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Cetoniinae (Coleoptera, Scarabaeidae) from the Colombian Caribbean: annotated species list and distribution notes

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Abstract. We present an updated inventory of flower chafers (Cetoniinae, Scarabaeidae) from the Colombian Caribbean, where knowledge of the group remains limited. Our study combines field collections, literature, and reviews of scientific collections, documenting 12 species across the tribes Gymnetini and Cetoniini, representing six genera. We newly report *Gymnetis bajula wollastoni* Schaum, 1848 from Colombia and first records for the departments of Cesar, La Guajira, Bolívar, and Atlántico. These results provide updated data on the diversity and distribution of this group in tropical dry forests.

Key words. Caribbean region, distribution, diversity, Scarabaeoidea

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INTRODUCTION

Cetoniinae is one of the most extensively studied groups of scarab beetles (Coleoptera, Scarabaeidae) worldwide, especially in the Afrotropical and Neotropical regions. However, their taxonomy can be problematic, as the delimitations of tribes and genera are often based on morphological characters that may be ambiguous, while many species exhibit polymorphisms or polyphenisms (Orozco 2012a). The Cetoniinae are commonly referred to as fruit and flower chafers. This group has a wide global distribution, with the greatest species richness occurring in forests, particularly in tropical and subtropical regions, while the Afrotropical region harbors the highest number of endemic genera (Krikken 1984; Philips et al. 2022). Cetoniinae are currently represented by 13 tribes, 502 genera, and approximately 4,000–4,600 species (Bouchard et al. 2011; Seidel et al. 2018). In the Americas, 51 genera and 379 species have been recorded, classified into the tribes Cetoniini, Goliathini, Cremastocheilini, Gymnetini, Incini, Trichiini, and Valgini (Deloya et al. 2018). The genera with the greatest number of species are *Euphoria* Burmeister, 1842, *Gymnetis* MacLeay, 1819, *Cremastocheilus* Knoch, 1801, *Cotinis* Burmeister, 1842, *Trigonopeltastes* Burmeister & Schaum, 1840, and *Hoplopyga* Thomson, 1880, which together account for 60.3% of the Neotropical diversity (Deloya et al. 2018).

Adults range from medium-sized to large (0.5–15.0 cm), typically exhibiting a smooth, opaque, or polished dorsal surface that may be pubescent or tomentose. The body is slender and robust or elongate, subquadrangular, and dorsoventrally flattened, with the base of the antennal scape visible through a broad anteocular notch, and the mesepimera generally visible dorsally, either covered by the base of the elytral humerus or slightly projecting in front of the antehumeral carina (Deloya et al. 2018). Larvae feed on a variety of substrates such as soil organic matter, feces, and decaying wood, and can be found in termite and ant nests (Orozco 2012a; Micó 2018; Puker et al. 2012, 2015). Adults feed on plant exudates, flowers, ripe fruits, nectar, or pollen, and may occasionally be found on crops, although without causing significant economic damage (Rodrigues et al. 2013; Deloya et al. 2018). While some species have been associated with pollination, the functional ecology of this beetle group remains poorly studied, particularly in the Neotropical region. In Africa, they have been proposed as potential indicators of ecosystem health and land-use change (Mudge et al. 2012; Touroult and Le Gall 2013).

In Colombia, the subfamily Cetoniinae is represented by 53 species, grouped into 16 genera belonging to the tribes Cetoniini, Gymnetini, Trichiini, Incini, and Cremastocheilini (Suárez and Amat-García 2007; Neita et al. 2010; Gasca-Álvarez and Deloya 2020). However, the natural history of the group remains largely

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understudied in the country. The literature highlights the role of certain species as frequent flower visitors (e.g. *Gymnetis pantherina* Blanchard, 1842), emphasizing their potential function as pollinators (Ratcliffe 2018; García-Atencia et al. 2024). Additionally, individuals have been observed associated with grasses and fruits, suggesting the possibility that some species may become low-impact pests (Suárez and Amat-García 2007).

Taxonomic knowledge of the subfamily Cetoniinae in Colombia, particularly in the Caribbean region, remains limited due to the lack of recent inventories. Likewise, high rates of deforestation and changes in land use affecting forest ecosystems in the region may be contributing to biodiversity loss. Nonetheless, García-Atencia and Martínez-Hernández's (2015) study is noteworthy in reporting two tribes and three genera, comprising four species (*Cotinis barthelemyi* (Gory & Percheron, 1833), *Cotinis lebasi* (Gory & Percheron, 1833), *Hoplopyga liturata* (Olivier, 1789), and *Euphoria yucateca* (Bates, 1889)) in tropical dry forest fragments in the department of Atlántico.

Given the limited knowledge of this subfamily in the Colombian Caribbean region, the aim of our study is to provide an updated inventory of flower chafers species in the Colombian Caribbean through literature review, examination of entomological collections, and field sampling conducted across various localities. We seek to generate updated information on species identity and distribution, as well as to identify key areas for the conservation of this ecologically important group of beetles.

METHODS

Sampling methods. Specimens of Cetoniinae were collected from tropical dry forests at six localities in the Colombian Caribbean between 2021 and 2022 (Table 1). Three sampling events were conducted per locality. At each site, four plots were established, each containing three fruit-baited traps placed at a height of 2–3 m and left active for three days. Each trap consisted of a 1.5 l plastic bottle baited with decomposing fruit (such as plantain, banana, and papaya) and beer to accelerate fermentation. Additionally, a funnel light trap was installed per plot, automated with photocells and solar panels, and operated for two consecutive nights. Additionally, manual collections were carried out on various substrates, including decaying logs, ripe fruits, and inflorescences. All specimens collected in the field were preserved in 96% ethanol.

All collected material was deposited in the reference collection of the Universidad del Atlántico (UARC) and registered in the SiB Colombia database (https://doi.org/10.15472/ufe4ar). For species identification, external morphological structures were examined, and male genitalia were extracted and observed. Identification was based on taxonomic keys and species descriptions proposed by Goodrich (1966), Morón et al. (1997), Ratcliffe (2013, 2018, 2019), Shaughney and Ratcliffe (2015), and Orozco (2012b). Photographs of the specimens were taken using an M125 stereomicroscope equipped with a built-in camera and LAS EZ software.

Collection review. Two local collections and one national collection were examined: the Entomological Collection of the Universidad del Atlántico (UARC), the Biological Collections Center of the Universidad del Magdalena (CBUMAG), and the Entomology Collection of the Alexander von Humboldt Biological Resources Research Institute (IAvH-E).

Additional records for *Cotinis* species were obtained from the following collections: Eastern Illinois University Insect Collection, Charleston, IL, USA (EIUIC); Florida State Collection of Arthropods, Gainesville, FL, USA (FSCA); Instituto de Ciencias Naturales Universidad Nacional de Colombia, Bogotá, Colombia (ICN); Museo Entomológico Francisco Luis Gallego Universidad Nacional de Colombia, Medellín, Colombia (MEFLG); Museo de Entomología Universidad Del Valle, Cali, Colombia (MUSENUV); Museo Entomológico de la Facultad de Agronomía Universidad Nacional de Colombia, Bogotá, Colombia (UNAB); Museo de Historia Natural "Francisco Luis Gonzalo Andrade", Universidad Pedagógica y Tecnológica de Colombia, Tunja, Colombia (UPTC).

Table 1. Sampling localities in the Colombian Caribbean.

Department	Locality	Habitat	Altitude (m)
Atlántico	Reserva Campesina La Montaña	Tropical dry forest	160–250
Cesar	Serranía del Perijá, Becerril, Corregimiento Estados Unidos	Tropical sub-humid forest	1108–1174
Cesar	Serrania del Perijá, La Jagua de Ibirico, Corregimiento La Victoria de San Isidro	Tropical dry forest	1097–1344
Bolívar	Reserva La Flecha	Tropical dry forest	324
Bolívar	Santuario de Flora y Fauna Los Colorados	Tropical dry forest	197
La Guajira	Hato Nuevo, Vereda Caña Brava	Tropical dry forest	680

RESULTS

Twelve species belonging to the tribes Gymnetini and Cetoniini were recorded, grouped within the genera *Amithao* Thomson, 1878, *Marmarina* Kirby, 1827, *Cotinis*, *Gymnetis*, *Euphoria*, and *Hoplopyga*. In total, 85 specimens were documented: 22 collected in the field, 54 from national collections (UARC, CBUMAG, IAvH-E, ICN, MEFLG, MUSENUV, UNAB, UPTC), and nine from foreign collections (EIUIC, FSCA). *Gymnetis bajula wollastoni* Schaum, 1848 is newly reported from Colombia. Additionally, seven species represent first records for the departments of Cesar, La Guajira, Bolívar, and Atlántico (Figure 1). Magdalena is the department with the most Cetoniinae species, followed by Bolívar, Atlántico, and Cesar (Table 2). *Hoplopyga liturata* is the only species recorded throughout the entire Caribbean region, whereas *Cotinis lebasi*, *Gymnetis stellata* (Latreille, 1813), and *Euphoria yucateca* have been reported in five of the seven departments that comprise the Colombian Caribbean (Table 2).

