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Dyslexia, a new remarkable genus of pleasing fungus beetles (Coleoptera: Erotylidae: Erotylinae) from the Andes

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Abstract. *Dyslexia* Skelley and Gasca-Álvarez, **new genus** (Coleoptera: Erotylidae: Erotylinae: Erotylini), is described and illustrated. The genus is comprised of four **new species**, all described by Skelley and Gasca-Álvarez: *D. belamyi*, *D. dathomirria*, *D. pulcricolor*, and *D. tomasi*. The unique broad head structures of this genus are characterized and compared with other genera. Problems associated with the taxonomy of Erotylini are discussed.

Key words. Taxonomy, morphology, South America, Colombia, Ecuador.

Resumen. Se describe y se ilustra a *Dyslexia* Skelley y Gasca-Álvarez, **nuevo género** (Coleoptera: Erotylidae: Erotylinae: Erotylini). El género está formado por cuatro **especies nuevas**, todas descritas por Skelley y Gasca-Álvarez: *D. belamyi*, *D. dathomirria*, *D. pulcricolor*, y *D. tomasi*. Las estructuras únicas de la cabeza ancha de este género son caracterizadas y comparadas con otros géneros. Se discuten problemas relacionados con la taxonomía de Erotylini.

Palabras clave. Taxonomía, morfología, América de Sur, Colombia, Ecuador.

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Introduction

The subfamily Erotylinae (Coleoptera: Erotylidae) is one of the most diverse, yet poorly studied subfamilies within the Cucujoidea. This is partly because there is a lack of revisionary works allowing students to identify materials and gain an interest. In addition, many species and unidentified materials in collections do not fit generic limits set by the early researchers. Also, some species are placed in the wrong genus, adding to the confusion for those learning the taxa (see Skelley and Powell 2018 and Skelley 2020 regarding *Mycophtorus* Lacordaire and *Triplax* Herbst, respectively). These past taxonomic concerns coupled with the undescribed diversity within the subfamily (PES pers. obs.; Italo Pecci-Maddalena pers. com. 2020) are problems not quickly solved, in part because old generic limits have not been revised with current methods.

The Erotylini (Erotylinae) contain many large and colorful species readily recognized by the public that are frequently collected. Some genera like *Erotylus* Fabricius, *Cypherotylus* Crotch (recently revalidated, see Skelley 2020), *Iphiclus* Dejean, and *Aegithus* Fabricius are abundantly represented in collections around the world. Other genera are rare, poorly known, and even undescribed (PES pers. obs., this paper). A couple genera currently placed in the Erotylini may belong to the Tritomini (Erotylinae).

Examples of taxa within Erotylini where diagnostic characters and apomorphic characters may be mixed, placing doubt on their monophyly, can be seen in the species groups of *Aegithus* and *Strongylosomus* Dejean as outlined in Crotch (1876). These genera are distinguished primarily by the body shape and antennal length. Yet,

each of these genera include groups of species distinguished by more complicated structures of the head (wedge-shaped vs. constricted, discussed below) and elytral strial characters (normally spaced striae vs. geminate striae). These characters occur widely in various species and are used to distinguish other genera.

Previous keys to genera (Kuhnt 1909; Deelder 1942) rely on superficial diagnostic characters that are not adequate to distinguish all taxa and, for obvious reasons, these keys do not account for species that are placed in the wrong genera nor undescribed taxa. Most genera in the Erotylinae have never been revised using modern methodologies and more complex characters, such as the mouthparts or genitalia. These concerns bring the monophyly of these larger genera as currently defined into doubt.

However, even with this need for revisionary and phylogenetic work, some new taxa are distinct enough to be characterized outside of any current generic limits and taxonomic confusion. That is the case with the genus described here.

Materials and Methods

Materials reported in this work are deposited in the following collections (collection managers are in parentheses): **FSCA –** Florida State Collection of Arthropods, Gainesville, FL, USA (Paul Skelley); **NHMUK** – Natural History Museum, London, UK (Max Barclay); **SEMC –** Snow Entomology Museum, University of Kansas, Lawrence, KS, USA (Zack Falin).

Terminology in the descriptions follows Skelley (1998), McHugh et al. (1997), Węgrzynowicz (2002) and Leschen (2003), with updates as presented in Lawrence et al. (2010). The term "geminate" elytral striae is used in numerous papers on the Erotylini but does not appear in any entomological glossary or dictionary that we have found. Here defined: geminate striae are paired, with alternating intervals broad then narrowed. In Italian, geminate translates to twins, and is likely based on the same root used for Gemini.

Genitalia studied are placed in DMHF (Steedman 1958), which is water soluble, on a paper card beneath the specimen. Specimens on paper points were glued with "Gelva", a polyvinyl acetate, which is soluble in 95% ethanol. Photographs by PES were taken using a Syncroscopy Auto-Montage system with a JVC 3-CCD, KY-F75U digital camera through a Leica Z16 APO lens. For descriptions, label data is quoted verbatim. A single slash (/) indicates a break between lines on the same label, and a double slash (//) indicates a different label. Our comments are in brackets [ ].

The phylogenetic species definition of Wheeler and Platnick (2000) is used in an evidently synchronic sense, which considers the species as the smallest aggregation of populations diagnosable by a unique combination of character states.

Results

One of the complex head structures that appears in scattered genera and species of Erotylini involves the placement of the antennae and changes in shape of the frons and clypeus (= rostrum of Kuhnt 1909 and Deelder 1942). In previously described genera, there are two primary arrangements: wedge-shaped vs. constricted. We report a new arrangement: constricted and broad.

Wedge-shaped: The antennal insertions are more lateral, not readily visible anteriorly. The lateral margin of the frons and clypeus are straight and converge anteriorly (Fig. 1–3). Some genera with this head shape include typical *Aegithus*, *Iphiclus* and *Barytopus* Dejean.

Constricted: This is characterized by Kuhnt (1909) and Deelder (1942) as "rostrum squared, base very narrow". In this form, the antennal insertions are more visible anteriorly. The lateral margin of the frons constricts just posterior of the fronto-clypeal suture, while the clypeus remains wide. Some genera with this head form include *Erotylus*, *Cypherotylus*, and *Ellipticus* Dejean (Fig. 4–5). This constriction is often associated with a narrowing and slight elongation of the anterior structures of the head, as is seen in *Scaphidomorphus* Hope (Fig. 6).

