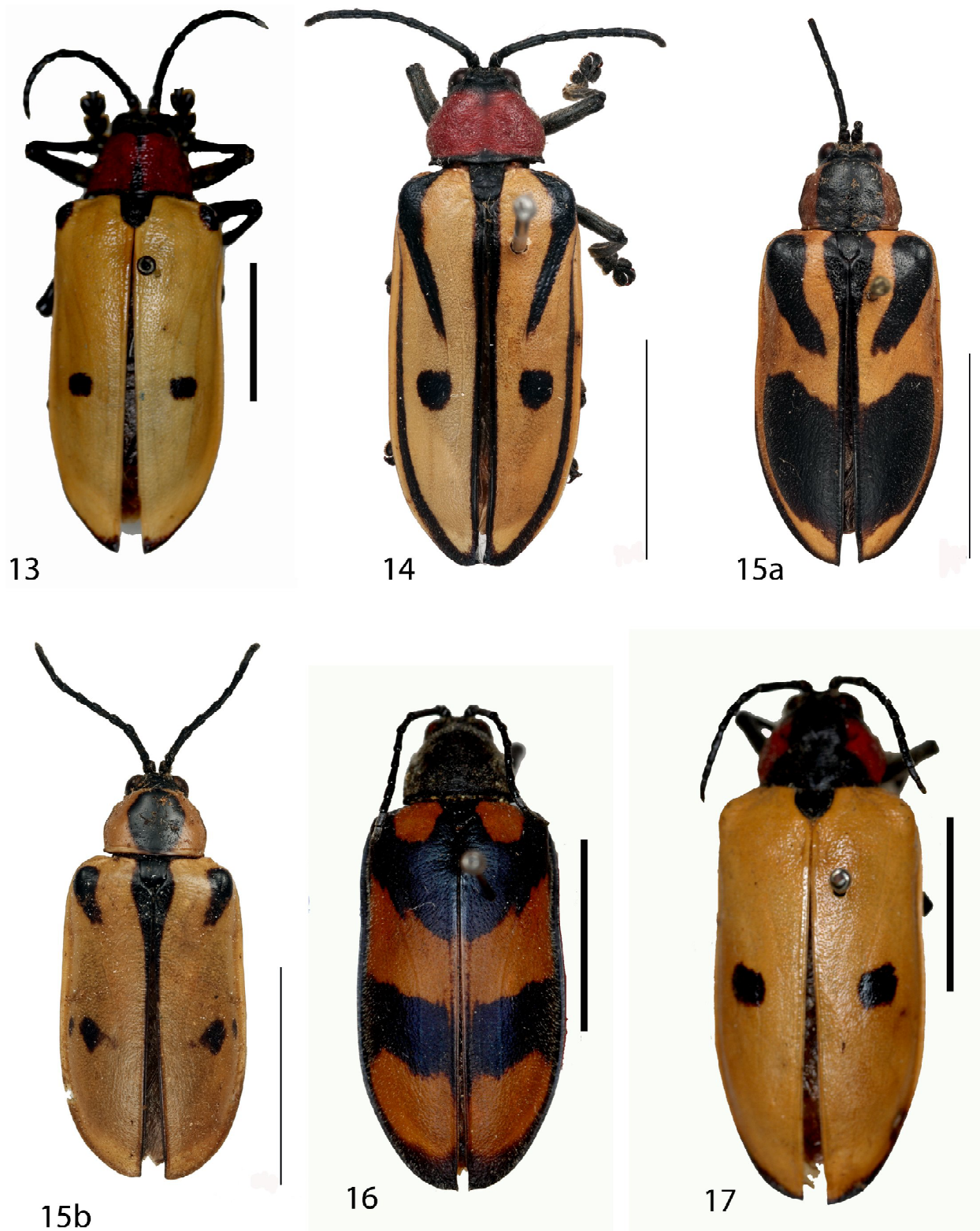


**Figures 1-6.** Habitus of *Alurnus* species. 1) *Alurnus batesii* Baly. 2) *Alurnus bicolor* Staines. 3) *Alurnus bipunctatus* (Olivier). 4) *Alurnus boucardi* Rosenberg. 5) *Alurnus chapuisi* Uhmann and Jolivet. 6) *Alurnus costalis* Rosenberg. (all scale bars = 1 cm)