Tribe Gymnetini

***Amithao lafertei* (Thomson, 1860)**

Figure 2A

Material examined. COLOMBIA — Cesar • Becerril, Corregimiento Estados Unidos, Vereda La Unión; 09°36'26.66"N, 073°07'17.49"W; 1108 m alt.; 12.IV.2022; Sandy García-Atencia leg.; collected with white light trap in regenerating vegetation with herbaceous and shrub layers, including *Platymiscium hebestachyum* Benth., *Verbesina* sp., *Simira* sp., *Vismia baccifera* (L.) Triana & Planch, and *Persea* sp.; 2 sex indet., UARC:COL

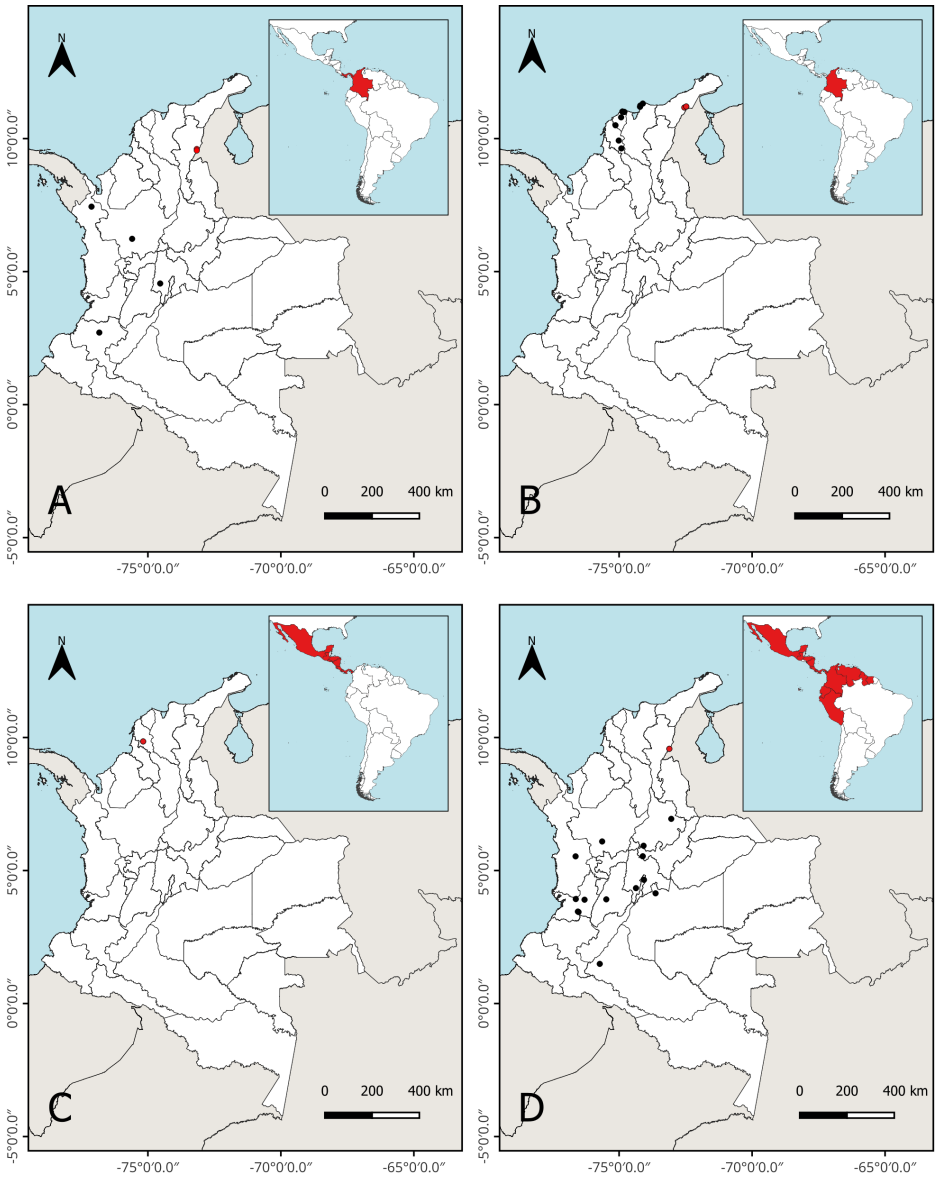

Figure 1. Geographical distribution of new records of Cetoniinae (Coleoptera, Scarabaeidae) in the Colombian Caribbean. **A.** *Amithao lafertei*. **B.** *Cotinis barthelemyi*. **C.** *Gymnetis bajula wollastoni*. **D.** *Gymnetis coturnix*. (Continued on next page.)

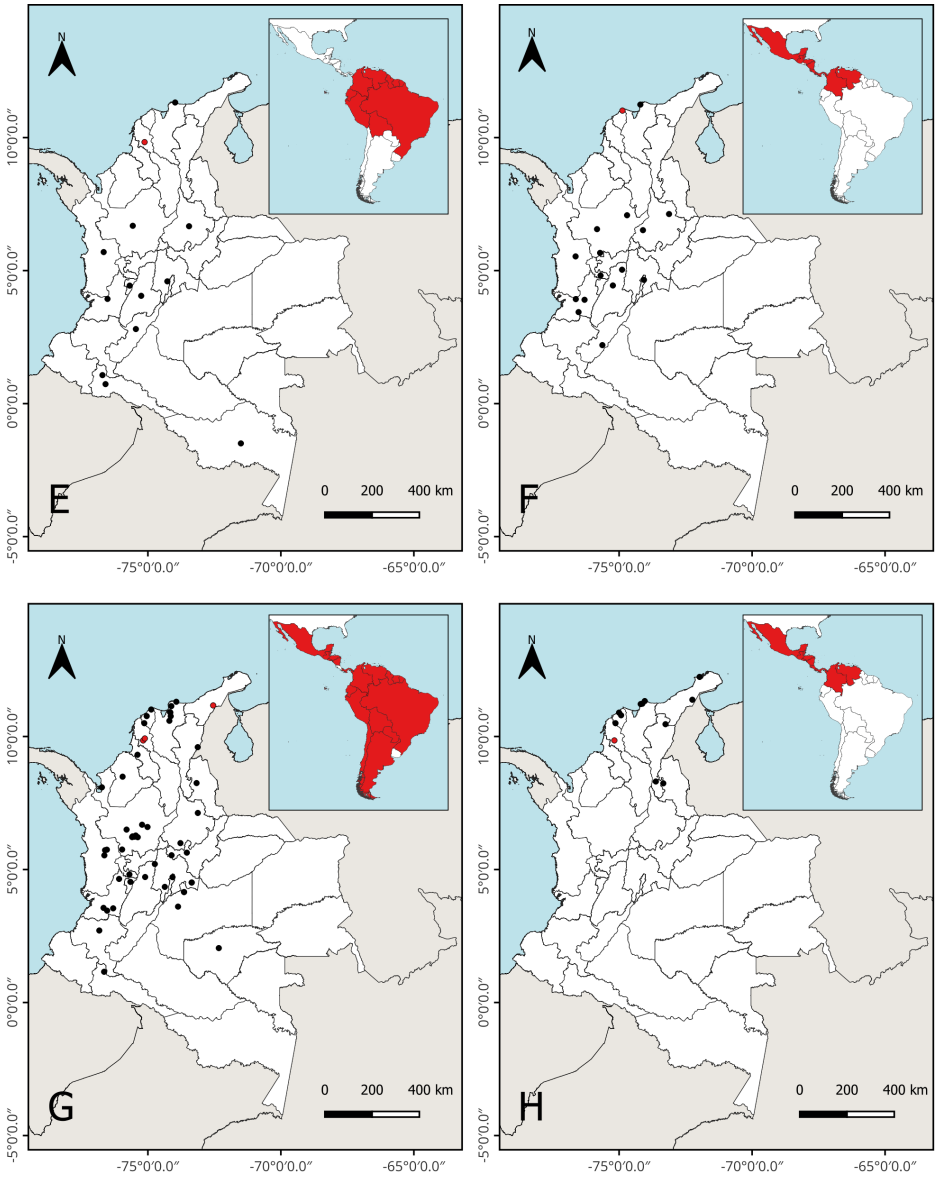

Figure 1, continued. Geographical distribution of new records of Cetoniinae (Coleoptera, Scarabaeidae) in the Colombian Caribbean. **E.** *Gymnetis holosericea*. **F.** *Gymnetis ramulosa*. **G.** *Hoplopyga liturata*. **H.** *Euphoria yucateca*. Black dots indicate previously known records in Colombia. Red dots correspond to new geographical records from this study in the Caribbean region. Countries filled in red represent previous records.