Constricted and broad: The antennal insertions are visible anteriorly, but the head and especially the genal region is widened. The genal region is readily visible in anterior view with the entire head in front of the eyes

Figures 1–9. Heads of various Erotylini. **1)** *Aegithus clavicornis* (Linnaeus). **2)** *Iphiclus* (*Sternolobus*) *dispilotus* (Lacordaire). **3)** *Iphiclus* (*Saccomorphus*) *bimaculatus* (Fabricius). **4)** *Erotylus giganteus* (Linnaeus). **5)** *Ellipticus* sp. **6)** *Scaphidomorphus quinquepunctatus* (Linnaeus). **7–8)** *Dyslexia belamyi* Skelley and Gasca-Álvarez, n. sp., dorsal and ventral views. **9)** *Dyslexia tomasi* Skelley and Gasca-Álvarez, n. sp.

being parallel-sided, appearing shortened and somewhat truncate (Fig. 7–9). This new arrangement is not seen in any other Erotylinae currently described.

This morphologically unique genus is here described to make the name available for future work in the tribe and to present an example of the wondrous diversity remaining to be described in the Erotylini.

Dyslexia Skelley and Gasca-Álvarez, new genus

Type species. *Dyslexia belamyi* Skelley and Gasca-Álvarez, new species, present designation.

Diagnosis. A member of the Erotylini distinguished from all genera by the unique characters of the broad, truncated head where the frons is constricted around the anteriorly visible antennal insertions, the head broad and truncate, and the genae are visible in anterior view. Other distinguishing characters include the flattened mentum with a circular plate, anterior clypeal margin strongly emarginate, frontoclypeal suture lacking indication on

surface, prosternum not projecting anteriorly, sexual dimorphism with males possessing a patch of setae in center of abdominal ventrite I, and shortened female genitalia.

Description. Length 7.1–10.2 mm. Body shape elongate to oval, convex dorsally, elytra variably humped in some manner; microreticulation weak, surface glossy; body yellow to orange with variable black markings.

Head broad, width between eyes = 4.1–5.5× eye width; ocular striae ending at anterior angle of eye; frons with small weak tubercle near antennal insertion; epistome broad and constricted at antennal insertions; frontoclypeal suture indistinct, lacking any surface indications; clypeus transversely elongate, with anterior emargination angulate, shallowly v- or u-shaped; genae widened, visible in anterior view, giving head a parallel-sided appearance. Eye small, not bulging; facets well defined. Antenna slender, long, reaching base of pronotum; antennomere I large, elongate; antennomere II elongate, length = 0.5× antennomere I; antennomere III elongate, length 2× antennomere I, length = next 2 antennomeres combined; antennomeres IV to VIII elongate, apically rounded; antennomere VIII rounded or truncate apically, not widened; antennomeres IX to XI form a loose elongate club; antennomere IX–X triangular; antennomere XI elongately ovoid, apex acutely pointed; club antennomeres symmetrical. Maxillary and labial palp terminal palpomere triangular, extended medially, apical angles 90° laterally, 45° medially; length = 0.66× width. Mentum with semicircular basal plate defined by weak groove, length = 0.6× width, width of plate = 0.6× width of mentum. Genae widened and anteriorly elongated so mandibular attachment anterior to eye (ventral to eye in other genera); genae easily visible in dorsal view.

Pronotum with length nearly equal to width, or slightly wider; disc moderately convex; sides arched inwardly toward eyes; anterior angles closer together than posterior angles; anterior edge with marginal bead between eyes; anterior angles forwardly produced, making anterior edge concave; base weakly sinuate, nearly straight, weakly lobed at middle, with complete marginal bead, with a few small punctures in bead; discal surface with scattered fine punctures. Scutellar shield pentagonal, sided rounded, wider than long. Elytra with sides evenly arched to apex, in lateral view distinctly evenly convex or distinctly declivous at base (presenting a hunchbacked appearance); 7 striae evident by rows of distinct to indistinct punctures, striae VI–VII evident at midlength, striae VII weak, lacking at humerus and extreme apex; striae not geminate, evenly spaced; intervals flattened, appearing impunctate, surface glossy; base lacking marginal bead; groove of lateral marginal bead with coarse punctures; epipleuron widest at base, narrowing gradually entire length, abruptly folding under elytra at apex.

Procoxae widely separated, distance between procoxae = 2× width of procoxae. Prosternum evenly convex anteriorly, not keeled; anterior margin with complete marginal bead, small angulate process medially; sternal plate with coxal lines constricted around coxae otherwise parallel, lines continuous around coxae; disc of plate with distinct pores on each side behind coxae; posterior edge of prosternum concave, marginal bead lacking. Mesoventrite with area between coxae transverse; coxal lines diverge anteriorly, continuous with line around anterior mesocoxae; posterior margin truncate to weakly sinuate lacking marginal bead. Metaventrite with post mesocoxal lines not meeting medially, continuous around mesocoxae, not extending onto disc; surface smooth, indistinctly punctate. Abdominal ventrite I with post metacoxal line not meeting medially, continuous around metacoxae, not extending onto disc; process between metacoxae truncate to broadly rounded anteriorly; surface smooth, indistinctly punctate.

Legs long, slender, half of femora visible dorsally beyond lateral body margins; femora slightly swollen medially; mesofemora with weak posterior marginal bead, lacking on other femora; tibiae narrow entire length, weakly curved, almost straight, strongly parallel-sided, slightly widened toward apex, lacking carina along exterior margin; tarsi pseudotetramerous, narrow entire length; tarsomere III parallel sided, lobe expanded ventrally, weakly expanded laterally; metatarsomere I slightly elongate.

Male dimorphism present with a central patch of setae on abdominal ventrite I, other dimorphisms possible. Male genitalia with spiculum gastrale asymmetrical; penis with curved apical elongation; internal sac apparently lacking sclerotized structures; virga of penile flagellum narrow entire length. Female genitalia shortened, barely able to extend beyond abdominal ventrites; spiculum ventrale narrow, reduced; spermatheca with head sausage shaped, tail elongate and curved and thickened; gonocoxites as long as wide at base; gonostylus short, acutely pointed. Sexual dimorphism in males bearing a patch of setae in center of abdominal ventrite I; protarsomere I–III in males slightly wider than females; one species has additional tibial characters.