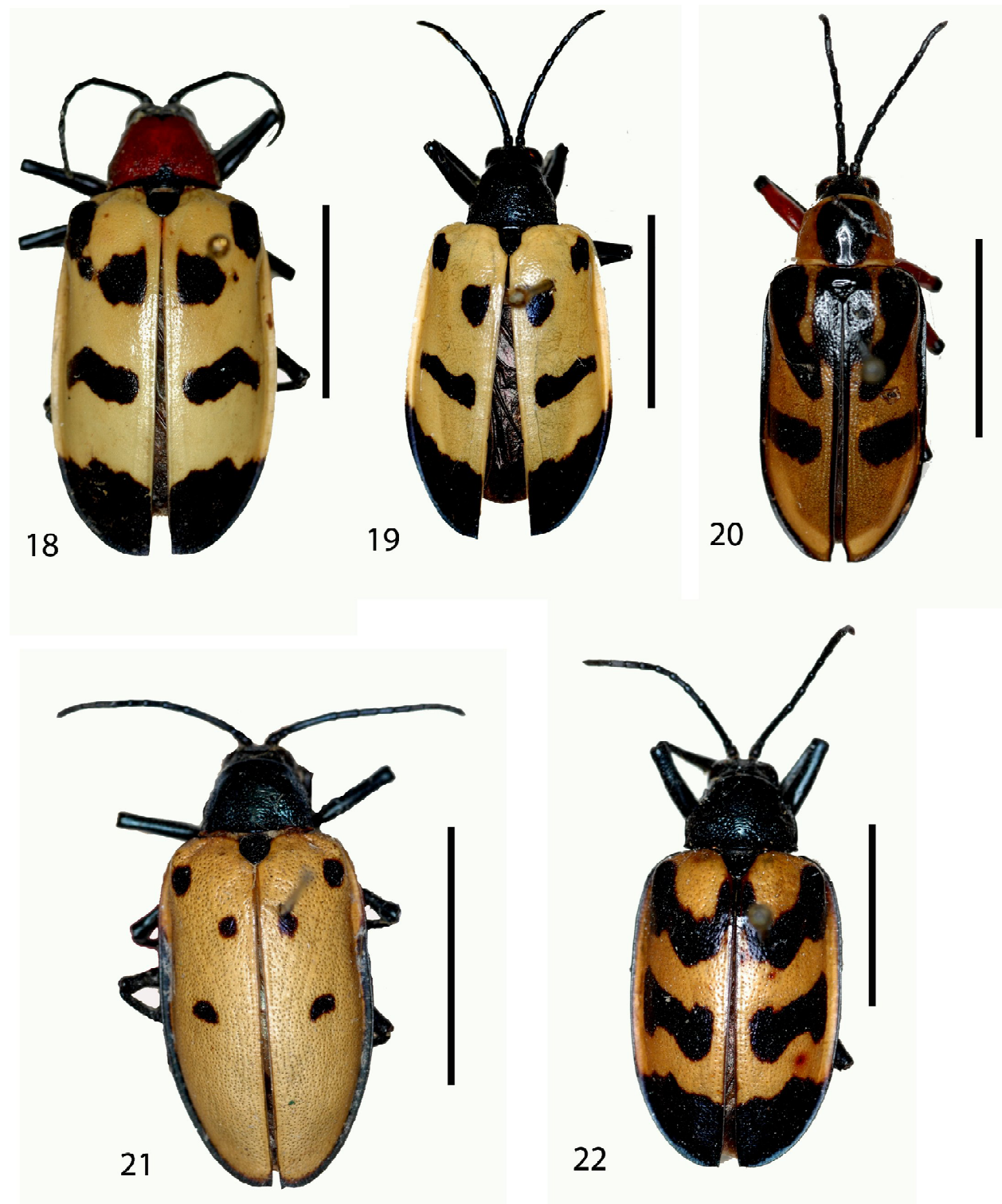


**Figures 7-12.** Habitus of *Alurnus* species. **7)** *Alurnus crenatus* Staines. **8)** *Alurnus dallieri* Pic. **9)** *Alurnus eckardtae* Günther. **10)** *Alurnus elysianus* Thomson. **11)** *Alurnus grossus* Fabricius. **12)** *Alurnus horni* Uhmann. (all scale bars = 1 cm)



**Figures 13-17.** Habitus of *Alurnus* species. **13)** *Alurnus humeralis* Rosenberg. **14)** *Alurnus lansbergei* Sallé. **15a)** *Alurnus mutabilis* Waterhouse. **15b)** *Alurnus mutabilis* Waterhouse. **16)** *Alurnus obliquus* Uhmann. **17)** *Alurnus orbigny* Guérin-Méneville. (all scale bars = 1 cm)





**Figures 18-22.** Habitus of *Alurnus* species. **18)** *Alurnus ornatus* Baly. **19)** *Alurnus salvini* Baly. **20)** *Alurnus secernendus* Uhmann. **21)** *Alurnus sexguttatus* Rosenberg. **22)** *Alurnus undatus* Brême. (all scale bars = 1 cm)