0501, 0502 • La Jagua de Ibirico, Corregimiento La Victoria, Vereda Zumbador; 09°33'10.95"N, 073°09'34.28"W; 1097 m alt.; 21.III.2021; Sandy García-Atencia leg.; collected with white light trap in tropical dry forest, vegetation includes species such as *Zanthoxylum caribaeum* Lam., *Peltogyne purpurea* Pittier, *Bursera simaruba* (L.) Sarg., *Annona mucosa* Jacq., and *Persea caerulea* (Ruiz & Pav.) Mez; 1 ♂, UARC:COL 0503.

Identification. *Amithao lafertei* is easily distinguished from other *Amithao* species by its distinctive dark-reddish-brown to black, velutinous dorsal surface with numerous, small, yellowish-white speckles (punctures) on the pronotum and elytra (Ratcliffe 2013).

Geographical distribution. Panama and Colombia: Antioquia, Cauca, Chocó, Cundinamarca (Ratcliffe 2013), and Cesar (first record from this department).

Cotinis barthelemyi **(Gory & Percheron, 1833)**

Figure 2B

Material examined. COLOMBIA — Atlántico • Baranoa, Mendolandia, Hacienda las Bahamas; 10°47'56.4"N, 074°55'20.3"W; 120 m alt.; 19.XI.2015; Iván Mendoza-Pérez leg.; 1 ♀, UARC:COL 0006 • Barranquilla; 11°00'14.7"N, 074°48'25.1"W; 17.V.2016; Carlos Mario Chinchilla-Perdomo leg.; 1 sex indet., UARC.COL 0008 • same locality; 15.X.1970; G. Zambrano leg.; 1 ♀, ICN 39468; 11°00'00"N, 074°48'00"W; 68 m alt.; 8.III.1994; G. Gonzalez leg., 1 ♂, 1 ♀, UNAB 3010, 208 • Puerto Colombia, Campus Universidad del Atlántico; 11°00'56.8"N, 074°52'04.3"W; 30 m alt.; 16.X.2014; Oscar Nuñez-Velandia leg.; 1 sex indet., UARC:COL 0005 • same locality; 25.X.2014; Ana Vasallo-Goenaga leg.; 3 sex indet., UARC:COL 0002, 0003, 0007 • Puerto Colombia, Cementerio Jardines de la Eternidad; 11°00'54.7"N, 074°52'23.1"W; 30 m alt.; 10.X.2002; 1 sex indet., UARC:COL 0004 • Repelón, Bijibana;

Table 2. Species of Cetoniinae (Coleoptera, Scarabaeidae) recorded in the Colombian Caribbean, with numbers of specimens from field collections, national and foreign collections, literature records, total specimens, and departmental distribution. [+] = first record for Colombia; [*] = first record for department.

Species	Field	Nat. coll.	For. coll.	Literature	Total	Departments
Amithao lafertei (Thomson, 1860)	3	—	—	—	3	Cesar[*]
Cotinis barthelemyi (Gory & Percheron, 1833)	7	17	2	Suárez and Amat-García 2007; García-Atencia and Martínez-Hernández 2015; Gasca-Álvarez et al. 2018	26	Atlántico, Bolívar, La Guajira[*], Magdalena
Cotinis lebasi (Gory & Percheron, 1833)	1	10	7	Suárez and Amat-García 2007; García-Atencia and Martínez-Hernández 2015; Gasca-Álvarez et al. 2018	18	Atlántico, Bolívar, Cesar, Magdalena, Sucre
Gymnetis bajula wollastoni Schaum, 1848	1	—	—	—	1	Bolívar[+]
Gymnetis coturnix Burmeister, 1842	1	—	—	—	1	Cesar[*]
Gymnetis holosericea (Olivier, 1789)	—	2	—	Suárez and Amat-García 2007; Ratcliffe 2018	2	Bolívar[*], Magdalena
Gymnetis pantherina Blanchard, 1842	3	—	—	Suárez and Amat-García 2007; Ratcliffe 2018	3	Bolívar, Córdoba, La Guajira
Gymnetis ramulosa Bates, 1872 (1869)	—	1	—	Ratcliffe 2018	1	Atlántico[*], Magdalena
Gymnetis stellata (Latreille, 1813)	—	3	—	Suárez and Amat-García 2007; Deloya et al. 2018; Ratcliffe 2018; Taboada-Verona et al. 2019	3	Atlántico, Bolívar, Cesar, Córdoba, Magdalena, Sucre
Hoplopyga liturata (Olivier, 1789)	5	7	—	Suárez and Amat-García 2007; García-Atencia et al. 2015; Shaughney and Ratcliffe 2015; Taboada-Verona et al. 2019	12	Atlántico, Bolívar[*], Córdoba, La Guajira[*], Magdalena, Sucre
Marmarina maculosa (Olivier, 1789)	—	1	—	Suárez and Amat-García 2007; Ratcliffe 2015	1	Magdalena
Euphoria yucateca (Bates, 1889)	1	13	—	Orozco 2012b	14	Atlántico, Bolívar[*], Cesar, La Guajira, Magdalena

10°30'05"N, 075°80'01"W; 170 m alt.; H. Beltran leg.; 1 ♀, ICN — Bolívar • San Juan Nepomuceno, Santuario de Flora y Fauna Los Colorados; 09°56'42.9"N, 075°05'58.7"W; 300 m alt.; VIII.1996; F. Escobar leg.; tropical dry forest; 1 sex indet., IAvH-E 71537 • Zambrano, Hacienda Monterrey; 09°37'48"N, 074°54'54"W; 120 m alt.; VIII.1996; F. Escobar leg.; tropical dry forest, light trap; 1 sex indet., IAvH-E 71538 — La Guajira • Albania, Arroyo Bruno; 11°10'08.8"N, 072°32'31.3"W; 96 m alt.; 02.VI.2021; Iván Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest. The site includes a gallery forest dominated by *Sterculia apetala* (Jacq.) H.Karst., *Tabebuia rosea* (Bertol.) and *Aspidosperma polyneuron* Müll.Arg. Adjacent areas show a transition to xerophytic vegetation with *Bursera simaruba* (L.) Sarg., *Astronium graveolens* Jacq. and *Prosopis juliflora* (Sw.) DC; 1 ♂, UARC:COL 0504 • Hatonuevo, Resguardo Indígena Caña Brava; 11°09'51.5"N, 072°41'52.8"W; 680 m alt.; 28.IX.2022; Iván Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest, within a mosaic of pastures with natural patches, surrounded by tree pastures, clean pastures, secondary vegetation, open shrubland, and gallery forest; 2 ♀ and 4 ♂, UARC:COL 0505–0510 — Magdalena • Parque Nacional Natural Tayrona, Gairaca abanico aluvial; 11°19'01.2"N, 074°06'22.7"W; 5.X.1976, 11.XI.1977; C.Kugler leg.; 2 sex indet., IAvH-E 71536, UPTC • Santa Marta, Parque el Cundi; 11°14'33.1"N, 074°12'04.2"W; 05.V.2012; J. Anaya leg.; 1 sex indet., CBUMAG:ENT 00924 • Santa Marta, Cerros de la ciudad; 01.VII.2004; 200 m alt.; W. Mendieta, L. Jimenez leg.; 2 ♀, ICN 39469, EIUIC; Cerro La Llorona;11.X.2005; C. Valverde leg.; 1 ♂, ICN 39504.

Identification. *Cotinis barthelemyi* can be distinguished from other *Cotinis* species by its opaque, green dorsal surface, with violet hues on the sides. The ventral surface is bright green. It has projections on the clypeus that are variable, parallel, or expanded at the apex. The frontal projection well developed, free at the apex, 70% fused to the head, and parallel or slightly expanded at the apex. Both males and females have tridentate protibiae. The mesometasternal area has a broad pentagonal projection with a rounded apex. The surface of the pygidium shows transverse strigations (Gasca-Álvarez et al. 2018).

Geographical distribution. This species is known only from Colombia, with records in Atlántico, Bolívar, Caldas, Magdalena, Santander, Tolima (Suárez and Amat-García 2007; García-Atencia and Martínez-Hernández 2015; Gasca-Álvarez et al. 2018), and La Guajira (first record for this department).