Etymology. With so many taxa to describe in the Erotylinae, it becomes onerous work to propose original and meaningful names for new taxa. However, this abundance gives us the opportunity to be creative and honorific. Dyslexia is a term used for a perceived difficulty with language and communication. However, dyslexic people simply process information differently and, in some ways, better than others. PES took special classes for one form of dyslexia in early childhood. The life-long need to work hard at some communications helped set a path for his education and professional development as a nomenclaturalist, taxonomist, and editor. Use of the name is in recognition of the positive role it takes in shaping his life.

The idea for the name came from Dr. Charles Bellamy, after learning of PES's struggle. Because dyslexia is often associated with difficulties in spelling and reading, he recommended naming a genus "*Dyslexia*" where every proposed species name is an intentional acceptable variant spelling. PES has previously used themes for naming new species in small genera (Skelley 1994, 1997, 1999; Powell and Skelley, in press). For this genus, creative and legitimate use of variant spellings has been applied to all species described here.

Because of potential confusion with perceived misspellings and the International Code of Zoological Nomenclature (1999), some statements must be made. Any accidental error in formation of a species name is to be considered intentional and the "correct original spelling" to be preserved if any question develops on the name (ICZN 1999, Article 32). The spelling variants proposed for the names are subtle, respectful, euphonic, and will not by themselves invalidate the name. These names were carefully crafted to avoid any mandatory spelling changes as discussed in ICZN (1999), Article 32.5. The spelling variants presented here are deemed identical to the correct spellings following ICZN (1999), Article 58. Other forms of acceptable variant spellings exist, like the same words in different languages (Paul vs. Pablo in Spanish, or Hector vs. Hektor in Greek). We hope this theme of variant spellings will be applied subtly and respectfully to new species discovered in the future.

Researching the origin of the word 'dyslexia', it appears to have similar roots in both Greek and Latin, and no clear statement of gender could be found. To avoid other nomenclatural concerns, we consider it an English term. Thus, following the ICZN (1999), Articles 30.1.4 and 30.2.2, we here assign the genus a feminine gender.

Remarks. Currently, we are aware of another undescribed genus with head development similar to *Dyslexia*, which will be described separately. In head structures, *Dyslexia* appears most similar to *Ellipticus* Chevrolat and *Neopriotelus* Alvarenga in having the constricted frons with the genae partially visible dorsally, but the frons is narrow and the sides of the head converge anteriorly, they are not parallel-sided. In several other characters, *Dyslexia* is most similar to members of *Neopriotelus* which have an elongate body shape, long slender legs and antennae, some species have the elytral basal declivity, and males of some species have a patch of setae on abdominal ventrite I.

It is interesting to note that Węgrzynowicz (2002) placed the Erotylini as sister to the Encaustini. Some characters *Dyslexia* are superficially similar to the Encaustini. Most notably, how the enlarged gena appears to be more anterior to the eye than in other Erotylini. These and other questions on relationships within the Erotylinae are outside the current descriptive needs. As studies are completed and we gain a better understanding of generic and tribal limits within the subfamily, we anticipate additional genera to be recognized.

Key to species of *Dyslexia*

1. Elytra distinctly rounded in dorsal and lateral views, not humped at base (Fig. 29–30); elytral color pattern reduced to 4 transverse wavy lines, vague subapical spot present or absent; Ecuador ..... ***D. tomasi* Skelley and Gasca-Álvarez, new species**

— Elytra elongate in dorsal view, central disc flattened in lateral view, humped at base; elytral color pattern series of distinct spots and bands **2**

2(1). Pronotum with a black marking along posterior lateral margin (Fig. 24–25); elytra ovoid, not parallel-sided, strongly humped near base; Colombia ..... ***D. pulcricolor* Skelley and Gasca-Álvarez, new species**

— Pronotum lacking discal mark along posterior lateral margin; elytra parallel-sided, moderately humped near base **3**

3(2). Antennomere XI black; head with black central spot on vertex in most (Fig. 10, 13); male with tibiae slightly but noticeable swollen in apical quarter (Fig. 14), female tibiae slender entire length; Ecuador ..... ***D. belamyi* Skelley and Gasca-Álvarez, new species**

— Antennomere XI pale white; head lacking black central spot on vertex (Fig. 17, 20); male and female tibiae slender entire length (Fig. 21), no distinct tibial dimorphism; Ecuador . . . . . .
. . . . . ***D. dathomirria*** **Skelley and Gasca-Álvarez, new species**

Dyslexia belamyi Skelley and Gasca-Álvarez, new species

Figures 7–8, 10–16.

Diagnosis. A member of *Dyslexia* easily distinguished from the other species its elongate parallel-sided body, vertex of head with a black central spot, and male dimorphism on all tibiae.

Description. Length: 9.5–10.2 mm; width 4.1–4.5 mm. Body elongate parallel-sided, convex dorsally, elytra declivous at base and widest at basal third; microreticulation weak, surface glossy (Fig. 10).

Color pattern variable in distinctness and thickness of dark markings, but always based on the following scheme: Body orange with black markings, elytra yellow with black marking. Head with variable sized central black spot on vertex; base of head behind eyes entirely orange or with black mark. Pronotum with 2 elongate, variably large central spots on anterior margin, can be poorly defined or merged into one maculation (Fig. 13); spots not touching posterior margin. Scutellar shield dark brown to black. Elytra with several black markings that are well separated from the thin black margins (Fig. 12); a large triangularly rounded scutellar spot, solid or ring-like; subhumeral spot situated at basal third of elytra; central band narrowing postero-laterally, most with band separated into two transverse lines (Pilaco paratype has these fused into one mark); free circular apical elytral spot. Ventrally black maculations highly variable in size and presence or absence (Fig. 11); prosternum and mesothorax entirely orange; metathorax orange, except some with metaventrite bearing a central black spot on posterior margin; abdominal ventrite I of most with free central spot; abdominal ventrites I–IV with a free circular lateral spot; Mouthparts orange-brown, other appendages entirely black.