***Cotinis lebasi* (Gory & Percheron, 1833)**

Figure 2C

Material examined. COLOMBIA — Bolívar • Cartagena, 1 ♂, EIUIC • San Jacinto, Reserva La Flecha; 09°51'09.0"N, 075°10'32.0"W; 324 m alt.; 10.IX.2015; Iván Mendoza-Pérez leg.; tropical dry forest; 1 ♀, UARC:COL 0001 • San Juan; 1940, 1 ♀, FSCA — Magdalena • Parque Nacional Natural Tayrona, Cañaverita; 11°18'22.9"N, 073°55'52.7"W; 08.VIII.1976; C. Kugler leg.; 1 sex indet., IAvH-E 71530 • Parque Nacional Natural Tayrona, Puebli-

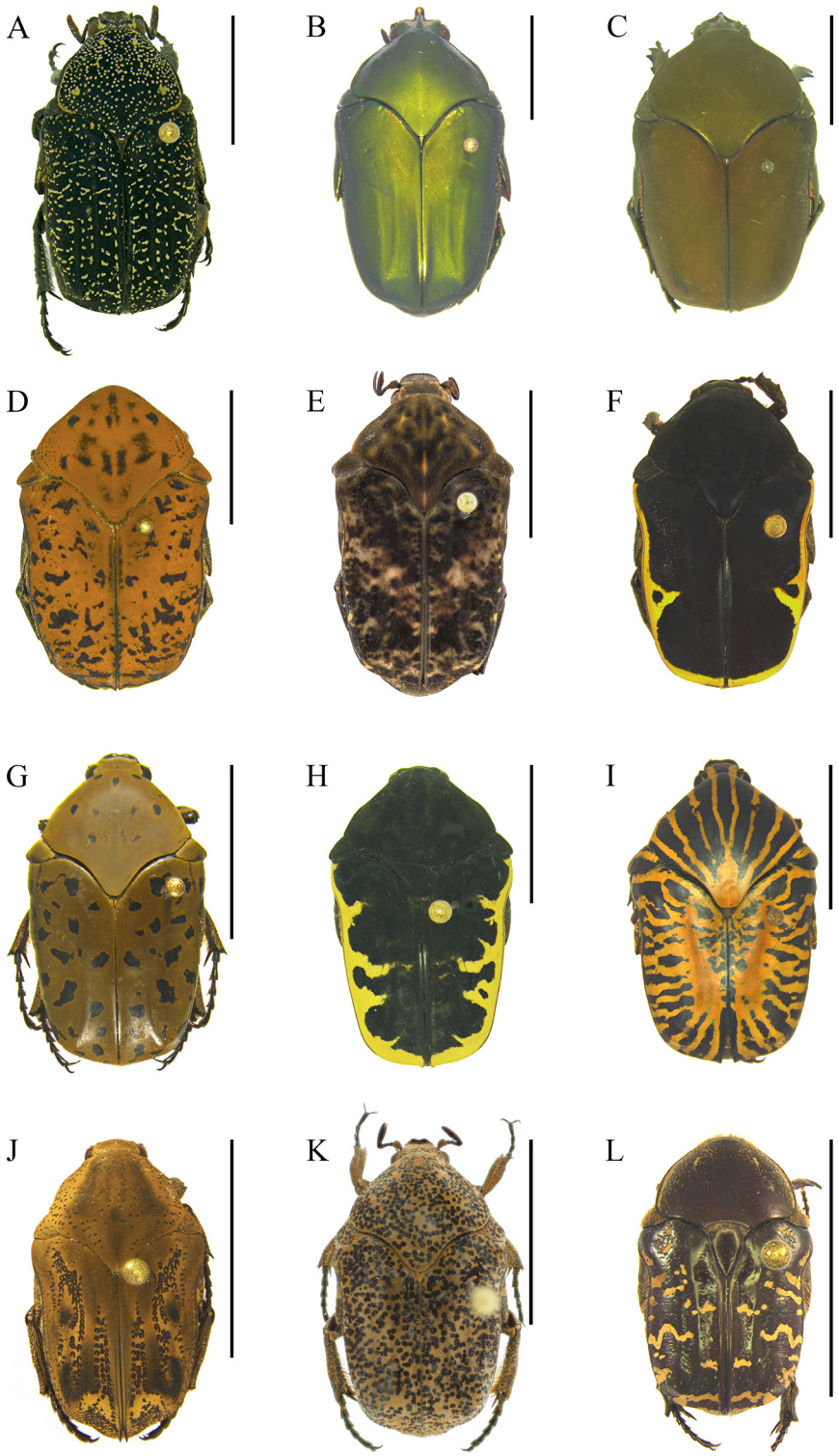

Figure 2. Habitus, dorsal aspect. **A.** *Amithao lafertei*. **B.** *Cotinis barthelemyi*. **C.** *Cotinis lebasi*. **D.** *Gymnetis bajula wollastoni*. **E.** *Gymnetis coturnix*. **F.** *Gymnetis holosericea*. **G.** *Gymnetis pantherina*. **H.** *Gymnetis ramulosa*. **I.** *Gymnetis stellata*. **J.** *Hoplopyga liturata*. **K.** *Marmarina maculosa*. **L.** *Euphoria yucateca*. Scale bars = 10 mm.

to; 11°19′08.7″N, 073°58′21.6″W; 8.VIII.1976, 30.VIII.1976, 29.X.1976; 1.I.1977, 1.VIII.1977, 12.VIII.1977; C. Kugler leg.; 2 ♂, 5 ♀, IAvH-E 71529, MUSENUV, UNAB, UPTC • Sevilla; 1941; 1598 m alt.; F. Galleco leg.; 1 ♀, MEFLG • Zona Bananera; III.1943; 1 ♀, MEFLG; Rio Frío, 28.V.1923; Darlington leg.; 1 ♂, 4 ♀, EIUIC.

Identification. *Cotinis lebasi* is easily distinguished among *Cotinis* species by the curved and developed frontal projection, free at the apex, 90% fused with the head, apically spirated into a round, disc-shaped structure. The elytra lack costae and both the pronotum and the elytra are smooth. Both males and females have tridentate protibia with reduced basal teeth. The short mesometasternal projection is rounded at the apex. The pygidium has a smooth surface, with some perforations at the base. The parameters are elongat-

ed, and the anterolateral projections form lobes directed backwards. In the internal sac of the genital organs there are two long and strong spines (Gasca-Álvarez et al. 2018).

Geographical distribution. Honduras, Colombia, Costa Rica and Panama (Gasca-Álvarez et al. 2018). In Colombia: Antioquia, Atlántico, Bolivar, Boyacá, Cauca, Caldas, Cesar, Chocó, Cundinamarca, Magdalena, Santander, Sucre, and Tolima (Suárez and Amat-García 2007; Neita-Moreno 2011; García-Atencia and Martínez-Hernández 2015; Gasca-Álvarez et al. 2018).

***Gymnetis bajula wollastoni* Schaum, 1848**
Figura 2D

Material examined. COLOMBIA — Bolívar • San Jacinto, Reserva La Flecha; 09°51'09.0"N, 075°10'32.0"W; 324 m alt.; 18.VII.2015; Iván Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest with hygrotrophophytic vegetation that loses most of the canopy layer during the dry season, including representative species such as *Ceiba*, *Pseudobombax*, *Tabebuia*, *Spondias mombin* L., *Bursera simaruba* (L.) Sarg., and *Mangifera indica* L.; 1 ♀, UARC:COL 0019.

Identification. *Gymnetis bajula wollastoni* is distinguished from the nominate subspecies by the ocher color and reduced black markings on the pronotum and elytra. The marginal lateral cord of the elytra is ocher or grayish orange (Ratcliffe 2018).

Geographical distribution. Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama (Ratcliffe 2018). The studied specimen constitutes a new record from Colombia.

***Gymnetis coturnix* Burmeister, 1842**
Figure 2E

Material examined. COLOMBIA — Cesar • La Jagua de Ibirico, Corregimiento La Victoria, Vereda Alto de las Flores; 09°34'37.62"N, 073°06'43.25"W; 1226 m alt.; XI.2020; Sandy García-Atencia leg.; collected with white-light trap in a coffee plantation shaded by *Cordia allodora*, *Inga* sp., and *Zygia* sp., with associated crops of plantain, citrus and avocado; 1 ♀, UARC:COL 0859.

Identification. *Gymnetis coturnix* is distinguished by its dorsal color of light to dark brown to brownish yellow, with irregular black marks, and usually with 2–4 small, orange or ochre spots on the lateral margin of each elytron; abdominal sternites and legs (especially in females) noticeably, coarsely, and densely punctate; The mesometasternal process is large and subquadrate, usually with a small tubercle on the dorsal surface. The parameres are subrectangular and weakly tapering, each with only a small apical tooth (Ratcliffe 2018).

Geographical distribution. Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Peru, Suriname, and Venezuela (Ratcliffe 2018). In Colombia: Antioquia, Boyacá, Bogotá D.C., Caquetá, Chocó, Cundinamarca, Meta, Tolima, Santander, Valle del Cauca (Ratcliffe 2018), and Cesar (first record from this department).

***Gymnetis holosericea* (Olivier, 1789)**
Figure 2F

Material examined. COLOMBIA — Bolívar • Reserva Campesina La Flecha; 9°51'09.72"N, 076°10'32.38"W; 20.V.2019; J. Márquez.; collected with fruit-bait trap in tropical dry forest with hygrotrophophytic vegetation that loses most of the canopy layer during the dry season, including representative species such as *Ceiba*, *Pseudobombax*, *Tabebuia*, *Spondias mombin* L., *Bursera simaruba* (L.) Sarg., and *Mangifera indica* L.; 1 sex indet. UARC:COL 0010 — Magdalena • Parque Nacional Natural Tayrona, Cabo Pueblito; 11°19'25.8"N, 073°58'12.6"W; 22.V.1977; C. Kugler leg.; 1 sex indet., IAvH-E 71540.

Identification. *Gymnetis holosericea* is highly variable in appearance, with a bright-yellow vitta on the sublateral margin of the elytra. This vitta can have different shapes, extending to the apex of the elytra or projecting through the elytra just after the middle. Unlike other similar species, the true lateral margin of the elytra of *G. holosericea* is black, while in *G. ramulosa* and *G. flavocinta* it is yellow (Ratcliffe 2018).

Geographical distribution. Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, and Venezuela (Ratcliffe 2018). In Colombia: Amazonas, Antioquia, Chocó, Cundinamarca, Huila, Magdalena, Putumayo, Quindío, Santander, Tolima, Valle del Cauca (Suárez and Amat-García 2007; Neita-Moreno 2011; Ratcliffe 2018), and Bolívar (first record from this department).

***Gymnetis pantherina* Blanchard, 1842**
Figure 2G

Material examined. COLOMBIA — Cesar • La Jagua de Ibirico, Corregimiento La Victoria, Vereda Altos de las Flores; 09°34'49.88"N, 073°08'13.15"W; 1344 m alt.; 01.XI.2020; Sandy García-Atencia leg.; collected with

white light trap in a coffee plantation shaded by *Cordia allodora*, *Inga* sp., and *Zygia* sp., with associated crops of plantain, citrus and avocado; 2 sex indet., UARC:COL 0511, 0512 • La Jagua de Ibirico, Corregimiento La Victoria, Vereda Zumbador; 09°33'10.95"N, 073°09'34.28"W; 1097 m alt.; 21.III.2021; Sandy García-Atencia leg.; tropical dry forest; white-light trap; 1 ♂, UARC:COL 0513.

Identification. *Gymnetis pantherina* presents a wide variety of colors and patterns on its body. Although there are some variations in the shape of its mesometasternal process, its general appearance and dorsal markings allow this species to be easily identified. Compared to other similar species such as *G. marmorea*, *G. pantherina* has the lateral marginal edge of the elytra opaque and light brown, olive gray, light orange, etc. *Gymnetis pantherina* differs from *G. litigiosa* by its ocher, olive-brown or light-orange elytral coloration and by its black bands or larger oblique spots, which may or may not each have a pale halo, compared to the predominantly gray color with small fuscous or black flecks on the elytra in *G. litigiosa* (Ratcliffe 2018).

Geographical distribution. Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Panama, Paraguay, Peru, and Venezuela (Ratcliffe 2018). In Colombia: Amazonas, Antioquia, Bogotá D.C., Boyacá, Caldas, Caquetá, Casanare, Cauca, Cesar, Chocó, Cundinamarca, Guaviare, Huila, La Guajira, Magdalena, Meta, Norte de Santander, Quindio, Risaralda, Santander, Tolima and Valle del Cauca (Suárez and Amat-García 2007; Ratcliffe 2018).

***Gymnetis ramulosa* Bates, 1872 (1869)**
Figure 2H

Material examined. COLOMBIA — Atlántico • Puerto Colombia, Campus Universidad del Atlántico; 11°00'56.8"N, 074°52'4.3"W; 30 m alt.; 20.II.2015; Leonel Martínez-García leg.; collected in an urban area with ornamental vegetation; 1 sex indet., UARC:COL 0009.

Identification. *Gymnetis ramulosa* is recognized by a yellow vitta on the lateral margin of the elytra that is variable in width and invaginations that is nearly always augmented with a subtriangular expansion just behind the middle that is with or without a black eye spot. This species is similar in appearance to *G. chevrolati* but is distinguished by the straight lateral margins of the parameres (Ratcliffe 2018).

Geographical distribution. Belize, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama, and Venezuela (Ratcliffe 2018). In Colombia: Antioquia, Bogotá D.C., Chocó, Magdalena, Risaralda, Santander, Tolima, Valle del Cauca (Ratcliffe 2018), and Atlántico (first record from this department).

***Gymnetis stellata* (Latreille, 1813)**
Figure 2I

Material examined. COLOMBIA — Atlántico • Puerto Colombia, Campus Universidad del Atlántico; 11°00'56.8"N, 074°52'04.3"W; 30 m alt.; 15.VI.2018; Luis Osorio leg.; 1 sex indet., UARC:COL 0514 • Santo Tomás, Colegio Diversificado Oriental; 10°45'52"N, 074°45'21"W; 12 m alt.; 10.VI.2023; Carlos Pérez leg.; 1 sex indet., UARC:COL 0515 — Magdalena • Santa Marta, Universidad del Magdalena; 11°13'17"N, 074°11'10"W; 22.III.2019; Mayron Escarraga leg.; 1 sex indet., CBUMAG: ENT 09337.

Identification. *Gymnetis stellata* has a unique and distinctive coloration and pattern of alternating black and yellow bands with an orange base on both the pronotum and elytra (Ratcliffe 2018).

Geographical distribution. Belize, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, and Venezuela (Ratcliffe 2018). In Colombia: Antioquia, Atlántico, Bolívar, Córdoba, Chocó, Cundinamarca, Magdalena, Meta, Risaralda, Santander, Sucre, Tolima, and Valle del Cauca (Suárez and Amat-García 2007; Neita-Moreno 2011; Deloya et al. 2018; Ratcliffe 2018; Taboada-Verona et al. 2019).

***Hoplopyga liturata* (Olivier, 1789)**
Figure 2J

Material examined. COLOMBIA — Atlántico • Repelón, Reserva Bijibana; 10°30'03.0"N, 075°08'01.0"W; 113 m alt.; 15.V.2013; Sandy García-Atencia leg.; 1 sex indet., UARC:COL 0020 • Usiacurí, Reserva Campesina La Montaña, 10°46'02.6"N, 075°02'34.0"W; 220 m alt.; 09.XI.2015; Iván Mendoza-Pérez leg.; 1 sex indet., UARC:COL 0021 • Puerto Colombia; 11°00'56.8"N, 074°52'04.3"W, 40 m alt.; V.VI.2022.tropical dry forest, 3 sex indet., UARC:COL 0516-0518 — Bolívar • San Jacinto, Reserva La Flecha; 09°51'09.0"N, 075°10'32.0"W; 324 m alt.; 16.V.2015; Iván Mendoza-Pérez leg.; tropical dry forest; collected with fruit-bait trap in tropical dry forest with hygrotrophophytic vegetation that loses most of the canopy layer during the dry season, including representative species such as *Ceiba*, *Pseudobombax*, *Tabebuia*, *Spondias mombin* L., *Bursera simaruba* (L.) Sarg., and *Mangifera indica* L.; 1 sex indet., UARC:COL 0022 • San Juan Nepomuceno, Santuario de Flora y Fauna Los Colorados; 09°55'34.8"N, 075°06'48.02"W; 197 m alt.; 13.VII.2023; Silvana Munive; collected with fruit-bait trap in one of the most conserved areas of tropical dry forest in the Colombian Caribbean; the vegetation includes spe-

cies such as *Aspidosperma polyneuron*, *Uribea tamarindoides* and *Hura crepitans*;; 1 sex indet., UARC:COL0519 — Cesar • Becerril, Corregimiento Estados Unidos, Vereda La Unión; 09°36'26.66"N, 073°07'17.49"W; 1174 m alt.; 12.IV.2022; Sandy García-Atencia leg.; white light trap; 1sex indet., UARC:COL 0520 — La Guajira • Albania, Arroyo Bruno; 11°10'08.8"N, 072°32'31.3"W; 96 m alt.; 02.VI.2021; Iván Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest; the site includes a gallery forest dominated by *Sterculia apetala* (Jacq.) H.Karst., *Tabebuia rosea* (Bertol.) and *Aspidosperma polyneuron* Müll.Arg. Adjacent areas show a transition to xerophytic vegetation with *Bursera simaruba* (L.) Sarg., *Astronium graveolens* Jacq. and *Prosopis juliflora* (Sw.) DC; 1 ♂, UARC:COL 0521 — Magdalena • Santa Marta, Minca; 11°08'34.0"N, 074°07'00.0"W; 643 m alt.; IX.2009; Luisa Oquendo leg.; 1 sex indet., UARC:COL 0023 • Parque Nacional Natural Tayrona, Cañaveral; 11°18'25.4"N, 073°55'45.9"W; 30 m alt.; 15.XII.2000–02.II.2001; R. Henriquez leg.; 1 sex indet., IAvH-E 203937 • Sevilla, 10°45'48.0"N, 074°08'21.0"W; 31.X.2014; A. Martínez leg.; 1 sex indet., CBUMAG:ENT 04104.