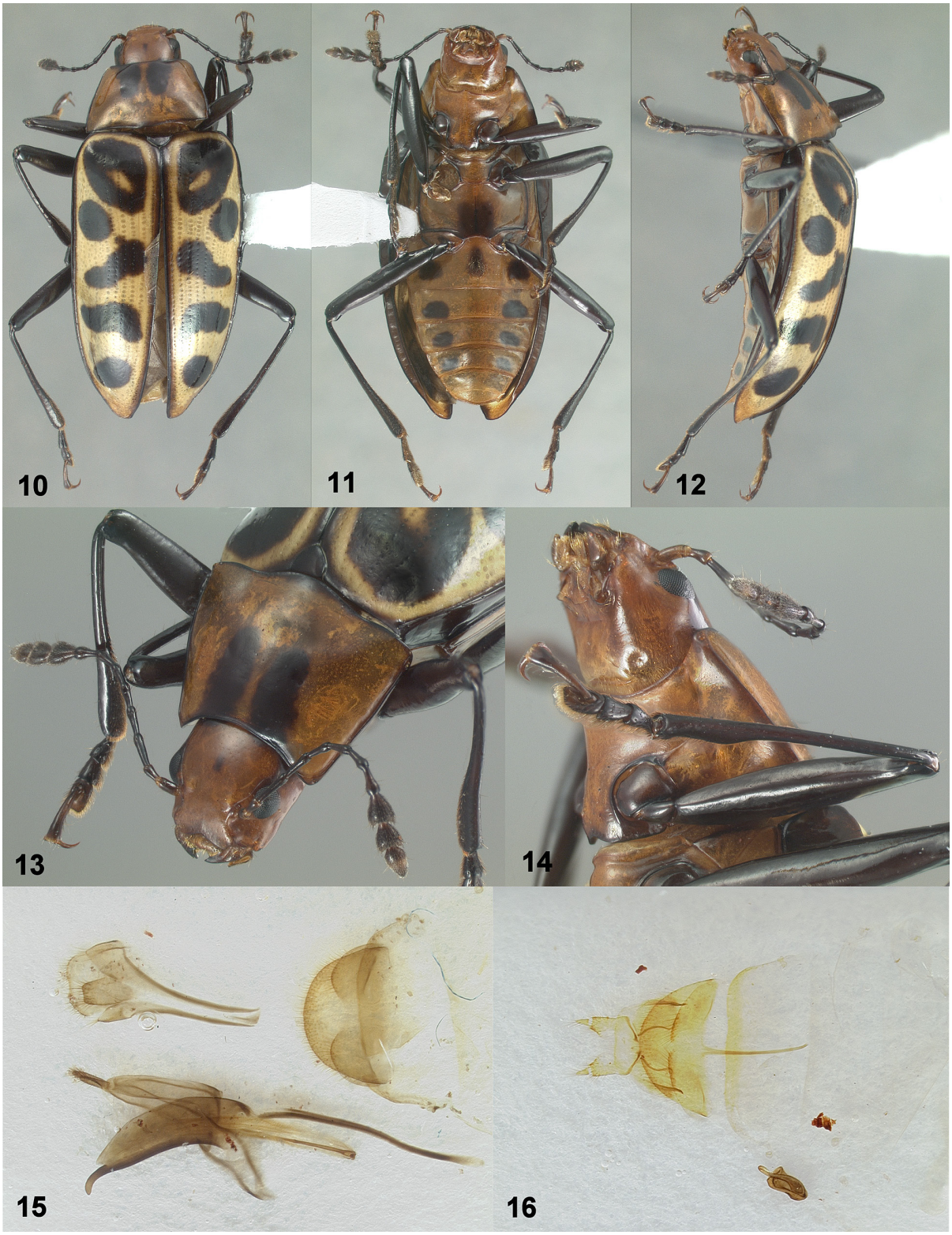
Head dorsal distance between eyes = 5× eye width (Fig. 7); vertex and epistome punctures fine, size = 0.25× facet, widely separated; clypeus with strong v-shaped apical emargination. Antenna with all antennomeres elongate, narrowed; antennomere II length = 2× width; antennomeres III–VII width near apex slightly less than antennomere II width; antennomere VIII width near apex = antennomere II width, rounded at apex; antennomere III length = 3× width, length = 1.2× length antennomere IV; antennomeres IV–VIII becoming gradually shorter with antennomere VIII length = 0.5× length antennomere III; antennomeres IX–X triangular, narrowed basally, length = antennomere VIII, length = width; antennomere XI length = 1.5 width, elongately ovoid, slightly longer and narrower than antennomere X.

Pronotum slightly wider than long, width = 1.4–1.5× length, lateral edge weakly arcuate, appearing rhomboidal, width at anterior angles = 1.5× width at posterior angles; posterior angles 90°. Scutellar shield pentagonal, length = 0.6× width. Elytra microreticulate, weakly glossy; elytron length = 3.5× width in dorsal view; in lateral view, elytra flattened medially, becoming declivitous near base; lateral margin parallel-sided on basal half, parabolically rounded on apical half; strial punctures distinct on disc, approaching base; width of striae greater basally than at mid-length; interval punctures not evident; punctures in groove of lateral marginal bead same sized as pores of marginal bead; epipleuron wide at base, width = 2× width of femur, narrowing toward apex, width in apical half = width of femur. Hind wings present, apparently functional.

Prosternum with angulation of anterior margin flattened, not projecting ventrally (Fig. 8); distance from anterior margin to procoxae = distance between procoxae; surface impunctate; coxal lines weakly constricted around procoxae; prosternal plate weakly convex, length = distance between coxae. Mesoventrite length = 1.2× distance between mesocoxae; posterior margin weakly convex to weakly sinuate. Metaventrite long, length from mesocoxae to posterior margin = 1.5× distance between mesocoxae. Protarsomeres I–III of equal length. Meso- and metatarsomeres with tarsomere I length = next two combined.

Sexual dimorphism present, males with all tibiae slightly swollen in apical quarter, inner margin of protibia with subapical depression (Fig. 14); medial patch of setae on abdominal ventrite I (Fig. 11) variable in size, diameter 0.2–0.5× length of ventrite; females lack these structures.

Male genitalia (Fig. 15) with penis weakly arched, narrowing apically, with narrow 45° curved apical process; median strut length = 1.3× median lobe length; internal sac without noticeable sclerotized structures, but covered with pale microtrichia; flagellum length = 1.5× median lobe length; virga of flagellum narrow, straight,



Figures 10–16. *Dyslexia belamyi* Skelley and Gasca-Álvarez, holotype male, unless stated otherwise. **10)** Dorsal habitus. **11)** Ventral habitus. **12)** Lateral habitus. **13)** Anterior dorsal oblique view of head and pronotum. **14)** Anterior ventral oblique view of head and pronotum, not male protibial dimorphism. **15)** Male genitalia. **16)** Female genitalia, allotype.

not thickened basally; head of flagellum small, sclerite at base elongate claw-shaped. Females genitalia shortened (Fig. 16).

Material examined. The holotype male of *Dyslexia belamyi* label data: "ECUADOR: Pichincha / Macquipucuna For. Res. / 50 km NW of Quito, 1750 m / 21 Dec. 1991, C. Carlton / R. Leschen #41, ex:flat / ascomycete" (SEMC) [R. Leschen, pers. com.: years after labeling, a sample of the fungus was identified as a basidiomycete].

Allotype female same data as holotype (SEMC). Paratypes (3): same data as holotype (1 female FSCA, 1 male SEMC); "ECUADOR / Pilaco / IX-1992 / G. Onore" (1 male FSCA).

Etymology. This species is named after a friend, Charles "Chuck" Bellamy, buprestid expert, who gave PES the idea for the naming theme of *Dyslexia*. The species name has the intentional spelling variation of "*belamyi*" without the second "l" (ICZN 1999, Article 58.7).

Remarks. *Dyslexia belamyi* is represented by five specimens. All but one are from the same locality, and these show a substantial amount of variation in the color pattern. The specimen from Pilaco has a variation not seen in the others, with the central elytral band of two marks is combined into a single band. However, this male has the same sexual dimorphism of the tibia which is present in the others. Until more materials are available for study, we consider specimen from Macquipucuna and Pilaco conspecific.

Dyslexia dathomirria Skelley and Gasca-Álvarez, new species

Figures 17–23.

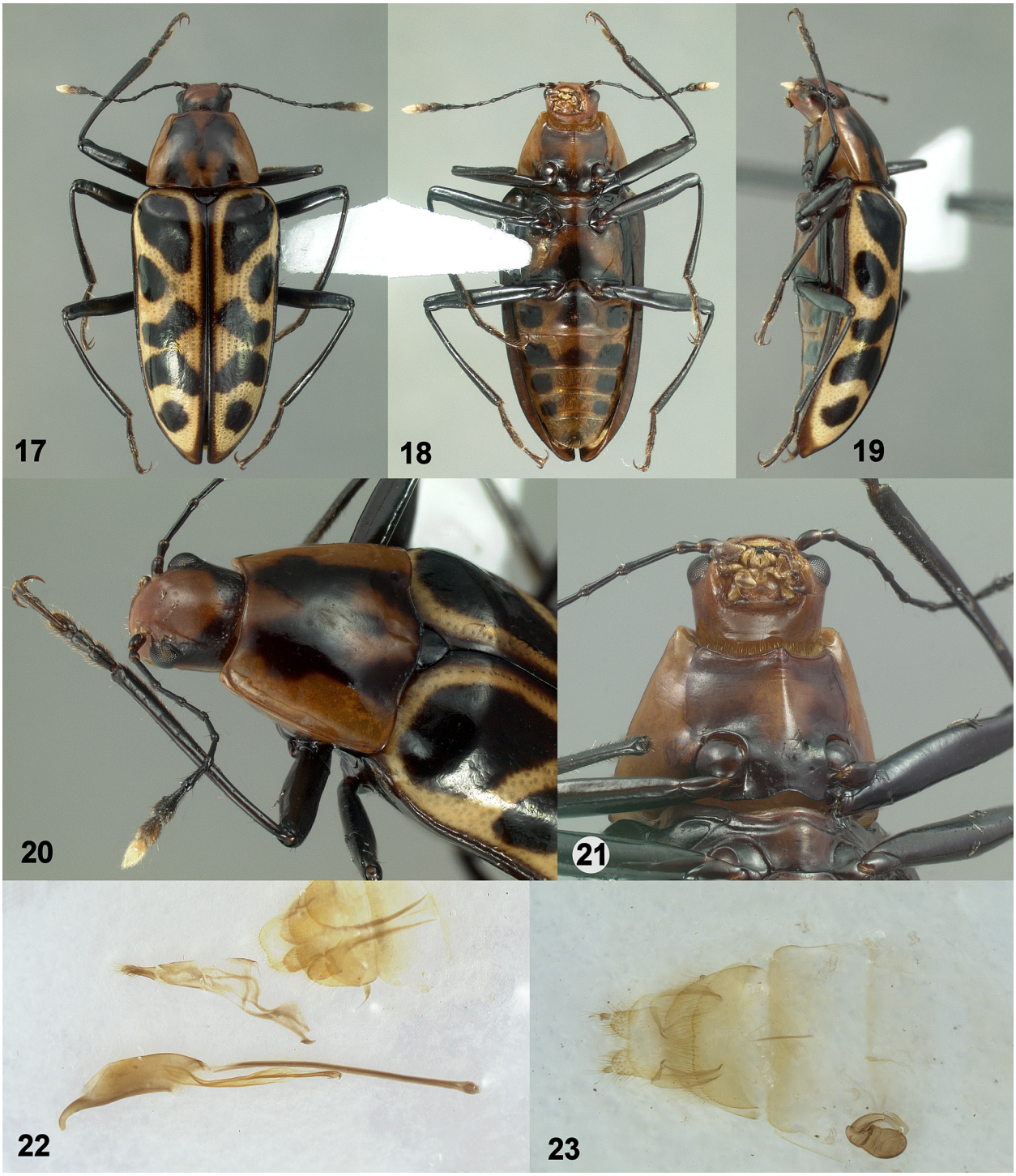
Diagnosis. A member of *Dyslexia* distinguished from the other species by the pale antennomere XI, elytral basal declivity lacking strial punctures, anterior prosternal process weakly projecting, and with all appendages being slenderer.

Description. Length: 8.7–9.3 mm; Width 3.5–3.9 mm. Body elongate parallel-sided, convex dorsally, elytra declivous at base and widest at basal third; microreticulation weak, surface glossy (Fig. 17).