Identification. This species is separated from other species in the group by the punctuation between the median elytral costa and the sutural costa of each elytron does not continue to the base of each elytron next to the scutellum. In males has been observed to lack long, dense setae at the base of the mesometasternal process, a character that is present in other species that appear similar. In *H. liturata*, the parameres are unique in that the ventral portions of the shaft are obliquely angled, so that the ventral face is clearly visible in lateral view. It is most similar to *H. ocellata*, but in the area of fuscous clouding on the middle of the pronotum has straight margins in *H. liturata*. In addition, *H. ocellata* has an hourglass shape on the elytra that is not present in *H. liturata* (Shaughney and Ratcliffe 2015).

Geographical distribution. Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad, and Venezuela (Shaughney and Ratcliffe 2015). In Colombia: Antioquia, Atlántico, Boyacá, Caldas, Casanare, Cauca, Cesar, Chocó, Córdoba, Cundinamarca, Guaviare, Magdalena, Meta, Norte de Santander, Putumayo, Quindío, Risaralda, Santander, Tolima, Sucre, and Valle del Cauca (Neita et al. 2006; Suárez and Amat-García 2007; García-Atencia et al. 2015; López-García et al. 2015; Shaughney and Ratcliffe 2015; Taboada-Verona et al. 2019), Bolívar and La Guajira (first records for these two departments).

***Marmarina maculosa* (Olivier, 1789)**
Figure 2K

Material examined. COLOMBIA — Magdalena • Parque Nacional Natural Tayrona, Cabo Pueblito; 11°19' 25.8"N, 073°58'12.6"W; 22.V.1977; C. Kugler leg.; 1 sex indet., IAvH-E 71541.

Identification. *Marmarina maculosa* is distinguished from other species in the genus by the dense reddish-brown to black specks on both the back and underside of the body. It is distinguished from *M. insculpta* by its generally smaller size, lighter overall back color as a result of fewer and less confluent spots; by the fir line impressed on each side of the anterior portion of the metasternum extending to the axis of the mesometasternal process, the lines sometimes joining in the midline; and the mesosternal part of the mesometasternal process completely scaly (Ratcliffe 2015).

Geographical distribution. Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Panama, Peru, Suriname, Tobago, Trinidad, and Venezuela (Ratcliffe 2015). In Colombia: Amazonas, Antioquia, Caldas, Cauca, Caquetá, Chocó, Cundinamarca, Magdalena, Nariño, Norte de Santander, Quindío, Risaralda, Santander, Valle del Cauca, and Vichada (Suárez and Amat-García 2007; Neita-Moreno 2011; Ratcliffe 2015).

Tribe Cetoniini

***Euphoria yucateca* (Bates, 1889)**
Figure 2L

Material examined. COLOMBIA — Atlántico • Baranoa, Mendolandia, Hacienda las Bahamas; 10°47'56.4"N, 074°55'20.3"W; 120 m alt.; 25.X.2014; Iván Mendoza-Pérez leg.; 1 sex indet., UARC:COL 0860 • Tubará, Corrales de San Luis; 10°53'53.7"N, 074°59'59.8"W; 300 m alt.; 16.XI.2014; Ivan Mendoza leg.; tropical dry forest; 3 sex indet., UARC:COL 0013, 0017, 0018 • Repelón, Reserva Bijibana; 10°30'03.0"N, 075°08'01.0"W; 113 m alt.; 10.IX.2013; Sandy García-Atencia leg.; 1 sex indet., UARC:COL 0015 — Bolívar • San Jacinto, Reserva La Flecha; 09°51'09.0"N, 075°10'32.0"W; 324 m alt.; 18.VII.2015; Iván Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest with hygrotrophophytic vegetation that loses most of the canopy layer during the dry season, including representative species such as *Ceiba*, *Pseudobombax*, *Tabebuia*, *Spondias mombin* L., *Bursera simaruba* (L.) Sarg., and *Mangifera indica* L.; 3 sex indet., UARC:COL 0011,0012, 0014 • same collection data as for preceding; 10.IX.2015; Iván Mendoza-Pérez leg.; tropical dry forest; 1 sex indet., UARC:COL 0016 — La Guajira • Uribia, Puerto Bolívar; 12°14'28.5"N, 071°58'19.5"W; 20.X.2022; Ivan Mendoza-Pérez leg.; collected with fruit-bait trap in tropical dry forest, characterized by desert scrub and spiny thicket vegetation, dominated by *Prosopis*

juliflora (Sw.) DC., *Mimosa arenosa* (Willd.) Poir., *Caesalpinia coriaria* (Jacq.) Willd., and *Haematoxylum brasiletto* H.Karst.; 1 sex indet., UARC:COL 0861 — Magdalena • Parque Nacional Natural Tayrona, Palangana, 11°20'00.0"N, 074°02'00.0"W; 30 m alt.; 23.V.2001; R. Henriquez leg.; 1 sex indet., IAvH-E 203362 • Santa Marta, Sector Bonda; 11°14'00.4"N, 074°07'30.8"W; 12.V.2007; M. Pajaro; 1 sex indet., CBUMAG:ENT 00926 • Santa Marta, Universidad del Magdalena; 11°13'17"N, 074°11'10"W; 06.XI.2018; Mendez leg.; 1 sex indet., CBUMAG:ENT 08776 • same collection data as for preceding; 04.V.2013; L. Becerra leg.; 1 sex indet., CBUMAG:ENT 04354.

Identification. *Euphoria yucateca* is distinguished by the shorter, moderately reflexed clypeus, antennal club shorter than stem in both sexes, mostly impunctate scutellum, males without abdominal longitudinal depression, and form of the parameres. In addition, *E. yucateca* has the sparsely punctate pronotum and the pronotum with one cretaceous lateral band that is not present in *E. lurida*. This hypothesis is consistent with the geographic distribution observed for both species (Orozco 2012b).

Geographical distribution. Belize, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, and Venezuela (Orozco 2012b). In Colombia: Atlántico, Cesar, La Guajira, Magdalena, Norte de Santander (Orozco 2012b), and Bolívar (first record from this department).

Key to the adults of the species of Cetoniinae in the Caribean region of Colombia

1. Pronotum with basomedian lobe enlarged, covering scutellum (Gymnetini) **2**
1'. Pronotum without enlarged basomedian lobe; scutellum visible (Cetoniini) ..... ***Euphoria yucateca* (Bates, 1889)**
2. Apex of clypeus with median, upturned, lobiform projection; vertex and frons with ridge-like, longitudinal process, often developed into distinct horn ..... ***Cotinis*** ... **3**
2'. Apex of clypeus without upturned, lobiform projection; vertex and frons lacking armature **4**
3. Clypeal projection triangular, reduced to well developed. Mesometasternal projection short and broad. Surface of pygidium smooth, with some punctures usually at base ..... ***Cotinis lebasi* (Gory & Percheron, 1833)**
3'. Clypeal projection variable, parallel-sided or slightly expanded apically. Mesometasternal projection well developed. Surface of pygidium with transverse strigulations ..... ***Cotinis barthelemyi* (Gory & Percheron, 1833)**
4. Apex of clypeus truncate, broadly rounded, slightly emarginate or produced medially. Coloration variable on both dorsal and ventral surfaces and legs **5**
4'. Apex of clypeus deeply emarginate or bilobed. Coloration dark reddish brown to black with small, abundant, yellowish-white spots on both dorsal and ventral surfaces and legs ..... ***Amithao lafertei* (Thomson, 1860)**
5. Apices of elytra rounded or usually not prolonged into spines. Clypeal apex truncated or slightly emarginate **6**
5'. Apices of elytra usually prolonged into spines. Clypeal apex narrowly reflexed ..... ***Hoplopyga liturata* (Olivier, 1789)**
6. Mesometasternal process usually large, extending moderately to strongly obliquely downwards from ventral axis of body. Pronotum and elytra with variable coloration of black, grey, brown, yellow, ochre, orange or red, and with or without contrasting band or spots ..... ***Gymnetis*** ... **7**
6'. Mesometasternal process, in lateral view, short to slightly longer, extending forwards in same plane or nearly so as ventral axis of body. Pronotum and elytra with numerous, often confluent, mostly round punctures surrounded by black to reddish brown, small to large, opaque circles ..... ***Marmarina maculosa* (Olivier, 1789)**
7. Pronotum black unicolorous **8**
7'. Pronotum with contrasting spots, flecks, marks, or bands **9**
8. Lateral margin of elytra with continuous yellow spot, or with subtriangular or oval yellow spots. Mesometasternal process, in lateral view, large, stout, subtriangular, projecting slightly forward and strongly downwards from ventral axis of body, anterior face usually with prominent tubercle, apex narrowly rounded. Apex of parameres with laterally projecting, small, sharp tooth ..... ***Gymnetis holoserica* (Olivier, 1789)**
8'. Lateral margin of elytra with slender yellow spot weakly to subtriangularly or irregularly expanded just behind middle. Mesometasternal process, in lateral view, large, thick, projecting obliquely forward and strongly downwards from ventral axis of body, anterior face with or without small to moderately large tubercle; apex broadly rounded. Apex of parameres with small, acute tooth on both external and internal margins ..... ***Gymnetis ramulosa* Bates, 1872**
9. Body coloration distinctive with a pattern of radiating, alternating black and yellow bands with an orange base on both the pronotum and elytra ..... ***Gymnetis stellata* (Latreille, 1813)**
9'. Body coloration variable, velutinous light brown, dark brown, greyish brown, olive grey greyish orange,

or light ochre, with moderate to dense, irregular, black flecks, spots, bands or marks on both the pronotum and elytra **10**