Color pattern variable in distinctness and size of dark markings, but always based on the following scheme: Body orange with black markings, elytra pale yellow with black marking. Head lacking black spot on vertex; base of head behind eyes with black mark. Pronotum with a large central maculation that touches both anterior and posterior margins; maculation wider in front, constricted medially, posteriorly with central orange mark splitting lateral arms that reach posterior margin (Fig. 20). Scutellar shield dark brown to black. Elytra with several black markings that are well separated from the thin black margins (Fig. 17, 19); a large triangularly rounded scutellar spot; subhumeral spot situated at basal third of elytra; central band consisting of two curved transverse marks, when connected form an X; free circular apical elytral spot. Ventrally prosternum ringed with black; meso- and metathorax black except as noted, mesoventrite ringed in black, metaventrite ringed black with large triangular maculation on central posterior margin; abdominal ventrites I–IV with one squared lateral spot each side (Fig. 18); ventrites I–II (male) and possibly III (female) with triangular central spot; all spots on abdominal ventrite I free, those of abdominal ventrites II–IV are connected to posterior margin. Mouthparts orange-brown, appendages black, except antennomere XI which is white.

Head dorsal distance between eyes = 5× eye width; vertex and epistome punctures fine, size = 0.25× facet, widely separated; clypeus with strong v-shaped apical emargination. Antenna with all antennomeres elongate, narrowed; antennomere II length = 2× width; antennomeres III–VII width near apex slightly less than antennomere II width; antennomere VIII width near apex = antennomere II width, truncate at apex; antennomere III length = 5.2× width, length = 1.5× length antennomere IV; antennomeres IV–VIII nearly equal in length; antennomeres IX triangular, acuminately narrowed basally, length = 1.9× width, length = 1.2× antennomere VIII; antennomeres X triangular, narrowed basally, length = 1.2× width, length = antennomere VIII; antennomere XI length = 1.7× width, length = antennomere VIII.

Pronotum slightly wider than long, width = 1.3× length, lateral edge weakly arcuate, appearing rhomboidal, width at anterior angles = 1.7× width at posterior angles; posterior angles 90°. Scutellar shield pentagonal, length = 0.6× width. Elytra microreticulate, weakly glossy; elytron length = 3.25× width in dorsal view; in lateral view, elytra flattened medially, becoming declivitous near base; lateral margin parallel-sided on basal half, parabolically rounded on apical half; strial punctures distinct on disc, but lacking on basal declivity; width of striae greater



Figures 17–23. *Dyslexia dathomirria* Skelley and Gasca-Álvarez. **17)** Dorsal habitus. **18)** Ventral habitus. **19)** Lateral habitus. **20)** Anterior oblique view of head and pronotum. **21)** ventral view head and prosternum. **22)** Male genitalia. **23)** Female genitalia, allotype.

towards base than at mid-length; interval punctures not evident; punctures in groove of lateral marginal bead same size as pores of marginal bead; epipleuron wide at base, width = 2× width of femur, narrowing toward apex, width in apical half = width of femur. Hind wings present, apparently functional.

Prosternum with angulation of anterior margin pinched, weakly projecting ventrally (Fig. 21); distance from anterior margin to procoxae = distance between procoxae; surface impunctate; coxal lines weakly constricted around procoxae; prosternal plate weakly convex, length = distance between coxae. Mesoventrite length = 1.2× distance between mesocoxae; posterior margin weakly convex. Metaventrite long, length from mesocoxae to posterior margin = 1.6× distance between mesocoxae. Protarsomeres I–III of equal length. Meso- and metatarsomeres with tarsomere I length = next two combined.

Sexual dimorphism present, male with medial patch of setae on abdominal ventrite I (Fig. 18), diameter 0.2× length of ventrite; females lack the patch of setae. The noted difference in abdominal color pattern may not be sexually dimorphic.

Male genitalia (Fig. 22) with penis weakly arched, narrowing apically, with narrow 90° curved apical process; median strut length = 1.7× penis length; internal sac without noticeable sclerotized structures, pale microtrichia not evident; flagellum length = 1× penis length; virga of flagellum narrow, straight, gradually thickened basally; head of flagellum small, sclerite at base elongate claw-shaped. Females genitalia noticeably shortened (Fig. 23).

Material examined. The holotype male of *Dyslexia dathomirria* label data: "ECUADOR: Pichincha / Macquipucuna For. Res. / 50 km NW of Quito / 1650–1750 m, 23 Dec. / 1991, C. Carlton / R. Leschen #70" (SEMC).

Allotype female: "ECUADOR: Pichincha / Mindo, 10.6 km W. Mindo Road / 0°4′23″S, 78°45′14″W, 1375 m / 28 MAR 1999, R. Brooks / ECU1B99 061 / ex: fungus covered log" // "[bar code] / SM0156779 / KUNHM-ENT" (SEMC).

Etymology. The species name is based on Dathomirian, a race of Zabrak native to the planet Dathomir from the fictional Star Wars universe, who were characterized by their tattoos made of complex patterns and geometrical shapes used to express individuality. Colors and black spotted patterns of pronotum, elytra and venter of the new species, resembles the tattoos of Darth Maul and his brother Savage Opress, iconic characters during the Clone Wars from the Star Wars saga. To the name Dathomiri we add the suffix "-a" to make it feminine and include the intentional spelling variation with a double "rr" (ICZN 1999, Article 58.7).

Remarks. *Dyslexia belamyi* and *D. dathomirria* were found at same locality on the same collecting expedition. Initially, we thought these represented one highly variable species. But all characters discussed are consistent and readily separate both males and females of the species. In accordance with the above, we can infer sympatric or slightly overlapping distributions of these two species.

Dyslexia pulcricolor Skelley and Gasca-Álvarez, new species

Figures 24–28.

Diagnosis. A member of *Dyslexia* differing from the other species the more ovoid elytra, spotted color pattern, and dark mark along posterior lateral margin of the pronotum.

Description. Length: 9.9 mm; Width 5.4 mm. Body elongate more ovoid, converging caudally, convex dorsally, elytra declivous at base and notably widest at basal third; microreticulation weak, surface glossy (Fig. 24).

Body orange with black markings, elytra yellow with large black marking. Head surface orange; base behind eyes black. Pronotum with 2 variably large elongate central spots on anterior margin (Fig. 27); laterally with black marking widest at middle, narrowing posteriorly. Scutellar shield dark brown. Elytra with several black markings that are narrowly separated from the thin black margins (Fig. 24–25); a large triangularly rounded scutellar spot that is weakly bilobed laterally; a large subhumeral spot situated at basal third of elytra; central band narrowing laterally; free circular apical elytral spot. Ventrally entirely orange except for vague lateral and central black spots on abdominal ventrites I–II (Fig. 26). Mouthparts orange-brown, appendages black, antennae black (most of both antennomeres missing).