10. Surface of pronotum and elytra velutinous light brown, dark brown, or greyish brown, with irregular diffuse, velutinous black marks ..... ***Gymnetis coturnix* Burmeister, 1842**

10′. Surface of pronotum and elytra velutinous light brown, olive brown, olive grey, ochre, or light orange with small to large, moderate to dense, irregular, black flecks, spots, or bands **11**

11. Body shape usually weakly tapering posteriorly in dorsal view. Coloration variable. Pattern of black flecks, spots, or bands irregular, dense to sparse on the pronotum and elytra. Mesometastemal process, in lateral view, short, blunt, length subequal to width ... ***Gymnetis pantherina* Blanchard, 1842**

11′. Body shape robust, subquadrate in dorsal view. Coloration usually light orange or ochre. Pattern of the black markings reduced on the pronotum and the elytra. Mesometasternal process, in lateral view, narrowly elongate, length longer than width ... ***Gymnetis bajula wollastonii* Schaum, 1848**

DISCUSSION

This study updates the knowledge of the Cetoniinae subfamily in the Colombian Caribbean region, recording 12 species from the genera *Amithao*, *Marmarina*, *Cotinis*, *Gymnetis*, *Euphoria*, and *Hoplopyga*, grouped within the tribes Gymnetini and Cetoniini. These records provide a significant contribution to understanding the diversity and distribution of this group within a critical ecosystem, such as the tropical dry forest. Furthermore, our study highlights the importance of these beetles in tropical ecosystems, both as potential pollinators and as indicators of ecosystem health. This underscores the need to continue with studies that evaluate their functional ecology and role in the dynamics of tropical dry forests, especially in the context of increasing habitat fragmentation and loss.

Although the subfamily Cetoniinae has been previously documented in Colombia with 53 species distributed across five tribes (Suárez and Amat-García 2007; Neita et al. 2010; Gasca-Álvarez and Deloya 2020), records from the Caribbean region are limited. García-Atencia and Martínez-Hernández (2015) reported only four species in tropical dry forest fragments in the department of Atlántico. Our study expands this knowledge by recording seven additional species for the region and providing more detailed information on their geographic distribution and associated habitats. This progress emphasizes the importance of conducting local inventories, especially in under-sampled areas.

One of the most notable reports is that of *Amithao lafertei*, a species previously recorded in Antioquia, Cauca, Chocó, and Cundinamarca (Ratcliffe 2013), but not reported in the Colombian Caribbean. Its presence in localities such as Becerril and La Jagua de Ibirico, located in the Serranía del Perijá, not only expands its distribution range to the northeast, but also constitutes its first record in the Caribbean biogeographic region, underscoring the relevance of tropical dry forest as a key environment for its persistence. This find highlights the role of the Serranía del Perijá as a transitional zone between the Andean and Caribbean regions, and emphasizes the need to preserve tropical dry forest as essential habitat for this group. The range expansion of this species in a mountainous setting reinforces the value of the Colombian Caribbean as a priority region for biodiversity research.

Another significant contribution of this study is the record of *Gymnetis bajula wollastoni* in Colombia, a species previously reported as *G. wollastoni* by Suárez and Amat-García (2007). However, the most recent revision of the genus by Ratcliffe (2018) did not include it within the country's fauna, suggesting that its presence has been under documented or that there are inconsistencies in its taxonomy. Additionally, this study highlights the first record of *G. coturnix* for the Colombian Caribbean and the expansion of the distribution range of *G. ramulosa*, which until now had only been reported in the department of Magdalena.

On the other hand, the confirmation of species such as *Cotinis barthelemyi*, *Gymnetis pantherina*, and *Euphoria yucateca* strengthens their association with dry forest fragments and their possible ecological role as pollinators (Ratcliffe 2018; García-Atencia et al. 2024). These data support the hypothesis that habitat fragmentation may be affecting the diversity and ecological functions of these beetles, although further research is needed to understand the underlying mechanisms.

In the literature, *Desicasta reichei* (Thomson, 1860), *Allorrhina scabriuscula* (Swederus, 1787), *Hoplopyga ocellata* (Gory & Percheron, 1833) and *Gymnetis cerdai* Antoine, 2001 are recorded from Magdalena department (Ratcliffe 2013, 2015, 2018; Shaughney and Ratcliffe 2015). According to Brett Ratcliffe (pers. com. 2025), these records come from material deposited mainly in European collections, from a single specimen and without other more specific data. Since in the present study, these species were not found or collected for the Caribbean region of Colombia, we consider that these records may be doubtful or erroneous.

The limited representation of Cetoniinae species in the reviewed collections, combined with the high rates of deforestation in tropical dry forests, highlights a critical scenario for the conservation of these bee-

tles, particularly in these ecosystems, which are considered among the most threatened in the country (Pizano et al. 2015). In this context, the results of this study provide a foundation to identify key conservation areas and promote strategies that include the strengthening of regional biological collections. For this reason, the collection of specimens in local and national collections, as well as their registration in the Biodiversity Information System (SiB), represents a crucial step for the conservation and monitoring of biodiversity in the region. Similarly, identifying key areas for the conservation of Cetoniinae, such as the localities of Becerril and Baranoa, can guide future management and restoration efforts for tropical dry forests, a critically threatened ecosystem in Colombia.

Finally, it is crucial to complement all these efforts with further research addressing ecological aspects at the landscape scale, the effects of climate change, and the dynamics of connectivity in dry forest ecosystems. This will not only enhance our understanding of biodiversity of the Cetoniinae in Colombia but also facilitate their integration into local and national conservation and ecological restoration programs. Nonetheless, considering their strong dispersal capacity, future studies should also evaluate the extent to which sampled individuals represent resident populations or transient "tourist" species, as well as expand knowledge on their natural history, including feeding habits, host plants, and their spatial and altitudinal distribution. These aspects are essential to strengthen the use of Cetoniinae data in the identification of priority conservation areas.

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ADDITIONAL INFORMATION

Conflict of interest

The authors declare that no competing interests exist.

Ethical statement

No ethical statement is reported.

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Author contributions

Conceptualization: MGL, IAMP, SGA, VTR. Data curation: MGL, IAMP, VTR. Funding acquisition: SGA. Investigation: MGL, VTR, IAMP, SGA, HJGA. Methodology: MGL, IAMP, SGA, VTR. Resources: SGA. Supervision: HJGA, SGA. Project administration: SGA. Validation: HJGA, SGA. Visualization: MGL, VTR, IAMP, SGA, HJGA. Writing – original draft: MGL, VTR, IAMP, SGA. Writing – review and editing: MGL, VTR, IAMP, SGA, HJGA.

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Data availability

All data that support the findings of this study are available in the main text.

REFERENCES

Bouchard P, Bousquet Y, Davies AE, Alonso-Zarazaga MA, Lawrence JF, Lyal CHC, Newton AF, Reid CAM, Schmitt M, Ślipiński SA, Smith ABT (2011) Family-group names in Coleoptera (Insecta). ZooKeys 88: 1–972. https://doi.org/10.3897/zookeys.88.807

Deloya C, Ratcliffe BC, Gasca-Álvarez HJ, Aguirre G (2018) Escarabajos Cetoniinae (Coleoptera: Scarabaeidae) de América. In: Deloya C, Gasca-Álvarez HJ (Eds.) Escarabajos del Neotrópico (Insecta: Coleoptera). Corporación Sentido Natural, S y G Editores, Ciudad de México, México, 129–151.