Head dorsal distance between eyes = 5.5× eye width (Fig. 28); vertex and epistome punctures fine, size = 0.25× facet, widely separated. Antennae on unique holotype missing beyond antennomere V; antennomere II length = 2× width; antennomeres III–V width near apex slightly less than antennomere II width; antennomere III length = 3× width, length = 1.2× length antennomere IV; antennomeres V slightly shorter that antennomere IV.

Pronotum slightly wider than long, width = 1.4× length, lateral edge arcuate, more semicircular, width at anterior angles = 1.7× width at posterior angles; posterior angles 90°. Scutellar shield pentagonal, length = 0.6×

Figures 24–28. *Dyslexia pulcricolor* Skelley and Gasca-Álvarez. **24)** Dorsal habitus. **25)** Lateral habitus. **26)** Ventro-lateral habitus. **27)** Anterior oblique view of head and pronotum. **28)** Anterior head.

width. Elytra microreticulate, weakly glossy; elytron length = 2.8× width in dorsal view; in lateral view, elytra flattened medially, becoming declivitous near base; lateral margin weakly parallel, parabolically rounded entire length; strial punctures distinct on disc, approaching base; width of striae slightly greater basally; interval punctures not evident; punctures in groove of lateral marginal bead same size as pores of marginal bead; epipleuron wide at base, width = 2× width of femur, narrowing toward apex, width in apical half = width of femur. Hind wings present, apparently functional.

Prosternum with angulation of anterior margin pinched, weakly projecting ventrally; distance from anterior margin to procoxae = 1.3× distance between procoxae; surface impunctate; coxal lines weakly constricted around procoxae; prosternal plate weakly convex, length = 1.2× distance between coxae. Mesoventrite length = 1.2× distance between mesocoxae; posterior margin truncate. Metaventrite long, length from mesocoxae to posterior margin = 1.3× distance between mesocoxae. Protarsomeres I–III of equal length. Meso- and metatarsomeres with tarsomere I length = next two combined.

Sexual dimorphism present, male with medial patch of setae on abdominal ventrite I, diameter 0.2× length of ventrite. Male genitalia not dissected to preserve the weak specimen. Female unknown.

Material examined. The holotype male of *Dyslexia pulcricolor* label data: "S Antonio / Columbia" // "B.M.1935-117" (NHMUK).

Etymology. This species name is based on the Latin *pulcher* = beautiful, colorful, referring to the pretty multicolored patterns of the species. The roots are combined with the intentional spelling variation without the "h" (ICZN 1999, Article 58.10).

Remarks. The holotype of *D. pulcricolor* is old and the only known specimen. The photographs in Figures 24–28 were taken before relaxing and glue removal to study the venter. As the glue softened, appendages fell off. Because we did not want to destroy the unique specimen and because it is readily distinguished from other species, we did not continue to clean or dissect the specimen. Future research using more recently collected materials can explore those structures.

Based on the amount of variation seen in the few specimens of *D. belamyi*, *D. dathomirria* and *D. tomasi*, we expect variation in the color pattern of *D. pulcricolor*. However, *D. pulcricolor* differs from all others in body shape alone.

Dyslexia tomasi Skelley and Gasca-Álvarez, new species

Figures 9, 29–35.

Diagnosis. A member of *Dyslexia* differing from the other species by the rounded yet elongate pronotum, almost spherical elytra with transversely wavy color pattern, and in having hind wings greatly reduced, flightless.

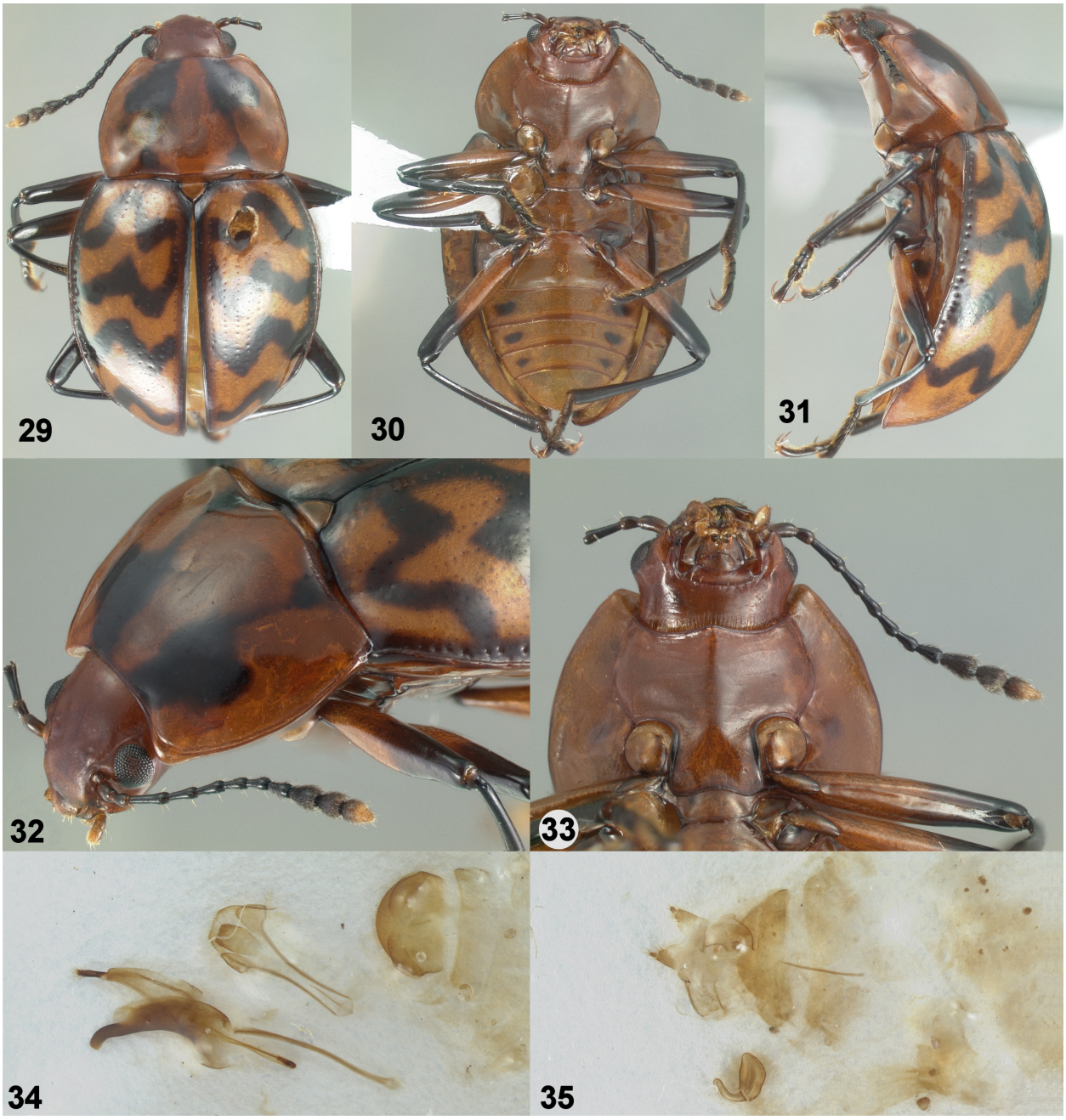
Description. Length: 7.1–7.5 mm; Width 4.1–4.3 mm. Body ovoid, constricted at base of elytra; elytra nearly circular, strongly convex dorsally, not distinctly declivous at base, widest at middle; microreticulation moderate, surface glossy; orange with black color pattern (Fig. 29).

Color pattern variable in distinctness and size of dark markings. Body and elytra orange with black markings. Head entirely orange. Pronotum variably marked, entirely orange or with two large elongate black marks (Fig. 32). Scutellar shield orange. Elytra margined in black; disc with a wide wavy ring-like transverse band at basal and apical third that connected to black lateral margin and sutural margin on some, thus elytra appearing to have 4 wavy bands (Fig. 29, 31); a free circular apical elytral spot present on one specimen. Ventrally entirely orange; abdominal ventrites with having free lateral spots. Mouthparts orange; femora basally orange, apically black; tibiae and tarsi black; antennae black except antennomere XI which is pale brown apically.

Head dorsal distance between eyes = 4.1–4.5× eye width (Fig. 9); vertex and epistome punctures fine, size = 0.25× facet, widely separated; clypeus with u-shaped apical emargination. Antenna with all antennomeres elongate, narrowed; antennomere II length = 2× width; antennomeres III–VII width near apex slightly less than = antennomere II width; antennomere VIII width near apex = antennomere II width, truncate at apex; antennomere III length = 3× width, length = 1.2× length antennomere IV; antennomeres IV–VIII becoming gradually shorter with antennomere VIII length = 0.6× length antennomere III; antennomeres IX–X triangular, narrowed basally, length = 1.3× antennomere VIII length, length = width; antennomere XI length = 2× width, length = 1.3× antennomere X.

Pronotum slightly wider than long, width = 1.4–1.5× length, lateral edge arcuate, appearing semicircular to circular, width at anterior angles = 1.5–1.7× width at posterior angles; posterior angles obtuse, > 90°. Scutellar shield weakly pentagonal, rounded triangular, length = 0.6× width. Elytra weakly microreticulate, glossy, hemispherical; elytron length = 2× width in dorsal view; in lateral view, elytra evenly convex entire length; lateral margin evenly arcuate entire length; strial punctures indistinct on disc, approaching base; width of striae equal entire length; interval punctures not evident; punctures in groove of lateral marginal bead 2–3× larger than pores of marginal bead; epipleuron wide entire length, width most of length = 2× width of femur. Hind wings reduced, flightless.

Prosternum with angulation of anterior margin flattened, not projecting ventrally (Fig. 33); distance from anterior margin to procoxae = 1.1× distance between procoxae; surface impunctate; coxal lines weakly constricted around procoxae; prosternal plate weakly convex, length = 0.9× distance between coxae. Mesoventrite length = 1.2× distance between mesocoxae; posterior margin truncate. Metaventrite short, length from mesocoxae to posterior margin = 1.9× distance between mesocoxae. Protarsomeres I–II of equal length; protarsomere III slightly longer. Meso- and metatarsomeres with tarsomere I and III of equal length, tarsomere II shorter.



Figures 29–35. *Dyslexia tomasi* Skelley and Gasca-Álvarez. **29)** Dorsal habitus. **30)** Ventral habitus. **31)** Lateral habitus. **32)** Anterior oblique view of head and pronotum. **33)** Ventral view head and posternum. **34)** Male genitalia. **35)** Female genitalia, allotype.

Sexual dimorphism present, male with medial patch of setae on abdominal ventrite I (Fig. 30); female lacking a setose patch.

Male genitalia (Fig. 34) with penis weakly arched, narrowing apically, with broad 45° curved apical process; median strut length = 1.2× penis length; internal sac without noticeable sclerotized structures, pale microtrichia not evident; flagellum length = 1.5× penis length; virga of flagellum narrow, straight, truncately thickened basally; head of flagellum small, sclerite at base elongate claw-shaped. Females genitalia shortened (Fig. 35).

Material examined. The holotype male of *Dyslexia tomasi* label data: "ECUADOR: Napo, Cosanga / 4.2 km S on Baeza-Tena / Road then 2.9 km W. on pipeline access / road, 2150 m; 0°37′19″S, 77°50′1″W / 6 NOV 1999, Z. H. Falin / ECU1F99 112 pyrethrin fog fungus / logs" // "[barcode] / SM0355155 / KUNHM-ENT" (SEMC).

Allotype female same data as holotype except barcode number "SM0355156" (SEMC). Paratype (1) male same data as holotype except barcode number: "SM0355154" (FSCA).

Etymology. This species is named after a friend and mentor, Michael C. Thomas, an expert on several cucujoid families world-wide. He was a creative, artistic person, both in the visual arts and nomenclaturally. Mike wished he had thought of the theme for a genus named "dyslexia" and encouraged PES to publish it someday. The species name has the intentional spelling variation without the "h" (ICZN 1999, Article 58.11).

Remarks. *Dyslexia tomasi* is unique in the genus in body shape, color pattern, and in being flightless. Mountain ranges present evolutionary opportunities for flightless lineages to speciate. We anticipate many additional flightless and flighted species of *Dyslexia* remain to be discovered.

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