García-Atencia S, Martínez-Hernández N (2015) Escarabajos fitófagos (Coleoptera: Scarabaeidae) del Departamento del Atlántico, Colombia. Acta Zoológica Mexicana 31(1): 89–96. https://doi.org/10.21829/azm.2015.311519

García-Atencia S, Martínez-Hernández N, Pardo-Locarno LC (2015) Escarabajos fitófagos (Coleoptera: Scarabaeidae) en un fragmento de bosque seco tropical del departamento del Atlántico, Colombia. Revista Mexicana de Biodiversidad 86 (3): 754–763. https://doi.org/10.1016/j.rmb.2015.07.009

García-Atencia S, Bonilla-Gómez MA, Moreno CE (2024) Ecosystem functions and functional traits for the study of phytophagous scarab beetles (Coleoptera: Scarabaeidae). Ecological Entomology 49(4): 463–475. https://doi.org/10.1111/een.13322

Gasca-Álvarez HJ, Deloya C (2020) Cetoniinae (Coleoptera: Scarabaeidae) de Colombia: diversidad, taxonomía y distribución. In: Pardo-Locarno LC, Gallego-Ropero MC, Montoya- Lerma J (Ed.) VII Curso Escarabajos de Colombia (Coleoptera: Scarabaeoidea) taxonomía, biología y ecología. Popayán, Cauca, Colombia, 118–126.

Gasca-Álvarez HJ, Deloya C, Cultid-Medina CA, Pinilla-Buitrago G (2018) Synopsis and potential geographical distribution of *Cotinis* (Coleoptera: Scarabaeidae: Cetoniinae: Gymnetini) in Colombia. Tropical Zoology 31 (3): 99–117. https://doi.org/10.1080/03946975.2018.1462994

Goodrich MA (1966) A revision of the genus *Cotinis* (Coleoptera: Scarabaeidae). Annals of the Entomological Society of America 59 (3): 550–568. https://doi.org/10.1093/aesa/59.3.550

Krikken J (1984) A new key to the suprageneric taxa in the beetle family Cetoniidae, with annotated lists of the known genera. Zoologische Verhandelingen 210 (1): 1–75.

López-García MM, García-Atencia S, Amat-García G (2015) Escarabajos fitófagos (Coleoptera: Scarabaeidae "Pleurosticti") de los Andes Orientales de Colombia (Departamentos de Santander, Boyacá y Cundinamarca). Boletín Científico Centro de Museos Museo de Historia Natural 19 (2): 322–358. https://doi.org/10.17151/bccm.2015.19.2.20

Micó E (2018) Saproxylic insects in tree hollows. In: Ulyshen MD (Ed.) saproxylic insects: diversity, ecology and conservation. Springer, Heidelberg, Germany, 693–727.

Morón MA, Ratcliffe BC, Deloya C (1997) Atlas de los escarabajos de México: Coleoptera Lamellicornia, volumen I: familia Melolonthidae. Sociedad Mexicana de Entomología, Xalapa, Veracruz, México, 280 pp.

Mudge AD, Orozco J, Philips TK, Antoine P (2012) The cetoniine fauna of the Upper Guinean forests and savannas of Ghana (Coleoptera: Scarabaeidae: Cetoniinae). Terrestrial Arthropod Reviews 5: 113–174. https://doi.org/10.1163/187498312X635319

Neita-Moreno JC (2011) Escarabajos (Coleoptera: Scarabaeoidea) del departamento del Chocó, Colombia. Revista Biodiversidad Neotropical 1 (1): 17–27.

Neita-Moreno JC, Quiroz Gamboa JA, Ocampo Corrales LF (2010) Cetoniinae (Coleoptera: Scarabaeidae "Pleurosctiti") del Museo Entomológico "Francisco Luis Gallego" de la Universidad Nacional de Colombia, sede Medellín. Boletín del Museo Entomológico Francisco Luís Gallego, 2 (3).

Neita M, César J, Orozco A, Ratcliffe BC (2006) Escarabajos (Scarabaeidae: Pleurosticti) de la selva baja del bosque pluvial tropical "BP-T", Chocó, Colombia. Acta Zoológica Mexicana 22 (2): 1–32.

Orozco J (2012a) Escarabajos cetoninos de Guatemala (Coleoptera: Scarabaeidae: Cetoniinae). In: Cano EB, Schuster JC (Ed.) Biodiversidad de Guatemala. Universidad del Valle de Guatemala, Ciudad de Guatemala, Guatemala, 181–191 pp.

Orozco J (2012b) Monographic Revision of the American Genus *Euphoria* Burmeister, 1842 (Coleoptera: Scarabaeidae: Cetoniinae). The Coleopterists Bulletin 66 (mo11): 1–182. https://doi.org/10.1649/0010-066X-66.mo4.1

Padilla O, Noriega E (2021) Reconocimiento de la población del tití cabeciblanco (*Saguinus oedipus*) en la Reserva Forestal Protectora el Palomar, Departamento del Atlántico, Colombia. Neotropical Primates 27 (1): 38–42.

Pizano C, González M, López René, Jurado R, Cuadros H, Castaño A, Rojas, A, Perez K, Vergara H, Idárraga, A, Isaacs PJ, García, H (2016) El bosque seco tropical en Colombia: Distribución y estado de conservación. In: Gómez MF, Moreno L, Andrade G, Rueda C (Eds.) Biodiversidad 2015. Estado y tendencias de la biodiversidad continental de Colombia. Instituto Alexander von Humboldt, Bogotá, D.C., Colombia, 202.

Philips TK, Mudge AD, Orozco J, Neidlinger R, Beinhundner G, Joly C (2022) A rich and diverse fauna: an illustrated guide to the cetoniines of Ghana with comparisons to Ivory Coast and Benin (Coleoptera: Scarabaeidae: Cetoniinae). Zootaxa 5150 (2): 151–188. https://doi.org/10.11646/zootaxa.5150.2.1

Puker A, Lopes-Andrade C, Rosa CS, Grossi PC (2012) New records of termite hosts for two species of *Hoplopyga*, with notes on the life cycle of *Hoplopyga brasiliensis* (Coleoptera: Scarabaeidae: Cetoniinae). Annals of the Entomological Society of America 105, 872–878. https://doi.org/10.1603/AN12068

Puker A, Rosa CS, Orozco J, Solar RRC, Feitosa RM (2015) Insights on the association of American Cetoniinae beetles with ants. Entomological Science 18, 21–30. https://doi.org/10.1111/ens.12085

Ratcliffe B (2013) A revision of the Neotropical genus *Amithao* Thomson, 1878 (Coleoptera: Scarabaeidae: Cetoniinae: Gymnetini). The Coleopterists Bulletin 67 (3): 265–292. https://doi.org/10.1649/0010-065X-67.3.265

Ratcliffe B (2015) A review of the Neotropical genus *Marmarina* Kirby, 1827 (Coleoptera: Scarabaeidae: Cetoniinae: Gymnetini), with description of a new species from Argentina. The Coleopterists Bulletin 69 (2): 183-201. https://doi.org/10.1649/0010-065X-69.2.183

Ratcliffe B (2018) A monographic revision of the genus *Gymnetis* MacLeay, 1819 (Coleoptera: Scarabaeidae: Cetoniinae). Bulletin of the University of Nebraska State Museum 31: 1–249.

Ratcliffe B (2019) Keys to adults of all genera and larvae of 19 species of Gymnetini (Coleoptera: Scarabaeidae: Cetoniinae) in the New World, with a Species checklist and descriptions of two new genera and species from Mexico and Martinique. The Coleopterists Bulletin 73 (1): 1–26. https://doi.org/10.1649/0010-065X-73.1.1

Rodrigues SR, Nagase De Oliveira JL, Constante CA, Puker A (2013) Cetoniinae (Coleoptera: Scarabaeidae) attracted to fruit-baited traps near Aquidauana, Mato Grosso Do Sul, Brazil. The Coleopterists Bulletin 67 (2): 119–122. https://doi.org/10.1649/0010-065X-67.2.119

Seidel M, Arriaga-Varela E, Sousa R (2018) Catalogue of Incini and description of a new *Archedinus* (Coleoptera: Scarabaeidae). Acta Entomologica Musei Nationalis Pragae 58 2): 389–405. https://doi.org/10.2478/aemnp-2018-0031

Shaughney JM, Ratcliffe BC (2015) A monographic revision of the genus *Hoplopyga* Thomson, 1880 (Coleoptera: Scarabaeidae: Cetoniinae: Gymnetini). The Coleopterists Bulletin 69 (4): 579–638. https://doi.org/10.1649/0010-065X-69.4.579

Suárez MA, Amat-García G (2007) Lista de especies de escarabajos fruteros (Melolonthidae: Cetoniinae) de Colombia. Biota Colombiana 8 (1): 69–76.

Taboada-Verona C, Sermeño-Correa C, Sierra-Serrano O, Noriega JA (2019) Checklist of the superfamily Scarabaeoidea (Insecta, Coleoptera) in an urban area of the Caribbean Colombia. Check List 15 (4): 579–594. https://doi.org/10.15560/15.4.579

Touroult J, Le Gall P (2013) Fruit feeding Cetoniinae community structure in an anthropogenic landscape in West Africa. Journal of Insect Conservation 17: 23–34. https://doi.org/10.1007/s10841-012-9483-2